The Economist

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The world this week

Politics this week

Oct 2nd 2021

After Germany’s general election the Social Democrats (SPD) emerged as the largest party, overtaking the Christian Democrats and their Bavarian allies who currently lead the ruling “grand coalition”. But forming a new government will probably take many weeks, as it will almost certainly involve a three-party coalition. Olaf Scholz, the SPD’s candidate for chancellor, is the most probable successor to Angela Merkel, at the head of a “traffic-light” coalition including the Greens and the pro-business Free Democrats, though this is by no means guaranteed. Armin Laschet, who led the Christian Democrats to their worst-ever defeat, is facing pressure to resign, but insists he still has a chance to construct his own coalition.

Iceland fell short of having Europe’s first parliament where women hold most of the seats, following a recount after its election. Women took almost 48% of the seats. The left-right coalition increased its governing majority.

An independent investigation claimed that 83 aid workers sexually abused girls and women while responding to an outbreak of Ebola in the Democratic Republic of Congo. Staff from the World Health Organisation are among the accused.

Fighting between jihadist groups in Nigeria left dozens dead. Islamic State West Africa Province is gaining the upper hand over Boko Haram, which has spent a decade kidnapping schoolgirls and strapping bombs to children. The latest fight was over which group gets to "tax" fishermen.

Jihadists from a previously unknown group claimed that they had killed six intelligence officers in Sudan. The country's transition to democracy is looking fragile, two years after the overthrow of Omar al-Bashir, a bloody dictator who ruled for 30 years.

Tunisia's president, Kais Saied, suspended parts of the constitution and said he would rule by decree. This comes after a power grab in July when he suspended parliament and seized emergency powers.

A judge in Mexico refused to issue arrest warrants for 31 scientists whom the country's attorney-general wants to prosecute for mishandling funds. The lack of evidence for the charges, and the fact that the law was not in force at the time of the alleged crime, has led to accusations that the government of Andrés Manuel López Obrador is trying to politicise public life.

Haiti's general election was postponed yet again, when Ariel Henry, the prime minister, removed the council that was to oversee the poll. Mr Henry, mired in conspiracy theories about the assassination of the country's president in July, says he would like to hold the election next year.

Fighting between rival gangs at a prison in Ecuador left 116 inmates dead. At least ten men were decapitated. The gangs have links to Mexico's drug cartels.

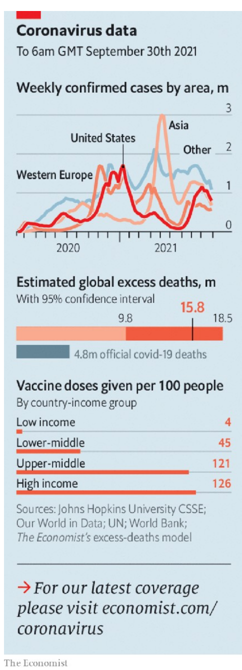
Meng Wanzhou, an executive at Huawei, a Chinese tech firm, was allowed to fly home to China from Canada after almost three years of fighting extradition to America. Ms Meng had admitted to misleading bankers about Huawei's links to a company active in Iran. At almost the same time two Canadian prisoners in China, Michael Kovrig and Michael Spavor, were allowed to fly back to Canada. The two Michaels are widely thought to have been held as hostages, pending Ms Meng's release.

Power cuts affected about 20 of China's provinces, including many industrial areas. Reasons for the cuts ranged from the high price of coal to efforts by some provinces to meet strict environmental limits on energy consumption.

Officials announced that foreign spectators will be barred from the Winter Olympics to be hosted by Beijing in February, because of covid-19.

Safety first

Kishida Fumio will be the next prime minister of Japan, after the ruling Liberal Democratic Party elected him as its president. The former foreign minister takes over from the increasingly unpopular Suga Yoshihide, who is stepping down amid widespread criticism of the government's handling of the pandemic. Mr Kishida, who trumped the public favourite, Kono Taro, is seen by the party as a safe pair of hands.



Manny Pacquiao, a senator in the Philippines and a world-champion boxer, announced his retirement from the sport and his intention to run for president. The Philippine constitution limits presidents to a single term but Rodrigo Duterte, the combative incumbent, will still be on the ticket; he has said he will run for vice-president.

Appearing before a Senate committee in Washington General Mark Milley, the chairman of the Joint Chiefs of Staff, said that he and others had urged Joe Biden to retain 2,500 troops in Afghanistan in order to defend Kabul and slow the Taliban's advance. This could have allowed for possible talks, though the general admitted that the outcome might have been the same. Mr Biden has said he received no such advice ahead of America's speedy withdrawal in August.

A study from Oxford University found that the covid-19 pandemic has led to a drop in life expectancy not seen since the second world war in western Europe. Across the 29 rich countries studied the biggest fall in life expectancy was among American men, who saw a decline of 2.2 years in 2020 relative to 2019.

There were 21,570 homicides in America last year, according to the FBI, up by 29% from 2019. The homicide rate rose from 5.1 to 6.5 per 100,000 people. This was still well below its peak of 9.8 in 1991.

Fuelish things

British motorists endured petrol queues. One cause was a shortage of lorry drivers to deliver the stuff, exacerbated by Brexit, which has made it harder and less attractive for foreign drivers to work in Britain. Another cause was panic-buying. Despite government assurances that there was plenty of fuel in depots, drivers flocked to fill their tanks. Other European countries also had fuel-supply problems, but Britain's were especially severe.

Business this week

Oct 2nd 2021

Janet Yellen, America’s treasury secretary, gave her strongest warning yet on the potential consequences of not raising the federal debt limit, saying it would be “catastrophic”. The Treasury estimates that it will run out of money by October 18th unless the ceiling is increased to allow the government to continue borrowing. Even with a stopgap resolution to avoid a government shutdown, the issue of lifting the debt limit still remains. Ms Yellen said the uncertainty was eroding investor confidence.

As if on cue…

Stockmarkets had their worst day in months on September 28th. The S&P 500 dropped by 2% and the Nasdaq by 2.8%, its biggest decline in half a year. European and Asian bourses also fell. The prospect of a government shutdown was just one factor unsettling investors. Markets are also digesting moves by central banks to taper their stimulus programmes, which has led to a sell-off in bonds.

Natural-gas prices remained volatile, but were still rising sharply in Asia and Europe, and to a lesser degree in America. That fed into oil markets, as some industries switch to the commodity to keep the lights on. The price of Brent crude crept up to $80 a barrel for the first time in three years.

Evergrande, China's second-biggest property developer, sold part of its stake in a bank to a publicly owned investment group, raising $1.5bn. The bank has demanded that Evergrande, which has rattled markets by warning of a debt default, use its proceeds to repay a loan. It won't make much of a dent in the company's $300bn-worth of liabilities. Still, the fact that the stake was sold to a state investment firm was taken as a sign that the government is working behind the scenes to avoid Evergrande's collapse.

Battle lines were drawn in the American Senate over a possible second term for Jerome Powell as chairman of the Federal Reserve. Elizabeth Warren, a left-wing Democrat, became the first senator publicly to oppose Mr Powell remaining in office because of his past support for financial deregulation. She called him "a dangerous man". Joe Biden is expected to announce his decision on who should lead the central bank within the next few months.

Ford announced an $11bn plan to build three factories that will produce batteries for electric vehicles and another plant to make its F-series of electric pickup trucks. The investment is in partnership with SK Innovation, a South Korean company; the carmaker is providing $7bn. Along with its Detroit rivals, General Motors and Stellantis, Ford has made a commitment to switch to greener motoring and wants 40% of its global sales to be electric by 2030.

Voters in Berlin backed a referendum proposal to expropriate apartments held by corporate landlords, the most visceral reaction yet in a big European city to property speculation that has priced out most families. The vote is non-binding and may end up in Germany's Constitutional Court.

With one of the toughest vaccine mandates in American business, United Airlines said that 96% of staff in the United States had been jabbed to protect themselves against covid-19, but that it was preparing to fire almost 600 who had not done so before the deadline of September 27th. They had a few days leeway to comply. About 2,000 employees sought a religious or medical exemption.

In Britain the furlough scheme introduced at the start of the pandemic in March 2020 came to an end. Over its course the programme covered 11.6m workers, paying up to 80% of their wages, though by July 2021 that had dropped to 1.6m. The government spent nearly £70bn ($94bn) on its support. Meanwhile, revised figures showed that the British economy grew by 5.5% in the second quarter, a faster pace than an initial estimate had suggested. GDP is now just 3.3% below its pre-pandemic level of late 2019.

A leading indicator of house prices in America rose at a record rate for the fourth consecutive month. The S&P CoreLogic Case-Shiller national index jumped by 19.7% in July over the same month a year ago, with the biggest increases reported in Phoenix, San Diego and Seattle. The firm said it needed more data to tell if surging prices were being driven by a shift to the suburbs as a result of the pandemic.

Dealing in bricks of a different kind, Lego reported a net profit of DKr6.3bn ($1bn) for the first half of the year, up by 140% from the same period in 2020.

What could possibly go wrong

Amazon launched its first robot for the home, which will sell for under $1,000. Astro, an internet-connected roving device, has a periscope camera that its owner can access remotely. In a nod to privacy concerns, it can be programmed to stay out of intimate spaces, such as the bedroom or bathroom.

KAL's cartoon

Oct 2nd 2021

Dig deeper into the subject of this week's cartoon:

The European Union will badly miss Angela Merkel (September 25th edition)

The Social Democrats are likely to take charge in Germany (Current edition)

Charlemagne: Germany's election is revealingly European (Current edition)

The Economist explains: Who is Olaf Scholz, and what kind of Germany would he lead? (August 2021)

Kal's cartoon appears weekly in *The Economist*. You can see last week's here.

Leaders

From Big Bang to a whimper

How to revive Britain's stockmarket

London's once high-flying bourse has spent the past decade tumbling back to earth

Oct 2nd 2021

Luca D'Urbino

ASK BRITONS what actually goes on in the City of London and you'll be met with a blank stare. Trading the yen and the yuan, structuring derivatives and providing the world's financial plumbing are all money-spinners, but they barely register in the public imagination. The exception is the stockmarket. Daily news bulletins report trading on the FTSE 100 index of leading London shares. Booms and busts are charted by its gyrations. The London Stock Exchange (LSE) is the stamping-ground of giant multinationals, where city-slickers and corporate fat-cats thrash out huge deals to buy and sell the world's companies.

Or at least it used to be. London's high-flying stockmarket has spent the past decade tumbling back to earth. In 2006 the companies with shares listed in London were worth 10.4% of the global equity market. Today, that figure is 3.6%. London has lagged behind even the laggards: its share of Europe's total market value has declined from 36% to 22% over the same period. The denizens of the LSE that are left look geriatric. Less than one-fiftieth of the FTSE 100's value comes from tech companies, compared with almost 40% of the S&P 500 index of American firms. James Anderson of Baillie Gifford, one of the most successful global investors of the era, recently told the *Financial Times* that Britain has a 19th-century stockmarket. He is right.

One reason for Britain's abysmal bourse is the underperformance of large British firms. Too many, from BP and GSK to HSBC and Tesco (average age 169), have dropped from the top tier of their industries owing to the chronic British disease of poor management. That has dragged down returns and made some firms vulnerable to takeovers. The entire asset-management industry, which has the job of supervising other firms, is badly run. Britain's most valuable fund manager is now worth less than 10% of America's largest. British pension schemes have spent years loading up on bonds and selling shares in a myopic quest to eliminate risk. They now have too little exposure to economic growth or wealth-creation.

The City has also suffered as global firms with international capital-raising options have drifted off. London's revival after the "Big Bang"—reforms in 1986 that deregulated trading—relied in part on the stock exchange becoming a venue for mobile global businesses. Recent weeks have seen Prudential, an insurance giant, choose a share offering in Hong Kong and BHP, one of the largest London-listed companies, announce plans to have its sole primary listing in Australia. London's aspirations to be a hub for European businesses have been dealt a blow by Brexit.

The City's final weakness is a dearth of startups that choose to list in London. In 2005 London hosted one-fifth of the world's initial public offerings (IPOs); today, it hosts one-twenty-fifth. A stock exchange that continually fails to attract exciting new firms will come to resemble a museum.

It is reasonable to ask how much a puny stockmarket matters. For British savers, the answer is that it doesn't much. They can, should and increasingly are ditching their home bias and building global portfolios. As owners of superior foreign shares they may feel nostalgia for their once-great home market, but that is all. For Britain's economy, a shrivelled stockmarket matters more. It limits the options startup founders have to expand their firms. Britain's universities, courts and venture-capital scene make it a good place to build a business regardless. But the country's attractions are fading.

For the City, the stockmarket matters a great deal. London remains a dominant centre for trading debt, derivatives and currencies, but equities are a crucial part of any claim to be a global financial centre. Listed firms exert a pull on other financial activities, and on the accounting and legal services that cater to them. The financial-services industry is Britain's most successful, contributing 6% of GDP and about a tenth of tax revenue.

The worst reaction to stockmarket stagnation would be for the government to throw up defensive barriers. It must resist the temptation to veto takeovers or block delistings. An open market lets some firms leave, but it also encourages others to come. Far better to tackle the deeper causes of the malaise.

A starting-point is Britain's corporate-governance rules for listed firms. Twenty years ago they were envied around the world, but they have since mushroomed and created a class of 3,000-odd semi-engaged and often semi-retired non-executive board directors who are rarely at the cutting edge of their global industry and often think their job is to sell firms, not prod them to invest. This interest group is entrenched, but it has presided over poor results and needs to be culled. The imperative is less red tape and more directors who understand risk-taking, not virtue-signalling.

The stockmarket can also be made more attractive by letting dual-class shares join the LSE's premium segment. These give some shares souped-up voting rights and are popular among founders wishing to retain control. They are permitted by every one of the City's rivals. But Britain's befuddled legacy fund managers oppose them at home even though they are willing to buy them abroad.

Reform of the asset-management industry is overdue. Actuarial rules create a perverse incentive for firms to hold debt and private assets, in which volatility is masked because they are valued infrequently. This bias should be removed. Britain's 5,327 corporate pension schemes should be merged into a few big managers with the scale to invest more competently.

Light the blue touchpaper

The good news is that a cohort of promising firms is emerging. In the past few years venture capital has flooded into Britain, which has 34 privately held startups worth over $1bn and has created more such unicorns than France, Germany and Sweden combined. Companies like Revolut, a fintech star, are reaching critical mass. As well as deregulating corporate governance and allowing dual-class shares, the government should move ahead swiftly to make it easier for startups to hire talented foreigners and let graduates of leading universities move to Britain without a job offer. The prize is a new generation of innovative firms listing in London. Time for another Big Bang. ■

Xi Jinping’s campaign

China’s new reality is rife with danger

The president will be defined by his campaign against his country’s capitalist excesses

Oct 2nd 2021

XI JINPING IS waging a campaign to purge China of capitalist excesses. China’s president sees surging debt as the poisonous fruit of financial speculation and billionaires as a mockery of Marxism. Businesses must heed state guidance. The party must permeate every area of national life. Whether Mr Xi can impose his new reality will shape China’s future, as well as the ideological battle between democracy and dictatorship.

His campaign is remarkable for its scope and ambition. It started to rumble in 2020, when officials blocked the initial public offering of Ant Group, an affiliate of Alibaba, a tech giant. It is thundering onward, having so far destroyed perhaps $2trn of wealth. Didi, a ride-hailing outfit, has been punished for listing its shares in America. Evergrande, an indebted property developer, is being driven towards default. Trading on cryptocurrency exchanges has been banned as, more or less, has for-profit tutoring. Gaming is bad for children, so it must be strictly rationed. China needs larger families, so abortion must become rarer. Male role models should be manly and celebrities patriotic. Underpinning it all is Xi Jinping Thought, which is being drummed into the craniums of six-year-olds.

This comes on top of an already brutal authoritarianism. As president, Mr Xi has purged his rivals and locked up over 1m Uyghurs. He polices debate and will not tolerate dissent. The latest campaign will show whether he is an ideologue bent on grabbing power for himself, even if growth slows and people suffer, or whether he is a strongman willing to temper dogma with pragmatism. His vision, in which party control ensures that business is aligned to the state and citizens dutifully serve the nation, will determine the fate of 1.4bn people.

Mr Xi is tackling real problems—indeed, many of them have parallels in the West. One is inequality. The slogan of the moment is "common prosperity", reflecting how Communist China remains as unequal as some capitalist countries. The top 20% of China's households take home over 45% of the country's disposable income; the top 1% own over 30% of household wealth (see Free exchange). Another concern is the clout of tech giants accused of unfair competition, corrupting society and having unfettered access to personal data (only the state has that privilege). A third is strategic vulnerability, particularly the threat that adversaries will obstruct access to commodities and vital technologies.

Yet Mr Xi's campaign poses a threat to China's economy. Pain from unravelling the debt of firms like Evergrande could spread unpredictably. Property developers are sitting on $2.8trn of borrowing. Property development and the industries that cater to it underpin about 30% of China's GDP. Households have parked their savings in real estate partly because other assets offer a poor return. Households' spending on unfinished property accounts for half of developers' funding. Local governments, especially outside the big cities, depend on land sales and property development to generate revenue.

The crackdowns are also making business harder and less rewarding. The party had been creating a regulatory and legal framework, but Mr Xi is imposing big top-down changes so fast that regulation has started to seem arbitrary. Consider, for example, "tertiary redistribution", in which shamed tech companies hand over cash to the state in an attempt to redeem themselves.

Because conspicuous success is dangerous, private companies will be more cautious. State-owned firms and strategic industries—including "hard-tech" such as semiconductors—may benefit, but not the entrepreneurs who have been the true source of China's dynamism. One measure of anxiety is that foreigners, who are not bottled in by capital controls, pay 31% less than mainland investors for identical Chinese stocks. The gap has grown sharply since early 2020.

All this threatens to puncture China's economy. It was already facing a squeeze from declining returns to infrastructure investment and the effects of a shrinking workforce and growing numbers of aged dependents. After 40 years of breakneck expansion, most Chinese are completely unfamiliar with the hard choices that a sharp, sustained slowdown will impose.

In politics the danger is that Mr Xi's campaign degenerates into a cult of personality. To bring about change, he has grabbed more power than any leader since Mao Zedong. As he prepares to break with protocol at the Communist Party's 20th congress next year by claiming a third five-year presidential term, he is using the campaign to organise a huge turnover in personnel, as the basis for an ideological crackdown and as the reason why he should remain at the helm. Each of these contains dangers.

One is that the bureaucracy fails him. Mr Xi wants it to be responsive to market signals, but with promotions and purges in the air, China's officials are jumpy. One cause of the power cuts in 20 or so provinces in recent weeks was the panic of bureaucrats who suddenly realised that they were likely to miss their carbon-reduction targets. Equally, however, officials fearful of being accused of corruption or ideological deviance by their rivals tend to sit on their hands. Failure is dangerous for a bureaucrat who takes the initiative; so is success.

Another danger stems from the ideological crackdown. "Moral review councils" and "moral clinics" are enforcing orthodox behaviour using public shaming. Although there is as yet no prospect of anything as awful as the Cultural Revolution, Chinese people are becoming less free to think and talk. As well as promoting his own doctrines, Mr Xi has played up Red nostalgia and cast Maoism as a vital stage in building a New China, broadening his support before the party congress.

Last come the politics of Mr Xi himself. In the long run, if he clings to power the succession could prove highly unstable. In the short run, if his attempt to impose a new reality does not go to plan, he will face a fateful choice to double down or step back. Up to this point, repression looks more likely than compromise.

Western governments are also struggling with tech firms, inequality and national security. In America Congress has risen to the occasion by contemplating a default on the national debt. Some may envy Mr Xi's scope to get things done fast. But to imagine he has the right answers would be a big mistake. ■

Uninspired

Japan deserves better than an inoffensive prime minister

Kishida Fumio won by looking as if he won't rock the boat. But it needs rocking

Oct 2nd 2021

"WE AVOIDED THE worst-case scenario," ran one hashtag trending on Twitter after the election on September 29th of Kishida Fumio as president of Japan's ruling party. For the right-wingers promoting the slogan, the "worst case" was Kono Taro, a popular and independent-minded minister who won the most votes in the first round of the election. They see him as too liberal to lead the inaptly named Liberal Democratic Party (LDP). But Japanese liberals were relieved, too. For them, the worst case was Takaichi Sanae, a nationalist firebrand.

The trait that propelled Mr Kishida to victory appears to be his inoffensiveness. His victory was engineered by a party establishment that cherishes the status quo. He is unlikely to rock the boat—and just as unlikely to make waves.

Indeed, the status quo is what precipitated the leadership election in the first place. After his predecessor, Abe Shinzo, stepped down last year because of ill health, Suga Yoshihide, the outgoing party president and prime minister, was seen by the party as a safe pair of hands. But his uninspiring handling of covid-19, to say nothing of his lack of charm, turned the Japanese public against him. Confronted by the possibility of a humiliating loss of seats in lower-house elections to be held in November, Mr Suga resigned on September 3rd. His replacement is also a pair of supposedly safe hands, if a slightly younger one. With Mr Kishida at the helm, the LDP may still suffer electorally, but the losses are likely to be smaller. The LDP considers that a victory.

It is not. Japan has avoided some of the worst pathologies of rich democracies, such as populism and extreme partisanship. Yet the ruling party's persistent back-room dealmaking bodes ill for democracy. Because the opposition is a shambles, the LDP is extremely unlikely to lose power in the coming elections. That makes its internal elections almost a substitute for national ones. But the process, which in the second round boils down to a few hundred LDP parliamentarians choosing along mostly factional lines, leaves the party's rank-and-file members, to say nothing of the voters, estranged from politics. Turnout in general elections has slipped from 69% in 2009 to less than 54% in 2017. The machinations that elevated Mr Kishida will only deepen the public's disillusionment.

Who leads Japan matters. It is a big country, with 126m people and the third-largest economy in the world. It is a member of the G7 and the Quad, a security grouping formed as a counterweight to China in the Indo-Pacific. It has championed free trade in America's absence, and currently holds the chair of the CPTPP, a trade pact that both China and Taiwan have applied to join. Yet it will be hard for Japan to take a leadership role on the global stage without a strong prime minister.

This week's vote also augurs badly for Japan's future. The country is stable, peaceful and prosperous. But it is ageing even faster than other mature democracies. Its labour force is shrinking; its pension and health-care costs are ballooning. A new leader needs bold ideas to deal with these ills, from boosting productivity to making the workplace more female-friendly. He also needs the charisma to sell such ideas to the public. He should be making hard choices to build on two of Mr Suga's policies: overhauling the country's outdated bureaucracy and coming up with a realistic plan to achieve its target of net-zero emissions by 2050. All this will take grit. Mr Kishida, a compromise candidate amenable to the LDP's varied factions, has done little to suggest that he has it.

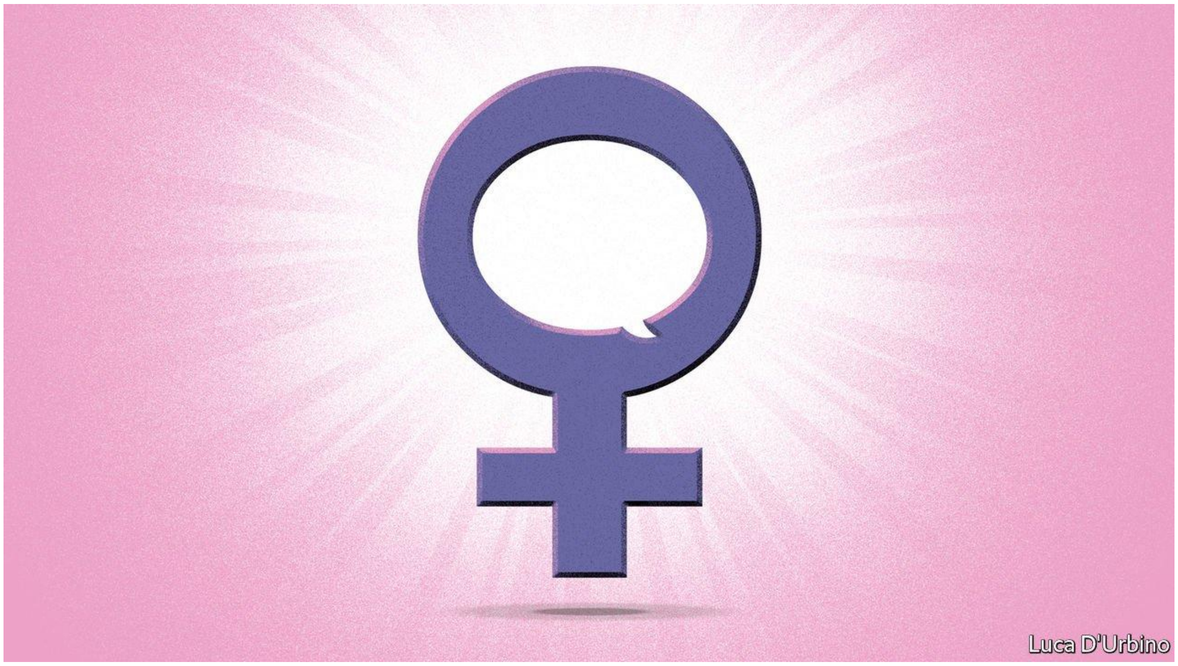
Given the pace of demographic and social change, Japan cannot afford a government that simply muddles through. Perhaps Mr Kishida will surprise his critics once he takes power. It seems more likely, though, that he will join a long list of unmemorable prime ministers. That is hardly the worst outcome of the election. But Japan can, and should, aim for something better. ■

Sex and language

Why the word “woman” is tying people in knots

It is almost always women who are ordered to dispense with a useful word

Oct 2nd 2021


Luca D'Urbino

“BODIES WITH vaginas” is an odd way to refer to half the human race. Yet it was the quote that the *Lancet*, a medical journal, chose to feature on the cover of its latest issue, telling readers that “historically, the anatomy and physiology” of such bodies had been neglected. After complaints about dehumanising language, the *Lancet* apologised. But it is not alone. A growing number of officials and organisations are finding themselves tongue-tied when it comes to using the word “woman”.

A British hospital has instructed staff on its maternity wards to offer to use the phrase “birthing people”. Alexandra Ocasio-Cortez, a member of America’s Congress, talks of “menstruating people”. On September 18th the American Civil Liberties Union (ACLU) republished a quote from Ruth Bader Ginsburg, a Supreme Court judge, on the anniversary of her death. The quote was a defence of a woman’s right to have an abortion. But the ACLU’s version—for which it, too, later apologised—replaced every instance of “women” with “people”. In Britain the opposition Labour Party is tying itself in very public knots over questions such as whether only women possess cervixes.

This linguistic shift is being driven by both compassion and fear. Compassion, because organisations are keen not to be seen to be excluding those whose sense of their gender does not match their sex, such as people who identify as trans or non-binary. And fear, because they are worried about attracting the wrath of online mobs should they be deemed to have violated a set of rapidly changing taboos about gender and sex that hardly existed five years ago—and which, outside a few rarefied circles, still don't. Most dictionaries define a woman as an "adult human female". Among some activists, this is a gross provocation, for they see it as denying that males can be women, too.

Language changes constantly (the word "taboo", for instance, is an 18th-century import from Polynesia). But doctors, bosses and politicians should think carefully before throwing away widely understood words, or using them in new and radically different ways. In the rush to seem up to date, they risk doing a disservice to their own patients, employees and voters.

One reason is that many of the new terms come across as dehumanising. As the *Lancet* discovered, many people—trans men as much as anyone else—dislike being described as collections of ambulatory body-parts and secretions. More than a whiff of misogyny is in the air. It is striking that there is no comparably zealous campaign to abandon the word "men" in favour of "prostate-havers", "ejaculators" or "bodies with testicles". It is almost always women who are being ordered to dispense with a useful word they have used all their lives.

Furthermore, understanding could suffer. Medical advice, for instance, has to be clear and intelligible by all. That is why Britain's National Health Service often prefers words like "stomach ache" to "dyspepsia", or "heart attack" to "myocardial infarction". One survey conducted by a cervical-cancer charity suggested that around 40% of women are unsure about the details of what exactly a cervix is. This implies that asking "people with cervixes" to turn up for screening appointments may not be clear or intelligible, especially to women who have English as their second language.

XX-rated

Most broadly of all, the point of language is to communicate. Insisting on unfamiliar or alien-sounding terms will make it harder to discuss issues that affect only or disproportionately girls and women, such as female genital mutilation, domestic violence, child marriage or the persistence of pay gaps.

Many countries are debating whether safety or fairness should sometimes trump inclusion. Should male prisoners, even violent ones, who identify as women be housed in women's prisons, as may happen in America, Britain, Canada and elsewhere? Should women's sports be reserved for biological females, or should any athlete who identifies as a woman be allowed to join a women's rugby team?

Cowed by the insults and viciousness such discussions provoke, many people are fearful of taking part. If harshly policed, baffling and alien-sounding language is added to the price of joining the debate, even fewer will be willing to elevate their cephalic protuberance above the parapet. ■

Ways and means

America will never have a European-style welfare state without a VAT

Democrats want European-style spending but without the efficient tax that makes it possible

Oct 2nd 2021

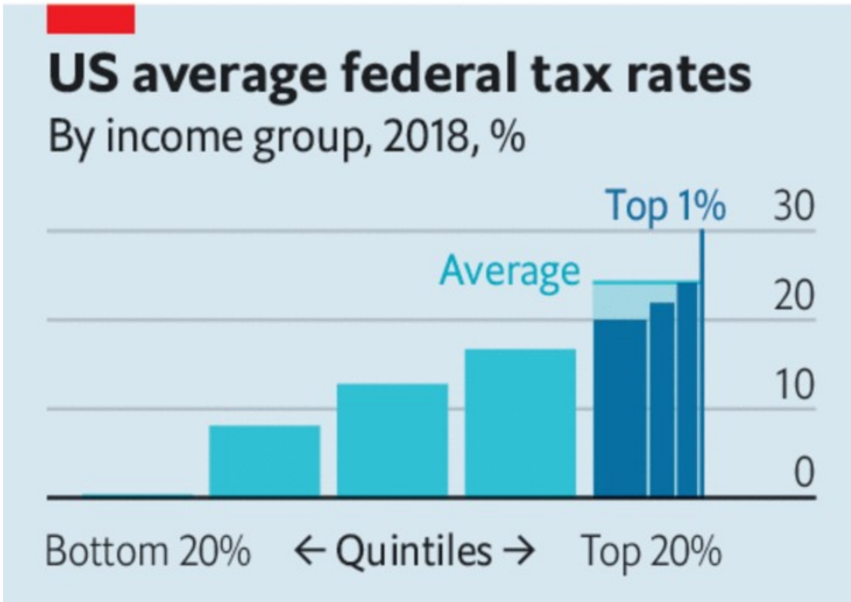
AS GOVERNMENTS SPEND more, it becomes increasingly important that they design their taxes carefully. Large European welfare states such as Sweden or Germany rely on growth-friendly value-added taxes (VATs) to help raise the vast quantities of cash they dole out. America can get away with a tax system that is grossly inefficient and needlessly complex only because the amount of revenue it raises overall is relatively small.

Small, but growing. Democrats in the House of Representatives are working out how to pay for President Joe Biden's proposed social-spending bill, under which America would take a step in the direction of Europe with cash handouts for parents, child-care subsidies, green investment and more money for health care. The bill will probably be watered down in the Senate, but its present size is $3.5trn (1.2% of projected GDP) over the next decade.

To help pay for it, lawmakers are proposing the biggest rise in taxes since 1993.

The plan does little to move towards the efficient taxation that would be necessary were America ever to have the European-style welfare state to which many Democrats aspire. That is because the proposals have been crafted with the goal of raising taxes only on households with incomes in excess of $400,000. The left thinks the rich do not pay their fair share. They would like to raise the top rate of federal income tax from 37% to 39.6%, and introduce a new 3% levy on earnings over $5m. They also want to raise the rate of federal tax on corporate profits in excess of $5m, from 21% to 26.5% (glossing over the fact that wages will fall at least a bit as a result). The plan would raise the rate of capital-gains tax and introduce various new levies.

The federal government has some scope to raise more money from high earners. But the idea that the main problem with the existing system that tax rates are too flat is wrong. In 2018 the lowest fifth of earners on average paid no net federal taxes at all. The top 1% paid a total rate (ie, after all deductions) of 30%, according to the Congressional Budget Office. Include state and local levies, and high earners face a marginal tax rate on each extra dollar they take home—the rate that matters for work incentives—which is middling by rich-country standards. Tax refunds for poor families are exceptionally generous. In 2019 a single parent of two children earning two-thirds of average pay faced total net labour taxes of only 10%, according to analysis by the OECD, a club of mostly rich countries. In egalitarian Sweden the rate was nearly 33%.



The Economist

Inefficiency is a bigger problem in America than the failure of rates to be sufficiently progressive. Myriad deductions allow the very rich to disguise labour income as lightly taxed capital income. And unwillingness to levy a VAT, which is a tax on consumption, means America relies on taxes that deter work and investment. America is one of only three rich countries to collect more than 70% of its tax revenue from labour income and corporate profits. Sales taxes, levied by states and localities, are the only significant taxes on consumption.

The plan does far too little to boost efficiency. On the upside it would curtail the carried-interest loophole which lets investment managers class their fees as capital gains not income. It would reduce tax evasion by increasing enforcement, such as through audits of the tax-returns of high-earners, which more than pays for itself. And it would try to get more money from “pass through” companies, shells which let many professionals treat their income as business profits, incurring a lower tax rate.

Yet much is wrong with the Democrats’ plans. They appear to have forgone closing one of the most costly loopholes, which writes off capital gains when assets are inherited. The rise in corporation tax would take the total rate, including average state and local levies, to 31%, the third-highest among rich countries. In the House they seem uninterested in a carbon tax to combat climate change. And although it is not yet in the plan, they are talking about lifting the cap on an exemption, from federally taxable income, of money used to pay state and local taxes. The cap was introduced in 2017 under Donald Trump. Lifting it would further subsidise high-tax states and almost exclusively benefit the rich. Democrats would be raising top income-tax rates while narrowing the tax base—the opposite of good tax policy.

America's economy would survive these proposals. But its creaky and cumbersome tax code should not be asked to support the size of government that many Democrats want in the long term, which includes, say, government-funded universal health care. Republicans know this is implausible. They typically oppose VAT because they see it as too convenient a source of funds. Democrats dislike the tax because it is mildly regressive. But there is a reason VATs underpin European-style welfare states: there is no desirable alternative. ■

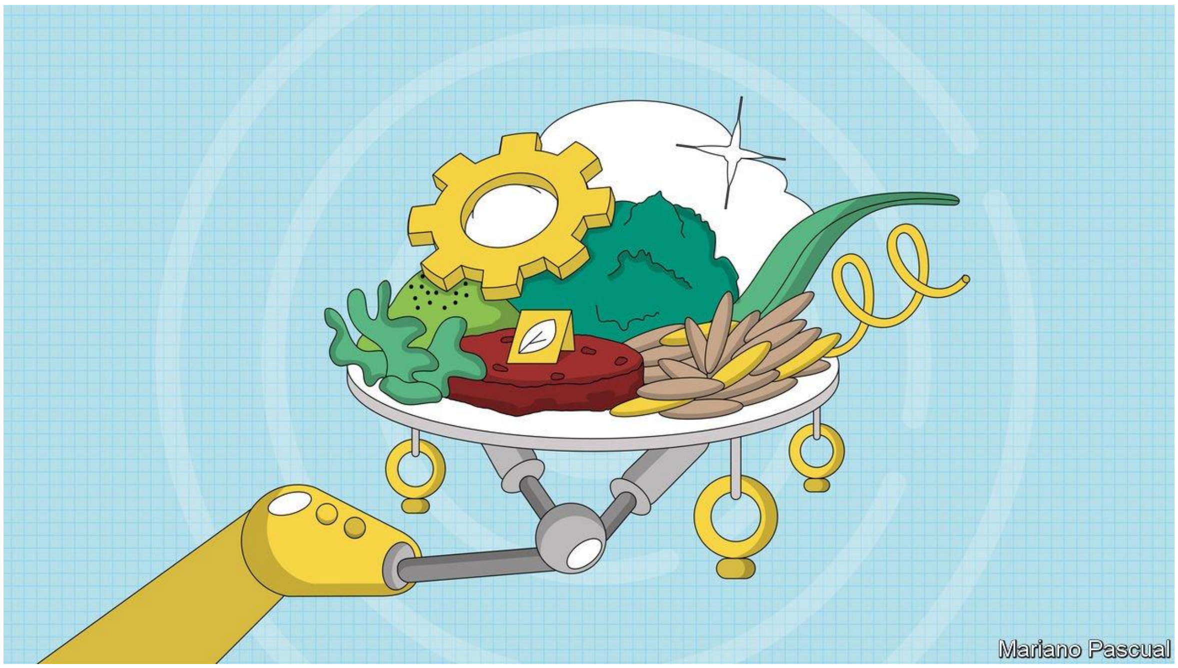
For more coverage of Joe Biden's presidency, visit our dedicated hub

The future of food

New ways to make food are coming—but will consumers bite?

Consumers and governments should embrace new ways to make food

Oct 2nd 2021



WHAT'S FOR dinner? The answer matters, at every level. Food connects the personal to the planetary. Agriculture uses half the world's habitable land and accounts for more than 30% of global emissions. Food production links the great biogeochemical cycles of carbon and nitrogen, both on a planetary level and also in specific factories that combine natural gas with nitrogen and oxygen from the air to produce agricultural fertiliser on the one hand, and carbon dioxide for use in food processing on the other. When one such factory in Teesside, in northern England, recently threatened to shut down because of high natural-gas prices, the government had to step in to prevent food supply chains from collapsing.

Globally, food prices have risen in 13 of the past 15 months and are close to their peak of 2011, owing to poor weather, pandemic-related disruption and fallout from a swine-flu outbreak in China in 2018. In the longer term, the food system faces pressure from climate change, population growth and a shift towards more Westernised, meat-heavy diets.

Fortunately, technologies are emerging that promise to produce food in new ways, in large volumes with less inhumane factory farming and a lower environmental footprint. These range from bioreactors that grow meat to indoor "vertical" farms and new ways of producing fish. Such techniques could make a huge difference. Three-quarters of agricultural land is used for livestock, for example, so it is easy to see how steaks made from plant-based protein, or grown in vats from cells, could greatly reduce factory farming and land and water use, and produce fewer emissions.

Just because it is possible to make food in new ways does not mean people will be willing to eat it, however. Given food's cultural importance, and the fact that it is ingested into the body, conservatism and scepticism are common reactions to new foodstuffs and production processes. In 17th-century Europe many people were loth to eat a new vegetable called the potato because it was not mentioned in the Bible, or because they feared it caused leprosy. Today, many European countries ban the cultivation and sale of genetically modified crops, even though they are widely grown and eaten elsewhere. And although much of the world considers insects a mouth-watering treat (and locust-eating is endorsed in the Bible), the very idea revolts many Western consumers.

At the same time as novel foods are shunned, traditional foods and farming lore are venerated. In California the fanciest restaurants aspire to recreate the humble diet of the Tuscan peasant. Many Western consumers are willing to pay extra for food produced by organic farming, in effect a historical re-enactment of pre-20th-century agriculture, because it avoids "chemicals". (Everything is made of chemicals.)

Yet supposedly timeless food traditions are often shallower than they seem. In the "Columbian exchange" in the 16th century, food crops from the Americas rapidly spread around the world. Tomatoes and polenta, staples of the Italian diet, are American in origin and were unknown to the Romans or to Dante. Potatoes were eventually widely adopted in Europe (the invention of French fries helped). It is hard to imagine many Asian cuisines without chili peppers, but they too are American. Coffee from Arabia and tea from China were unknown in Europe before the 17th century.

The new foods and processes on offer today present opportunities to create delicious and sustainable new traditions. Western consumers should put aside their reservations about eating crickets and give plant-based burgers, 3D-printed steaks and vat-grown artificial tuna a try. Regulators, especially in Europe and America, should streamline their processes for approving cultured meat, be more open to gene-editing crops (as Britain said it would be this week), and speed up approval of edible insects for animal feed and human consumption. A wholesale reimagining of the food system is needed. But that will be possible only if both consumers and regulators are prepared to be more daring about what to eat for dinner. ■

Letters

- **Letters: On the World Bank, housing, supply chains, expats, Islamic sites, the book index**

On the World Bank, housing, supply chains, expats, Islamic sites, the book index

Letters to the editor

A selection of correspondence

Oct 2nd 2021


Liu Jie/Xinhua/Eyevine

Letters are welcome via e-mail to letters@economist.com

A controversial report

Your leader as well as your earlier article on the World Bank's Doing Business report and China convey a false impression of Kristalina Georgieva's role ("Why Georgieva should go", September 25th; "How World Bank leaders put pressure on staff to alter a global index", digital editions, September 17th). I was the senior director overseeing the report in 2017. Her direction to me was clear: verify the numbers without compromising the integrity of Doing Business. I was comfortable that the score for China was comparable to previous years' scores. Contrary to your headline, at no point did I feel any pressure from her. *The Economist* got it wrong.

SHANTA DEVARAJAN
Georgetown University
Washington, DC

Home truths

The Free exchange column on the need for more housing took a binary approach to the problem by pitting public versus private solutions, with a strong bias for the private sector (September 11th). For example, it referred to Singapore's "public" housing. The land in Singapore was not nationalised, but acquired with fair compensation for public purposes. Yes, 80% of the population live in this housing, but around 90% of adults also own their own homes. The ownership is of a lease, usually for 99 years.

Most of the apartments were built by the housing development board, offering subsidies to those on lower incomes to buy their flats. The more expensive apartments were built by private developers, but the leasehold model is the same, and the land under private development often belongs to the state. Only 5% of the population own landed or freehold property, naturally the most expensive on the island. Even so, some "public" apartments have changed hands for over 1m Singaporean dollars ($740,000) on the resale markets. Some “public” housing developments have even won international awards for their architecture.

ANDREW PURVES
London

The focus of the column, on urban cores packed with office blocks, implied that property investment and tax revenues could be affected negatively if jobs and people relocate because of the pandemic. The city-suburb dichotomy was superseded years ago. The challenge is how to make the best use of assets and unlock the potential of a city-region.

As Jane Jacobs observed in the 1960s and Sir Peter Hall years later, urban problems generate innovations. When problem-solving cycles are blocked, as they often are by centralised, top-down policies, cities are less able to leverage their agglomeration effects—density, specialisation, mobility and migration—into productivity-raising innovations. The climate-change transition and the growing scale of urban disasters call for a new paradigm. The paradigm shift that everyone was talking about after the financial crisis of 2007-09 remains a work in progress. Typically, paradigm shifts take a good 20 years to work out; we are halfway there.

JOSEF KONVITZ
OECD, urban affairs and regulatory policy (retired)
Saint-Mandé, France

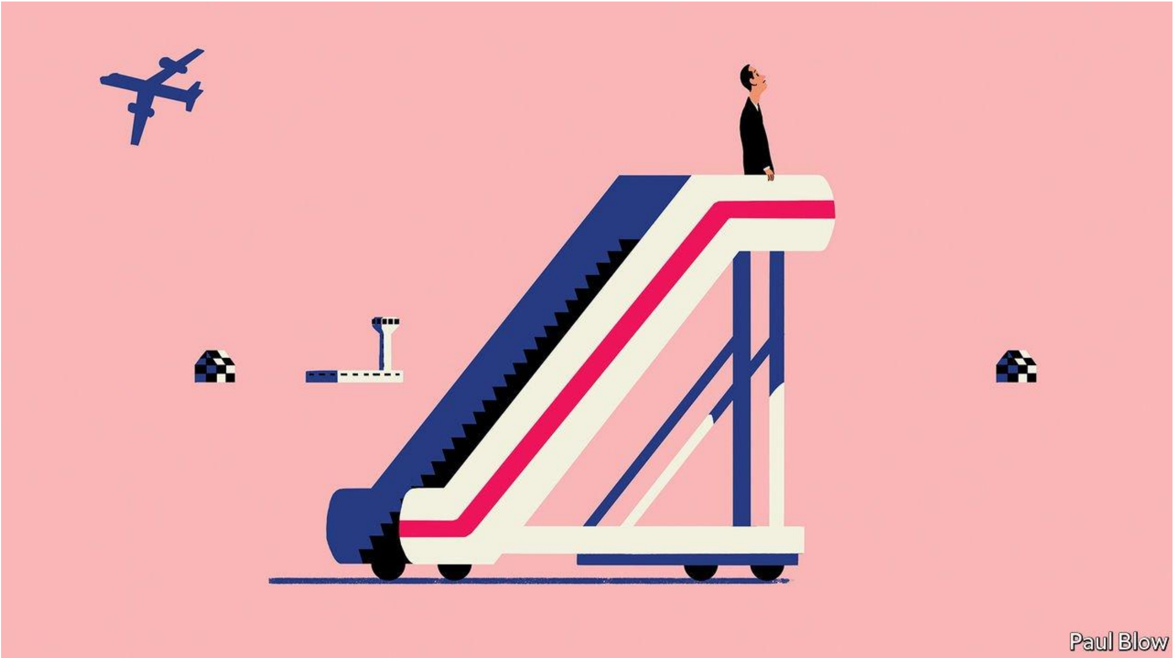
Supply chains and workers

You argued that supply chains are adapting, not failing ("Why skippers aren't scuppered", September 18th). This glosses over the extent of the world's supply-chain woes, and especially the mistreatment of transport workers. Larger companies with a network of local resources have been able to adapt, but two years into this present crisis and the strain is now taking its toll. At best, it is blindly optimistic, and at worst unthinkingly callous, to presume that the basic market forces of supply and demand can provide a remedy.

Without workers, supply chains will grind to a halt. But instead of protecting them, governments have forced workers to remain on ships for a year or more and they are refused transit across borders. Unsurprisingly, we are seeing large numbers of them leave the industry, exacerbating the problem. If transport workers are not given urgent priority, the supply-chain crunch we are seeing in many parts of the world will only get worse, and then we will all be scuppered.

GUY PLATTEN
Secretary-general

International Chamber of Shipping
London



Expansive expats

Although expats might no longer be necessary (Bartleby, September 18th), treating all countries in the same manner goes against much of what *The Economist* reports on so effectively each week: the idiosyncrasies that make countries dissimilar, and how to navigate them successfully either through a business, economic or cultural lens. I lived overseas for several years, after I studied business and the local language in school. Certainly some business can, and should be, carried out by transient employees, but retaining an expat sends an ongoing and positive communication message to headquarters as well as to the local office. Supporting these relationships, especially among Asian cultures, is sometimes more important then the business transactions themselves.

GREG STOLLER
Boston

Conserving Islamic sites

"Bulldozing history" (September 4th) reported on Arab states that are wrecking old treasures. You barely mentioned Saudi Arabia, yet it has a long record of systematically destroying religious sites, most of which are important to the mainstream Islamic faith.

The most notable was the destruction of the religious shrines in the al-Baqi cemetery within the centre of Medina, which housed the tombs of Prophet Muhammad's daughter and grandsons, as well as other family members. Its demolition in 1925 was ordered by the Al Saud regime based on their radical Wahhabi beliefs that shrines and graves should not be visited.

Despite repeated challenges by the mainstream Islamic community and offers to rebuild them, the Al Sauds stubbornly restrict access to the now flattened sites, as they see this as a challenge to their Wahhabi way of thinking. It is a shame that the Saudi government does not view these sites as economic opportunities in the same way they think about promoting sport and culture, helping avoid sectarian disparities in Islam. This is surely a responsibility for those who call themselves the custodians of Islam.

SYED ZAIDI
London

Subject matter

Your review of a book on the history of indexing suggested that search engines save time for looking things up ("Keys to all knowledge", September 4th). Have you never fallen down the Google rabbit hole? Looking for information about dragons' teeth on the North Downs, I emerged much later listening to the songs of the Mountain Jews, via searches on invasion, gunpowder, Nobel, Azerbaijan and more. Time, joy and serendipity.

HELEN EDWARDS
London

Your wonderful review reminded me of an index entry I read once in the chemical rubber handbook:

Sea water; see water, sea

ELI GILBERT
New York

Briefing

The City of London

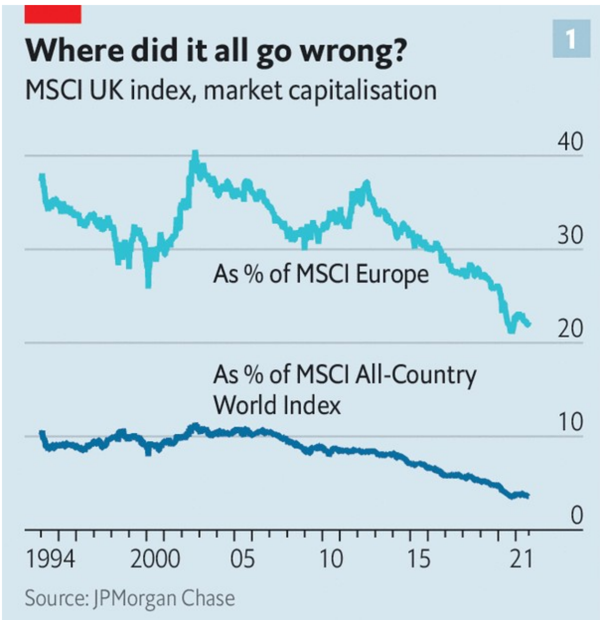
Britain's sluggish stockmarket

Why London is no longer the world's bourse

Oct 2nd 2021

IF BRITAIN'S TWO truly world-beating exports are entertainment and finance, 2005 was a big year. Its bestselling album was "X&Y" by Coldplay, a British rock band. "Harry Potter and the Half-Blood Prince" sold more copies in its first 24 hours than any novel before it. "Peppa Pig", a children's television programme set to become so popular that American parents would complain it was giving their children British accents, made its transatlantic debut.

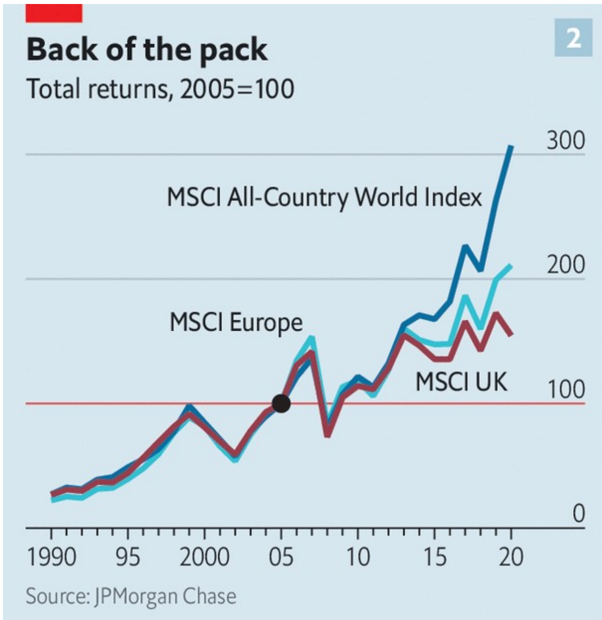
London's financial district, too, seemed on top of the world. Gone was the post-war backwater that scratched out its living financing the remnants of the imperial commodities trade. Half a century of financial innovation, freer trade and deregulation had lured foreign banks to the Square Mile and then cracked it open to international capital. As the birthplace of the Eurobond market, which allowed firms to borrow American dollars outside America, London had long been an international hub for raising debt and trading foreign currencies. Now it was becoming the place to raise equity capital as well. A fifth of all companies globally that went public via an initial public offering (IPO) in 2005 chose to do so on the London Stock Exchange (LSE). Within a few years, analysts who worried that America was suffering from a dearth of listings would be pointing to Britain as an example of how to do things right.



The Economist

A shame, then, that those heady years in the run-up to the global financial crisis set a high-water mark for Britain's equity market. A decade and a half later, any pretensions the City once had as the world's stock exchange have been dashed. Its share of global IPOs has dropped by a factor of five, to 4%, and the number of companies listed on it has fallen by 40% since the peak in 2007. As a share of the global equity market, and even of the sclerotic European one, the value of Britain's has dropped steadily (see chart 1).

As London's share of IPOs has dwindled, so too has the prestige of the few it still hosts. Its largest, which valued Glencore, a mining giant, at $60bn, is now a decade in the past. Today, similarly sized debuts are commonplace in New York: so far, 2021 has seen both Coinbase and Coupang soar to over $100bn on their first trading days. For the City, by contrast, Deliveroo ($10.5bn) and Wise ($11bn) now count as big flotations.

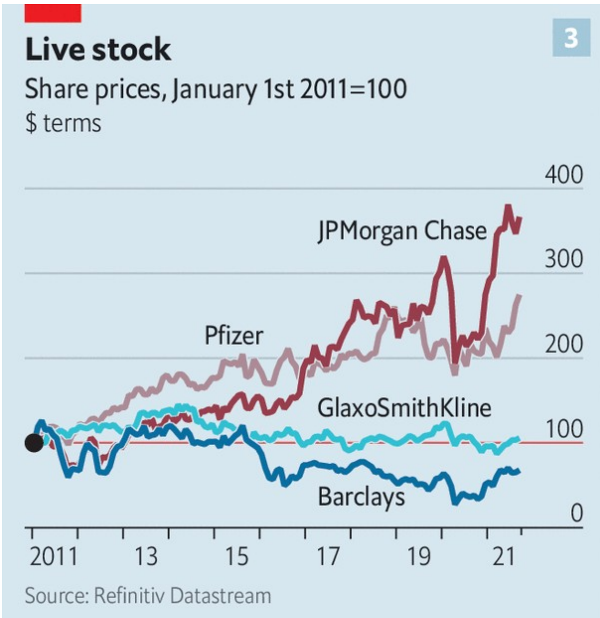


The Economist

The market that remains is plagued by underperformance. A dollar invested across the world's stockmarket in 2005 would have been worth \$3.07 by the end of 2020 (see chart 2). Invested in Britain's, it would have been worth \$1.55. Much of that is caused by Brexit-induced political and currency risk. Analysts at Jupiter, a fund manager, reckon that British equities are priced at a 40% discount relative to dividends, earnings and growth prospects, compared with valuations before the 2016 Brexit referendum. Add in low interest rates and an acquirer-friendly takeover code, and that undervaluation has led to a flurry of bids by foreign firms and private-equity funds to take British listed firms off the public market.

Meanwhile, missing out on the biggest and most exciting IPOs has left Britain's equity market looking more like yesterday's world than tomorrow's. The FTSE 100, an index of the largest companies listed on the LSE, is stuffed with the shares of miners, energy firms and banks. It is much lighter on technology firms, which account for less than 2% of its value, compared with 39% for the S&P 500, its American equivalent.

The result of all this is a vicious cycle. If London's equity market puts a lower value on companies than its peers do, firms with bright prospects will choose to list where they can sell their shares for more cash. The absence of exciting flotations then begets a sagging stockmarket and continued low valuations. High-performing firms whose share prices are sullied by association with laggards then make for attractive targets to be picked off by private buyers. And so the cycle continues.



The Economist

Other factors are accelerating it. One is underperformance by individual British companies compared with their international peers. City grandees pride themselves on the LSE's "gold-plated" corporate governance standards which, among other things, constrain executive pay and prevent boards from hoarding voting rights. But in private the same people bemoan the "brain drain" that results from such rules, with talented executives leaving London-listed companies for private or foreign competitors. The impact of that drift is visible in share prices. Compare GlaxoSmithKline, a British pharmaceutical company, with Pfizer, an American one, or the banks Barclays and JPMorgan Chase (see chart 3).

Left in the dust

London is also being outclassed by foreign tech clusters. Compared with its international rivals, the City's regulatory environment is less friendly to tech founders seeking to float their company without relinquishing voting control or forcing their early backers to sell large chunks of their shares. It also lacks New York's deep ranks of analysts who understand tech and fintech firms well enough to value them properly. Fairly or not, the drubbing handed to Deliveroo at its IPO earlier this year reinforced the impression held by many that London's investors are simply too hostile to tech companies to bother with. "If I'm a fintech founder looking to IPO, why on earth would I run the risk of getting treated like Deliveroo when I could just go to the Nasdaq instead and be welcomed with open arms?" says one tech lobbyist.

A final factor that is in part driven by, and in part contributes to, this stagnation is declining home bias among British investors. Managers of British equity funds complain that investment platforms which used to promote their funds to retail investors now nudge those investors towards funds with a global mandate instead. According to the Investment Association, a trade body, funds invested in British equities saw outflows of £2.2bn ($3bn) in the first half of 2021, even as net retail fund inflows totalled £24bn.

Even more dramatic is the ditching of British equities by institutional buyers. Defined-benefit pension schemes, the assets of which totalled £1.7trn in 2020, used to be huge buyers of London-listed shares. Figures from the Pension Protection Fund, a government-backed insurance programme, show that they invested 26% of their assets in British-listed equities in 2008. By 2020, that had fallen to below 3%. This is partly because pension regulations push defined-benefit schemes away from listed shares and towards the perceived safety of government bonds and the low volatility of private investments. But even for the declining proportion of their portfolios allocated to listed equities, pension-fund managers are increasingly choosing not to buy British.

If the decline continues, two groups are in line for the worst losses. One is the Treasury, which collects about a tenth of its tax income from the financial-services sector, some of which revolves around the LSE. The other is the financial, legal and accounting firms that have presided over the British stockmarket's decay. Many other economies thrive without big stockmarkets, but the LSE plays an outsize role in enabling Britain to pay its way in the world.

The government is keenly alive to the problems, and views solving them as one of its key tasks to make Britain a more hospitable environment for entrepreneurs. It has sponsored two reviews this year looking at different aspects, and suggesting a variety of fixes. The most consequential, recommended by both the Kalifa Review of UK Fintech and the UK Listing Review, was to allow companies with dual-class shares (which give some directors greater voting rights) on the LSE's premium segment. That would allow such firms to be included in indices like the FTSE, meaning that passive tracker funds would buy their shares and improve their liquidity, and would help put Britain's stockmarket back on an equal footing with its international peers.

Other suggestions, including reducing the minimum proportion of a company's shares that must be made publicly available in an IPO, seek to encourage private investors who do not want to relinquish their stake in exciting firms to let those firms come to market. And still others look to improve the pipeline of fast-growing firms that may float on the LSE in the future. Chief among these are proposals to liberalise visa rules, announced in the government's innovation strategy in July. Plans include making all graduates of top universities eligible for a visa, regardless of their employment status, and allowing high-growth companies to hire skilled foreigners more easily.

What resistance remains comes from within the Square Mile itself. Insiders suggest that around half of the Investment Association's members remain vehemently opposed to abandoning the City's "one share, one vote" principle. That leads to speculation that even if the rules change, many might still shun the shares of companies whose founders retain voting control. It also risks sending a damaging message to successful founders—that City investors do not trust them to continue to run their businesses.

We will try to fix you

If the vicious cycle is to be reversed, innovative firms will need to be convinced that the City's investors will be receptive to their business models, and able to value them appropriately. For that to happen, banks and asset managers must employ research analysts who understand tech and fintech companies. Investment firms suggest that it would take five big fintech listings on London's market before they could justify hiring an analyst to cover the sector.

That, in turn, would encourage more companies to float there. The listing of Wise, a fast-growing and profitable cross-border payments firm, on the LSE earlier this year, surprised many. If other similar companies follow, the City stands a chance of building a fintech cluster that would reprise its 20th-century success with energy firms, mining giants and insurers. A hub with a talent for reinvention may yet have another innings in it. ■

Who’s up, who’s down?

The decline of Britain’s stockmarket should be seen in a broader historical context

The historical context of the City of London’s slump

Oct 2nd 2021

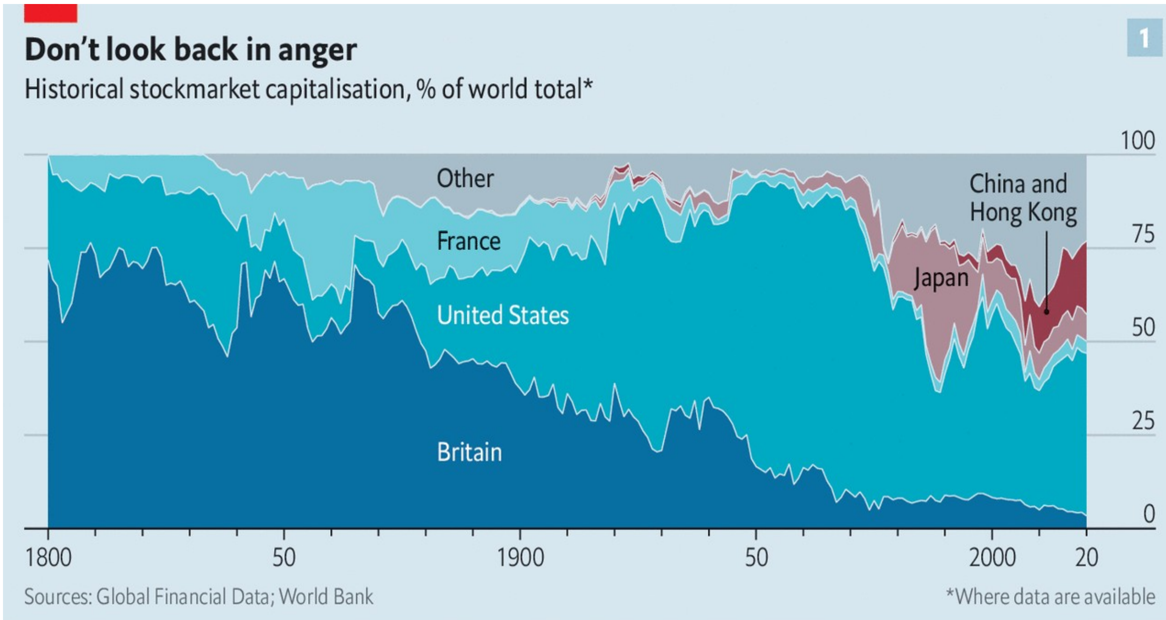
IT IS TEMPTING to look at Britain’s history and conclude that the loss of its empire made the relative decline of its stockmarket inevitable. But Britain’s is hardly the only one to have ballooned and shrivelled in the centuries since the idea of raising capital by selling equity to the public gained popularity. The fortunes of the world’s big exchanges have fluctuated throughout history. In recent decades two important trends have driven those shifts: the rise of Asian equities and the growing significance of the technology sector. Britain’s market has been clobbered more forcefully than those of its peers, exacerbating its decline. But these are merely the latest twists in 200 years of stockmarket history.

America’s and Europe’s stockmarkets first took off in the 19th century. Successive crazes for investing in canals, Latin America and railways led to the creation of hundreds of companies that raised capital in London, explains Bryan Taylor of Global Financial Data, a provider of historical statistics.

“Once most of Europe’s railroads were built by the 1850s, British investors started financing the American ones instead,” he says. Britain’s stockmarket became a conduit for investment in a range of companies in Canada, India, South Africa, Australia and South America.

It was not the only hub for raising capital for overseas ventures. By the early 20th century, the shares of hundreds of firms were being traded simultaneously in London, New York, Paris and Berlin. America’s domestic growth was striking, too. The First Bank of the United States raised $10m ($291m today) at its incorporation in 1791. The incorporations of dozens of other banks and insurance firms followed. By 1911 the combined value of the British, American, French and German markets reached a high of $49bn —over $1.4trn today—a 175-fold expansion on a century before.

Two world wars later, a hobbled and fragmented European market offered little by way of challenge to America’s dominance (see chart 1). During the fighting bourses had largely been shuttered. When exchanges were able to open, they had frequently been subject to price restrictions that limited trading. Currencies were devalued and capital controls imposed, complicating cross-border flows. Hyperinflation in Germany and much of eastern Europe, combined with the rise of communism, had wiped out many investors. For decades after the end of the second world war, governments’ willingness to regulate and nationalise many industries kept European equities firmly in check.



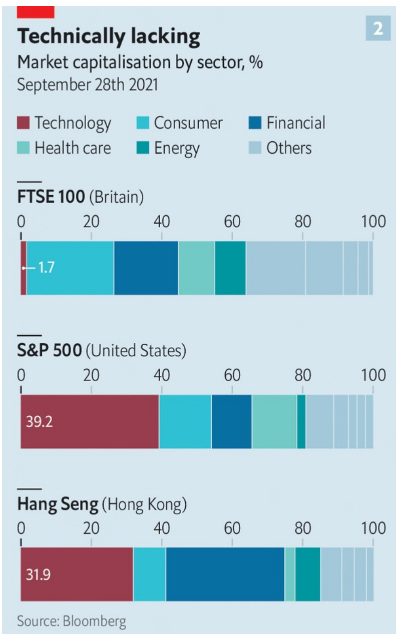
The Economist

The challenge to America, when it appeared, came from Asia. The gradual return of globalisation (which did not rebound to pre-first-world-war levels until the 1990s, as measured by flows of capital and goods) brought with it a dramatic rise in Asian exports. Japanese equities, in particular, flourished. Before 1960 Asia's stockmarket had been worth less than 5% of the world's; by the 1980s it had eclipsed Europe's. In 1989 it accounted for nearly half of global market capitalisation, largely because of the Japanese asset-price bubble. Two years later, that bubble had popped and Japan's fortunes had deflated. It was time for the Shanghai and Shenzhen exchanges to come of age, and set the scene for China's rise as a financial superpower.

Today, China and America are by far the most important centres for raising equity capital. According to Dealogic, a financial data provider, America has so far seen 750 initial public offerings (IPOs) in 2021, for companies with a total value of $242bn. China, including Hong Kong, has counted 427, for companies worth $72bn. Compare that with France, Germany, the Netherlands and Britain where this year the combined value of the firms completing IPOs this year has reached just $45bn.

The shock of the new

Nor is it just in the sheer size of their markets or the volume of their IPOs that China and American outperform their competitors. They are also more heavily weighted towards the kind of innovative companies that are likely to drive future growth (see chart 2). Tot up the value of five of America's tech superstars—Google, Apple, Amazon, Facebook and Microsoft—and you are left with a market worth more than all 1,964 companies listed on the London Stock Exchange.



The Economist

A bias towards technology has its downsides. The returns of American equities are increasingly dependent on the fortunes of a handful of tech giants. China's repeated crackdowns on its technology companies are all the more worrying for investors in stockmarkets dominated by them. That is especially true for the growing numbers of foreign shareholders who find the Chinese Communist Party's mood hard to parse. But countries whose markets are light on innovation could learn from the British investors of the 19th century. Back then, the firms building railways were technological trailblazers, too. ■

Asia

A delicate balance

In power, the Taliban’s divisions are coming to the fore

Ideological differences and bored fighters are creating headaches for its leaders

Oct 2nd 2021 | ISLAMABAD

AFGHANISTAN’S PRESIDENTIAL palace has seen its fair share of bad-tempered quarrels between politicians. In recent years the castle-like building in the centre of Kabul was the site of bitter spats between the irascible former president, Ashraf Ghani, and his rival, Abdullah Abdullah. Mr Ghani is said to have taken anger-management classes. At one point he and Dr Abdullah held rival inauguration ceremonies as they disagreed over who should rule. Yet even by those fractious standards, the Taliban’s recent bust-up seems to have been heated.

The trouble kicked off in mid-September, just days after the Taliban announced the make-up of their interim government. Mullah Abdul Ghani Baradar, one of the group’s founders and now a deputy prime minister, is said to have been dismayed that the cabinet was stuffed with conservatives from the old guard and military hardliners from the Haqqani network, a leading faction in the Taliban's tapestry of allegiances. Khalil Haqqani, minister for refugees and a senior member of the Haqqani clan, countered that it was those very military hardliners who had delivered victory and should therefore be rewarded. Most accounts concur that the disagreement descended into angry words. Some suggest it went further: coming to scuffles, punches and even gunfire as the leaders' retinues brawled. Mr Baradar, who is seen as one of the movement's moderates, relatively speaking, lay low in Kandahar for a few days, leading to speculation that he had been wounded.

The Taliban deny there was ever any clash. Mr Baradar is now back in Kabul conducting official business and apparently unhurt, though he seems to have lost the argument. But the reports shone fresh light on the internal politics of a group whose leadership has for decades operated in the shadows, and whose dynamics could be outlined only imperfectly by intelligence agencies and Talibanologists.

Disputes like the palace row should come as no surprise considering the diversity within the Taliban, says Antonio Giustozzi of King's College London. As the group prospered and grew beyond its roots, it swallowed, attracted or co-opted all sorts of militant networks and commanders, of which the Haqqani clan is only the best known. That resulted not in a

Maoist-style centrally controlled insurgency, but a coalition of commanders bound by some core beliefs.

The Taliban's secrecy during their 20-year insurgency hid some of this disagreement, but a notable flare-up occurred in 2015, two years after the death of the movement's original leader, Mullah Mohammed Omar. The appointment of his successor, Mullah Akhtar Mansour, who has since been killed, was rejected by several senior figures including Omar's son. The Taliban were briefly in turmoil as competing factions jockeyed for power. There are also continuing ideological divisions. These vary from how heavy-handed the group should be in enforcing its social policies to whether to cut ties with foreign jihadists such as al-Qaeda, whom many fighters consider comrades. Whether to work with other domestic political forces is also a thorny topic.

Given these differences, what is perhaps most remarkable is not the Taliban's feuding, but their cohesion. "Their greatest skill," says Mr Giustozzi, is to "keep all of this together despite constant friction and constant argument." That stems from hard work, says Haroun Rahimi of the American University of Afghanistan. The group might be known for issuing authoritarian edicts to Afghans, but it goes out of its way to seek consensus internally. There is deference to clerical seniority and battlefield experience, but controversial matters are laboriously debated in large councils known as *shuras*. Factions such as the Haqqanis have been allowed some latitude in how they operate. Pakistan's security forces are also thought to have mediated on occasion.

Such deliberation may salve tensions, but it can also make the organisation conservative and indecisive. Policies are pitched at the group's lowest common denominator to preserve concord. That makes it difficult for the Taliban to change. Indeed early policy moves appear to show no great evolution, despite vows that the Taliban had moved on from the repressive regime they ran in the 1990s. Harsh sharia punishments such as public hanging and chopping off thieves' hands are back. Women are being purged from the workplace. Such policies may explain why even Pakistan, which formally recognised the Taliban the last time around, has not yet done so again (see box).

Power has brought new challenges to the Taliban's internal order. During the 1990s, lingering domestic resistance, which they never completely vanquished, helped maintain unity. But the Taliban now rule the entire country, almost uncontested. Thousands of fighters steeped in a culture of militancy are twiddling their thumbs. Not every commander will win a position in the new government. There is little money for those who do. "I think that disagreements within the top leadership are distracting us from the pressure that the Taliban movement is under from below, from their fighters," says Mr Rahimi.

Tamim Asey, who heads the Institute of War and Peace Studies, a think-tank in the Afghan capital, describes what he calls “jihadi anarchism”. The Taliban’s branches in some provinces show signs of questioning the writ of Kabul. “The transformation from a militia to a government is costing them, and it appears to be painful,” he says. Some fighters are returning to civilian life. Others appear nostalgic for their campaigning days and admit peace is a bit of a drag. “Unfortunately I never had the opportunity to become a martyr,” moans a Talib guarding the shuttered British embassy.

The new defence minister recently rebuked fighters for their indiscipline, complaining of reprisals, which are forbidden under the Taliban’s declared amnesty for officials of the former regime. He also admonished footsoldiers for inadvertently giving away secrets as they pose for selfies in ministries. “Such hanging out and taking snaps and videos will not help you in this world, or in the hereafter,” he said.

Hints of splits within the Taliban might once have gladdened the hearts of the Western spooks and soldiers arrayed against them. No longer. Serious divisions could pitch the country into civil war, exacerbating a humanitarian crisis and prompting a surge in refugees. A rift would also encourage defections to other militant groups and embolden terrorists like Islamic

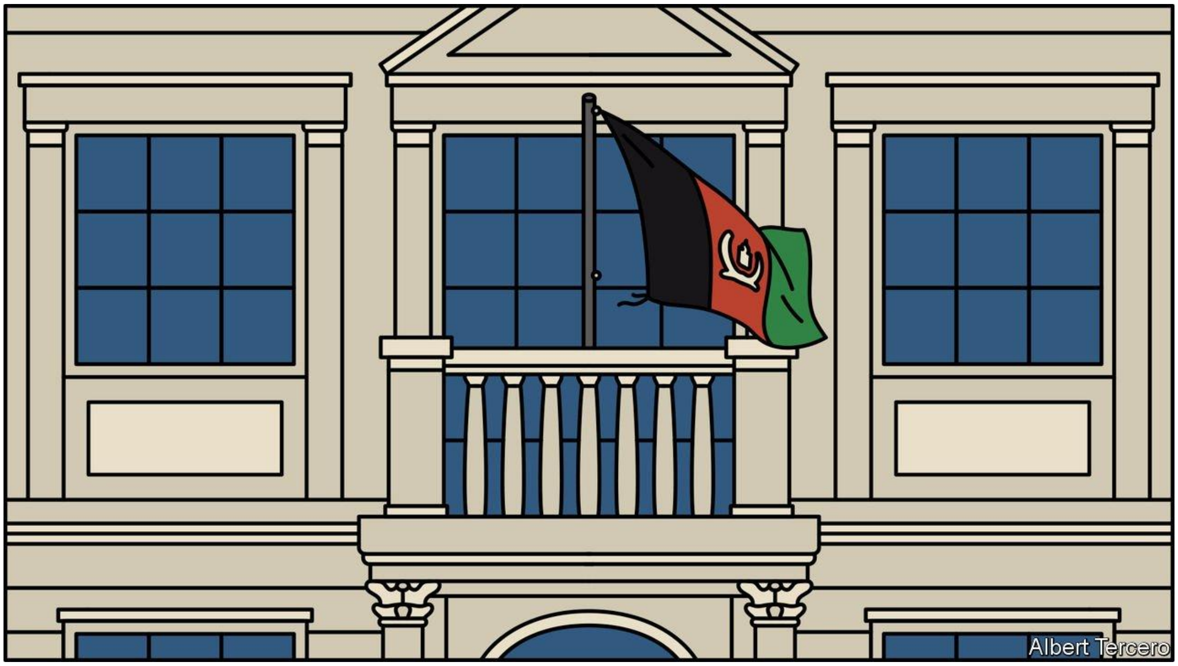
State. For now, at least, even the Taliban’s erstwhile enemies are hoping the group can keep it together.■

Mission control

Afghan embassies don't recognise the Taliban

Diplomats remain loyal to an old regime that barely exists

Oct 2nd 2021



THE TALIBAN prevent girls from going to secondary school in Afghanistan. Yet the country's ambassador to America is a woman. That is not because the group has decided that women's rights are a good thing after all. It is just that they cannot replace her. No country yet recognises the Islamic Emirate established by the Taliban. Afghanistan's embassies still represent the old government, which fell in August.

In capitals across the world, they fly the old black-red-and-green tricolour. They stamp documents with the old emblem. There have been some changes, however. The embassy in Athens has taken down photos of Ashraf Ghani, the deposed president. Diplomats may remain loyal to their old government, but not to their old leader. They look to Amrullah Saleh, the former vice-president who has vowed to continue fighting.

Unsurprisingly, the embassies get no money from the Taliban-run government. Instead, they rely on fees for consular services. That hardly covers the bills, even in countries with big Afghan populations in need of paperwork. Embassies have had to lay off staff. Few of those who remain are being paid. To save money, embassies are extending old passports rather than printing new ones. “We have to cut down on everything,” says Khaled Zekriya, the ambassador to Italy. That includes water and electricity.

When the Taliban last held power, from 1996 to 2001, they asked to represent the country at the UN. The committee charged with making a recommendation diplomatically deferred a decision, and the previous government, run by rival guerrillas, kept the seat throughout. Meanwhile, the Taliban ran an unofficial office in Queens, New York. The embassy in Washington continued to be run by their rivals too, until 1997 when the second-in-command swore allegiance to the Taliban and took over. After that, America “temporarily” suspended operations at the embassy.

The Taliban have again begun trying to represent Afghanistan on the international stage. A member of the new government tried to set up a video call with Afghan ambassadors but most declined, says Mr Zekriya. Last week the group requested Afghanistan’s seat at the UN. The committee in charge, which also has to decide who should represent Myanmar after the army took power in a coup in February, sidestepped the issue. For now most host countries are encouraging the embassies to stay open under the old government. They want Afghan migrants and refugees to have access to consular services. And they are in no rush to reward the Taliban by establishing diplomatic ties.

Some Afghan diplomats are hoping that the war against the Taliban is not yet over. Others are lining up new jobs in their host countries. Few want to return to a place ruled by pious thugs. Embassy staff are used to helping asylum-seekers with applications. Now many are preparing their own paperwork.

The party decides

In Kishida Fumio, Japan’s old guard opts for the status quo

The incoming prime minister is an uncontroversial choice

Sep 30th 2021 | TOKYO

AP

KISHIDA FUMIO, Japan’s new prime minister-in-waiting, likes to jot down voters’ views in little notebooks. After being elected president of Japan’s ruling Liberal Democratic Party (LDP) on September 29th, he called his special skill the ability “to listen well to others” and warned that the growing distance between politicians and the public amounts to a “crisis of democracy” in Japan.

Mr Kishida, however, was hardly the people’s choice. Instead, his election reflects the enduring strength of the LDP’s old guard and its disregard for broader public opinion. Kono Taro, another former foreign minister, was the favourite in polls of the general public and among the party’s rank-and-file. Many younger lawmakers backed him, too, pitching the campaign as a generational contest. Yet Mr Kishida cut a far less threatening and more pliable figure for the leaders of the party’s factions (of which Mr Kishida is himself one). That proved to be decisive in a second-round run-off, where the party's 382 lawmakers held sway.

In Mr Kishida, the party opted for an insider unlikely to buck the establishment. Politics is a family business for him (as it is for many of his peers, including Mr Kono). Both his father and grandfather were lawmakers; he is also related to the late Miyazawa Kiichi, a prime minister on whom President George H.W. Bush once memorably threw up.

In Japanese political circles, Mr Kishida is known as an affable colleague and a competent administrator, but a dull personality. In his time as foreign minister to Abe Shinzo, who was prime minister from 2012 until 2020, Mr Kishida co-ordinated a visit by Barack Obama to his home town, Hiroshima. He also helped broker an agreement with South Korea for Japan to compensate "comfort women", as those forced into brothels by Japanese soldiers during the second world war were known. (The agreement later fell apart after a change of government in South Korea.) A convivial drinker, he also downed vodka with his Russian counterpart, Sergei Lavrov, in a futile attempt to improve ties.

In his political memoir, entitled "Kishida Vision: From Division to Collaboration", he pledged to be the kind of leader who "can elicit co-operation from the public". Like his platitudes, Mr Kishida's vision for the country is fuzzy. Despite describing himself in the past as the dove to Mr Abe's hawk, he sounded tougher notes on China during the campaign. He promised more stimulus to counter the fallout from the pandemic, but has also nodded to the concerns of fiscal hawks who fret about the country's debt. One of his main campaign themes was the need for a "new model of capitalism" to reduce economic inequality and redistribute wealth. But his suggested prescriptions look more like tweaks to the safety net than the revolutionary change the rhetoric suggests. Mr Abe played a big role in his victory behind the scenes; that ensures Mr Kishida will not stray far from his predecessors' policies.

Any change under Mr Kishida is instead likely to be incremental. He is already being talked about as a short-term prime minister, much like the man he replaced, Suga Yoshihide, who took over from Mr Abe and lasted just one year. Dissatisfaction with the government's handling of covid-19 helped bring down Mr Suga. The number of new cases detected each day has been shrinking as the vaccination rate rises, but Mr Kishida will still have to regain public trust and present a credible plan to reopen the country safely and revive the flagging economy.

His first order of business will be to lead the party in elections for the Diet's lower house later in November. By ignoring public opinion in choosing Mr Kishida, the LDP may spur some to cast protest votes (though the party is expected to fare better than it would have under the even less popular Mr Suga). Shortly after his election, Mr Kishida began tamping down expectations about the results. His selection is likely to deepen the disillusionment with politics that many voters already feel. Luckily for the LDP, the enduring weakness of the country's opposition parties means there is virtually no chance of the party losing power. Mr Kishida's new job, however, is less secure.■

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Laosy bets

A new report digs into China’s labyrinthine foreign loans

Asian and other developing countries owe more money than they might think

Sep 30th 2021

ON THE OUTSKIRTS of Vientiane, the capital of Laos, workers for China Railway No. 2 Engineering Group recently welded the last two 500m lengths of “seamless rail” for the China-Laos Railway, a flagship project of China’s Belt and Road Initiative (BRI). Chinese state media celebrate the railroad, set to open in December, as a feat of modern engineering. It is also a marvel of modern book-keeping, amassing $3.6bn in debt off the government’s balance-sheet but for which the Laotian state may still end up on the hook. That financing and other “hidden debt” to China amounts to a third of the country’s GDP, which could become a problem: Laos already has sovereign debts equivalent to about 60% of GDP on its books, half of it owed to China.

Hidden debts bedevil many of China’s development projects abroad, including lots in Asia, which are financed in such complex ways, and arranged among so many different entities, that even Chinese financial authorities have had trouble keeping track. On September 29th AidData, a research unit at William & Mary, a university in America, released a data set that attempted to put a dollar figure on China's lending to projects overseas, including off-the-books debt that is not reported to the World Bank. AidData tallied 13,427 projects for which China had provided about $800bn in lending over an 18-year period starting in 2000. That includes $385bn in what AidData calls "hidden" debt. It counted 44 countries that owe the equivalent of at least 10% of their GDP to China.

Getting a grip on how much countries owe to China matters because many of these developing countries, struggling in the pandemic, are trying to renegotiate the terms of their sovereign debts not only with China but also with multilateral lenders and other countries. In 2020 the G20, which includes China, agreed to suspend debt-service payments temporarily for as many as 73 countries to give them a chance to restructure their debts. But many of China's loans are arranged in ways that might not be covered by the agreement. As in the case of the China-Laos Railway, loans can be agreed between state-owned enterprises and joint-venture companies without being formally guaranteed by the government (Laos separately has a sovereign obligation of about $480m connected to the rail project). In some cases, governments may not even know the full extent of loans for which they may one day find themselves responsible.

The pace of China's BRI lending has slowed considerably in recent years (the AidData research covers loans through to 2017). But there is little indication that China plans to change the way it works with debtor countries. Many of China's BRI loans are agreed with poor countries at commercial interest rates and often include collateral obligations (such as proceeds from the sale of natural resources), neither of which is true of conventional development financing. China typically deals with unpaid debts by extending the terms of a loan rather than taking a haircut on the principal —"kicking the can down the road", as Scott Morris of the Centre for Global Development, a think-tank in Washington, puts it. Sometimes the Chinese side takes a big equity stake in projects where debtors have fallen behind on payments. A decision in 2017 to assume control of a port in Sri Lanka led to charges of "debt-trap diplomacy".

In debt-ridden Laos, a Chinese state-owned company has already assumed control of another piece of infrastructure, part of the electric grid. But Matt Mingey of Rhodium Group, a research firm, says the railway is an example of how a Chinese infrastructure loan can be not so much a "hidden" liability as a complicated one. The joint venture that owes China $3.6bn is already majority-owned by three Chinese state-owned firms, making the project akin to a Chinese one that happens to be in a foreign country. If the railway proves to be a financial flop, it may be China on the hook, not Laos. The "hidden debt", then, would be one that China owes to itself. That should be simple enough to resolve.■

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Banyan

India’s government is using the taxman against its opponents

Targets include vocal critics of the state but also those who make it look bad

Oct 2nd 2021

SONU SOOD is nothing if not gracious. The square-jawed he-man of such features as “Tutak Tutak Tutiya” (2016) and “Kung Fu Yoga” (2017) says that when tax inspectors stormed his house, he tried to make it the best possible experience for them. When the uninvited guests left three days later, having kept the 48-year-old actor’s family locked inside and taken their phones and personal papers, he told them he would miss them. The taxmen were less kind. They say Mr Sood is enmeshed in a web of “bogus” dealings, has collected foreign donations without the proper licences and owes $2.7m in taxes.

Before covid-19 Mr Sood was a second-tier star, acting more in regional-language films than in the mainstream Hindi flicks watched by the whole country. But the pandemic made him a true-life all-India hero. First with his own money, then with millions donated by admirers, Mr Sood rushed to help the needy, starting last year with the thousands of migrant workers left stranded by the sudden, total lockdown of Indian cities. The foundation he started ultimately helped some 90,000 people find their way home and gave 4m meals to the hungry. So much cash has poured in that the charity now grants scholarships to covid orphans, sponsors jobs, pays for medical care, runs a blood bank and is building a hospital.

Many Indians assume that if there is anything fishy, it is not in the actor's accounts but in the motives behind the tax raid. India's leaders have routinely abused such tools of state power, and there is no doubt that Mr Sood's effectiveness at delivering relief made blustering politicians look bad. It may be pertinent, too, that shortly before the raid, Mr Sood was made "brand ambassador" for a mentorship programme created by a political party opposed to Narendra Modi, India's prime minister.

Mr Sood has distinguished company. In the same week that tax sleuths were rifling through his bookshelves, an anti-money-laundering agency raided addresses associated with Harsh Mander, an activist who is perhaps India's most worthy candidate for the Nobel peace prize. Among Mr Mander's initiatives is Karwan-e-Mohabbat, or Caravan of Love, a volunteer group that seeks to heal sectarian scars by quietly consoling the victims of attacks motivated by hatred. Still more inspectors were poring over the books of a covid-relief charity started by Rana Ayyub, a writer who has loudly blamed Mr Modi for stoking anti-Muslim violence.

India's tax authorities show a particular interest in journalists. In February their victim was Newsclick, an independent website critical of the government. In July came the turn of the Dainik Bhaskar Group, a media house that publishes a big Hindi daily. It had run a powerful series exposing officials' efforts to hide the true number of covid deaths, widely estimated at three to ten times the official toll of 450,000. In September the taxhounds again dropped in on Newsclick as well as NewsLaundry, a website whose investigative journalism has often embarrassed Mr Modi. They held workers in their offices until after midnight, confiscating phones and copying data.

These latest tax raids and so-called "surveys" do not yet seem to have resulted in any charges, though the process is often punishment enough. Another form of harassment has brought starker results. Using laws that restrict foreign funding, and which were tightened further last year, Mr Modi's government has shut down more than 19,000 NGOs. Victims include local chapters of irksome groups like Amnesty International and Human Rights Watch, but also those engaged in poverty relief and environmental action.

Strangely, though, what applies to critics does not apply to Mr Modi himself. Laws brought by his government freed political parties from liability for illegally accepting foreign donations in the past, and created a "reformed" system that allows unlimited, anonymous gifts to parties. Meanwhile the accounts of the giant PM Cares Fund, set up by Mr Modi ostensibly for covid relief and to which millions of state employees were obliged to contribute, remain entirely opaque. With a click of a button on the fund's website, foreign well-wishers can pour money in.

Small wonder that when Mr Modi praised India as the "mother of democracy" at the UN General Assembly last month, pointing to his own rise from poverty as proof, commentary was not always kind. "More like the father of irony," muttered one wit in Delhi.

China

The people's dictator

Xi Jinping's clampdowns herald a tense political year in China

In the build-up to a crucial Communist Party gathering, ideology matters more than usual

Oct 2nd 2021

Alamy

THE TERM "cake theory" has a resonance in China that goes far beyond the kitchen. A decade ago it became shorthand for a fierce debate about the country's future. There were two opposing camps. One believed that China should focus on making China's cake—its economy—bigger. The other said the priority should be to share the existing cake more fairly. It was a feud that permeated the febrile politics of China in the build-up to Xi Jinping's anointment as the Communist Party's chief in 2012. A powerful advocate of the sharing approach was later accused of plotting a coup.

The political landscape in China now looks different. There is no sign of a struggle, as there was during the cake debate, between the party's titans. Less than a year after Mr Xi took over, the alleged coup-plotter, Bo Xilai, was sentenced to life in prison for corruption and abuse of power. Similar fates befell several others close to him, including the man once in charge of

China’s domestic-security apparatus. Mr Xi looks firmly in charge. There are no provincial party chiefs waging thinly disguised battles for national power as Mr Bo was then, in his case by casting himself as a champion of the poor.

But there are striking similarities. Once again, the political atmosphere is heating up. Mr Bo’s mantra then, the need to create “common prosperity”, has become Mr Xi’s. Regulators have staged a series of dramatic strikes against some of the country’s biggest tech firms, wiping more than a trillion dollars off their share values and sowing widespread alarm among wealthy Chinese businesspeople. The government, eager to reduce dangerous levels of debt, has allowed a giant privately owned property firm, Evergrande, to teeter on the brink of collapse, sending jitters through global markets and sparking protests by angry investors and contractors in several cities. The party does not publicly justify these moves in the name of common prosperity, but there are plenty of online commentators in China who see the pursuit of that nebulous goal as well-served by anything that creates pain for the super-rich. China's underdogs are enjoying a moment of *Schadenfreude*.

An important link exists between recent events in China and the struggles of a decade ago. It is the approach of a crucial party congress. Such gatherings occur every five years. The next is expected to be held late in 2022. Those that take place ten years into a leader’s rule—like both next year’s and the one in 2012—are particularly important.

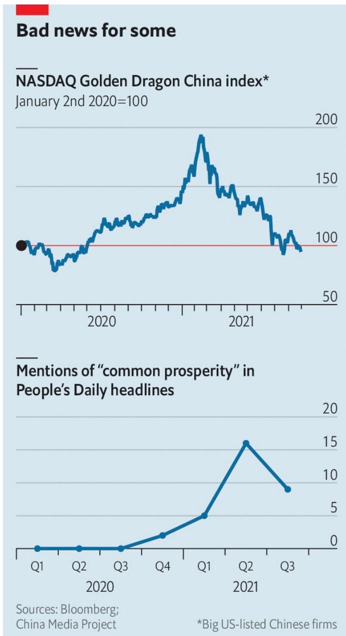
Normally such a congress would involve sweeping changes in the party leadership, with the election of a new Central Committee that in turn chooses a new general secretary and reshuffles the Politburo (in fact, these changes are decided in secret before the congress begins). After next year’s congress Mr Xi is expected to secure another five years in office—a break with precedent that, by the time of the 21st congress in 2027, would make him the longest-serving party chief since Mao Zedong.

As always in the build-up to such events, tension is evident as the party tries to forestall any unrest by ratcheting up security. Early this year a nationwide purge began of the police, secret police, judiciary and prison system. Its stated aims include stamping out corruption, as well as removing the “lingering poison” of Mr Bo and his alleged clique. More than 170,000 people have been punished so far, officials say. This month investigation teams moved into provincial- and central-government-level departments to begin assessing the behaviour and loyalty of high-ranking security officials.

There is no sign of concerted opposition to Mr Xi's plans to remain in power. He has ruled with such ruthlessness that any dissenters are likely to keep their mouths shut. But even if he does not face any rival whom outsiders can identify, Mr Xi will be on guard. Not only will there be the usual jockeying among officials for seats in the party's highest echelons, but also—as was the case a decade ago—internal debate about China's direction. At the congress, Mr Xi will present a report summing up his decade in power and setting out his vision for his next five (or more) years of rule.

On July 1st, the 100th anniversary of the party's founding, Mr Xi declared that China had become a "moderately prosperous society in all respects". Inside the party, and among the public, many want to know when it will become fairer. Mr Xi's report next year is unlikely to go into specifics about taxes and government spending. But to judge from officials' recent emphasis on the common-prosperity theme, it will feature prominently in what is sure to be a state-of-the-party address filled with chest-thumping references to China's "resurrection" as a global power that will be modern, rich and strong by 2049.

The pace of recent events suggests Mr Xi is in a hurry. He has clamped down not only on big business but also on the entertainment sector. Ideological education in schools has been reinforced: children as young as six are being taught about "Xi Jinping Thought".



The Economist

And as often happens when congresses approach, ideology is becoming a bone of contention. Since the launch of the country's "reform and opening" policy in 1978, a huge gap has emerged between the party's professed socialism and China's reality. The country is much richer, but it practises a Dickensian kind of capitalism that offers far less protection to the poor than many capitalist societies in the West provide. The disposable income of people in the top fifth of Chinese households is ten times higher than those in the bottom fifth, official figures show. Credit Suisse, a bank, reckons the top 1% own more than 30% of household wealth, about the same as in America.

Mr Xi appears to enjoy the support of many Chinese, not least for beefing up China's global power and fighting corruption at home. Since last year, his popularity appears to have grown as a result of his successful efforts to crush the coronavirus and his intransigence in the face of what many in China see as the West's ganging up on their country at the instigation of President Joe Biden. Mr Xi has critics within the system, but they are scared to show their hand. It may be, in part, with them in mind that he is patching an ideological vulnerability by appealing to the less well-off. The turmoil of a decade ago suggests how grumblings of the poor can be exploited. Mr Xi still snarls about Mr Bo's "independent kingdom" in the south-western region of Chongqing, where he was party chief and gained support by tapping in to nostalgia for the more socialist features of the Mao era and reviving memories of the late leader by promoting Mao-era songs.

Raising the red flag

Chinese critics of the country’s state-led capitalism often refer to Mao. It is a relatively safe way of poking at the party, which remains officially wedded to Maoism and Marxism even though it is highly selective in the way it applies those ideologies. Mr Bo—as much a state capitalist as other leaders—even tried to show sympathy with the downtrodden by pandering to neo-Maoists, a motley bunch whose websites often carp about China’s drift from the true socialist path. They comprise various kinds of people. Some have retired from the civil service or state-owned firms and yearn for what they recall as the simpler, fairer times of Mao. Others are younger idealists who grew up in the post-Mao era and abhor its inequalities. They are loyalists, but acerbic in their dissection of China’s social ills. Few Chinese support their extreme orthodoxy (such as calling, as Marx did, for the abolition of private ownership). But many share their analysis.

One reason for Mr Xi’s recent clampdowns may be an attempt to show ordinary people that he takes ideology seriously and is on their side. There is no sign that he plans to adopt the neo-Maoists’ proposed remedies for China’s unfairness. However, like Mr Bo, he is surely conscious that taking rich businessmen down a peg or two can win much applause (several were targeted in Mr Bo’s anti-corruption drive in Chongqing). Prominent businesspeople are frequent targets of online venom, not only from the neo-Maoists. The internet has been brimming with complaints from stressed-out white-collar workers about long hours and low pay.

Since he came to power, Mr Xi has been trying hard to convey the impression that he is faithful to Marxism and Maoism. “Do not forget the original intent” has long been one of his favourite slogans. It means the party must bear in mind why it was formed in the first place: most importantly, to create a fairer society. The slogan has long been ubiquitous on streets.

But if Mr Xi is serious about this, it will involve big economic and social reforms. He has not spelled out what these might entail, or when they will be implemented. He could, for example, levy new taxes on property or inheritance. Or he could end the *hukou* system of household registration that gives urban residents far better access to welfare and education than their rural counterparts have, and makes it difficult for people from the countryside to enjoy such benefits when they move to cities. However, there would be huge resistance to all these moves. Such taxes have been discussed for years, but officials have dithered because of fears of upsetting property-owning middle-class Chinese. *Hukou* reform has been slow, too, in part for similar reasons: middle-class urbanites do not want to share schools and hospitals with huge numbers of poor rural migrants.

Details of any reforms, it appears, can wait (the annual session of China's parliament, the National People's Congress, in March 2023 will be a forum to watch). For now, Mr Xi is scoring easy points by attacking the rich and famous. In August one of the country's best-known film stars, Zheng Shuang, was fined more than $46m for evading taxes. She is one of several celebrities who have recently been blacklisted from the entertainment business for various reasons. These range from engaging in casual sex to rape and, in the case of one actor, circulating a photo of himself grinning in front of a shrine in Tokyo where war criminals are among those honoured. Punishing these stars has proved popular.

Mr Xi is also taking this opportunity to tighten political control. In August the state-backed China Federation of Radio and Television Associations called for "zero tolerance" of performers who "touch the ethical bottom line". Forbidden behaviour, it said, should include having the "wrong" attitudes towards history and the country—code for anything that might upset party ideologues. That was made official in September, when the broadcasting regulator said the selection of actors should exclude anyone with an "incorrect political stance", as well as those deemed immoral.

The end of fun?

In the 1990s, when the party began encouraging private enterprise, it also allowed people a degree of personal freedom, at least outside politics. Hitherto suppressed forms of art and entertainment, from the avant-garde to punk rock, were given freer rein. Mr Xi, however, has been signalling that his "Chinese dream" is of a conservative society: Xi Jinping Thought is suffused with references to ancient Chinese philosophies stressing conformity.

In its edict this month, the broadcasting regulator also called for a “resolute end” to shows featuring “perverse tastes”, such as for effeminate men. It banned publication of celebrity rankings: officials want to tame their boisterous fan clubs. Separately, to make sure youngsters spend more time studying and less time shooting zombies, under-18s have been barred from online gaming on weekdays and limited to a mere three hours at the weekend.

There are echoes in this of the 1980s, when the party launched brief campaigns against Western lifestyles (such as by forcing men to cut their hair short) and liberal beliefs. The question now is whether recent clampdowns represent a longer-term shift, involving ever greater party interference in a broad range of less-tightly controlled activity. The signs are not encouraging. Mr Xi is a harsh authoritarian, differing from Deng Xiaoping who, in the 1980s, veered between relaxation of cultural and economic freedoms, and tighter control. Mr Xi’s direction is far clearer.

Like Deng, Mr Xi sees a big role for the private sector in boosting economic growth and providing jobs. On September 6th Liu He, a deputy prime minister, tried to reassure private businesspeople, saying their endeavours were critical to the country’s economy. But he wants them on a shorter rein. One reason is justifiable. China’s private tech firms have long been in need of better policing to curb rampant antitrust abuses, exploitative labour practices and misuse of data. Property firms do indeed pose a threat to financial stability with their heavy borrowing and Ponzi-like business models. But Mr Xi also wants tighter political control of private firms. He has devoted great energy to establishing party committees inside them, requiring that they have a say in important decision-making. That will remain a priority.

Many people in China seem happy with this. The crumbling of Evergrande has triggered small protests by people afraid of losing their down-payments on houses, or by contractors who have not been paid. But most people appear to believe that the government will protect them from the fallout of the company’s troubles.

Mr Xi is certainly winning applause from the neo-Maoists, and appearing to relish it. On August 29th the website of one of the party's flagship newspapers, *Guangming Daily*, published an article by one such ideologue, a little-known writer called Li Guangman. He had posted it a couple of days earlier on his blog. It was a paean to the clampdowns, including on effeminate men. Mr Li hailed recent developments as a "profound revolution" that would "wash away all the dust". His blog post was a declaration of victory: "Red is back, the heroes are back, courage is back."

It quickly became clear that Mr Li's article enjoyed official approval. Though not published in the print edition of a big newspaper, within hours it appeared on the websites of the party's most important news organisations. Never mind that its Mao-era language caused ripples of unease among liberals and even some establishment types. On September 2nd Hu Xijin, the editor of *Global Times*, a tabloid owned by the *People's Daily*, used his blog to condemn the article as "inaccurate" and "exaggerated". Mr Hu said he was afraid it would cause "terror" by reviving "certain historical memories"—an obvious reference to Mao's Cultural Revolution of the 1960s and 1970s, when mobs killed and persecuted millions. But the articles remained online. Mr Xi certainly does not mind his multi-front campaign being praised as a big deal.

Nothing like the Cultural Revolution appears in the offing. That event pushed the country to the brink of civil war. Unlike Mao, Mr Xi is obsessed with preserving stability. In May a spokesman for the Ministry of Public Security said the emphasis of the police force's efforts to "protect the state's political security" would be on preventing a "colour revolution". But there is no sign of an incipient one. In the months leading up to the congress, the country's handful of active dissidents will be subjected to even tighter surveillance than usual.

Mr Xi is already remoulding society in a way that neo-Maoists endorse. Recent events have taken place against a broader backdrop of more-visible involvement by the party in people's everyday lives. Especially since the pandemic began, it has become omnipresent in neighbourhoods in a way not seen since the 1980s. Grassroots party members are the chief enforcers of quarantines and controllers of people's movements. In the past two years, several central-level documents have promoted the establishment of "moral review councils” in the countryside. These are made up of party worthies and, sometimes, police officers who sit in judgment on fellow villagers’ behaviour and publicly shame those who have committed offences such as littering or failing to look after an elderly parent. Some urban neighbourhoods have set up similar “moral clinics”.

Assuming Mr Xi keeps his job as China’s leader at least until 2027, if not longer, control will be his watchword, not disruption. “East, west, south, north and centre; the party leads everything,” Mr Xi keeps insisting. Without ideological discipline, he says, its grip will be dangerously weakened. But it is Xi Jinping Thought, not that of Mao or Marx, that will really count. He will interpret it as he pleases. ■

Chaguan

When China wants to be feared

Taking Canadian hostages was a message to America's allies

Oct 2nd 2021

SURPRISINGLY OFTEN, Chinese diplomacy resembles an iron fist in a silk glove. Depending on political winds back home, China's envoys learn to balance fist-waving threats with silken words about peace and friendship. Just now, the gloves are coming off.

China is in a triumphant mood after Meng Wanzhou, a boss at Huawei, a technology firm, was allowed to fly home on September 25th after almost three years of legal battles in Canada. Ms Meng, who is also the daughter of Huawei's founder, was fighting extradition to America on charges relating to sanctions-busting business dealings with Iran. Celebrations peaked with the arrival of an Air China plane bringing Ms Meng to Shenzhen, where Huawei is based. State television carried the landing live, as if Ms Meng were a returning astronaut. She was greeted by flag-waving crowds and a welcome message blazing from Shenzhen's tallest skyscraper. "Without a powerful motherland, I would not have my freedom today," declared Ms Meng. The *People's Daily*, the Communist Party's official mouthpiece, called her return a sign that China's rejuvenation as a great power is now a "historical inevitability".

Neither the businesswoman nor state television mentioned a less stirring reason for her return: her signing, hours earlier, of a Deferred Prosecution Agreement offered by American prosecutors, admitting that in 2013 she misled bankers in New York about Huawei's links to a company active in Iran. That legal deal ended what Ms Meng called 1,028 days trapped in a dark "abyss". By this she meant her enforced stay in Vancouver, while her team of expensive lawyers fought her extradition after her arrest by Canadian police in December 2018 on an American warrant. Granted bail, Ms Meng lived in her own house, took painting lessons and English classes, and was free to explore Vancouver by day.

Nor, at first, did state television discuss the almost-simultaneous departure from China of a plane carrying two Canadians, Michael Kovrig and Michael Spavor. The two were snatched by secret police in 2018 just days after Ms Meng's arrest, an act that Canada's government called an "arbitrary detention". Kept alone in a cell measuring nine square metres, Mr Kovrig wrote to his family of passing time with meditation, press-ups, reading when allowed and walking 7,000 paces a day, ears ringing from the silence. The pair were allowed access to lawyers only after a year of detention and interrogations lasting for up to eight hours at a time.

For a day or two after Ms Meng's return, state media barely reported the two Canadians' release. Indeed, censors deleted postings by Chinese netizens asking about rumours that "Canadian spies" had been freed. Asked if Mr Kovrig and Mr Spavor had been hostages swapped for Ms Meng, the foreign ministry's chief spokeswoman, Hua Chunying, called the cases completely different. It is "crying wolf" to suggest that China would detain foreigners on trumped-up charges, added Ms Hua, before accusing America and Canada of the arbitrary detention of Ms Meng.

Some foreign commentators express surprise that China sprang Mr Kovrig and Mr Spavor on the same day that Ms Meng began her journey home. Given that China says it deplores hostage-taking, surely it should wait a bit before exchanging foreigners for Ms Meng. Puzzlement misses the point. China wants the world to know that it is willing to grab foreigners, if needs be. More than once, court hearings and legal moves against Mr Kovrig and Mr Spavor tracked important moments in Ms Meng's extradition battle. The message was that the cases were linked.

This is not a guess. Months into the detention of Mr Kovrig and Mr Spavor, Chaguan discussed the case with a Chinese official at an event in Beijing. By then, Canadian diplomats had seen both men for tightly controlled consular visits. Mr Spavor is an entrepreneur who organised tours into North Korea. He was locked up in the north-eastern city of Dandong, near the North Korean border, and would later be sentenced to 11 years for spying. Prosecutors said he took pictures at airports and other banned locations, including of military planes, and was Mr Kovrig's informant.

Mr Kovrig was a diplomat at Canada's embassy in Beijing before joining the International Crisis Group (ICG), a think-tank. During hours of interrogations, he was asked about his work for ICG but also about his role at the embassy, when he enjoyed diplomatic immunity. Word of this spread to other embassies in Beijing. In private conversations, diplomats called it "frightening". Chaguan raised this with his host, asking how it helps China to scare Western diplomats. The official's tone became icy. Canada must feel pain, he replied, so that the next time America asks an ally to act against China, that country will think twice.

The rule of law with Chinese characteristics

There are coherent arguments that China could make against Ms Meng's detention, drawing on its dislike of extraterritorial sanctions and prosecutions by America. Instead, in explaining her case, officials mostly present a cynical view of the law as a tool by which power is exercised. The party line is that a jealous America tried to break Huawei as a high-tech champion but was stared down by a stronger China. No details are offered. If relations with the West are turbulent, that is because national rejuvenation is close at hand. To quote Xinhua, the state news agency, Ms Meng's arrest was prompted by China's rise and "so was her release!"

Within China news is spreading of the Canadians' deportation, ostensibly on health grounds. Propaganda chiefs see an interest in publicising a claim by the White House that Ms Meng's release was decided by prosecutors without political interference and denying that she was swapped for two Canadians: a claim that netizens find risible. Guancha, a nationalist website, created a hashtag mocking the White House statement, inspiring social-media posts that have been read over 300m times. Anti-American glee is hard to reconcile with official half-denials that China takes hostages. China seems to sense a moment for fists, not gloves.■

United States

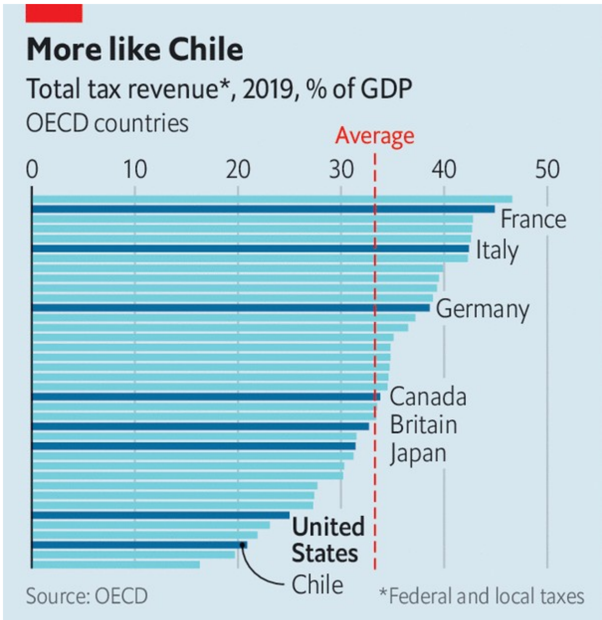
The Democrats' tax plans

New taxes will hit America's rich. Old loopholes will protect them

The first big tax rise in nearly three decades is just a first step

Oct 2nd 2021 | Washington, DC

THE LAST time Congress passed a significant tax increase, Seinfeld won an Emmy award, Nirvana unplugged their guitars for MTV and lawmakers were pondering whether to vote for NAFTA. Early in Bill Clinton's presidency, in 1993, Congress raised personal and corporate income taxes. Since then, almost every tax bill in Washington has lowered them. In aggregate America is now among the most lightly taxed countries in the developed world. Its overall tax-to-GDP ratio was 24.5% in 2019, nine percentage points below the average in the OECD, a group of mostly rich countries (see chart).



The Economist

The $3.5trn social spending bill (equivalent to 1.2% of the next decade's projected GDP) wending its way through Congress proposes to change this. Passage would require a party-line vote in the Senate, with all Democrats supporting it (which currently looks doubtful). Its provisions would touch many facets of American life: monthly payments to parents with children, funding for universal pre-kindergarten and incentives for power companies to use renewable energy. Just as significant is its potential impact on America's tax system. "This bill will signal that Congress can actually raise taxes sometimes, as opposed to simply borrowing and kicking the can of financial burdens down the road to our children. I much prefer tax-and-spend to borrow-and-spend," says Steve Rosenthal of the Tax Policy Centre, a think-tank.

America's federal income taxes are already progressive: those at the top pay proportionally more. The proposal approved by the House Ways and Means Committee would make them more so, increasing the top rate for personal-incomes taxes to 39.6% from 37%. Those with more than $5m in income would face an extra 3% levy; the top rate on capital gains would climb to 25% from 20%; and the top rate for corporate taxes would rise to 26.5%, partly reversing cuts passed under Donald Trump in 2017 (his signature legislative accomplishment). Voting on the bill may take place in the coming weeks, possibly wrapped into a package that also raises the debt ceiling. In order to secure full backing from Democrats, some of these tax increases will be watered down.

Yet headline rates are not the same as what people actually pay. A series of deductions, from mortgage interest to local taxes, let the wealthy cut their bills. The ultra-rich have even more room to manoeuvre. Emmanuel Saez and Gabriel Zucman of the University of California, Berkeley have found that the 400 wealthiest Americans face lower tax rates than the middle class, because they collect much of their income as corporations. Reporting this year by ProPublica, a non-profit investigative news organisation, showed that tycoons like Jeff Bezos, founder of Amazon, and Elon Musk, the boss of Tesla, consistently paid little or no tax.

The House bill aims to change that. The Joint Committee on Taxation, a non-partisan research arm of Congress, found that most of its tax increases would land on households making $1m or more per year. Their taxes would rise by 11% in 2023. Meanwhile, taxes would drop for everyone making less than $200,000, with the biggest benefits flowing to people on the lowest incomes. "This will put a serious dent in inequality. The major thrust of the bill is that it will make major investments in the middle class and the working class, paid for by very significant tax increases on the rich and corporations," says Seth Hanlon of the Centre for American Progress, a left-leaning think-tank.

Many businesses are, unsurprisingly, less enthusiastic. The US Chamber of Commerce has called the proposals "an existential threat" to American prosperity. Expert studies do not quite hit the same alarmist notes, but they do raise questions about the economic impact. The Tax Foundation, an independent policy group, concludes the bill would lower GDP by about 1% over the coming decades. Within the White House, economists disagree with such estimates. Instead, they argue that a more even distribution of incomes would put more cash in the hands of poorer people who generally spend a greater share of their earnings, thereby boosting growth.

The most stinging criticism from the left is that the bill will fail to close all those loopholes. As it stands, someone who strikes it rich on properties or stocks can put those profits beyond the reach of the Internal Revenue Service so long as they hold on to their assets. If their heirs cash out, the basis for their capital-gains level would be the value of the assets at the time of inheritance. The fix for this is relatively simple: tax capital gains at death. This was a key component of Mr Biden's initial tax plans. But after much lobbying, the proposals now in Congress make no such change. "If you're not going to tax at death, then you really do have to worry that the general increase in capital-gains taxes will be counterproductive. You'll have fewer and fewer people selling their assets. Revenue could actually decline," says Alan Viard of the American Enterprise Institute, a right-leaning think-tank.

Political calculations may also lead to an expansion of loopholes. One surprisingly progressive part of Mr Trump's 2017 tax reform was a $10,000 cap on deductions of local taxes from federal tax bills. That, though, was unpopular in high-tax states such as New York and California. Democratic representatives from these states may prevail in getting the ceiling lifted for these deductions. The benefits of this change would flow mainly to the rich.

These revenue shortfalls magnify another problem. According to the abstruse rules of reconciliation—the legislative process by which this bill could pass—new expenditures must be roughly matched by new revenues. Yet Mr Biden promised during his campaign to raise taxes only on people with incomes of more than $400,000 (a pledge which, narrowly defined, the proposal honours). How to find the extra cash? Much of the answer comes from the increase in corporate tax. This, however, is an inefficient form of taxation, a roundabout tax on shareholders and a deterrent to investment by companies. Adding in state levies, the House bill would push America's corporate taxes over 30%, among the highest in the rich world.

"If the United States wants to significantly increase spending, we should fund that in a less economically harmful way," says Erica York of the Tax Foundation. One option, used by almost all rich countries except for America, would be a federal value-added tax on consumption. A carbon tax would be another. A third—more experimental—would be a wealth tax. But none of these ideas ever truly figured in the months of negotiations leading to the bill. America remains exceptional. ■

Still stopping the steal

The Republican response to an absurd recount in Arizona underscores a threat to democracy

It is still Donald Trump's party and still scornful of reality

Oct 2nd 2021 | WASHINGTON, DC

Reuters

IT WAS SUPPOSED to be the start of the glorious restoration. At the behest of Donald Trump, who has been unable to come to terms with his election loss, Republicans in Arizona announced an unprecedented "audit" of millions of ballots cast in 2020, with the aim of exposing the alleged enormity of Democratic-favouring vote-rigging. Its results would prove massive fraud, the president promised. It would be the first domino to fall, the QAnon-aligned conspiracists in the party pledged. The reality was a let-down, but this seems to have had no effect on the story spun-up by Republicans about voter fraud.

The Republican-led state senate instigated the audit by subpoenaing 2.1m ballots cast in Maricopa County, which includes Phoenix, the state's largest city. It outsourced the logistics to an outfit called the Cyber Ninjas with no prior election-auditing experience and led by an enthusiast of Mr Trump's "stop the steal" movement. The majority of the $6m raised for the recounting, which took place in a cavernous convention hall in Phoenix, was raised privately by ardent partisans. Republican lawmakers in other states that Mr Trump had narrowly lost—like Georgia, Pennsylvania and Wisconsin—visited and returned inspired to start similar efforts. As the effort stretched months past its intended conclusion, the time of the promised Trump presidential restoration drifted, like the rapture, past its promised date of August 13th. On September 24th, its conclusions were finally presented to the state senate.

They were underwhelming. The Cyber Ninjas were not able to detect the avalanche of fraud that Mr Trump had been promising. In fact, their final verdict was that Mr Biden's margin of victory was very slightly higher than officially certified. That inconvenient conclusion was buried in a three-volume report largely devoted to raising doubts about the legitimacy of the election. For example, it insinuates that 10,000 voters may have voted in other counties. A more banal explanation is that in a state with 7m people, a small number will have identical names and birth years.

Yet Mr Trump was not the least bit chastened by the results. Instead, he ignored the findings and declared it a complete victory. "We won on the Arizona forensic audit yesterday on a level you wouldn't believe," he said in a rally in Georgia (where he also berated the sitting Republican governor for his unwillingness to help him engineer a reversal of his loss in that state). Mr Trump falsely claimed that the results mandated the decertification of his loss in Arizona. His most ardent devotees have not dwelt much on why such a motivated exercise could still turn up naught. Mark Finchem, a conspiracy-minded Republican in Arizona who is running to be the chief elections officer in the state, repeated his call for decertification, demanded the arrest of election officials he says tampered with the results and argued for a subsequent audit in Pima County (home to Tucson, the state's second city).

Meanwhile the Republican quest to delegitimise elections in the name of upholding their integrity carries on. Efforts in other states to conduct similar audits have not been suspended. Their number grew when, seemingly in response to Mr Trump's demands on September 23rd for more audits, the office of the Texas secretary of state, which oversees elections, announced its own "comprehensive forensic audit" in four large counties.

The aftermath of the failed Arizona audit illustrates how sorry a state one of the country's two main parties finds itself in, still under Mr Trump's spell and still with a lukewarm commitment to basic democratic processes. The fraudulence of the effort to "stop the steal" was apparent from the start. Mr Trump's campaign's allegations of a widespread voter-fraud conspiracy were laughed out of most federal courtrooms. Yet the fresh humiliation of the Arizona audit changes nothing for "the president" (a title he and his acolytes still insist on using). Rather than disavow the most serious threat to American democracy of the modern era, most elected Republicans still remain unable to denounce it. There has been no serious reckoning within the party even after an angry mob spurred by the conspiracies of its dear leader stormed the Capitol on January 6th in an attempt to overturn a legitimate election.

Much energy has instead been focused on purging Mr Trump's critics: Liz Cheney was ejected from Republican leadership in the House of Representatives for her continued criticism. The ten Republicans who voted to impeach Mr Trump over his actions on January 6th are all facing primary challengers that the ex-president has whipped up. Few seem likely to remain in office past the coming elections in November 2022. Mr Trump's toxic legacy—of violating the essential democratic norm that losers should concede, and misleading voters into thinking the other side cheats and steals elections—shows no sign of ending soon.■

For more coverage of Joe Biden's presidency, visit our dedicated hub

The rest is history

Americans have forgotten how their government shaped Haiti

The migrant crisis is partly America's doing, but not for the reasons advertised by outraged activists

Oct 2nd 2021

"I'M PISSED," said Representative Maxine Waters outside the Capitol on September 22nd. "What we witnessed was worse than what we witnessed in slavery." Ms Waters was referring to images of Haitian migrants stalked by border agents on horseback in Del Rio, Texas, on the border with Mexico. The agents appeared to be whipping them. The NAACP, a civil-rights organisation, compared the photos to an overseer lashing his slave. Entertainment outlets invited historians—and the vice-president—to muse on the antebellum symbolism of the pictures.

The border agents, it later transpired, had not whipped anyone. But Edwidge Danticat, a Haitian-American novelist, had seen another parallel. The images, she told NPR, a public radio station, recalled scenes of forced labour during the American occupation of Haiti, when white marines, also on horseback, had towered over Haitians. Unlike the slavery comparisons, these echoes were of a history few Americans know anything about.

Haiti once mattered to Americans. The revolution of 1791-1804 had seismic repercussions. “All of the mightiest armies in the world [were] defeated by an army of enslaved people,” explains Michael Harriot of *The Root*, a magazine. The Haitians defeated the British, the Spanish and the French. For black folk and white abolitionists, the first black republic heralded the promise of freedom; for American slaveholders it brought fear. When France moved to blockade the new republic, President Jefferson joined in. Duelling images of Haiti, both a beacon and a bother, competed in the public imagination for a century.

In the 20th century America expanded its sphere of influence, and took an increasing interest in Haitian affairs. It took Haiti’s gold reserves away on gunboats, then intervened to guarantee American banking interests. After the country’s president was assassinated in 1915, marines occupied Haiti for 19 years. The country was run much like the American South, with black people as second-class citizens. A photo of the resistance leader Charlemagne Péralte—Christ-like, spreadeagled on a cross—could have been snapped at a lynching back home. Ms Danticat’s uncle once watched marines kick around a cut-off Haitian head.

Later interventions were more subtle. America brought business opportunities to Haiti, but also backing for despotic dictators—namely the Duvaliers, from whom many Haitians fled between the 1950s and the 1980s. Subsequent American interference was viewed with suspicion. In 2019 protesters sacrificed a pig outside the American embassy to show their contempt for the Trump administration’s support for the unpopular Jovenel Moïse (the president backed by America until his assassination in July). Legend has it that a pig was sacrificed by Haitian revolutionaries the week before the uprising. But the Haitian equivalent of a re-enactment of the Boston Tea Party was lost on most Americans.

Some frame the current migrant crisis within the scope of American meddling. Daniel Foote, the US special envoy to Haiti, resigned on September 22nd citing the “hubris” of constant interventions. Others consider it unhelpful or misguided to rake through centuries of historical wrongs. America cannot be blamed for the devastating earthquake of 2010, for example, which drove many Haitians to South America (from where many of the most recent migrants arrived at the Texas border). But a country first has to know what it has done to understand whether it is responsible for the consequences.

Black Americans too have become too inward-looking, argues Ajamu Baraka of the Black Alliance for Peace. Too often, expressions of solidarity are empty theatre, such as Congresswoman Sheila Jackson Lee's visit to the Del Rio camp after it had been cleared. In reality, the relationship between Haitian and black Americans at home is characterised by competition for jobs and livelihoods, not a shared admiration for Toussaint Louverture or Jean-Jacques Dessalines, explains George Wilson of the University of Miami.

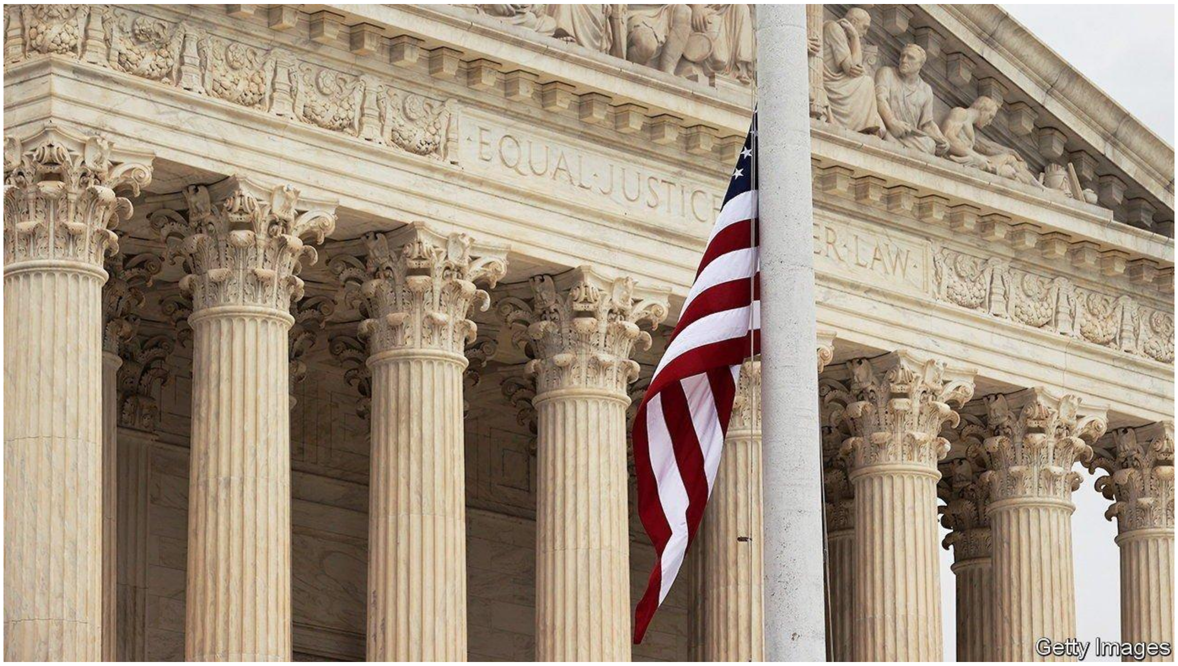
In 1994, shortly before another American intervention, Joe Biden said that America would not notice if Haiti sank into the sea. When his comments resurfaced in response to the images of migrants deported to Haiti, hundreds voiced their disgust on social media. Meanwhile, a rally held on September 26th in downtown Chicago by a coalition of Haitian-American leaders attracted only a hundred people. Chicago's founder, Jean Baptiste Point du Sable, was a Haitian immigrant, whose name adorns schools, parks and, officially, the famous Lake Shore Drive expressway. But not much has changed. Americans still don't know about Haiti. ■

Term time

The new Supreme Court term is about to begin

The conservative supermajority faces disputes over abortion, guns, religion and more

Oct 2nd 2021 | NEW YORK



TURTLES PEER down on visitors to America's Supreme Court and support lamp-posts on its plaza. But for an institution engraved with the semiotics of slow, steady change, the Supreme Court has been on a bit of a tear. On October 4th, for the sixth straight year, the justices will take the bench with a lineup that differs from the previous term's opening-day roster. After a tumultuous summer break, the first complete term with all three of Donald Trump's appointees promises to reshape American law on its most contentious fronts.

Along with disputes over immigration policy and pandemic-inspired pauses on evictions, the most divisive issue in American politics reached the justices while they were on holiday, when the court declined to stand in the way of a Texas law that bans abortion after six weeks of pregnancy. That demurral has, in effect, erased *Roe v Wade,* the 1973 decision protecting abortion rights, for 7m Texans. But officially scrubbing *Roe* from the books is on the agenda on December 1st, when the justices take up *Dobbs v Jackson Women's Health Organisation*. Dobbs concerns a 15-week ban enacted by Mississippi in 2018.

The Mississippi law gives the justices a chance to reconsider viability—the line (about 24 weeks' gestation) that, since *Roe*, has distinguished between protected terminations and those which states may bar in the interest of protecting fetal life. In June 2020, Mississippi told the justices that its law could be upheld without undermining *Roe* and other long-settled cases. A year later—after Justice Amy Coney Barrett had succeeded Ruth Bader Ginsburg to create a 6-3 conservative majority—Mississippi sharpened its tune. With a more receptive audience, the state spent the bulk of its brief contending that the court's abortion precedents are "egregiously wrong" and should be overruled, not merely tinkered with.

Another contested liberty—the right to keep and bear arms—has a brighter future. On November 3rd, in *New York State Rifle & Pistol Association v Bruen*, the justices will hear a challenge to New York state's rules governing concealed-carry licences. New York issues "restricted" permits for people to hunt or carry a handgun to target practice, but it requires "proper cause", a special justification, before it grants a general licence to carry a gun outside the home for self-defence. The challengers say New York "cannot reserve for a happy few a right that the constitution protects for all 'the people'". The state's lawyers respond with historical examples of gun restrictions from medieval England to the founding era and beyond. In the decade-plus since the Supreme Court first recognised an individual right to own a firearm in the home, gun-rights activists have been pressing to expand the range of the Second Amendment. The justices seem to be on the brink of doing just that.

Carson v Makin, to be heard on December 8th, may buttress another project of the conservative legal movement. Maine pays private-school tuition for students in more than 100 small towns that lack a public high school. But parents may not use state money at schools that promote a particular faith—an exclusion the plaintiffs say violates the First Amendment. In 2017 the Supreme Court ruled that religious pre-schools could not be excluded from secular benefits like playground resurfacing. Last year, a 5-4 majority sided with Montana parents who wanted to use state scholarship funds at religious schools. *Carson* will push this principle one step further if it requires states to fund explicitly sectarian education whenever it offers state money for private schooling.

With only 32 cases on the docket (about half its recent load) as *The Economist* went to press, a momentous term could soon become more so. The justices are mulling whether to hear a showdown over affirmative action at Harvard University. This could up-end precedents, dating back to 1978, allowing schools to pursue diversity through race-conscious admissions. Challenges to private-sector union rules and the power of the Environmental Protection Agency are in the pipeline, too, along with still more abortion and gun cases.

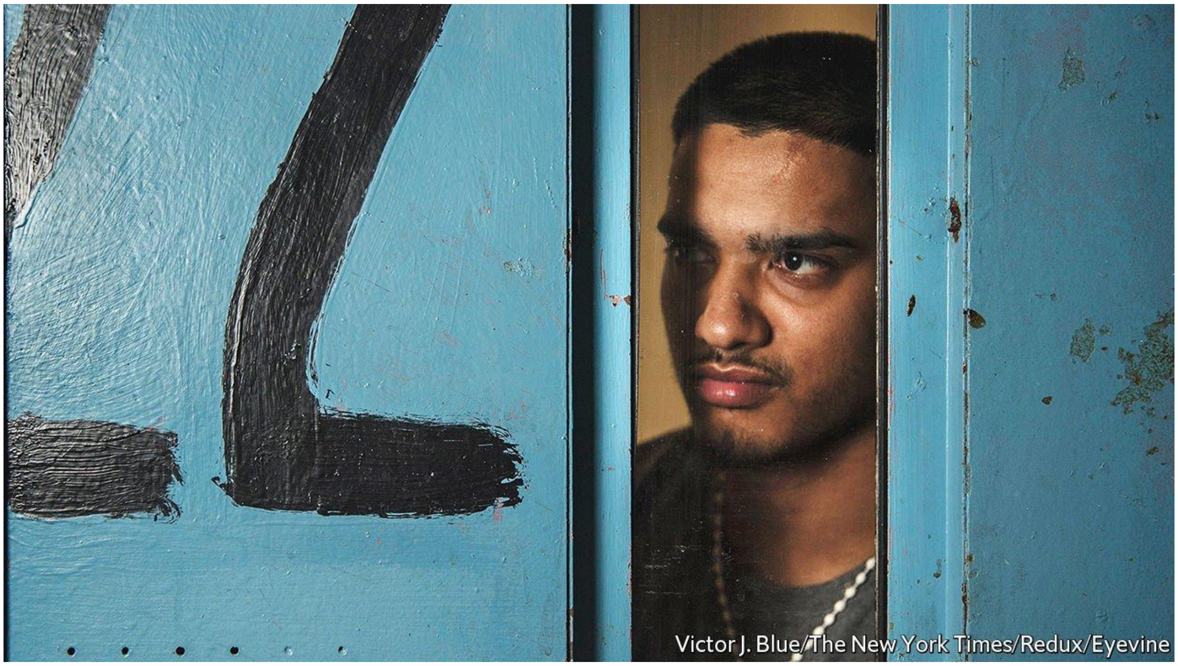
Justice Stephen Breyer, the 83-year-old leader of the court's depleted liberal bloc, has been out promoting his new book on the purported non-political nature of the place where he has worked since 1994. His colleagues to the right, Clarence Thomas and Amy Coney Barrett, have made similar remarks in recent speeches. Those assurances come amid plummeting support for the institution. Last week Gallup reported that just 40% of Americans approve of the Supreme Court. That is the lowest percentage since 2000, but support could dip further if the court ends its term next spring by reneging on half a century of protections for women while fortifying gun rights. There is little doubt the court will continue to move the country to the right. The question is how far and how fast. ■

Aggravated robbery

The jail on Rikers Island is both appalling and generously funded

It costs $438,000 to jail one person for one year there

Oct 2nd 2021 | NEW YORK


Victor J. Blue/The New York Times/Redux/Eyevine

ISAABDUL KARIM, aged 42, was the 11th person to die on Rikers Island, New York's penal colony, this year. "He shouldn't have there in the first place," says Corey Stoughton of the Legal Aid Society, which provides free legal assistance to the poor. Mr Karim was sent to New York City's biggest jail in August for a minor parole violation, despite his parole ending in June. He was held in the "intake unit" for ten days. He slept in his wheelchair and contracted covid-19 in a crowded space. The city's department of correction said his death appeared to be natural. Since then, another inmate has died on Rikers.

The death toll from covid-19 continues to mount—our excess mortality tracker shows that daily deaths from the virus in America are greater than in all other rich countries combined. Prisons, which are often crowded, poorly ventilated and where the value placed on a life is low, have been hit particularly badly. Yet Rikers is something else. It stands out as an example of how some institutions are unreformable.

Jessica González-Rojas, a member of the state assembly, saw an inmate attempt suicide during a recent visit. She also saw uncollected rubbish and vermin and had to step over faeces and urine. The incarcerated told her of not being fed and of not receiving medical care. This is not exactly news: the island has been poorly managed for a very long time, says Jullian Harris-Calvin, of the Vera Institute of Justice, a think-tank. The city council voted in 2019 to close Rikers permanently by 2027. Bail reform meant fewer people were sent to the island. In April 2020, in part because of covid, fewer than 4,000 were incarcerated there, a drop from the 11,000 when Bill de Blasio, the mayor, took office in 2014.

Rikers seemed to be an ex-problem, and was even sometimes presented as a model of how the prison population could be managed down. More recently, numbers have increased again, to 6,000. At the same time correction officers have stopped going to work. New York City's guards are permitted to take unlimited sick days, and as many as a third call in sick on a given day, forcing those on duty to work double and triple shifts. There are not enough guards to transport the incarcerated to court hearings, further extending stays at Rikers.

The misery at Rikers is not for lack of resources. The jail's population fell by half between 2012 and 2020, yet its budget grew by 24%. It costs $438,000 to jail one person there for one year. Of this $379,216 goes to personnel costs; less than 5% goes to services like substance-abuse treatment. The average salary for guards, after five and half years on the job, is $92,073. In 2012, the ratio of inmates to officers in the city was 7:5. In 2020 it was 1.6 officers per inmate.

And yet, the island's chief medical officer said he is seeing "a collapse in basic jail operations". On September 29th a federal judge issued an emergency order to safeguard inmates' wellbeing. Ms Harris-Calvin says the only way to fix Rikers is to "get people off that island". New York's politicians and prosecutors seem to agree. Manhattan's DA suspended bail for non-violent crime. Kathy Hochul, New York's new governor, issued an executive order allowing virtual court hearings on Rikers. She also signed a bill which will remove minor bail infractions, such as missing curfew, as reasons to be locked up. It does not take effect until next year, but 191 people were released immediately. Mr Karim was eligible, but he missed the cut-off date by a day. ■

Fulsome

Gentrifying prisons in America

The curious appeal of disused penitentiaries

Sep 30th 2021 | LORTON, VIRGINIA

Alamy

"I WOULD CONSIDER Lorton a hell-hole, being that life is always on the line," Andre Mitchell, an inmate at a prison in Virginia, told a researcher in 1990. "At all times really. I never get to relax." How restful he would find it today. The building in which he slept has been turned into serene apartments, their patios dotted with deckchairs. An outdoor pool, surrounded by plants, glints in the sun. Nearby, within the vast, windowless walls of what was a maximum security unit, a shopping centre is being built, the final stage in the development of a once overcrowded prison complex into "Liberty", a spacious "urban village".

The 80-acre development is a public-private partnership between Fairfax County and two development companies. They were drawn to the prison's site, in the tech hub of northern Virginia, and to its design. Established in 1910 as a model jail, Lorton Reformatory resembled a campus, with walkways between dormitories and lots of outdoor space. Its inmates were taught vocational skills. But as more punitive ideas about incarceration returned and its population swelled during the "war on drugs", the prison became violent. It closed in 2001.

Transforming a prison into fancy homes while acknowledging its past is a balancing act, says Jack Perkins of Elm Street Development, one of the developers. In the 171 apartments, most of which are rented, 44 of them as affordable housing, the original windows (high in the ceiling) have been given larger openings. Signs warning against loitering and unauthorised gatherings remain, as do guards' huts at the peripheral fence. There is a Reformatory Way and a Sallyport Street. Nearby, a museum named after Lucy Burns, a leader of the National Women's Party, tells the history of the suffragettes imprisoned in a women's workhouse in Lorton.

Marketing all this seems to have been a dream. Liberty's logo is an image of a watchtower, of which there are eight, all renovated, dotted around the site. When Francis Cordor, a software engineer who emigrated from Liberia 20 years ago, saw that one of them loomed over one of 181 new houses, he knew he wanted to buy it. "It makes me think of the passing of time, how places can improve," he says, adding that an elderly neighbour told him Lorton had once been synonymous with horror.

Though its architecture makes this a particularly habitable prison, it is not the only one: across America, former jails are being turned into housing. Even as the prison population has fallen, new jails continue to be built. That has left a stock of enormous, solidly constructed buildings, which tend to come with a lot of surrounding space. In the Bronx, a juvenile detention centre has been demolished to make way for a five-acre (20,000 square metres) affordable-housing development. In St Louis, Missouri, the former county jail will be converted into flats. Inhabitants of such developments like the modernist industrial design jails seem to encourage, and the space. They also like the fact that they can leave.

Lexington

America's green energy industry takes on the fossil-fuel lobby

Renewable energy is growing fastest in conservative states. So why don't Republicans love it?

Oct 2nd 2021

ONE WAY TO read the Democrats' wished-for budget bill is that it signals a new age of renewable energy in America. Once a laggard by European standards, the fast-growing industry is central to Joe Biden's plan to decarbonise the grid. Hence the Democratic effort to make the tax credits that wind and solar companies enjoy more generous, push utilities to buy more of the electricity they produce, and penalise any that do not. The administration believes the boost this would give to wind and solar firms would enable them to supply over half of the country's electricity by 2030.

Yet there are reasons to take a more cautious view of the industry's prospects. Even if most of these boosterish measures made it into legislation, it would be on a partisan basis. That would leave them vulnerable to a Republican administration less friendly to renewables, as the last one was, and the next may well be.

Donald Trump, who falsely claimed that renewables were expensive and useless and that wind turbines cause cancer, tried to handicap the industry for the benefit of the fossil-fuel producers and lobbyists he stocked his administration with. He scrapped Barack Obama's main effort to reduce emissions from thermal power-stations, from which renewables stood to gain. He hobbled the solar industry with import tariffs. He opened public land and sea to oil and gas exploration but not to renewables.

His administration also buried official research favourable to renewables—on which investors rely—and approved a fraction of the wind and solar projects its predecessor had. It is hard to imagine a second Trump administration (a distinct possibility) sticking with a bold pro-renewables strategy. And there are signs that Mr Trump has politicised the issue in his party more broadly.

Most Republican politicians have been at least acquiescent towards the rise of renewables—which is why Congress has routinely renewed the tax credits—even as they oppose unambiguous climate-change policy. Yet Mr Trump has inspired anti-renewables campaigns in several states, including North Carolina, North Dakota and Texas, which has more combined wind and solar capacity than any other. Its ambitious governor, Greg Abbott, blamed a catastrophic grid failure in February on intermittent wind power—despite official findings that poorly maintained gas power stations were mostly to blame—and ordered the state regulator to penalise the renewables industry.

It is Canutian politics. Even without subsidies, wind and solar power are often the cheapest new source available, so sure to grow. They are also popular, having created a lot of jobs, especially in Republican states. Iowa, Texas, Oklahoma and Kansas are the country's top wind-energy producers. Texas employs almost as many people in wind, solar and electricity storage as the entire mining industry that Mr Trump used to harp on. Why are Republican leaders not more persuaded by such benefits?

The main reason is a familiar one. America's fossil-fuel lobby is well-organised, ruthless and dug-in on the right. Once scattered across the country, it is concentrated in a handful of those same conservative states, especially Texas and Oklahoma, where no elected Republican dares cross it. Yet its influence extends further. It has one of the most powerful lobbying operations on K Street and, through the operations of Charles Koch and other hydrocarbon tycoons, a network of think-tanks and propagandists adept at blurring the lines between economics, libertarian ideology and conspiracy theory. The Koch-linked Texas Public Policy Foundation made the running in blaming wind for the state's recent blackout. Like the pro-gun lobby, another skilful circumventer of public opinion, the fossil-fuels camp has also propagated a powerful conservative mythology. In contrast to cosseted renewables, it claims to be a preserve of wildcatting free spirits, which is half true, and unsubsidised, which is not.

The renewables industry's ability to fight back has until recently been limited. It was for years too small to lobby effectively and its diverse technologies made it slow to get organised. It was therefore chiefly represented in the battle for influence by environmentalists. This was a good way to woo Democrats. But it helped its enemies on the right misrepresent the industry—now the source of around 20% of America's electricity and over 400,000 jobs—as a left-wing boondoggle.

Early this year the main wind trade group was relaunched as the American Clean Power Association (ACP), a multi-technology lobby. Its members include the industry giant, NextEra Energy, which is no one's idea of hairy greenery. The Florida-based utility, whose market valuation last year briefly exceeded that of Exxon Mobil, has lobbied against rooftop solar panels and hydropower and is led by a registered Republican. "As a trillion-dollar industry we need to make the economic argument for ourselves, not only the environmental one," says the trade association's CEO, Heather Zichal. Yet changing the politics of this issue will be harder than the economics might suggest.

Even where renewables create lots of jobs, they tend to be transient. It takes a lot of workers to build a solar or wind farm, but few to maintain them. Local support for such projects tends therefore to be shallow. It cannot be compared to the visceral attachment of a small Appalachian community to the coal industry, even years after its local mine has closed.

Winds, but no change

And the fossil-fuel lobby is not about to give up. By one calculation it outspent its renewables counterpart last year by 13:1. The enduring influence of mining also shows how long a well-organised lobby can outlast its economic relevance. Indeed, the sense of loss radiated by a dying industry was perhaps what made mining so attractive to the grievance-mongering Mr Trump in the first place. The economics of American energy is being transformed; the politics, not so much.■

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The Americas

A conservative crack-up

Some of President Jair Bolsonaro’s supporters are turning against him

That could affect his chances of re-election next year

Oct 2nd 2021 | São Paulo

MOVIMENTO BRASIL LIVRE (MBL), or the Free Brazil Movement, is a group of angry young men who have a knack for using social media and the streets to achieve their political goals. Since being founded seven years ago, the right-wing group has helped bring down one president, leftist Dilma Rousseff, who was impeached in 2016, and has played kingmaker to another, the populist Jair Bolsonaro, who was elected in 2018. But MBL was nowhere to be seen on September 7th when Mr Bolsonaro’s fans filled the streets in support of his struggling government. Instead, it organised a counter-protest five days later that called for his impeachment.

“I voted for Bolsonaro and regret it,” says Luís Alberto Silva, a 37-year-old salesman and one of the protesters. Though smaller than both its *bolsonarista* precursor and previous anti-Bolsonaro rallies called by left-wing groups, the protest hints at a problem for the president. His base is often described as “beef, bullets and bibles”, referring to the interest groups that make up the biggest congressional caucuses. But equally important to his victory were the groups that champion free markets and decry corruption. If they defect *en masse*, it could cost him re-election next year—an outcome he is gearing up to dispute, with unpredictable consequences.

A decade ago most of these libertarian groups did not exist. After the military dictatorship ended in 1985 it was taboo to identify yourself as right-wing. One of MBL's founders, Fábio Ostermann, recalls that when he started reading Friedrich Hayek and Ludwig von Mises in the early 2000s, "being young and not a leftist was seen as strange." The left-leaning government of Luiz Inácio Lula da Silva, Ms Rousseff's predecessor, also of the Workers' Party (PT), was popular. Previous governments had been broadly centrist.

Two factors fuelled the rise of a "new right", argues Camila Rocha of the University of São Paulo in a new book, "Menos Marx, Mais Mises" ("Less Marx, more Mises"). A vote-buying scandal in 2005 tainted the PT. The launch the previous year of Orkut, a social network that had 30m users in Brazil, offered a space for unconventional ideas. Free-market think-tanks, such as the Millennium Institute in Rio de Janeiro, flourished. Many of them desired a slimmed-down state, which became more salient when, in 2014, the Lava Jato ("Car Wash") investigation revealed an even bigger graft scheme involving the PT. Alongside MBL, another group, Vem Pra Rua ("Come to the Streets") led protests against Ms Rousseff. Partido Novo, a "new party" with a pro-market platform, fielded its first candidates in 2016.

The counter revolution

Although many of these groups proclaim themselves to be libertarian, several aligned themselves with more socially conservative viewpoints. In 2017 MBL joined protests to shut down an art exhibition on LGBT culture and, later, to ban Judith Butler, a philosopher, from an event because of her supposedly immoral (though to most readers impenetrable) views on gender. Rodrigo Constantino, a pundit and co-founder of the Millennium Institute, laments both the PT's spending and its "satanic" sex-ed curriculum.

Mr Bolsonaro managed to appeal to this broad spectrum of conservative voters. He won "because he knew how to read the crowd", says Sóstenes Cavalcante, a federal deputy and evangelical pastor.

Free-marketeers were cheered by Mr Bolsonaro's choice for economy minister, Paulo Guedes, an economist who studied at the University of Chicago (and another co-founder of the Millennium Institute). But the honeymoon did not last long. MBL became dismayed by Mr Bolsonaro during his first year in office, when he ditched anti-graft plans after federal prosecutors filed money-laundering charges against one of his sons. They were further disappointed in 2020, when the justice minister, Sergio Moro, a former Lava Jato judge, resigned and accused Mr Bolsonaro of obstructing justice. By then, the president's party had split into *lavajatistas* loyal to Mr Moro and ideologues wedded to the president, who quit the party. Other supporters abandoned Mr Bolsonaro when he botched Brazil's response to the pandemic.

Some of these "new right" groups are trying to shift focus away from contentious social issues. "MBL is in a bit of an identity crisis," says Mr Ostermann, who left in 2018 because he felt the group's focus on defeating the PT would cost it its place at the "vanguard of liberal activism" (he is now a state deputy for Partido Novo). With Lula leading the polls for next year's presidential election, MBL and other groups are trying to boost "third-way" challengers. If it comes down to Lula and Mr Bolsonaro, most say they will turn in blank ballots, even if that means Lula wins.

Around 30% of Brazilians still back Mr Bolsonaro. Some dedicated fans, such as evangelicals, have always cared more about social policies, such as keeping abortion illegal, than economic liberty or anti-corruption. Many millennials who frequented Orkut have been influenced by Olavo de Carvalho, a reactionary guru whose online lectures about how "cultural Marxism" is destroying Judaeo-Christian values have 1m subscribers, among them Mr Bolsonaro's sons.

Mr Bolsonaro's remaining supporters increasingly espouse views similar to the global alt-right, says Michele Prado, a researcher who studies *bolsonarista* groups on WhatsApp. Formerly fringe ideas such as the return of the monarchy or of military dictatorship have become political movements with elected representatives. Mr Bolsonaro's election sparked a jump in the share of people identifying as right-wing.

Brazilians' political identities are hardly coherent, points out Pablo Ortellado of the University of São Paulo. They have mostly "to do with the shirt of the team" that is winning, he says. But even if a split among conservatives undermines Mr Bolsonaro's bid for re-election next year, the new right will not disappear as a political force. It may well evolve, or retreat into, a hard core of social conservatives, authoritarians and conspiracy theorists. Less von Mises and more Stephen Miller. ■

Underwater atoms

Brazil might get nuclear-powered submarines even before Australia

The country has been working on the technology for decades

Sep 30th 2021

NUCLEAR SUBMARINES have caught the world's eye in recent weeks. On September 15th the United States, Australia and Britain announced the AUKUS pact to help Australia build nuclear subs, a military capability so potent that the United States has never shared it with any ally other than Britain. Yet on the other side of the Earth from Perth, where the Australian boats may one day be based, another middle-ranking power has been quietly honing the same technology for far longer.

At the Itaguaí naval complex near Rio de Janeiro, and other sites scattered across Brazil, hundreds of engineers are slowly designing and piecing together parts of the Álvaro Alberto, a nuclear-powered submarine named after a former vice-admiral and pioneer of the country's nuclear programme. If all goes to plan, it could land in the water at Madeira island in Itaguaí in the early 2030s, before Australia gets a sniff at its own subs. That would make Brazil the first non-nuclear-armed country to operate a nuclear-powered submarine.

Brazil's armed forces began serious nuclear work in the 1970s, with an eye on eventually producing nuclear weapons. The navy was the spearhead of that effort, deploying hundreds of staff in a secret programme to spin uranium in centrifuges—a process that enriches it for use in reactors (or bombs)—and to build the miniature reactors that can fit inside the cramped hull of a submarine. This work survived the end of military rule in 1985. It then languished for a while, but received enthusiastic support from Luiz Inácio Lula da Silva, Brazil's left-wing president from 2003 to 2010.

Progress since then has been slow, though Jair Bolsonaro, Brazil's current president, attended a ceremony marking the initial assembly of a prototype reactor in Iperó, 120km north-west of São Paulo, in October 2020. A month later the navy finalised the boat's basic design. That was in no small part thanks to Naval Group, the largely state-owned French arms company whose jilting last month by Australia, as part of AUKUS, provoked a diplomatic incident. Under a deal agreed in 2008 under Lula, Naval Group signed a contract with Odebrecht, a conglomerate now synonymous with corruption, to sell advanced diesel-electric submarines to Brazil.

The Economist

Many see Brazil's quest for nuclear subs as a quixotic frippery. It is "a mad indulgence of Lula's boom era", says one foreign diplomat. Brazilian officials justify the programme by pointing to the "Blue Amazon", a term coined by the navy. It refers to the country's 8,000km-long coastline, the economic riches that lie off it and the importance of defending them. Brazil says its continental shelf gives it rights beyond the exclusive economic zone of 200 nautical miles (370km) set out in the UN Convention on the Law of the Sea (see map).

Yet one of the world's stealthiest military platforms might be considered overkill for protecting fish, guarding oil rigs and warding off Argentine warships that are no longer hostile. Diesel-electric submarines, which are quieter in shallow water, and far cheaper to build, would be better suited to coastal defence. One reason for the programme's survival may be that it has friends in high places. The minister of mines and energy, for instance, is a former admiral who commanded Brazil's submarine force and ran the navy's nuclear work. Mr Bolsonaro, a former army officer himself, has stacked his government with military folk and increased the armed forces' budget this year (the amount for subs shrank by 31%, amid a wider fiscal crisis).

Geopolitical factors are at work, too. The subs have justified the need to master the complete fuel cycle—the process of mining, milling and enriching nuclear fuel—and thus placed Brazil "in the threshold between being a nuclear state and not being a nuclear state", says Carlo Patti, author of "Brazil in the Global Nuclear Order". That means the country can produce its own nuclear energy, without seeking help from rich countries which, in Brazil's view, have monopolised such technology on the pretext of non-proliferation. It also means that Brazil could produce weapons-grade uranium if it chose to. Both capabilities are sources of "political and technological prestige", says Mr Patti.

For largely the same reason, they make non-proliferation advocates nervous. Brazil once had a secret weapons programme. In 2019 Mr Bolsonaro's son, a member of Congress, said that Brazil would be "taken more seriously" if it had nukes. Whereas most countries have signed a so-called Additional Protocol with the International Atomic Energy Agency, a nuclear watchdog, which allows for enhanced inspections, Brazil has long refused to do so, on the basis that nuclear-armed states have not done enough to disarm.

In practice, the subs are not much cause for worry. Brazilian nuclear material is monitored under a special bilateral pact with Argentina, which was signed in 1991. And unlike British and American subs, which use uranium enriched to the high levels suitable for a bomb, Brazil's planned reactor will use low-enriched stuff that would need to be spun further for nefarious purposes. Brazilian naval officers are keen to show that their programme is above-board, and would not like to be lumped in with nuclear pariahs like Iran. "I'm not concerned," says Togzhan Kassenova, an expert on non-proliferation at the State University of New York at Albany.

A nuclear submarine is one of the most sophisticated and complex pieces of military hardware that any country can build. Brazil's programme has now survived military and civilian governments, and presidents of both the left and right. Its survival owes much to Lula, who has said he will run in next year's presidential elections and enjoys a commanding 18-percentage-point lead over Mr Bolsonaro.

"The project appears to be irreversible," noted Ms Kassenova and two other experts who visited the Itaguí shipyard in 2018. No country below the equator has ever owned or operated a nuclear-powered submarine. Brazil and Australia will now be vying to get there first.■

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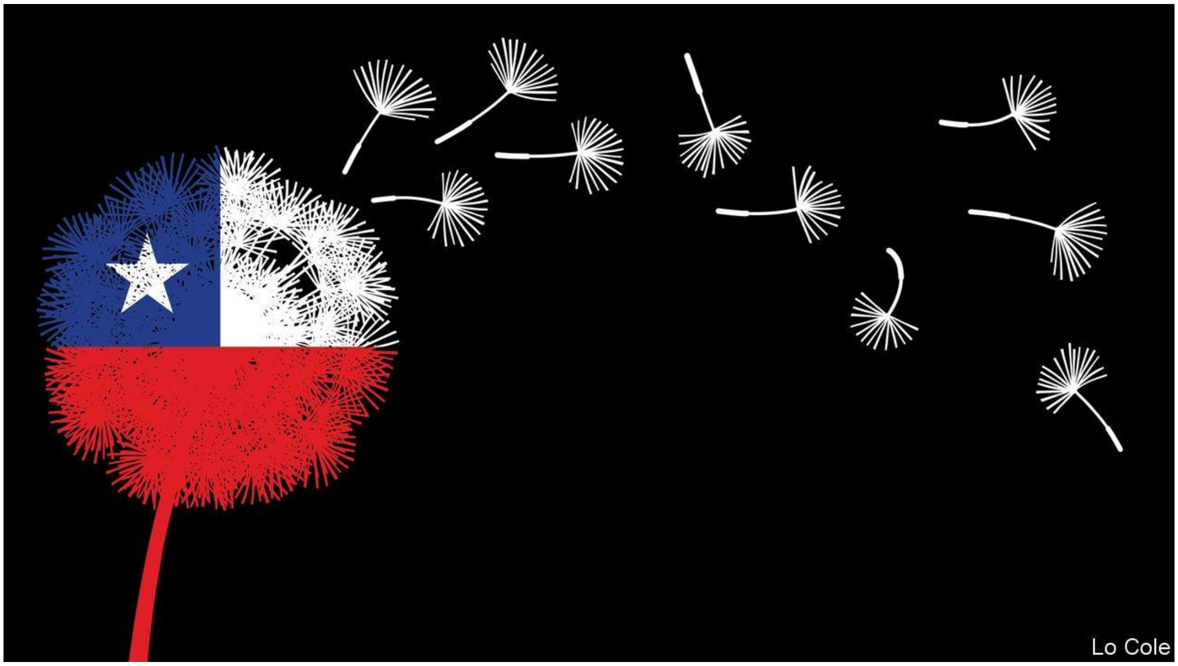
Bello

Can Chile's constitutional convention defuse people's discontent?

The reasons for massive protests in 2019 have not entirely gone away

Sep 30th 2021



THE PRESIDENTIAL election due in November will be like no other in Chile since the restoration of democracy in 1989. That is partly because the leading candidates are fairly new faces, and the Concertación, the centre-left alliance that dominated most of that period, is no more. But it is mainly because the winner will at first cohabit with a convention which is writing a new constitution and which could decide to curtail the normal four-year presidential term. All this is because Chile is still picking up the pieces after an explosion of massive and sometimes violent protests in late 2019 that shook what had been one of Latin America's most stable and seemingly successful countries.

At the heart of the protests was anger over narrowing opportunities and inadequate and unequal access to health care, pensions and education. The convention was offered by a discredited political class in November 2019 to provide a peaceful path out of a dangerous conflict. It seems certain to move Chile to the left. The question is how far.

The initial answer seemed to be a long way. At an election for the convention in May, in which only 43% of the electorate voted, the far left won 55 of the 155 seats (of which 17 were reserved for representatives of indigenous peoples). The election was a defeat for both the former Concertación (25 seats) and the right (37). Many of the representatives are, nominally at least, independents in an election where to be new, young and untested by politics-as-usual was a winning formula.

Now that the convention has sat for almost three of its allotted maximum of 15 months, and has accomplished little beyond approving its own rules this week, it is starting to moderate. One far-left group has imploded, its credibility destroyed when one of its leaders admitted that his claim to be a cancer-sufferer denied proper health care was false. Another has split: the Broad Front (FA, for its initials in Spanish) has fallen out with the Communist Party. One poll shows approval of the convention falling to 30%.

But its serious work is only just starting. "We're discussing issues that affect deeply rooted interests and power centres," says Patricia Politzer, a centrist independent representative. "It was never going to be easy." She is part of a broad dealmaking nucleus that is starting to emerge. They are likely to become increasingly influential as the convention grapples with the big issues. First, it is certain to define as constitutional rights a long list of expensive things, such as pensions and housing. The issue is whether these will be enforceable in the courts, or left to secondary laws. The second question is whether Chile will move to a semi-parliamentary system, as part of an effort to diffuse power. Third, the new document seems certain to impose stricter environmental standards. Much will depend on whether the final text embodies a sense of fiscal realism and a recognition of the need for a vigorous market economy to generate prosperity and finance better public services.

The presidential election may give a clearer sense of Chile's change of course. The front-runner is Gabriel Boric, a 35-year-old FA leader. He defeated a Communist in a primary. His economic programme is radical. But it seeks to turn Chile into something more like Germany than Venezuela, with European levels of tax and green investment, state companies and industrial policy. Whether this could work quickly in Chile is doubtful.

Mr Boric may face Sebastián Sichel of the centre-right in the inevitable run-off, in December. But alternatively this might feature José Antonio Kast of the hard right. Mr Kast appeals to the large silent minority who were scared by the violence of the protests and fear instability. Were he to win he would surely clash with the convention.

The election will show whether the convention represents a snapshot of a moment of rage in 2019 that is starting to fade (partly because of the pandemic), or whether it is part of a continuing demand for radical change. There is evidence for both possibilities. A recent poll by the Centre for Public Studies, a think-tank, showed an improving view of Chilean democracy and crime displacing pensions as the top public concern. Only 39% now say they wholeheartedly supported the protests, compared with 55% in the same poll in December 2019. But discontent remains. “People are not on the streets now because they place their hopes in the convention,” says Ms Politzer. The presidential contest will thus be a battle between hope and fear.

Middle East & Africa

Fiddling while Carthage burns

Kais Saied plans to transform Tunisia. It may go bust first

The president rules by decree as the economy seizes up

Oct 2nd 2021 | DUBAI

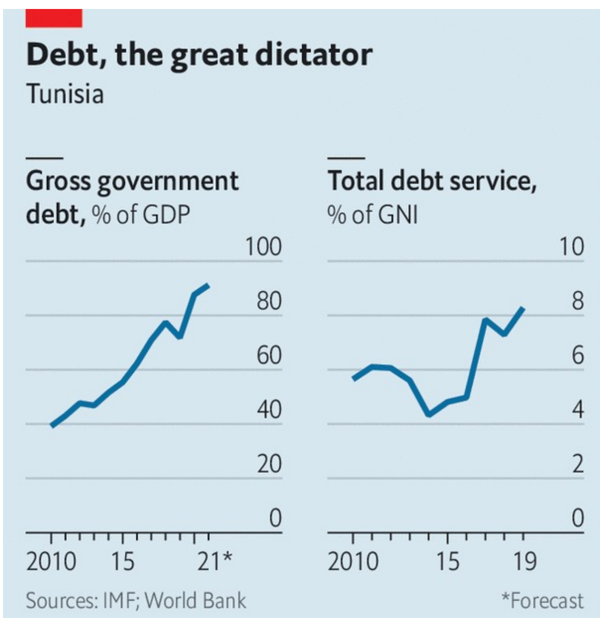
BEFORE HE SENT a tank to bar the doors of parliament, Kais Saied was a law professor who preached fealty to the constitution. It may seem a contradiction, but contradictions helped propel Mr Saied (pictured) to the Tunisian presidency in 2019. He was a populist with a patrician manner, a self-styled democrat who disdained political parties and parliamentary elections. Some dubbed him Robocop, for his demeanour and conservative views; others saw Robespierre sharpening his guillotine.

On September 22nd Mr Saied said he would suspend much of the constitution and rule by decree. This codifies a power grab that began in July, when he assumed emergency powers. Parliament will remain frozen and its members denied their salaries. At some point, Mr Saied says, he will amend the constitution and change the political system. Until then it is less Jacobin, more Sun King.

The president's actions have come in for criticism from prominent Tunisians and some Western governments. The country's powerful labour union, the UGTT, said his decree was a "threat to democracy". There have been small protests in the capital, Tunis.

Perhaps the bigger threat comes from the mismatch between Mr Saied's actions and the people's aspirations—and the fact that he is repeating the mistakes of the lawmakers he usurped. In 2018 and 2019 Arab Barometer, a pollster, asked citizens of 12 Arab countries to name the main characteristic of a democracy. Tunisians, more than any other group, cited the economy: 55% said a democratic government was one that "ensured job opportunities for all". Just 10% cited free and fair elections.

No surprise, then, that so many Tunisians supported or tolerated Mr Saied's actions in July. The democratic system set up after the 2011 revolution has failed to produce jobs. Growth has been below 3% since 2012. Last year, thanks to covid-19, the economy shrank by 8%. Unemployment is officially 18%. A weak dinar has contributed to high inflation (currently 6.2%).



The Economist

Mr Saied's most pressing problem is Tunisia's fiscal mess (see chart). Public debt has climbed from 39% of GDP in 2010 to 88%. During the same period the dinar has lost half its value. The country looks stuck in a debt trap, with a total budget deficit of 9% of GDP and annual debt-service payments of 7-9% of GDP. Transfers to wobbly state-owned firms take another 7-8% of GDP and subsidies a further 5%. Then there are public wages, which have reached 18% of GDP. Almost all government revenue goes on these items, leaving little for investment or social spending.

The government began talks with the IMF in May. In exchange for $4bn (10% of GDP) it offered to trim public wages and phase out food and fuel subsidies. It hoped to wrap up a deal before a planned bond issue in October. Instead Mr Saied has paused negotiations; the price of Tunisian bonds has plunged. Some wonder if Tunisia will go the way of Lebanon, which defaulted and has seen its economy collapse.

Previous governments paid little heed to such problems. Since the revolution, politics has been defined by an ideological struggle between Islamists and secularists. On economics, there was often little to distinguish parties. Any attempt to cut subsidies or state salaries meets fierce opposition from the UGTT. Half-measures do not work: liberalising the exchange rate and imposing new taxes were enough to anger citizens, but not to fix a broken economy.

Yet two months after grabbing power Mr Saied has announced little in the way of an economic programme, apart from inchoate plans to fight corruption and use the proceeds to fund development. His strategy for lowering inflation is to ask businesses to offer discounts. Economics is not his strong suit, and he has had little help. On September 29th, after two months of delay, he appointed a prime minister, Najla Bouden Romdhane. She is the first woman to hold the job, but also a little-known professor of geophysics. It is unclear how much power she will wield.

Indeed, not much is clear about Mr Saied's plans. He has spoken before about his vision of democracy, with voters choosing non-partisan candidates to local councils and indirect elections for higher office. In his telling this would lead to lawmakers chosen on merit rather than party affiliation or ideology. Tunisians can debate the merits of this idea. One of the many problems with the *ancien régime*, after all, was its centralised nature. Local governments, which ought to play a large role in economic policy, were instead seen as a source of plum jobs for loyalists. A more devolved system could help remedy this.

But changing the system will be a long and contentious process, in a country facing imminent crisis. What exists today, after Mr Saied's decrees, is a highly centralised regime led by an academic with neither the expertise nor the inclination to solve Tunisia's economic problems. The government has seized up: even trivial matters now require approval from the presidential palace. Critics of Tunisia's young democracy are fond of pointing out that it has produced ten governments in ten years, none of them terribly effective. This is true enough, but it bears remembering that what came before—one-man rule for 23 years—was hardly a success either. ■

Zigzag in Zintan

Could Libya be ruled again by a Qaddafi?

A comeback by Muammar Qaddafi's son Seif al-Islam can no longer be ruled out

Oct 2nd 2021

TEN YEARS ago, when Muammar Qaddafi met a grisly end after 42 years in power, no one thought that a member of his family might ever end up back in charge of Libya. During the Arab spring a wave of euphoria washed across the country after the dictator's demise. His seven sons were captured, killed or fled into exile. Seif al-Islam, the second eldest, was caught by a militia, put in a prison cage, indicted by the International Criminal Court at The Hague, and sentenced to death by Libya's new regime.

The national mood may, however, be changing. Many Libyans look back on the Qaddafi era as a time of stability, however brutal the regime and however bizarre the dictator's pronouncements. After a decade of civil strife it now seems possible that Seif (pictured), the most able of Qaddafi's surviving sons, may be edging his way back into politics. He evidently believes he can negotiate his way around the indictments he still faces at home and abroad and may yet be allowed to compete in the presidential and general elections scheduled for the end of this year. Some think he could win.

The recent release of another brother, Saadi, from a prison in Tripoli, the capital, suggests that, as factions manoeuvre in the run-up to the elections, the Qaddafi family may no longer be pariahs. Once hated as the preposterous head of Libya’s football federation, Saadi was promptly flown to Turkey, a leading backer of the current fragile government in Tripoli. All charges against him, including one for murder, were dropped.

According to a report in the *New York Times* in Julyby Robert Worth, who met Seif in May, he is no longer behind bars, but now lives in a comfy limboland, half prisoner, half guest, under the control of a militia in Zintan, a mountainous region 180km (112 miles) south-west of Tripoli, out of reach of the government. Supporters insist Seif is a free man. “He’s not under house arrest…he can come and go,” says Muhammad Alghoddi, who manages Seif’s political office from Germany.

Plainly he is plotting a return to power. “I’ve been away from the Libyan people for ten years,” Seif told the *New York Times*. “You need to come back slowly, slowly. Like a striptease. You need to play with their minds a little.” The militia harbouring Seif apparently became disenchanted with the various regimes and militias that replaced his father and now treats him as a bargaining chip.

None of the more credible candidates has yet to declare his candidacy for December’s presidential election, in part because the election law has yet to be finalised. Mr Alghoddi says Seif is considering entering the race. “There’s no reason why a Qaddafi cannot lead Libya again,” he says.

Some observers agree. “Seif al-Islam comes at a time when Libyan politics needs a saviour,” says Alice Gower of Azure Strategy, a consultancy in London. The Qaddafis’ Green Movement broadcasts rousing speeches on a satellite channel based in Cairo, harking back to the dictator’s supposedly golden era. It is a message that may resonate among disappointed Libyans. Though 1.2m barrels of oil are pumped every day, electricity still cuts off for hours on end. Inflation is soaring. To most of Libya’s 7m people, prosperity and security, let alone democracy, are a distant mirage.

Turkey's is not the only government that may consider letting the Qaddafi family back into the fray. Russia may be pondering whether to restore its old ties with it. The United Arab Emirates and Egypt may be looking for an alternative to Khalifa Haftar, a former general based in Libya's east who has long been their candidate. But last year he tried and failed to topple the government in Tripoli.

The front-runners in December's presidential election have been busy trying to have each other disqualified. Aguila Saleh, the parliament's speaker, oversaw the passage of a law that would bar dual nationals and soldiers from running—which should rule out Mr Haftar, who is thought to be an American citizen. (Mr Haftar says he no longer formally commands his Libyan National Army based in the east.) Mr Saleh is also keen to undermine the current prime minister, Abdul Hamid Dbeibeh, probably Libya's most popular politician, by refusing to pass his proposed budget.

When Mr Dbeibeh became prime minister in February under a deal negotiated by the UN, he promised not to run for any office after his term ends. But he may change his mind. Once head of one of the biggest state-owned companies under the old dictator, he too has renewed his ties with the Qaddafi family. He has returned to their original owners (including his family) properties that had been seized from members of Qaddafi's regime after the dictator was overthrown. There are murmurs that his government may free some of Qaddafi's closest comrades, including his intelligence chief. The interior minister is said to be in touch with the Qaddafi family. The prosecution of the alleged perpetrators of the massacre of more than 1,200 political prisoners in 1996 has been shelved.

Libya has been relatively peaceful since the UN brokered a ceasefire to end the civil war a year ago. Libyans can again travel between its eastern and western halves. Yet no one is betting on the election taking place as planned on December 24th. The militias that have terrorised the populace for the past decade remain untamed. Turkey and Russia, each with its favourites, may prefer to scupper the elections and preserve their spheres of influence. Still, amid the geopolitical manoeuvring and the dearth of any other banner that might unify Libya's squabbling factions, the Qaddafis may yet creep back into the fray. ■

Building bridges

African pension funds have grown impressively

Their capital could help finance development

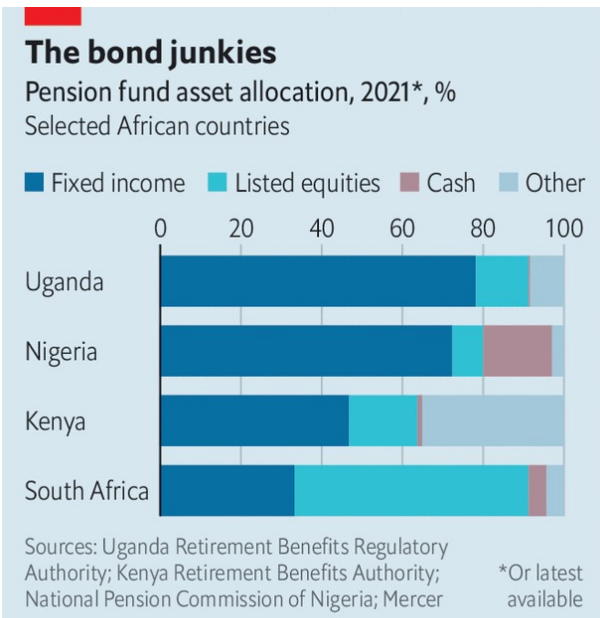
Oct 2nd 2021 | KAMPALA

ON THE KAMPALA skyline workers can watch their savings climb into the air. Pension Towers, an office complex financed by the state-run provident fund, will be one of Uganda's tallest buildings. Work began in 2008 and has been marred by fatal accidents, corruption allegations and budget overruns. The skyscraper illustrates the growing size of African pension pots—and the challenge of investing that money usefully.

This is a strange problem to have. The African Development Bank reckons that the continent needs $130bn-170bn of infrastructure spending a year to bring roads, water, power and internet to its people. Businesses are crying out for capital. What little they get often comes from foreigners, who are quick to pack their bags when things get tough. There is no such risk with local pension funds, which collectively manage around $350bn of assets in sub-Saharan Africa, according to RisCura, an investment firm. And yet many local funds say they struggle to find places to invest.

Pension funds have grown impressively in recent decades, for diverse reasons. In South Africa the government pumped cash into the civil service pension scheme to allay members' worries about losing benefits at the end of apartheid. Its successor, the Government Employees Pension Fund (GEPF), is the largest in Africa, with assets of about $110bn. In Nigeria a mandatory pension system was introduced in 2004, and funds' combined assets have grown nine-fold over the past 15 years, to $31bn.

Pension schemes typically cover only the small fraction of Africans who have formal jobs. But they can still be big fish in small ponds. In Namibia, for example, the value of retirement fund assets is larger than the country's annual GDP.



The Economist

What to do with all that money? Consider the choices laid out by Richard Byarugaba, the managing director of Uganda's National Social Security Fund. It already owns a third of the shares traded freely on the local stock exchange, where only 16 companies are listed. An alternative is property, like the ill-fated Pension Towers, but building things is much more complicated than just "pumping concrete in", he notes. So 78% of the fund's investment is in bonds and the like, mostly government debt (see chart). In Africa, unlike in rich regions, that yields high returns.

This reliance on government securities is typical of fund managers almost everywhere except South Africa, which has uniquely deep capital markets. The Public Investment Corporation, which manages the assets of the GEPF, puts 41% of its investment into listed equities, as well as 7% into an unlisted portfolio that has drawn scrutiny for alleged improprieties. Pension pots in Botswana and Namibia also invest an unusual amount in equities, often abroad. The Botswana Public Officers Pension Fund could buy up the entire national debt and still have money to spare. Moemedi Malindah, its chief executive, says it would like to invest more locally, but options are limited: it had so much trouble finding private-equity managers that it had to run a programme to create them.

Talk of diversifying into alternative assets runs ahead of reality. In Nigeria, for example, pension funds put just 0.5% of their assets into infrastructure. That is partly because fund managers do not know how to assess the risks, says Wale Okunrinboye of Sigma Pensions, one of the largest funds in the country. It is a similar story when fund managers look at private equity. “Some of them want to dip their toes in the water but they’re just scared,” says Abi Mustapha-Maduakor, the chief executive of the African Private Equity and Venture Capital Association, an industry body.

There are efforts to change that. In Kenya more than 20 pension funds have formed a consortium to invest in infrastructure, pooling their capacity to spot duds. Governments and foreign donors are thinking of ways to take on some of the risk by issuing guarantees.

The long-term investment horizons of pension funds dovetail with the need for “patient capital” to build a continent. Yet the first job of a pension-fund manager is to protect the savings of future pensioners. The kind of public-private partnerships they might invest in have had mixed outcomes in Africa. Until there is a track record of success, most will continue simply to lend to governments and let the politicians build the roads instead. ■

When the ANC withers

South Africa’s main opposition sees coalitions ahead

Will a weakening ruling party team up with liberals or the thuggish far left?

Oct 2nd 2021 | CAPE TOWN

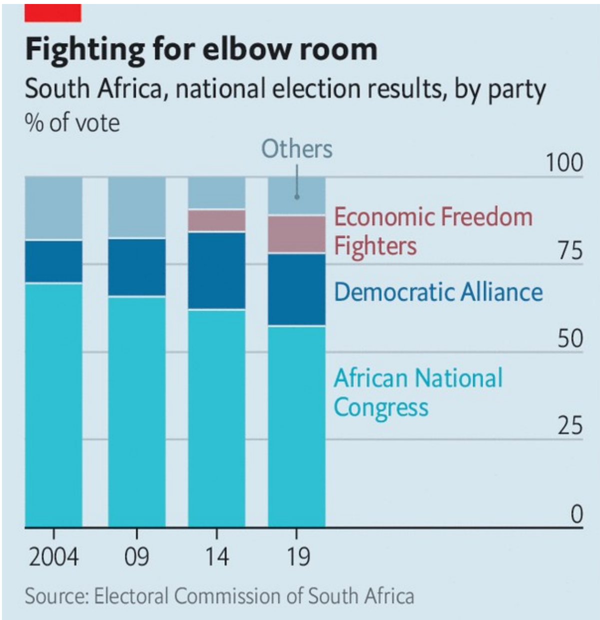
JOHN STEENHUISEN’S office in South Africa’s parliament is the lair of a political animal. The leader of the Democratic Alliance (DA), the country’s main opposition party, has election memorabilia from around the world and two large photographs of John F. Kennedy. Smaller snaps show the 45-year-old alongside British politicians, including David Cameron. A book by the former prime minister is on Mr Steenhuisen’s desk.

In Britain works by Mr Cameron are perhaps more common in charity shops than in politicians’ offices. But Mr Steenhuisen is looking ahead to when the African National Congress (ANC) falls below 50% in a general election. Though the next one is not until 2024, local elections on November 1st may serve as a bellwether. Polls suggest the ANC will win less than half of the vote in a nationwide election for the first time. That would suggest it may soon need others in order to govern nationally under South Africa’s system of proportional representation. Hence the collected wisdom, such as it is, of the man who led a coalition government in Britain.

Mr Steenhuisen (pictured) wants to work with pragmatic ANC politicians. “South Africa is in such a deep crisis that it’s going to need the rational centre,” he says. The former chief whip says there have been “feelers from the ANC side”. But many in the ruling party would rather join with the second-largest opposition party, the hard-left and thuggish Economic Freedom Fighters (EFF). If that were to happen, says Mr Steenhuisen, “that’s going to put South Africa on the fast burn towards Venezuela or Zimbabwe.”

Talk of coalition shows how far the DA has come. From 1961 to 1974 Helen Suzman of the Progressive Party, one of the DA’s forerunners, was the lone anti-apartheid voice in the all-white parliament. In the first post-apartheid elections in 1994, the Democratic Party, as it was then, won 2%. Two decades later the DA won 22%. Its growth came mostly from winning over majorities of minorities: whites, “coloured” (ie, mixed-race) South Africans and those of Indian descent, who together are about a fifth of the population.

The DA does less well among the majority, though. It had a black leader, Mmusi Maimane, but he was unceremoniously ejected in 2019 after disappointing election results. It has also vacillated over whether to support race-based policies.



The Economist

Newer recruits are generally more sympathetic to ANC laws on, say, affirmative action than classical liberals, who dislike policies that treat people primarily as members of a group rather than as individuals. "The DA says it wants to be colour-blind, but that means wanting to retain the status quo," argues Mr Maimane, who has now left the party. Another former black politician in the DA says: "I reject this notion that liberalism is about the fetishisation of the individual. That's very convenient for white people and for men."

This muddle has hurt the party's brand. It lost hundreds of thousands of Afrikaner voters in 2019 without adding many black ones. "The DA has a major trust issue," says Dawie Scholtz, a psephologist. He notes that, in focus groups, voters often say they like certain policies but change their minds when they learn the proposals are from the DA. "The distrust is racial: it is based on distrust about whether the party actually wants to deliver for black people."

Many in the DA feel that the party is treated unfairly. Tony Leon, a former leader, points out that it has the country's most racially diverse parliamentary caucus. In South Africa, he adds, voters make choices based on identity, which makes it hard for the DA, a party that he says tries to appeal to the nation as a whole, rather than to any particular racial or ethnic group.

Others in the party point out that its divisions are minor compared with those of the ANC, whose factional battles sparked mass civil unrest in July. They feel that their position on inequality is simple. Rather than race-based policies that have enriched a black elite, better to target help on the basis of need. “You don’t need a proxy for poverty,” argues Mr Steenhuisen.

Moreover, given the ANC’s decline, the DA has only to hang on to its support to become more relevant. But would its voters stomach a coalition with the ANC? Mr Steenhuisen says he would avoid the error of the Liberal Democrats in the British coalition of 2010-15, when that party lost votes by reneging on its key pledge to scrap university tuition fees. The DA would stick to its “core principles”, such as a market economy, respect for the rule of law and policies that do not target a particular race. But Mr Steenhuisen adds that the state of the country demands hard-headedness: “If the house is burning then it doesn’t matter if you’re a Marxist or a classical liberal. Your life is going to get worse.” ■

Europe

Advantage Scholz

The Social Democrats are likely to take charge in Germany

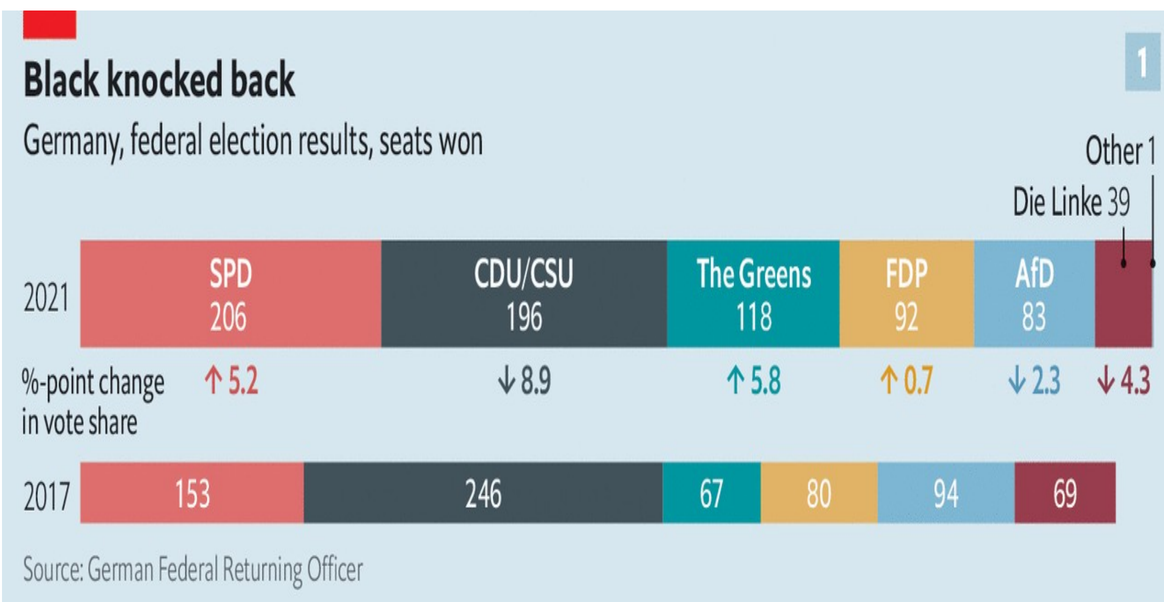
But forging a coalition will be slow and difficult after a tight election

Sep 30th 2021 | BERLIN

AT 6PM ON September 26th the atrium of the Willy Brandt House, the Berlin headquarters of Germany's Social Democratic Party (SPD), erupted in cheers when an exit poll suggested it had won the country's federal election. If victory was narrow, it was also sweet. Having long been in the polling doldrums, the SPD rode a late surge to 25.7% of the vote, 1.6 points ahead of its conservative rivals, the Christian Democratic Union and its Bavarian sister party, the Christian Social Union (CDU/CSU). Olaf Scholz, the SPD's candidate to replace Angela Merkel as chancellor, said voters had told the CDU/CSU that it "should no longer be in government, but in opposition".

Mr Scholz's emphasis was appropriate. For if this election had no clear winner, there was an obvious loser. At the Konrad Adenauer House, the CDU's nerve centre, the mood was markedly gloomier. If the CDU/CSU had slightly outperformed the worst polling prognoses, the conservative bloc had still slumped to by far the worst election result in its history, losing some 4.1m votes and a whopping 8.9 percentage points since Mrs Merkel's fourth and final win in 2017. After 16 years the chancellor, who remains in charge until a coalition is formed, will leave office with high approval ratings. But her party is in tatters.

The CDU was battered across most of the country, with an especially dismal performance in the eastern states of the former GDR. It shed votes to every other party except the far-right Alternative for Germany (AfD) and the hard-left Die Linke. Over 1.3m voters, concentrated among the elderly, defected to the SPD. Several CDU cabinet members lost their direct seats (although they will, under Germany's mixed-member proportional system, return to parliament on party lists). The Baltic-coast seat vacated by the departing Mrs Merkel went to the SPD. Infuriatingly for those CDU members who had grown frustrated with the lukewarm support, or worse, from their notional Bavarian allies, the CSU lost just one seat compared with the CDU's 49.



The Economist

Much of the blame falls on the shoulders of Armin Laschet, the unconvincing candidate chosen by the CDU/CSU to fill Mrs Merkel's shoes. In the campaign's closing stages Mr Laschet relied increasingly on the negative message that the CDU/CSU had to be re-elected to block Mr Scholz from inviting Die Linke, along with the Greens, into government.

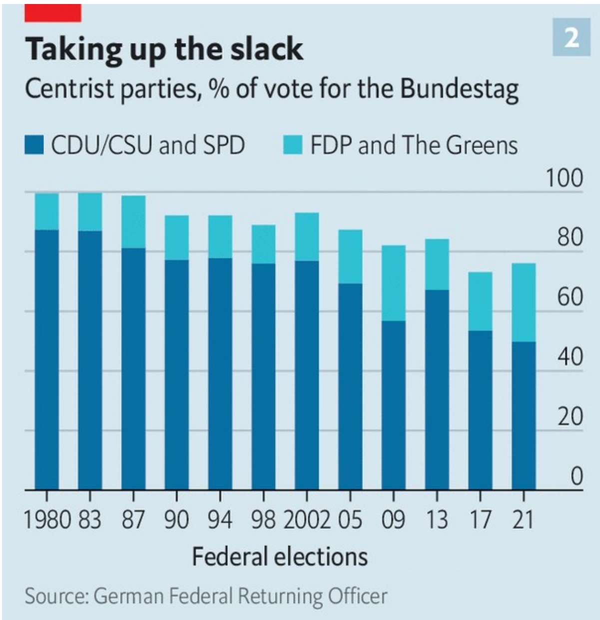
Never entirely plausible, this proposition will not be tested because the notional left-wing coalition does not enjoy a majority.

The CDU/CSU seemed no better prepared for the election aftermath. Rashly, Mr Laschet claimed to have discerned a “clear mandate” to lead a “Jamaica” coalition, with the Greens and the Free Democrats (FDP), a small, liberal outfit, as junior partners (the parties’ colours match the island’s flag). As the scale of the defeat sank in, he ditched that dubious notion in favour of another: that the second-placed party in German elections had often proceeded to form a government. Yet none had suffered a defeat on the scale of the one he had overseen. As several of Mr Laschet’s colleagues pointed out, the party needed a better argument than this to stay in office.

Discontent quickly grew in the conservative ranks. There were calls for “personnel discussions”; code for Mr Laschet to quit. A potential rebellion over the identity of the head of the CDU/CSU parliamentary group was quelled only with a last-minute compromise. And friction between the sister parties intensified. On September 28th Markus Söder, the CSU leader, whom Mr Laschet had defeated in an internecine struggle for the chancellor-candidacy in April, acknowledged that Mr Scholz was “best placed” to assemble a coalition.

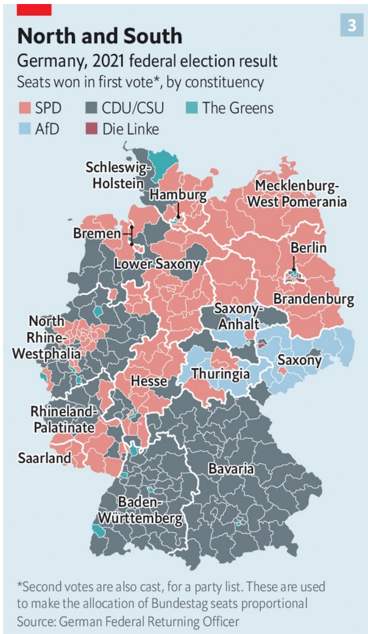
More than two-thirds of German voters think Mr Laschet should throw in the towel. With his chances of forming a government fading, his remaining hope is to make the FDP and Greens an offer he imagines they cannot refuse. If that fails, says a CDU MP, he will be gone within a month.

Germany’s magic middle



The Economist

As in other European countries, the German vote is fragmenting (see Charlemagne). The SPD's comeback cannot mask a long-term decline in the share of the vote that goes to two big "people's parties", from 82% in 1987 to below 50% this time (see chart 2). This is why Germany is probably heading for its first three-way coalition since the 1950s. (A continuation of today's CDU/CSU-SPD "grand coalition", with Mr Scholz as chancellor, is possible, but neither party wants it.) Fully 40% of voters said they wanted "fundamental change".



The Economist

But unlike much of the rest of Europe, fragmentation has not come at the expense of Germany's (broad) centre. The AfD lost ground, even if the CDU collapse in eastern Germany left it the strongest party in Saxony and Thuringia (see chart 3). Die Linke did even worse, barely scraping into the Bundestag. The four mainstream parties, meanwhile—the CDU/CSU, the SPD, the Greens and the FDP—will hold 85% of seats in the new Bundestag, up from 78% in 2017. In Germany, at least, the centre is holding.

It is also moving leftwards. The SPD and the Greens, natural coalition partners, together won 40.5% of the vote, up 11 percentage points from 2017 and almost all at the expense of the CDU/CSU. The conservative bloc of the CDU/CSU and FDP together took 35.6% of the vote. This leftward shift is one reason for the momentum behind Mr Scholz's attempts to put together a "traffic-light" coalition, led by his SPD with the FDP and Greens as junior partners. Another is the aura of humiliation now hanging over the CDU/CSU. The talk is of a "coalition of the winners". If the FDP vote was broadly flat on 2017, the Green score of 14.8% was by far the best in their four-decade history.

Indeed, the smaller parties have made the early running. At a televised debate on election night, Christian Lindner, the FDP's leader, said that his party would speak to the Greens before attempting to come to terms with either of the larger parties. The FDP and Greens, needed in either a Jamaica or a traffic-light arrangement, will command 210 seats in the new Bundestag, more than either the CDU/CSU or the SPD. A joint platform would carry more weight than a typical kingmaker could hope for. "This would be an eye-level negotiation," says Janosch Dahmen, a Green MP.

Those close to the FDP-Green talks urge caution. The two parties must overcome serious political and cultural differences. They disagree on taxation and spending, investment policy, Europe's fiscal rules and much more. In 2017 it was Green-FDP tensions that ended Angela Merkel's hopes of forming her own Jamaica coalition. Their respective bases detest each other. "F.D.P.: *Fick den Planeten* ("Fuck the planet)", tweeted Jürgen Trittin, a former Green leader, during the campaign. The road to any FDP-Green deal looks rocky.

Yet "rocky roads don't scare us," says Alexander Graf Lambsdorff, an FDP MP. "We build good cars in Germany." Towards the end of the campaign, as the SPD's surge brought the prospect of a traffic-light coalition into view, Mr Lindner moderated his language accordingly. Robert Habeck, the Green's co-leader, who will play a crucial role in the talks, has told his party colleagues to seek common ground with the liberals rather than victory over them. Economic boffins on both sides are drawing up plans to square the many circles, including a fudge on tax rises, and the creation of off-budget vehicles that could raise public investment without violating Germany's "debt brake", which limits deficit spending—a red line for the FDP.

Moreover, the two parties, which between them won a near-majority among first-time voters, can present a credible narrative of change. This might find expression in support for projects like improving Germany's ropy digital infrastructure, education reform or a streamlining of planning procedures. On September 28th, just after the CDU/CSU MPs had weighed Mr Laschet's future, the Green and FDP leaders surprised everyone—including their own colleagues—by posting an Instagram selfie with an earnest caption speaking of "common ground". The signal was clear: while others squabble, the new guard is getting down to business.

The FDP-Green talks, say insiders, are about building trust more than assembling detailed policies; much less apportioning ministerial jobs, a complicated business that tends to happen at the end of coalition talks. The unflappable Mr Scholz is happy for his potential partners to learn to work together before opening negotiations with his team. Even if Mr Laschet is a dead man walking, for now neither the Greens nor the FDP will rule out a Jamaica coalition. To do so would instantly increase Mr Scholz's bargaining power. Besides, there are murmurs that the CDU/CSU could seek to unseat Mr Laschet and approach the smaller parties with a different candidate.

Yet the momentum is firmly with the SPD. Its officials hope to begin traffic-light talks by mid-October, and to meet Mr Scholz's goal of finalising a government by Christmas—just in time for Germany's G7 presidency in January. Nothing is certain. The FDP and Greens may fail to come to terms, and for now the CDU/CSU is clinging on to its hopes of remaining in office. But the stars are lining up for Mr Scholz. ■

Paris Philhellenic

France and Greece hedge their bets with a new defence pact

The new alliance reflects their shared fears of Turkey

Oct 2nd 2021

KYRIAKOS MITSOTAKIS, Greece's prime minister, cast it as a love story. "History…wants us together," he told Emmanuel Macron, France's president, in Paris on September 28th. "So does geography." He serenaded Mr Macron with tales of Ionian seafarers landing in Marseilles and the French Philhellenes who backed Greece's war of independence. Mr Macron said that Greece was "a civilisation that has inspired us and enabled us to be ourselves". Then the two leaders consummated their courtship with what they are calling a "strategic" defence pact.

The Franco-Greek relationship has been forged in rivalry with Turkey, which last year squared off with Greek warships around Cyprus, and with French ones off Libya. An anti-Turkey bloc, including France, Greece, Israel, Egypt and the United Arab Emirates, has gradually taken shape. Mr Mitsotakis, eager to secure French support and bolster his own armed forces, had already agreed to buy 18 Rafale warplanes from France in January, at a cost of €2.5bn ($2.9bn), and six more in September. Now he will also buy three new French frigates, with the option of one more.

That is a boon for Greece's navy, which has just 13 ageing frigates against Turkey's newer fleet of 16. It is also a well-timed consolation prize for Naval Group, the majority-state-owned French arms firm which Australia turfed out of a lucrative sub marine contract on September 15th as part of its AUKUS pact with America and Britain. Naval Group is building the new frigates in Brittany; Greece is supposed to take delivery of its first in 2025.

Yet both sides were keen to show that this was no mere arms contract. "It strengthens…our strategic autonomy and our European sovereignty," said Mr Macron. Mr Mitsotakis agreed that it was "the first bold step towards European strategic autonomy". Mr Macron has long been fond of such language—often irritating his eastern European allies, who see it as antagonistic to America—but it has a particular resonance after AUKUS. French officials have portrayed the Anglophone pact as a demonstration of American unreliability and a wake-up call for Europeans to collaborate more on defence matters.

To that end, the new agreement also includes a striking element that is absent from AUKUS: a mutual defence clause. France and Greece are already obliged to support each other in the event of an attack, through Article Five of NATO's charter and the more obscure Article 42:7 of the EU's Lisbon treaty. Notably, Mr Mitsotakis said that the partnership now "goes beyond" those obligations. The decision to formalise a separate, bilateral alliance suggests that both Mr Macron and Mr Mitsotakis are concerned that, should a serious crisis erupt in the Mediterranean, Turkey might stymie NATO from the inside.

The idea of a mutual-defence clause that is beefier than Article Five—which obliges an ally only to take "such action as it deems necessary"— is not unprecedented. France did the same thing with Germany in the Aachen treaty of 2019. The Anglo-French Lancaster House treaty of 2010 also implies far-reaching nuclear guarantees.

But such bilateral deals are bad news for NATO, says Wess Mitchell, an American former state department official who co-chaired a reflection group for the alliance last year. The new pact “will be viewed in NATO and especially by eastern members of the alliance as implicitly undermining Article Five,” he says. Others, like Poland, may be encouraged to seek their own ad hoc guarantees from America.

Moreover, despite the rhetoric of European sovereignty and autonomy, the ever-closer alignment of France and Greece reflects the EU’s divisions more than its cohesion; it does not, after all, involve the rest of the EU. In recent years both countries have grown frustrated with the bloc’s reluctance to put more pressure on Turkey. Germany, in particular, with its large Turkish diaspora and trade links, has been eager to water down such measures.

Germany is also selling advanced diesel-electric submarines to Turkey’s navy. So later this decade, a very European contest will play out in the Mediterranean: France’s finest frigates tracking Germany’s best submarines. ■

In hiding

Thanks to covid-19, Vladimir Putin has become almost invisible

The Russian president doesn't seem to trust his own vaccine

Oct 2nd 2021 | MOSCOW

FRESH FROM victories in Tokyo, Russian Olympic medalists were preparing for a reception with Vladimir Putin earlier this month when they were told they would spend a week in quarantine before meeting the president. "I still can't believe I'll have to sit in one room for seven days," Angelina Melnikova, a gymnast, wrote on social media. But the requirement wasn't new: senior officials, journalists and even veterans of the second world war have had to self-isolate before coming within breathing distance of the man who has stood at Russia's helm for over two decades, and who next week turns 69.

When Russia first recorded a surge in coronavirus cases in March last year, Mr Putin donned a yellow hazmat suit to visit Moscow's main covid-19 hospital. State TV cameras captured him taking selfies with staff and shaking hands with the hospital's chief physician, Denis Protsenko. "No head of state has so far dared to come so close to the infected," gushed the

Kremlin’s chief propagandist, Dmitry Kiselyov, on his Sunday night news show. All par for the course for a strongman who has built his reputation on action-man stunts.

But in the months since then, perhaps no world leader has been as shielded from the virus. Days after Mr Putin’s hospital visit, Mr Protsenko announced that he himself was sick with covid-19, and Mr Putin holed up in his residence outside Moscow, haranguing officials by video-link as his approval ratings sank. Special tunnels were installed at the residence to douse visitors in disinfectant. Alexei Navalny, Russia’s main opposition figure, who is now in jail, coined a new nickname for his political foe: “grandpa in a bunker”.

In March, the BBC reported that the Kremlin had spent $85m on quarantine accommodation for staff and visitors coming into contact with Mr Putin and other measures to ensure his well-being. That figure is all the more startling when you consider that Russia has had a working vaccine since last August, when the president approved the Sputnik V jab. On September 14th Mr Putin announced he was going into self-isolation after covid cases were detected in his inner circle, less than three months after he revealed he had been vaccinated. He emerged two weeks later, to be seen meeting Turkey’s president, Recep Tayyip Erdogan on September 29th. But Muscovites are not expecting to see him around the place.

Roam work

Why Europe is a great place for digital nomads

A varied continent with good WiFi and few internal borders

Oct 2nd 2021 | LISBON

AFTER MONTHS in lockdown in grey Berlin, Chris Bloom, a personal coach and blogger, planned his escape. Risking the ire of jealous Instagram followers, he took a covid-19 test, flew to Lisbon and settled into the Outsite co-working and co-living space, a pleasant blue-and-white tiled property with the essentials—stable internet and a coffee shop.

Mr Bloom is part of a growing brigade of digital nomads in Europe, who work remotely while satisfying their wanderlust. This kind of itinerant lifestyle is as old as laptops and free internet. But covid-19 has given it a boost. A game of lockdown arbitrage began earlier this year as border controls eased and people fled congested cities like Berlin and London. Some headed for other cities, such as Lisbon and Madrid, which offered sunshine and looser lockdown rules. Others chose remote spots on the Mediterranean and in the Alps. Now covid-19 restrictions are easing but the trend continues as many Europeans reject a traditional office routine after a year and a half of remote work. As Yoon-Joo Jee, an entrepreneur who has spent the pandemic between Seoul, Geneva and Lisbon, puts it: “there's an addiction in moving and exploring new places.”

America has the best data on the rise of the new nomads. It had 10.9m digital wanderers last year, up from 7.3m in 2019. Academics say a similar jump is under way in Europe, which also offers continental scale and a lack of internal borders, at least within the Schengen area. Europeans itching for a change of scenery can roam freely from Helsinki to Seville. During the pandemic, Google searches for the term “digital nomad” reached all-time highs in France, and have been ticking up in Spain and Germany too. And there are plenty of destinations to explore. Eight of the top ten countries for nomads are in Europe, according to the Digital Nomad Index compiled by Circleloop, a telecoms firm, which ranks destinations on rental costs and internet connectivity, among other factors.

This wandering lifestyle is likely to outlast the pandemic. Covid-19 has prompted big changes in how people work, some of which could become permanent. Many employers are introducing flexible work policies, so it is no longer just freelancers and entrepreneurs doing business on the beach. A third of French and German workers will operate remotely in 2022, predicts Gartner, a research firm, up from 22% and 27% in 2019, respectively. In one recent survey, 80% of employees considering a new role said the ability to live somewhere else was important to them. “I don’t think being a digital nomad is just a fashion at this point,” says Mohammad Jarrahi, a professor at the University of North Carolina at Chapel Hill. “There are some fundamental changes in the foundations of work.”

The biggest barrier to the nomadic lifestyle is red tape. Totting up one’s tax bill, for instance, is complex for anyone who hops between jurisdictions. But new businesses are trying to help. During the pandemic John Lee started Work From Anywhere Team, a marketplace for tax consultants around the world. He argues that nomads like him need an “Amazon for tax advice”. The pandemic has created an awareness, says Michael Huertas of PwC, an accountancy firm, that “tax being drawn along national lines is really archaic.”

Europe’s immigration rules are usually hostile to non-Europeans. But some governments, eager to draw visitors in economically challenging times, have been easing the rules for digital nomads. Croatia and Estonia have introduced long-term visas for people without EU passports who can prove that they are working online. In Portugal the regional government of Madeira has gone a step further, offering a free workspace, networking events, and an online portal replete with information about things like paperwork and places to stay. Since it was set up last November more than 9,000 people have registered on the Digital Nomads Madeira Islands website.

The economic benefits that can flow from attracting nomads are clear. It is generally well-off folk with significant work experience who can afford to work from anywhere. They are unlikely to poach local jobs, but do spend money. In Madeira government officials estimate the average digital nomad spends €1,800 ($2,100) a month. Hannah Brown, who works for Estonia's e-Residency programme, says the new visa has the added advantage of putting the small, peripheral nation on the map.

Some locals, however, resent the nomads in their midst. As long-time nomad hotspots like Goa and Bali have found, well-paid outsiders can bid up the price of real estate. Some live in a bubble, having little to do with locals besides those who serve them iced lattes. The tensions can work both ways. Some wandering workers don't like being called "nomads", worrying that it makes them sound rootless. They may object even more to a new label that is gaining currency. Since so many nomads are male, single and fond of partying, cynics have started calling them "bro-mads" or even "digital gonads". ■

Dig deeper

All our stories relating to the pandemic and the vaccines can be found on our [coronavirus hub](). You can also find trackers showing [the global roll-out of vaccines](), [excess deaths by country]() and the virus's spread across [Europe]().

Charlemagne

Germany’s election is revealingly European

A fractured vote, a big age divide and long coalition talks ahead

Oct 2nd 2021

GERMAN ELECTIONS are idiosyncratic affairs. Armin Laschet, the leader of the Christian Democrat Union, was grilled over his choice of bratwurst condiment (ketchup, not mustard). Annalena Baerbock, the Green candidate for chancellor, was skewered over plagiarism claims, a sin that bedevils only German politics. All politics is local, but in Germany it is parochial. The country may be Europe’s hegemon, yet foreign affairs and the future of the EU were barely mentioned. An at times surreal campaign ended with Angela Merkel, the outgoing chancellor and most powerful person in Europe, being photographed with a parrot on her head.

If the campaign was unmistakably German, the result was European. A slim victory for the Social Democratic Party (SPD) over its centre-right rivals, the Christian Democratic Union and its Bavarian sister the Christian Social Union (CDU/CSU), will kick off months of coalition negotiations. German politicians struggled with the same problems as their peers across the continent; German voters behaved the same way as their neighbours. Europe was invisible in the campaign. But it is visible in the outcome.

Politics in Germany has fragmented in the past decade or so, just as in every other western European country. Five parties got more than 10% of the vote each. When Angela Merkel came to power in 2005, only two did. In that same election, the CDU/CSU and SPD won 70% of the vote. On 26th September they managed barely half. It is a familiar story. In the Netherlands, 19 different parties now sit in parliament. In Italy, four parties ranging from centre-left to far-right hover around the 20% mark. Traditionally two-party systems, such as Spain, have become complex multi-party affairs. Germany is simply catching up.

After posting the worst result in their history, the CDU/CSU can take some consolation from the fact they are not alone. Their political siblings in other countries have also lost ground. At the start of the 2010s, practically every big EU country had a centre-right government. Now, barring extremely canny negotiations from the CDU, none will. Conservative politicians used to run a continent; now they control a rump. In Germany, a bad campaign by a gaffe-prone candidate is part of the explanation. But the causes of the CDU's malaise run deeper, and stretch beyond Germany's borders.

By contrast, after a decade of losing ground, the centre-left had something to cheer. Although not too loudly. Olaf Scholz, the SPD's prospective chancellor, ran a cautious campaign based on competence, with enough radicalism to stop his party's left from leaving for the Greens. It resulted in his party's third-lowest postwar vote share, but paved a likely path to power.

Now, Mr Scholz will endure the fate suffered by his fellow leftie leaders: staying in office via rickety coalitions. In Spain the Socialist Workers' Party, another grandee of the centre left, took power with a little over a quarter of the vote. Once-mighty Scandinavian social democrats are still in government, but weaker than before. In the late 1990s centre-left parties were dominant across Europe. Their pitch was usually some variant of: "Things can only get better." Now it is more like: "Things might not get worse."

Older voters keep the big-tent parties alive, both in Germany and across the EU. Call it the boomer bulwark. While four in ten under-30s backed the liberal Free Democrats or the Greens, 70% of over-60s voted for the SPD or the CDU/CSU. In Spain younger voters swoon for challenger parties, such as Podemos or Vox. But their parents and grandparents stick to traditional ones. In France, Marine Le Pen's base is the discontented young. In Italy the far-right Lega and Brothers of Italy also rely on youthful voters. Parties now stand for young or old as much as left or right.

Fractured politics mean complicated coalition talks. Germany is used to haggling between two parties. This time three will be necessary and negotiations could drag on. In a first for Germany, the Greens and the FDP (who came third and fourth) pledged to agree to terms with each other before negotiating with SPD or CDU/CSU. Again, Germany is joining a new European norm. Negotiations in Belgium are notorious for taking years and producing cumbersome coalitions. In the Netherlands, stuck in coalition talks since elections in March, the GreenLeft and Labour party discussed their own pact. In Nordic countries, four- or five-party coalitions are common. European politics is an increasingly complex (and increasingly Belgian) beast.

Stick a pin in almost any rich, western EU country and one will find a populist party polling between 10% and 20%, offering a cocktail of immigrant- and Brussels-bashing. Germany, again, fits the norm. Alternative for Germany (Af D) won about 10% of the vote on just such a platform. Only Italy, where such parties collectively attract 40% of the vote, and France, where Marine Le Pen is a possible (though unlikely) president, buck the trend. By contrast, the alternative on offer to German voters is standard European fare.

All European life is here

When asked why Germany does not take a bigger role in running the EU, Angela Merkel argued that it was impossible, since Germany was too much like the EU. Germany was already a delicate compromise between 16 different *Länder* (states), with a complicated relationship between its levels of government. German leadership was simply not feasible.

But if Germany resembled the EU constitutionally, it now matches the club politically. Germany is fragmented, like its neighbours; its main centre-left and centre-right parties share the same woes as their peers. The nightmare of forming coalitions will draw sympathetic noises from Dutch, Belgian and Nordic neighbours. Old voters behave in the same way in Germany as they do in France or Italy, as do their children; fringe parties are better at causing a racket than winning power. When it comes to elections in the EU, the votes may still be national. But the politics are distinctly European. ■

Britain

Running on empty

Boris Johnson dodges the blame for Britain’s petrol-pump nightmare

But his government has not got any better at crisis-management

Sep 29th 2021

FEW THINGS spook a prime minister like a petrol crisis. In his autobiography, Tony Blair recalls one in 2000 caused by fuel protests. The Downing Street machine was moving at a glacial pace. Decisive orders were needed. “I would like the army to come in and if necessary drive your tankers,” he recalls saying, “and if they meet with any violence from protesters, I want you the police to deal with them very firmly, and if not, to let the army take care of them. They’re very good at it.”

Where Mr Blair had protesters to rage at, Boris Johnson has had to make do with gummed-up global supply chains. The Petrol Retailers Association, a lobby group, says that fuel is now returning to the pumps. But for the past week many Britons have been unable to fill their cars, and others have wasted hours queuing to do so. Although the crisis is in large part the result of temporary forces beyond ministerial control, it also highlights enduring problems with both British logistics and Mr Johnson’s government.

Global supply chains have been under stress for the past 18 months, thanks to lumpy consumption patterns caused by covid-19. An ageing workforce and grim conditions have created shortages of lorry drivers across Europe. Both problems are, though, especially acute in Britain. Supply chains have been stressed by Brexit-related form-filling. Tax tweaks have cut take-home pay for some lorry drivers, and the number from the EU has fallen by more than 12,000, or 10% of the total.

Throughout, ministers have insisted there is no shortage of petrol. The fact that rumours, which emerged from talks over driver shortages, led to a run on the pumps reflects two issues. One is a frazzled public. Recent weeks have seen surging gas prices and empty supermarket shelves. In the words of Dominic Cummings, the prime minister's former adviser, "The stooges who trusted No 10, and those who trusted the stooges, now have no petrol."

The other is the government's abject communication. Studying past fuel crises, Eben Upton and William Nuttall of the University of Cambridge find that "unbiased propagation of information about inventory levels can help to reassure consumers". On September 24th Nadine Dorries, the culture secretary, tweeted, in a typical message: "There is no fuel shortage. I repeat, THERE IS NO FUEL SHORTAGE", followed by a red-car emoji.

The government has propagated precious little information about petrol stocks. Its solutions have twinned the technocratic with the desperate. Migrant flows used to respond to the state of the economy, but under the post-Brexit immigration regime they have responded to ministerial diktat. The government spent the summer resisting pleas to allow in more workers, insisting that firms should improve conditions and raise wages instead. Data from Indeed, a job-listings website, suggests they did. Pay in advertisements for heavy-goods vehicle (HGV) drivers increased by 12.8% from February to August, compared with 1% for all jobs.

Still, problems persisted. Under the new immigration regime, drivers count as "low-skilled workers", and are not welcome in Britain. In an attempt to reduce the pressure, on September 25th the government announced 5,000 visas for HGV drivers, as well as 5,500 for poultry workers (another industry suffering shortages). Although the extra workers will be welcome, they will not make an enormous difference given the small numbers involved. The visas expire on Christmas Eve.

Other measures kicked in more quickly. Before leaving the EU, officials drew up a “National Emergency Plan for Fuel”, which offers ministers a menu of escalating options. In July Grant Shapps, the transport secretary, increased the number of hours lorry drivers were allowed to work. On September 27th the government activated the “Downstream Oil Protocol”, which exempts firms from competition rules, allowing them to share data on shortages. Combined with the fact that there is only so much petrol that can fit in a car’s fuel tank, this was enough to get the stuff flowing once more.

The army was put on standby, with 150 soldiers preparing to drive tankers, but as *The Economist* went to press it had not been called into action. Given the difficult circumstances, it may not be the last time it goes on alert this winter. Indeed, Mr Johnson highlighted the possibility of problems until “Christmas and beyond”. There is, however, some reassurance for the government as it faces up to the possibility of festive disruptions. Despite a crisis that was partly created by its flagship policy and was mismanaged by ministers, it is escaping the blame. A poll by YouGov asked who was at fault. Some 23% said the government. Nearly half said the media. ■

Correction (September 30th 2021): A previous version of this article misstated the number of visas offered to lorry drivers, and the date on which they were announced. Sorry.

An early version of this article was published online on September 29th 2021

Change of plan

The government looks set to ditch an ambitious target for housebuilding

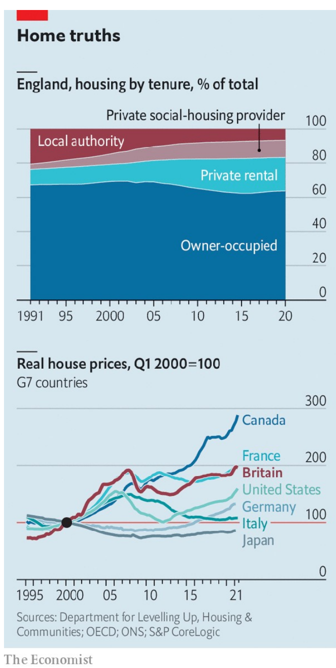
It wants more home ownership, but is less keen on building more homes

Oct 2nd 2021

IN 1975, IN her first conference speech as Conservative leader, Margaret Thatcher pledged to build "a property-owning democracy". More than 45 years later homeowners are still more likely to back the Tories than their rivals, and so the government would like there to be more of them. In 2017 it set an ambitious target of increasing the housing stock by 300,000 units a year in England. To help hit that target, in 2020 Boris Johnson, the prime minister, promised to simplify planning and weaken locals' rights to object to development.

But housing and planning present the Conservatives with a dilemma: although they want more homeowners, they do not want to annoy existing ones. A by-election loss in June to the Liberal Democrats in the constituency of Chesham and Amersham, prosperous commuter towns, was chalked up in part to local anger over planned development. It spooked the party leadership. Backbenchers, too, are growing nervous. Political insiders now expect a shift in emphasis at the Conservative Party conference, which starts on October 3rd, away from building new homes and the 300,000 annual target, and towards increasing taxpayer support to enable first-time buyers to take on larger mortgages.

British homes are expensive. Since 1995 prices have gone up by 170% in real (ie, inflation-adjusted) terms, one of the fastest increases among rich economies (see chart). The median house in England and Wales cost five times the median salary in 2002, but closer to eight times by 2020. Home ownership, which had been rising for decades, peaked in the early 2000s). Over the past two decades a consensus has emerged among politicians and policymakers that the main reason has been too little supply. But since the mid-2010s Ian Mulheirn, an economist who now works at the Tony Blair Institute for Global Change, has argued that the main causes of higher house prices have been falling real interest rates and looser credit.



For a long time, Mr Mulheirn seemed a voice in the wilderness. But now, it seems, the government is listening. Michael Gove, who became the minister responsible for planning and housing in September's reshuffle, has reportedly taken to telling colleagues that only around 15% of the growth in house prices of the past two decades can be explained by lack of supply. Nick Boles, a minister for planning in the early 2010s, an ally of Mr Gove and long almost evangelical on the need for planning reform, has changed his view too.

Mr Mulheirn provides cover for the new direction. He has long argued that there is little evidence of an undersupply of housing. He cautions against reliance on house-building volumes: what matters, he says, are total net additions to the dwelling stock. The conversion of a three-storey house into three flats is materially the same as building two new flats, but is not captured by a focus on new building. Between 1996 and 2018, the dwelling stock in England grew by an annual average of 168,000 while the number of households grew by an average of 147,000. The result was that the net surplus of dwellings rose from around 660,000 to around 1.1m. And although the price of houses as an asset has indeed soared, he argues that the price of housing as a service has not. Rents have risen more slowly than median household incomes since 1996.

On this view—which, it now seems, the government shares—the main cause of higher prices is the role of housing as an asset. Owning a home produces an implicit income: the saving that would otherwise have been spent on rent. As with other assets that provide an income stream, such as stocks or bonds, the value of that income is determined by the interest rates available elsewhere. According to this logic, house prices are high for the same reason that bond and stock prices are high: because interest rates have collapsed and credit has become looser. Mr Mulheirn does not entirely reject the notion that more supply would lower prices, but estimates that two decades of adding 300,000 units a year would reduce prices by only around 10%.

Castles in the air

This theory is not without critics. The rental data on which it is based is of low quality. Household formation does not just influence house prices; it is also influenced by them. For example, high prices may nudge young adults to stay living with their parents for longer. Real interest rates are low pretty much everywhere, but housing markets vary by country and region. Rental yields are considerably lower in London than in northern England.

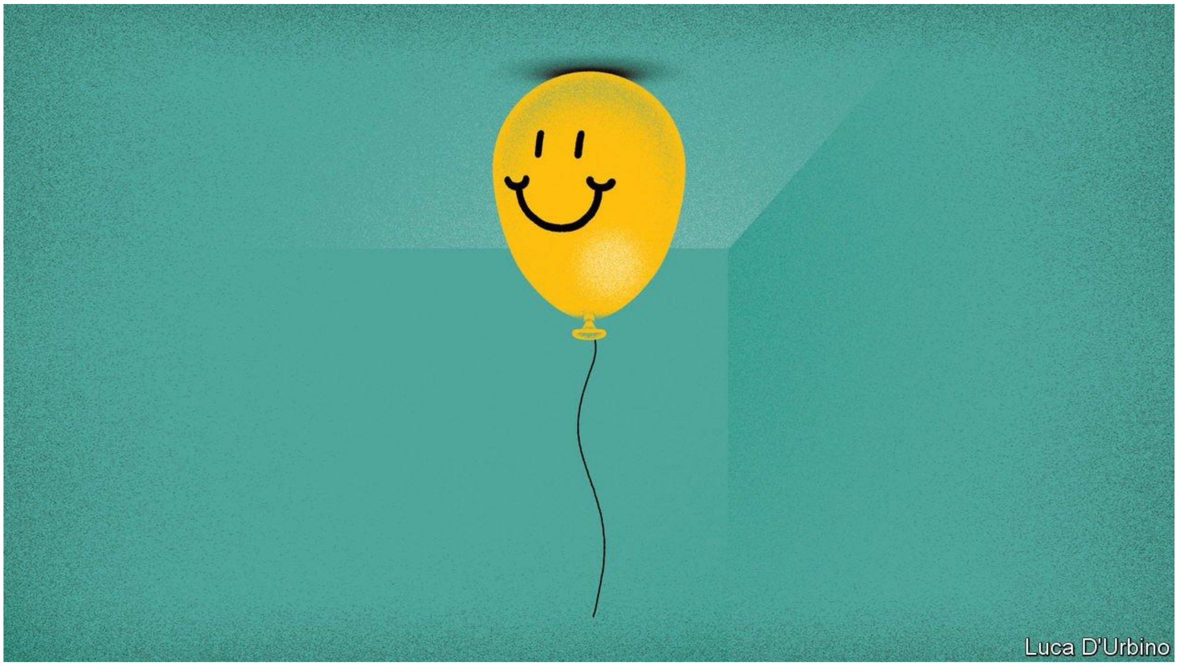
In any case, even if global factors explain most of the past two decades' rise in house prices, increasing stock in the places where people most want to live would be both welfare-enhancing and good for productivity. And encouraging young people to take on more debt need not be the sole way to improve their living conditions. More social housing could be built, and conditions in the private rental sector improved. The taxation of housing could be reformed, the better to reflect rising values. But for a government committed to increasing home ownership, none of this would help hit its central target. ■

Therapy

England’s pioneering mental-health programme hits a ceiling

Can it break through?

Oct 2nd 2021



FIFTEEN YEARS ago Richard Layard, an economist at the London School of Economics, put together a pitch. “We now have evidence-based psychological therapies,” he noted. But they were rarely available on the National Health Service. The result was lost lives and, he argued with an eye on the Treasury, lost money, since people with poor mental health were often jobless. A new branch of the health service was needed.

That branch is now firmly established. Improving Access to Psychological Therapies (IAPT) has grown fast. Last year the service, which helps those suffering from anxiety, depression and similar illnesses, treated 1.2m people, a number which is planned to rise to 1.9m by 2023-24. It has inspired imitators in Australia and Norway. And it has got better at its job, with recovery rates rising from below 40% in 2010 to 54% in early 2019.

Since then, however, they have refused to budge, remaining around the 50% target. The trend predates the covid-19 pandemic, when the number of referrals fell by more than half (they have now recovered to normal levels). It may be that the figures are the best that can be expected of a service sucking up “anybody and everybody who has symptoms of anxiety and depression”, says Helen Gilburt of the King’s Fund, a think-tank. Indeed, they are similar to those in well-funded clinical trials.

David Clark, IAPT’s clinical adviser and chair of experimental psychology at the University of Oxford, nevertheless thinks the service “can go further”. Critics bemoan the “McDonaldisation” of therapy. Like the hamburger purveyor, IAPT is careful about what is on its menu, using therapies found effective by NICE, an outfit that assesses clinical evidence. Improvements are driven by analysis of customer data—in IAPT’s case, data on outcomes, which it is the only part of the mental-health system to collect.

Targets push providers to see patients in six weeks, after which recovery rates slump. Any longer and they “come to therapy quite negative, quite angry”, says Marc McDonagh, the IAPT lead at Somerset Foundation Trust. “They want to have that all out with the therapist. The first couple of sessions have that shadow over them, with the patient ranting against the service.” The IAPT manual urges providers to text reminders of appointments in order to reduce no-shows, and to provide a diagnosis. The value of the latter is disputed by some therapists, but is associated with better outcomes.

Professor Clark hopes similar prods will raise recovery rates still further. Old people are both unlikely to come forward for treatment and particularly likely to benefit from therapy, so providers are encouraged to hire “older champions” and to leaflet libraries, post offices and pharmacies. The average number of sessions is a little below the ideal number of nine or ten, suggesting more should be offered.

Recent years have seen a rise in the amount of therapy done through digital services. These include ones from SilverCloud (which offers cognitive-behavioural therapy) and Ieso (which offers therapy through an online-messaging service). Ieso applies a deep-learning model to the transcripts generated by sessions, to find out what is associated with success (“therapeutic praise” comes out top; “therapeutic empathy” last), which is fed back to therapists. These services offer convenience and in some cases work as well as in-person offerings, but have yet to prove they can consistently outperform them.

They also provide extra competition for staff who are already in demand. In Somerset it is a struggle to recruit advanced therapists, says Mr McDonagh, making it hard to cut waiting lists. Parts of the country do not offer the full range of treatments for depression recommended by NICE, including counselling and short-term psychoanalytic therapy. Things have improved since Lord Layard’s report—but people are still missing out on treatment that would improve their lives. ■

Bearing gifts

Professors and students seek to widen the appeal of classics

Reasons to study Greek and Latin are many and varied

Oct 2nd 2021

YAAMIR BADHE is looking forward to his final year as an Oxford classics student. He finds Latin and Greek texts a source of "wisdom, joy and consolation" and is dismayed by the idea that his degree course, taken by generations of grandees, might slacken its language requirements. He was among the students who objected last year when some faculty members floated the idea of dropping the compulsory study, in the original, of Homer and Virgil. The proposal was part of a discussion on how to make classics more accessible to students who did not attend high-powered schools.

Mr Badhe is no traditionalist, nor insensitive to the charge that classics come with colonial baggage. Rather, he brings a fresh perspective. As a Briton of Indian origin, his special interest is in the melding of Greek, Indian and Buddhist culture 2,300 years ago after Alexander the Great swept through what is now Afghanistan. To the sculptors and poets who engaged in that

Indo-Greek fusion, the modern idea of classics being a colonial imposition would seem, Mr Badhe says, “highly bizarre”.

All this is part of a controversy that first surfaced in America. Dan-El Padilla Peralta, a black professor at Princeton University, is the best-known advocate of the view that classics as a discipline is incorrigibly tainted by racism and elitism. On British campuses, radically minded students have challenged professors to rethink the curriculum to make it more accessible, as well as free of racist and colonial overtones.

An elitist strain to the classics tradition is not hard to find. British Victorians loved the passages in Thucydides, the father of Greek history, that celebrate the role of Athens as a benign imperial power, spreading civilisation. But that is not the whole story. On British campuses in the 20th century, the most influential classicists included Eric Dodds, an Irish socialist, and Moses Finley, an American who fled his homeland as a suspected communist.

And elitism need not be the discipline’s future. From October the Institute of Classical Studies, a professional body, will be led by Katherine Harloe, a black woman with a chair at Reading University and a declared interest in exposing the distortion of classics for ideological purposes. Her expertise is in the romantic, patronising way ancient Greece was seen in 18th-century Germany. In a recent broadcast, she said that the attitudes of the British public, not just those of professors, need to change. When an educational animation portrayed a Roman family in Britain as dark-skinned, it drew protests on social media from people unaware of the archaeological evidence that Roman settlers were of many races.

In July the Cambridge classics faculty issued an elaborate plan to counter racism and elitism. It pledged to increase the share of ethnic-minority undergraduates, which was 14% in 2017-19 compared with 23% for the whole university. Selectors will be helped to “understand the impact of their decisions” on diversity. There was even a vow to modify a display of plaster-cast statues to make plain that the ancient figures depicted were not all white.

Still, the statistics suggest that if British classics have a diversity problem, it is at least as much to do with social and educational class as ethnicity. Latin, Greek and ancient history are concentrated in fee-paying and academically selective state schools. Elsewhere, they barely feature. In 2019, 1,121 English pupils took Latin at A-level, the exam which opens university doors. Only 12% of those went to non-selective schools; a scandalously low share, according to Classics For All, a voluntary group that promotes the subject for non-privileged youngsters, and has helped over 1,000 schools.

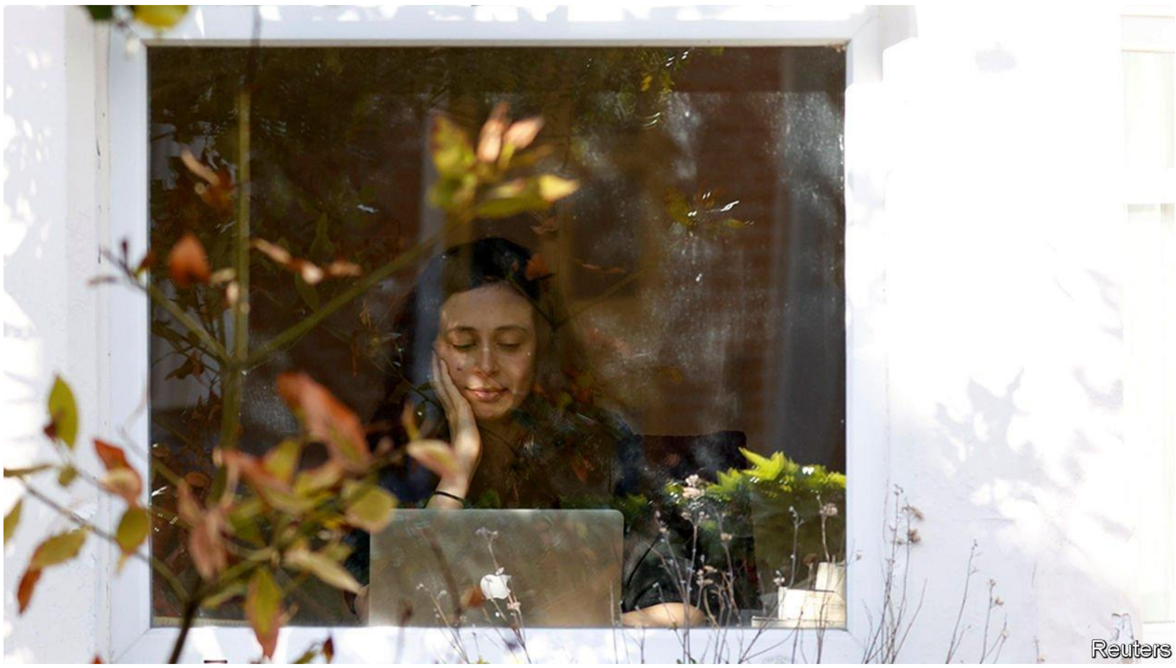
Spreading the classics to all classes and races is noble work, says Sahil Thapa, a sparky 19-year-old who co-edits a student law journal at Oxford University. His parents, who moved from Kathmandu to Essex, were puzzled when he opted for Latin A-level; he explained that ancient orators like Cicero would help his studies, which include Roman law, and stimulate his own rhetorical skills. Classics in Britain shows no sign of dying out, but the people who study it, and the reasons for their choice, would amaze Victorian imperialists. ■

Labour markets

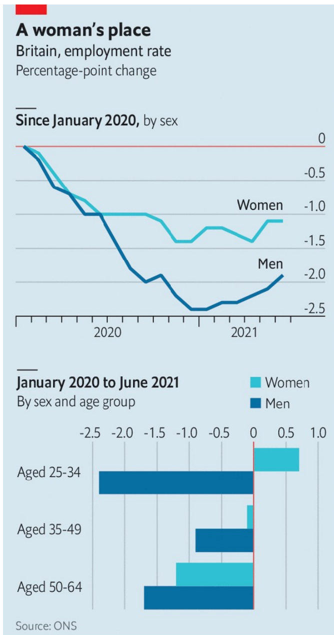
In Britain, young women got more work during the pandemic

Fears of a she-cession were ill-founded

Oct 2nd 2021



ASK A HARRIED mother whether Britain suffered a pandemic-induced "she-cession"—a jobs downturn that hits women disproportionately—and she might retort that she had hardly been twiddling her thumbs. When schools first closed, mothers took on an outsize share of unpaid caring for children, and experienced a huge drop in uninterrupted time in which they could get on with work. Ask an economist the same question, and they will tell you that British women increased their share of formal employment, too. Although the pandemic hit most groups' employment rates (see chart), men's were hit harder.



The Economist

This was unusual. One study of 38 countries found that around two-thirds saw men's lead in employment over women widen between 2019 and the second quarter of 2020. But in Britain it narrowed, by an amount second only to Luxembourg. Most stark was the divergence between the paths of young men and women. In June the employment rate for men aged 25-34 was 2.4 percentage points below January 2020. For women of the same age it was 0.7 percentage points higher.

A generous furlough scheme probably contributed at first, as until May more of the affected jobs were held by women than by men. (People on furlough count as employed.) More recently, however, the balance has evened out. Another factor is that before the pandemic, men were twice as likely to be self-employed as women, and self-employed workers were not covered by the furlough scheme. That left them more exposed when covid-19 hit.

Why did the experiences of younger men and women diverge so much? Hannah Slaughter of the Resolution Foundation, a think-tank, says that before the pandemic 25- to 34-year-old men were about as likely to be self-employed as men in other age groups. But the sectors they worked in, such as construction and manufacturing, were hit harder when lockdowns started. For the population in general, there was little connection between the male-female split of the workers in a sector and whether it was badly affected. That link was stronger, however, for younger workers.

The bigger mystery is perhaps why employment among younger women fared so comparatively well. One clue is a large drop-off in people staying out of the workforce to care for their home or family, says Ms Slaughter. That could suggest a silver lining to the pandemic, namely the rise of remote working, which makes it easier to juggle employment and family. A gloomier possibility is that some women have been pushed into paid work because their partners have lost income, as happened during the preceding recession, in 2008-09.

On September 30th the furlough scheme will finally close. And a new study by Jonathan Cribb and Adam Salisbury of the Institute for Fiscal Studies, a think-tank, suggests that women could be more vulnerable to consequent job losses. Once you strip out the sectors most likely to bounce back from pandemic-related shutdowns, such as air travel and tourism, women made up 55% of those furloughed in June. The researchers also cite evidence that when you adjust for unemployed or furloughed women's work experience and the pattern of vacancies in the economy, those women face particularly tough competition for jobs. The pandemic may not have caused a British she-cession. But for women, the post-pandemic jobs market will not be especially welcoming. ■

Dig deeper

All our stories relating to the pandemic and the vaccines can be found on our coronavirus hub. You can also find trackers showing the global roll-out of vaccines, excess deaths by country and the virus's spread across Europe.

Manchester's mayor

Andy Burnham wants to help rescue the Tories' signature policy

His suggestions just happen to benefit Manchester

Oct 2nd 2021 | MIDDLETON

ALTHOUGH IT IS not the poorest part of the Manchester conurbation, Middleton needs some love and attention. The council estates that were built in the 1950s to house working-class families from central Manchester are showing their age. A derelict cotton mill, which is missing many panes of glass, looms over the town centre. “It’s a pretty depressing sight,” says Andy Burnham, Greater Manchester’s mayor.

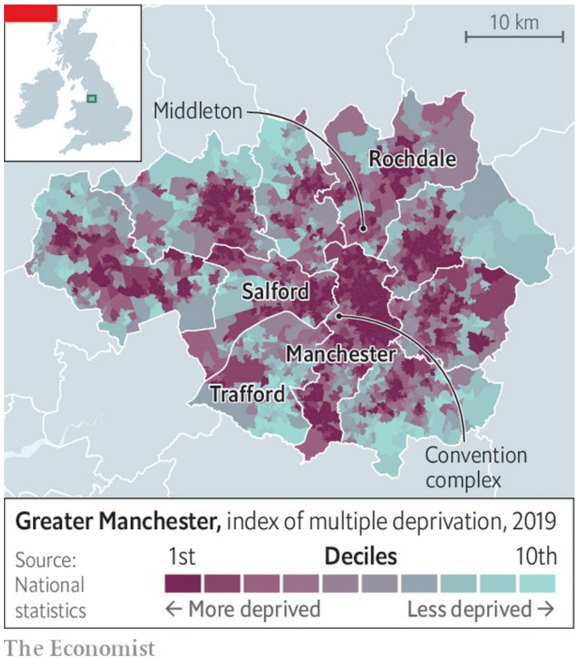
Delegates to the Conservative Party conference, which kicks off on October 3rd, will be able to admire the middle of Manchester, which has been transformed over the past few decades from a post-industrial barrens to a grove of residential towers and offices. But Mr Burnham prefers to talk about a town of under 50,000 people 8km north of the city centre. He went to Middleton almost immediately after winning re-election in May, and it is a focus of his economic policy. That emphasis says much about Manchester, about the government's vague ambition to "level up" Britain, and about the canny Mr Burnham.

Greater Manchester is a metropolis of ten boroughs—only a fifth of its 2.8m inhabitants live in the city of Manchester itself. Although long dominated by the Labour Party, it has managed to grab attention and money from national governments of all political persuasions. It was given the Commonwealth Games in 2002 and much of the BBC's production from 2011. HS2, a vastly expensive railway line, will eventually connect it to London. In a series of devolution deals between 2014 and 2017, the government in Westminster gave it greater powers over health, criminal justice, transport and planning.

But Manchester's salience is not as assured as it used to be. George Osborne, chancellor of the exchequer from 2010 to 2016, saw the metropolis as the main engine of economic development in northern England. The bigger it grew, and the more its economic tentacles reached across the north, the better. Mr Osborne particularly admired Howard Bernstein, then chief executive of the city of Manchester, whom he called "that brilliant star of city government".

The current prime minister, Boris Johnson, seems to think differently about regional economic development, which he calls levelling up. Exactly what he thinks is unclear—his speech on the subject in July was a rambling mess, and a poll by Ipsos MORI in September found that only 9% of people felt they knew what levelling up meant for their area. But Mr Johnson appears to be more interested in towns than in cities. He laments the disparities within regions as well as the gaps between them.

Aware that cities remain Labour strongholds, his government has developed an anti-urban streak. Ministers bash the metropolitan elite and spar with its leading lights, including Mr Burnham and Sadiq Khan, London's mayor. Last October the government forced Manchester into a lockdown to slow the spread of covid-19, refusing to pay what the mayor claimed the metropolis was owed in compensation. If the aim was to humble Mr Burnham, it failed utterly. Earlier this year a poll by the Centre for Cities, a think-tank, found him to be better-known in his region than any other mayor in theirs.



Still, the Manchester way is not to hold grudges, or fight with the national government, but to charm money and powers out of it. Mr Burnham has learnt to speak fluent Johnsonese. The government is quite right to focus on towns, he says. Manchester's urban core is a success, but Middleton and other small towns on its fringes have indeed been overlooked. Lou Cordwell, chair of the Local Enterprise Partnership, talks of the need to "level up" the metropolis. As both know, much of inner-city Manchester remains deprived (see map). But if the government wishes to focus on towns, they can point to places that need help.

Mr Burnham and the leaders of Rochdale borough (in which Middleton sits) have plans. They want to connect Middleton to the tram network, create a mayoral development corporation for the town—which would give them more power to acquire and develop land—and build a vast industrial park nearby. The mayor also argues that Middleton's residents would benefit if he was allowed to take control of the metropolitan bus network. His post-election trip was designed to show the high cost of travelling between there and Media City, where the BBC is based.

Such moves would, of course, entail further financial transfers to Manchester and enhance Mr Burnham's power. He cannot help that. If the government really wants to level up the country, he says, it must work with the places that are competent enough to get things done. It should give Greater Manchester more power and money, he argues, and then hold it to account. "We're trying to offer them a solution, not a fight." ■

Bagehot

Sir Keir Starmer is sailing the Labour Party in the right direction

Despite mutinous left-wingers' attempts to knock him off course

Sep 30th 2021

THE WEATHER in Brighton was decidedly blustery as the Labour Party gathered for its annual conference between September 25th and 29th. The handful of hardy souls who braved the sea were repeatedly flattened by the waves. But the wind turbines off the coast also whirled furiously, providing an energy-starved country with much-needed power. The mood inside the conference centre matched the squalls outside.

Sir Keir Starmer's carefully charted attempt to introduce himself to the party he leads (and to Britain; last year's affair consisted of little more than a speech to camera) was repeatedly blown off course. The big news on the first day was Angela Rayner, the deputy leader, calling Tories "scum". On the second, it was a fight over the rules for electing the party leader. Then came the resignation of the shadow employment minister, Andy McDonald, over Sir Keir's refusal to back an hourly minimum wage of £15 ($20), a policy supported by delegates, but with no chance of becoming law.

The squalls were powered by a combination of an ideological battle over the party's direction and a more subtle one over succession. Labour's hard left made a great deal of noise in fringe meetings and on the pavement outside. After his departure Mr McDonald, the last remaining fellow traveller with Jeremy Corbyn, Sir Keir's hard-left predecessor, in cabinet, was welcomed by some as a hero. Ms Rayner and Andy Burnham, the mayor of Greater Manchester, competed to become heir-apparent, Ms Rayner by giving her best impression of *La Passionara* and Mr Burnham by presenting himself as a problem-solver (and football-lover).

All the squabbling inspired criticism of Sir Keir's leadership style. The left accused him of picking an unnecessary fight with the party's heart and soul. The right worried that he was washing dirty linen in public. One frontbencher described him as a "caretaker"; another dismissed the conference as a "total disaster". But just as the salty breeze blew the turbines around outside, so the bluster and blasts inside powered the party towards renewal.

The Labour left has been significantly weakened. Sir Keir did not succeed in returning to the electoral-college method of choosing leaders, as he had hoped. But by increasing from 10% to 20% the share of MPs from whom a prospective candidate must gather support, he all but ruled out another hard-left takeover. And by scrapping rules that force MPs to endure periodic reselection by local party activists every year, he further weakened the party's lunatic fringe. "We've nailed the hard left into their coffin," said one shadow cabinet member. "There's a lot of kicking and screaming because they know they're not coming back to life." A senior adviser gloated: "Job done."

The conference also saw the outlines of a new Labour philosophy: more mainstream than Corbynism but also more communitarian than Blairism. It is aimed at the just-about-managing in provincial towns, rather than the socially liberal affluent types who formed the core of New Labour. Rachel Reeves, the shadow chancellor, focused on what she called "the everyday economy"—that of collapsing high streets rather than lines on a graph. She promised to spend £28bn a year on the green transition, an ambitious figure, but one that is broadly in line with centre-left administrations elsewhere.

And she said her party was on the side of workers against companies that don't pay their taxes and contractors who don't come up with the goods.

Sir Keir's speech was too long and his delivery too slow (coming days after a 12,000-word Fabian pamphlet, it suggests that he struggles to self-edit). But it succeeded in advancing his most important aims—to detoxify his party and to define Starmerism. He used his background (a factory-worker father and a mother with a rare, and awful, type of inflammatory arthritis) to lay claim to traditional values such as hard work and aspiration, as well as to more obviously left-wing values such as care and community. He praised the armed forces for defending the country, and the Crown Prosecution Service (which he ran from 2008 to 2013) for tackling criminals. He also praised Tony Blair, the Labour prime minister the Labour left loves to hate, for delivering the "levelling up" that the Tories only talk about. The left played into his hands by heckling after words like "patriot" and gave him a chance to taunt them with his best line—"shouting slogans or changing lives?"—which was taken up by the largely sympathetic audience.

Above all, Sir Keir made it clear that he is serious about winning power. "We will never under my leadership go into an election with a manifesto that is not a serious plan for government," he proclaimed: cue Corbynista fury. He spouted endless detail about policies such as setting up an office to make sure taxpayers get value for money (hence the speech's inordinate length). He criticised the prime minister, Boris Johnson, not because he is "Tory scum", as Ms Rayner put it, but because he is a "trivial man". In tumultuous times, he said, Britain deserves a leader who is dedicated to public service rather than one who treats it as a game.

Batten down the hatches

Among the Labour Party's biggest weaknesses is a habit of underestimating the Tories, and Mr Johnson in particular. But the Tories may now be doing the same with the man they like to call "the nasal knight" (Sir Keir's voice is not his best feature). Both are pursuing the same swing voters: the just-about-managing who feel short-changed by globalisation and the 40% of young people who leave school without essential qualifications. They are offering similar policies: higher taxes and bigger government. But Sir Keir's seriousness and centre-left values may be more suited than Mr Johnson's bluster to darkening times. The winds of political change have blown left-of-centre parties into power in two of the West's biggest countries, America and Germany. With Sir Keir fixing the hull and patching the rigging, the same winds might yet do the same for the good ship Labour. ■

An early version of this article was published online on September 29th 2021

International

- **Conscription: Call on me**

Call on me

The military draft is making a comeback

In some countries it is sadistic; in others, sought after

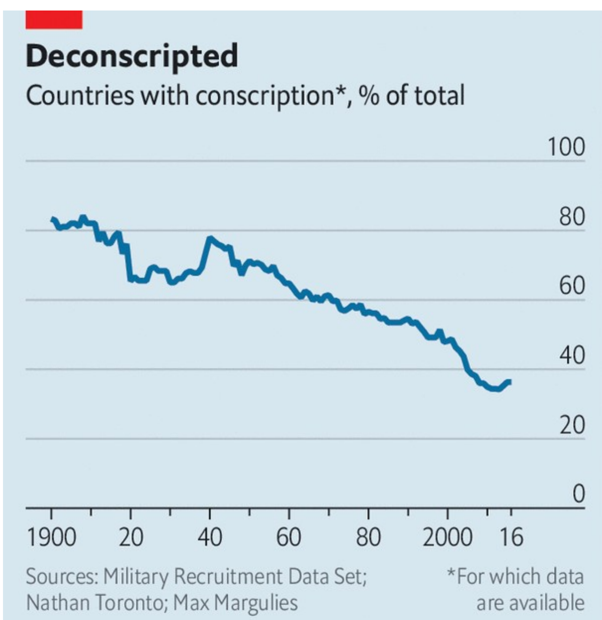
Sep 30th 2021 | TEL AVIV

HIS ARM and a leg wrapped in bandages, Artyom Uymanen stood outside a St Petersburg *voyenkomat*, or military recruitment centre, in 2019 to protest against Russia's mandatory military draft. The bandages symbolised the lengths young Russian men go to exaggerate medical conditions that might grant them an exemption from "conscript slavery", as Artyom calls it. Now, two years later, aged 20, he is anxiously awaiting the results of his visits to psychiatric healthcare facilities. He hopes for a diagnosis of depressive-anxiety disorder, a surefire way to dodge military service.

Yoni, an 18-year-old student in Jerusalem, is also awaiting conscription, by the Israeli Defence Forces (IDF). He shows no sign of anxiety. "I'm looking forward to serving my country," he says. "It's something special that our age group can do." Yoni has joined clubs which help Israeli teenagers prepare for the army's physical and intellectual tests. He and his friends voluntarily travel to beaches to practise running on sand.

In Norway, Oscar Federl, a consultant, remembers his own military service, a decade ago, with fondness. “It was a great experience,” he says. His time in uniform did not turn him into a crack soldier—as a radio operator, he recalls using 1950s-vintage technology—but it helped him grow into the man he is. “I matured a lot,” he says, “even though I hated a lot of the things we did, especially in the cold.”

Artyom, Yoni and Oscar are in a global minority. The conscription of young men is now relatively rare. (The conscription of young women has never been common.) Most forms of military service dwindled after the cold war. A study by ETH Zurich, a Swiss university, notes that 24 countries abandoned conscription between 1990 and 2013, when it looked to many as though serious wars were a thing of the past. France, whose mass conscription of 1793, the *levée en masse*, revolutionised modern European warfare, ended the practice in 1996. Spain spared its teenagers from the barracks in 2000, Italy in 2004 and Germany in 2011. War Resisters’ International, an anti-war outfit which supports conscientious objectors, had to rethink its purpose.



The Economist

Yet conscription seems to be making a modest comeback. After Russia invaded and annexed parts of its territory in 2014, Ukraine hurriedly reversed its own abandonment of conscription the previous year. Nearby

Lithuania followed suit in 2015 and Sweden—which fends for itself outside of the NATO alliance—in 2017. In the Persian Gulf, Qatar and the United Arab Emirates (UAE) introduced conscription in 2013 and 2014 respectively. Kuwait reintroduced the practice in 2017 after a 16-year hiatus. Meanwhile, other countries that had never stopped conscripting youngsters began signing up more of them. Norway extended military service to women in 2013; Estonia is expanding the number of annual conscripts by a quarter. And in Germany, among other countries, debates over whether to reinstitute some form of conscription, or expand it, have grown louder.

This renewed interest has many causes. One is the return of a gloomier world in which hard power, rather than diplomacy, can shape national destinies: witness Armenia's devastating defeat at the hands of Azerbaijan last year, and the ensuing loss of much of Nagorno-Karabakh, a disputed territory. For countries that want large armies, conscripting soldiers is often the only affordable way to fill out the ranks; volunteers paid at market rates would generate a huge wage bill. Alexander Golts, a pundit on the Russian armed forces, says that his country's draft exists "because of an irrational perception...that the numbers of Russian armed forces have to reach one million".

Yet less martial explanations are often also at work. In America, contemporary advocates for the draft's reinstatement often argue that compulsory service might actually reduce the country's urge to go to war, by forcing people to reckon, personally, with its consequences. Max Margulies of the Modern War Institute at West Point, America's military academy, is sceptical of this. He points out that the Vietnam war was unpopular by late 1967, but the war raged for another six years, killing thousands of draftees. "It doesn't really seem like it's much of a constraining effect."

Many politicians also see it as a way to drum discipline into unruly young men who might otherwise cause trouble, or to instil values the government deems desirable. Last year Germany's parliamentary commissioner for the armed forces suggested that a return of conscription would inoculate the armed forces against far-right extremism. Qatar, the UAE and Turkey all force conscripts to sit through lectures on national history, security and citizenship. But there is little evidence that conscription fosters better citizens. A study of Sweden by Randi Hjalmarsson and Matthew Lindquist in the *Economic Journal* published in Oxford found that conscription "significantly" increased post-service crime rates by those aged 23 to 30.

Like boarding school, with guns

What is modern conscript life like? In most countries, conscription is either tedious or miserable. "You're stuck in this place with other 18- and 19-year-olds and you're forced to be there," says Victor Naziris, a 33-year-old who served in the Cypriot National Guard, a force that has not had a sniff of real combat for decades. His experience as a conscript was defined by a combination of exhaustion, boredom and a general sense of pointlessness. "It's like a vegan working at McDonalds," says Mr Naziris, who is now an accountant.

Russian conscripts have a particularly bleak experience. They receive a meagre monthly stipend of just 2,000 rubles ($30), for which they suffer not only exhaustion but also an endemic hazing, or *dedovshchina*. In November 2019 a Russian conscript gunned down eight other soldiers after alleging prolonged abuse by his superiors, including threats of rape. Like Mr Uymanen, the young Russian protester, many young men try to dodge the draft through medical exemptions. Others apply to PhD programmes, preferring the indignity of graduate school to military service. Some parents bribe *voyenkomat* to secure Military IDs for their sons.

Russia's defence ministry says that hazing has fallen dramatically in recent years. But the government did little to dispel the idea that conscription was tantamount to punishment when it used the draft to silence Ruslan Shaveddinov, an anti-corruption activist and protegé of Alexei Navalny, Russia's main opposition leader (who was later poisoned and jailed). In December 2019 Mr Shaveddinov was pressed into military service and immediately sent to a base in Novaya Zemlya, an arctic archipelago, and put to work on menial tasks.

Yet military service need not always be an exercise in sadism. In a few small countries, a less wretched sort of conscript is emerging. In Norway, large cohorts are eligible for the draft but only a small number of youths are chosen. Whereas Russian parents press officials to exempt their children, Norwegian ones lobby to get them admitted, notes Elisabeth Braw of the

American Enterprise Institute (AEI), a think-tank in Washington. Alex Aalberg, a former Norwegian conscript who served in Afghanistan, says that when he applied to medical school, his military experience dominated the conversation. “I believe without [service] my way into medicine would have been much longer,” he says.

In the same way that American schools may boast about the proportion of their students who have wound up at Ivy League universities, Israeli ones show off the number who have been placed in combat units. Yoni, the teenager from Jerusalem, is bound for an elite combat unit. Traditionally such units, along with the air force, were seen as incubators of political and professional talent, says Richard Pater, the Jerusalem-based director of the Britain-Israel Communications and Research Centre (BICOM), a research and advocacy group. Naftali Bennett, Israel’s prime minister, and Binyamin Netanyahu, his long-serving predecessor, both had successful careers in *Sayeret Matkal*, a prestigious commando force.

A particular mythology has built up around Unit 8200, a signals-intelligence unit whose alumni have filled the ranks of Israeli tech companies. Whereas many forces struggle to recruit tech-literate soldiers who can command higher wages elsewhere, Israel’s has turned itself into a magnet for such talent. “Today there is a growing competition for getting accepted into the technological units that provide you with a lucrative profession immediately after you get released,” observes Yohanan Plesner, a former politician and now president of the Israel Democracy Institute, a think-tank. He served in *Sayeret Matkal*, where he remains a reserve officer.

Copies in khaki

Yet if conscription is supposed to change society, more often than not it reflects it. Lev Gudkov, director of the Levada Centre, Russia’s leading independent pollster, says that some families from the poorest regions still see the military as a means of social mobility. But they are also less able to dodge it. “In poorer areas, a family won’t have the money to scrape up a bribe,” says Mr Gudkov. Oksana Paramonova, director of Soldiers’ Mothers, a non-profit in St Petersburg, says that young Russian men from the rural reaches of the country are less informed about the legal tricks to avoid conscription.

Even in Israel, where the conscript experience is so different, the draft is still shaped by social fissures. Ultra-Orthodox Jews, who are 12% of the population, and Israeli-Arabs, who make up another fifth, are typically exempt from military service. In practice, that means that only half of Israeli 18-year-olds do military service. The unequal treatment for the ultra-Orthodox has long provoked resentment and political debate. In August the country's coalition government approved a plan to force more of them into the army, albeit for shorter periods. Middle-class Israelis are better placed to manoeuvre their children into elite units; those from poorer backgrounds often end up in less glamorous branches, such as transport and logistics. The military, rather than "bringing Israelis together... accentuates and pronounces the differences between different social structures", says Mr Plesner.

Modern conscription was invented for an age of mass armies. It worked spectacularly for Napoleon, but it often failed thereafter. The Red Army killed 158,000 of its own soldiers for desertion during the second world war. During the Iraq war in 2003, tens of thousands of Iraqi conscripts fled the field. Even where conscripts have the will to fight, armed forces' increasing reliance on precision munitions and other advanced technologies makes them less useful on the battlefield. Yet what a handful of small democracies have shown is that an institution associated with hardship and coercion can be turned into a popular and effective tool for recruitment. ■

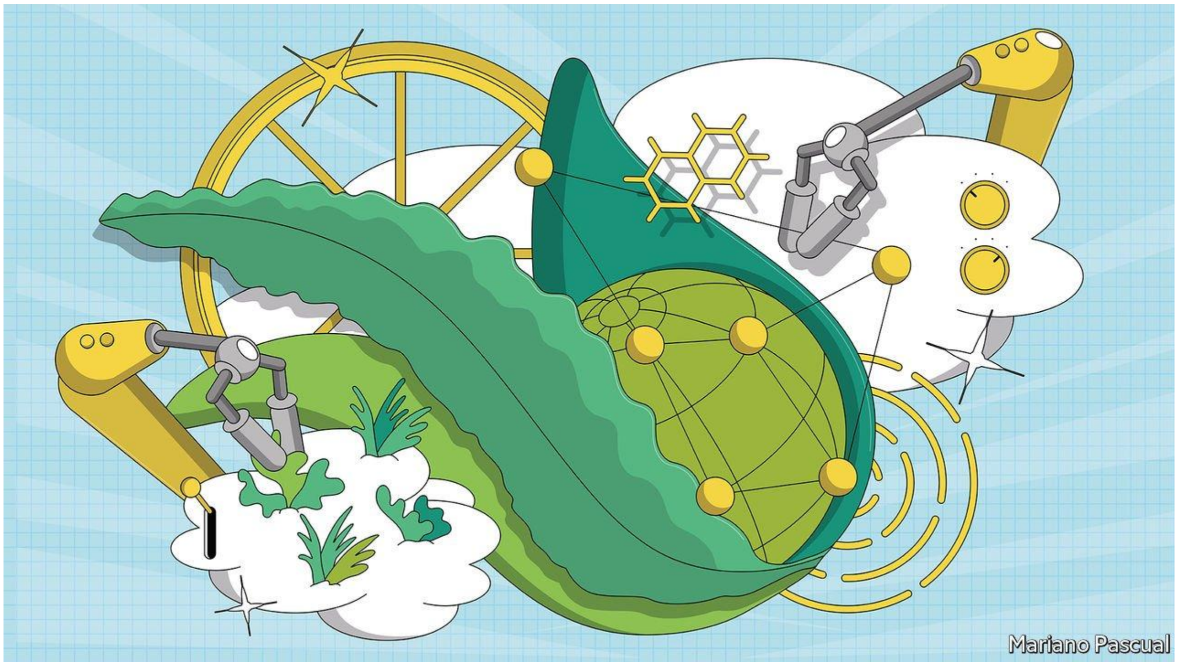
Technology Quarterly

The new Anthropocene diet

Technology can help deliver cleaner, greener delicious food

Whether consumers want it is another question, says Jon Fasman

Sep 28th 2021



"TELL ME WHAT kind of food you eat, and I will tell you what kind of man you are," wrote Jean Anthelme Brillat-Savarin, a French lawyer and epicure, in the early 19th century. The epigram opens "The Physiology of Taste," one of those delightfully dilatory, observational works at which his age excelled.

The food that most people eat—especially in rich countries, but increasingly in poor- and middle-income ones, too—reveals them to be inhabitants of a highly globalised economy, spectacularly rich in choices. Peruse the shelves of a rich-world supermarket and you will find salmon from Norway, prawns from Vietnam, mangoes from India, strawberries from Turkey, cured meats from Italy and cheeses from France. Meat, a luxury for most people through much of history, is available in such affordable abundance that, in the rich world, most who do not eat it regularly forgo it as a matter of choice, not necessity. Much of it is laced with chemical additives that reduce spoilage, enhance flavour or serve some other need on the part of the producer.

Such a diet has only become possible in a very particular world, one in which a large proportion of the planet's surface is given over to farms and pasture, food production is energy-intensive, pesticides abundant, intercontinental shipping cheap and food processing an advanced industrial undertaking. It is only possible, that is to say, at a time when human desires, and the economies built around them, rank among the planet-shaping forces of nature: a period that has come to be known as the Anthropocene.

The Anthropocene diet that the world's well-off inhabitants enjoy would amaze all previous generations. But like most remarkable modernities, it is not without its costs. Meat is cheap because it is produced with great cruelty. Billions of animals spend brief, miserable and often pain-racked lives crammed together in airless sheds. They are ripped from their mothers; pumped with drugs; castrated without anaesthetic; eviscerated while alive; or all of the above.

Picking berries and lettuce is backbreaking labour; the people who do it often lack health insurance, job protections and a living wage. Many of the world's fisheries run on slave labour. Depleted soils are chemically tarted up into a fecund semblance of health with nutrients straight from the factory. Fertiliser and animal-waste runoff create algal blooms that strip the oxygen from ever more, ever larger dead zones in littoral seas. Few human activities emit more greenhouse gases than raising animals—particularly cattle, for which ranchers cut down vast swathes of forest. The processing that serves to make food cheap, tasty and addictive strips out nutrients while adding fats, sugars and salt.

It would be easy to conclude, per Brillat-Savarin's maxim, that the Anthropocene diet's consumers are cruel to animals and indifferent to both their planet's future and their own—because the Anthropocene diet is all of those things. That would be far too harsh. Taking a moral inventory of every food's inputs is a lot to ask of, say, a mother on a tight budget, on her way home from work, who just wants a dinner that makes her children happy. That does not mean she does not care, or would not prefer a system that does better by her family and the world.

Many have begun to alter their dining choices to help bring about such a system. The amount of meat eaten in the world is growing, but less so in richer countries than poorer ones. The share of people who identify as vegetarian, vegan or "flexitarian"—meaning their diet is centred on plants but that they do not entirely eschew the eating of animals—is rising. In Britain, the number of vegans more than quadrupled from 2014 to 2019.

In America, sales of organic food—which people take to be better both for themselves and for the environment—rose from $13.3bn in 2005 to $56.4bn in 2020; Europe saw a similar rise. Restaurant menus often name the farms that supply their food, giving diners a greater sense of connection to what they are eating. The word "locavore", coined in 2005, was an American dictionary's "word of the year" by 2007.

There is a performative aspect to much of this. People want what they eat to say good things about them—both to others and to themselves. This is neither an ignoble desire nor a new one. The dietary restrictions set down in Leviticus and Deuteronomy, as the late Hayim Halevy Donin, a rabbi, explained in his book "To Be a Jew", offer "a good example of how Judaism raises even the most mundane acts...into a religious experience." Eating, common to all people, becomes an act of Jewish self-definition.

Flexitarian, locavorous and organic eating are not religious. But they make a moral statement: the belief that participating in the hyper-rationalised, hyper-calorific, hyper-processed industrial first-world food system is wrong. What they do not in themselves provide is a way to set that system right, in part because they do not properly assess its flaws. The raising of organic food, for example, typically requires more land than other methods, and can often produce greater greenhouse-gas emissions. A personal devotion to the legume over the nugget or the aubergine over the burger may save you from direct complicity in the suffering of chicken and cow; but it does not stop the suffering.

But what if the system itself could be changed? What if people who shared the distaste for today's food system could encourage the building, seed by seed and cell by cell, of ways to provide a delicious, healthy, diverse array of foods with markedly less cruelty and environmental damage?

Anthroprotein and other food groups

This report will survey an array of technologies being touted as ways of transforming the world's food-production system not by doing old forms of agriculture in a less cruel and more sustainable way, but by doing things that have never been done before.

Heretofore niche proteins, such as insects and seaweeds, are being explored not just for their gourmet potential—which is higher than most might believe—but also as ways to refashion food chains. Yeasts are being programmed to grow proteins that make a soy-protein patty cook and bleed in the way a minced cow does. Inland saline aquaculture promises to provide fresh seafood to people thousands of miles from an ocean. Crops are being grown in soil-free shipping containers just blocks from the city dwellers who will eventually eat them, rather than half a world away. Cells taken from a living animal in a simple biopsy are being used to grow meat in bioreactors, providing familiar sources of protein without the need for slaughter or industrial-scale farming and the cruelty and health hazards those things entail.

Immense hurdles remain. It is one thing to grow a hamburger in a tank, another to get people to eat it, and a third to provide competitively priced tankburgers by the billion. Growing vegetables in skyscrapers might be environmentally beneficial, but field-based agriculture remains much cheaper. Practical and necessary improvements to today's farms, such as regenerative farming techniques, could be sidelined in favour of incoherent and unsustainable Utopian neophilia that offers niche feel-good foods for a few, but little if anything for the many—or for the suffering animals. Some technologies which currently seem beneficial will turn out to incur unforeseen costs and harms, just as cheap meat has.

Yet there is something undeniably inspiring about this attempt to turn Brillat-Savarin on his head: deciding first what sort of person you want to be, and what sort of planetary settlement you want to embody, and then changing the world so that the kind of food it provides for you to eat fits that self-conception.

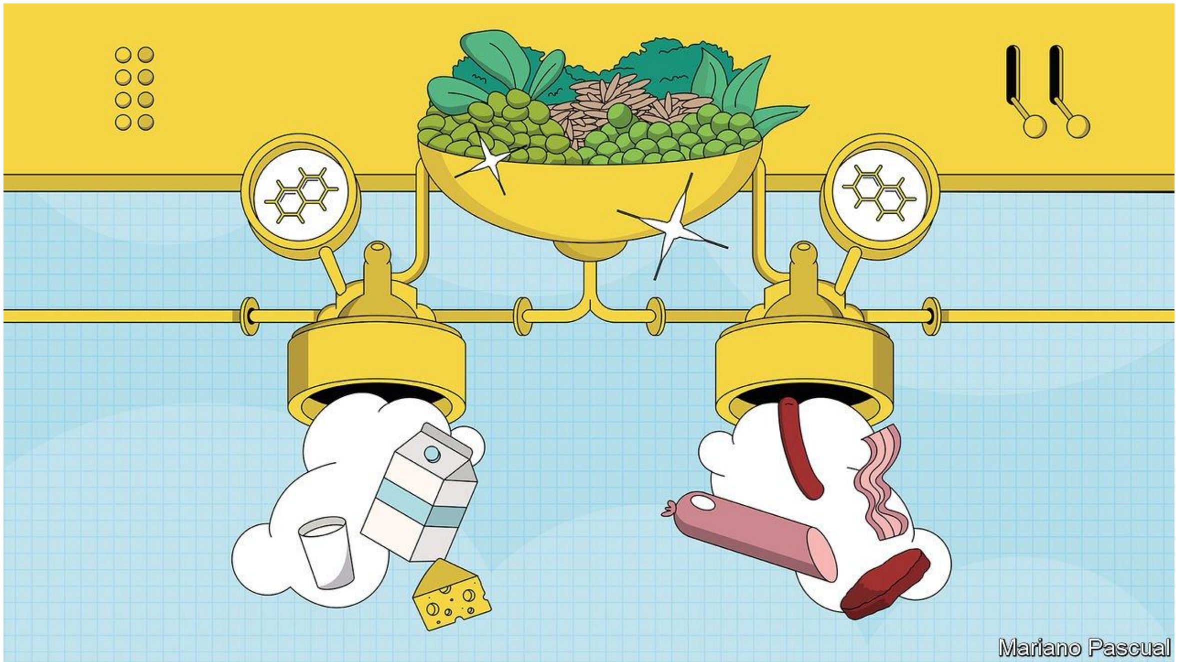
The movement has a recognisable, hard-to-resist ferment: a hype-heady nose and feel redolent of the terroir in which California raises its new technology. One starry-eyed Californian faux-meat scientist enthuses that the field feels like working in Silicon Valley in the 1970s: optimistic, dynamic and buzzy. The quest to change the world's food system, though, begins in a grungy town at the other end of the state. And the story starts with a pea. ■

Mooving on

Cows are no longer essential for meat and milk

You can do it all with plants

Sep 28th 2021



IT'S LUNCHTIME in El Segundo, a small coastal town in Los Angeles County, around 130km west of where the McDonald brothers opened their first burger stand in 1948. Burgers are on the menu today. They come three to a tray, glistening in their brioche buns, piled high with lettuce, tomatoes, cheese and a creamsicle-orange sauce that tastes like mayonnaise-mellowed ketchup. Alongside them are other greatest hits from American fast-food menus: sausages nestled into long hot-dog buns with sautéed bell peppers and onions; sausage patties on flat English muffins; deep-fried chunks of white meat that look and taste like chicken nuggets.

Nothing on the table contains animal products. The brioches are vegan; what looks like meat is made from pea protein. Everything was, as American fast-food usually is, delicious after the first bite and regret-inducing by the third. Though the nuggets were slightly softer than chicken, the burger lacked beef's mineral funk and the sausage lacked pork's telltale grease, all were a far cry from the worthy-tasting frozen pucks of compressed grains and seasonings, desiccated beany cylinders and mulchy “tenders” that once were the only meatless burger, sausage and chicken substitutes on the market.

All of these products began their not-exactly-life in the laboratories just down the hall from where they were served, at the research and development headquarters of Beyond Meat. Ethan Brown founded the firm back in the worthy-puck days of 2009. The company now sells its products in more than 80 countries, with net revenues in 2020 of $406.8m, up more than 36% from the previous year. Having gone public in 2019 it is now worth $7bn.

Impossible Foods, its main rival in the plant-based meat market, has yet to go public; it reportedly plans to do so later this year or early next. The companies are not following exactly the same strategy. Impossible began at the high end; it has partnered with chefs such as David Chang—whose Momofuku empire spans America, Canada and Australia. Beyond has focused on more popular fast-food chains such as, in America, McDonald's and Pizza Hut. But both are available in a wide range of American supermarkets, their wares displayed right next to the ground beef.

Cowless beef is following the path of cowless dairy. Milks made from soya and other plants were until recently an oddity consumed mainly by then-rare vegans and the lactose-intolerant. They are now offered at coffee bars and shelved in grocery aisles around the world. This is great news for those who cannot digest cow’s milk—a majority of the world’s population. It has also, rather surprisingly, proved popular with a great many people not thus constrained. That is good news for coffee-bar owners: plant-based milks are more profitable than the cow-based variety. The non-dairy-dairy business is worth $20bn a year worldwide. In 2020 plant-based milks accounted for 15% of America’s milk market by value.

Making meat and milk substitutes from plant-based ingredients is neither new nor complicated. It is mainly a matter of rearranging and re-proportioning the basic materials from which both plants and animals are made—proteins, fats and carbohydrates such as sugars and starch. Meat is mostly muscle, and muscle is mostly protein with a side order of fat. Asian Buddhists who eschew animal protein have been kneading flour and water together, washing away the starch and making mock meat from wheat gluten, a protein, for more than 1,500 years. Milk is fat, protein, sugars, minerals and water. Soy milk—the fluid left after grinding soaked soybeans, which contain fat, protein and sugars, with water—has been consumed in China for centuries.

Henry Ford, an early industrialiser of plant-based milks as well as a carmaker, production-system innovator and anti-Semite, saw animals as factories rearranging plant components in a way that could easily be improved on. “It is a simple matter,” he wrote, “to take the same cereals that the cows eat and make them into a milk which is superior to the natural article and much cleaner.” Oats, for example, can be mixed with water, mechanically milled, treated with enzymes that turn their starches into sugars and filtered to remove the bran.

Milking it

That an array of grains, beans and tree nuts can be treated similarly is, at a basic biological level, not all that surprising. The nutrients in seeds and grains provide energy and raw material to the next generation of plants—just as milk provides the same benefits to baby mammals. That liquidising the former might provide something like the latter makes sense. But not all dairy alternatives are created equal. Rice milk is almost nutrient-free; coconut milk abounds in saturated fat; oat milk is low in sugar, and normally has some added, along with minerals and vitamins—but unlike cow’s milk it is a source of fibre. The costs of production vary, too, both financially and environmentally. Almond milk is exceptionally resource-intensive. It takes more than four litres of water to produce an almond—and most of the world’s almonds are grown in drought-stricken California.

Many consumers believe these products to be better for their health, the environment and the well-being of animals than dairy milk. As the range of plants milked has increased, the likelihood of a consumer finding one to their particular taste has gone up. So has the pleasure that comes from having a particular taste indulged. Specifying your milk signals individuality. All this has helped push plant-based milks well beyond a vegan and lactose-intolerant niche.

Plant-based foods aim to follow them. The scientists at Beyond Meat and its competitors take Ford’s approach; they look at the components of an animal product, in this case meat, and work out how to replace them with components derived directly from plants. But they work at a far higher level of sophistication. “We think of our [food] as a tech product,” says Dennis Woodside, Impossible’s president.

Details of the plant-based-meat producers’ methods—which components they pull from where, and how they process and combine them—are proprietary. But making ground meat without animals first requires that proteins from plants such as peas or soybeans be isolated, usually by hulling and milling the legumes into flour. The isolated protein then gets mixed with binders such as potato starch, fats such as coconut oil, salt and other flavours so that it approximates the appearance, taste and texture of that to which it is an alternative. The need to understand their progress in this direction makes the scientists working on them, as one technician at Beyond’s El Segundo labs put it, “experts in meat.” Know thine enemy.

After lunch a team of Beyondists cooks a nubbin of plant-based beef in a sealed glass test tube, then punctures the seal with a syringe to measure the flavour compounds with a gas chromatograph. Another loads a Beyond Burger into a floor-to-ceiling vice called the “e-mouth” which measures how much force is needed to squeeze it. A third examines lunar-looking images taken with a microscope of raw and cooked animal and pea proteins with different additives and under various sorts of pressure—all in the service of making the products as indistinguishable from animal meat as possible.

What Beyond does not do, but Impossible does, is add an extra component called haem: a ring-shaped molecule with an iron atom at its heart. The iron is catnip to oxygen molecules, which flock to it; as a result haem is incorporated into various proteins that are in the business of carrying oxygen molecules around, including haemoglobin, found in blood, and myoglobin, found in muscle. When meat is cooked, according to one of Impossible’s patents, the haem it contains catalyses a wide range of chemical reactions between other molecules in the meat, producing a characteristic suite of flavours and odours obtainable in no other way.

Though plants have neither blood nor muscle, they too can have uses for haem. Soybeans make a haem-carrying protein called leghaemoglobin in their roots to soak up oxygen that might otherwise interfere with the soil microbes making the nitrogen products the plants need. Impossible has engineered the haem-making genes from soy into a widely used yeast; it adds the molecules thus produced to its burgers, giving them a "bloody" look and producing distinctive flavours on cooking.

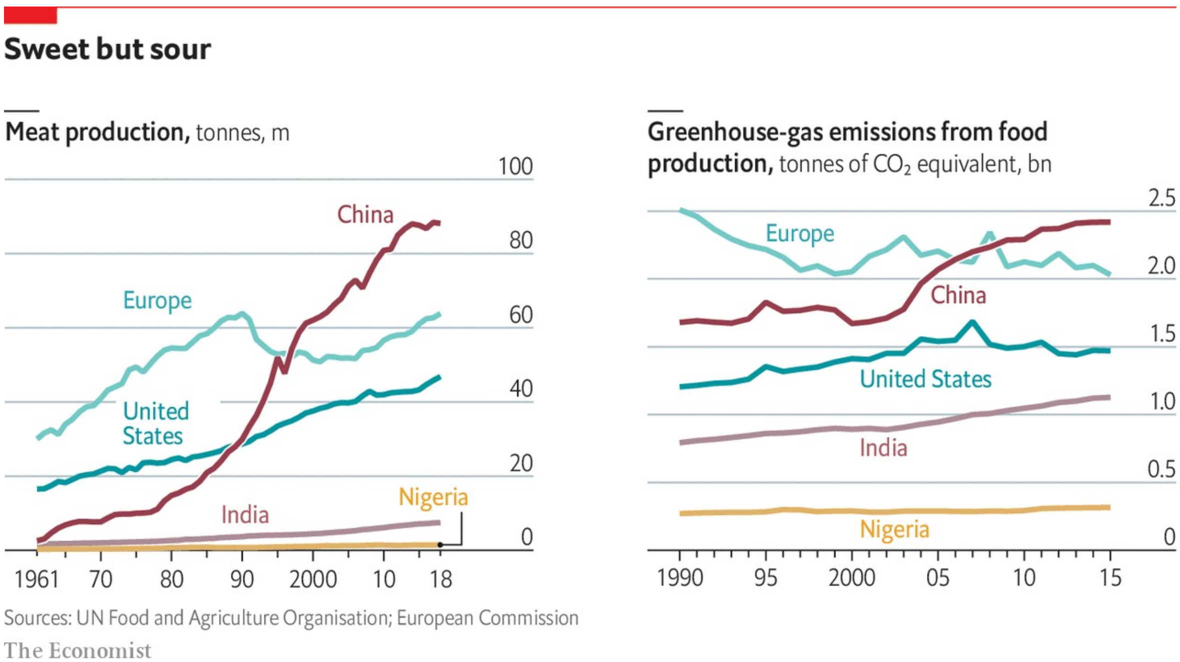
Mr Brown of Beyond, whose burgers get their redness from beet extract, calls genetic modification "a shortcut" that risks "unintended consequences". There is no evidence that the use of haem produced in genetically modified yeast has any such consequences. The yeast involved has long been used to make various enzymes for the food-processing industry. America's Food and Drug Administration is happy with the Impossible Burger, and most taste tests have found it the most beef-like of the crop.

The presence of an ingredient made by means of genetic modification, though, means that Impossible has yet to crack some markets, including Europe and (so far) China. Beyond, for its part, has opened production facilities in the Netherlands and China, where it makes Beyond Pork, a product specifically designed for the burgeoning Chinese market.

Telling porkies

If your taste in pig meats runs more towards rashers than mince, neither company, as yet, has an offering for you. But others do. In a modest industrial park in upstate New York, Gavin McIntyre stops before a broad tray, perhaps eight centimetres deep, that holds what looks like an unusually well-sculpted snow mound: solid and stark white, rising above the top of the tray in a gentle hillock. The substance feels doughy but solid, and slightly sticky.

This is neither a plant nor an animal. It is a mycelium—a network of fungal fibres. Usually, mycelium grows into mushrooms. But by manipulating growing conditions, mycelium can be made to grow into other shapes fairly quickly. Mr McIntyre's firm, Atlast, harvests thousands of kilograms of mycelium in slab form, grown on agricultural and forestry waste products, every 14 days. The slabs are brined, smoked, flavoured and sliced into what his company calls "bacon without the oink". It hits the mark. While plant-based bacons can be all shattering crunch and salt, mycelium bacon has a satisfying chew and a deep umami taste. On its own, nobody would mistake it for the real thing (not nearly greasy enough), but in a sandwich or salad, with mayonnaise or a creamy dressing to balance out its leanness, it fills the role admirably.



Atlast is not the only firm trying to turn fungus into meat. Meati, a five-year-old startup in Boulder, Colorado, produces a stunningly realistic chicken breast, well seasoned with just the right fibrous chewiness and residual umami funk. Other companies offer mycelium steaks, which are less successful. Though they look the part, the lack of fat gives them an excessively uniform mouthfeel. It is a bit like eating Bovril-soaked pressed tofu—not bad at all, but also not steak.

The market for such things already goes well beyond the ranks of vegans; Mr Brown cites studies that found the vast majority of people who bought Beyond's products also buy animal protein. Indeed some vegetarians and vegans look on the new meat substitutes with a certain scorn. What do they offer that tofu and beans do not? The answer, obviously, is carefully contrived, delicious meatiness.

A lot of people looking for the authentic in their food perceive the healthy, the natural, the pure and the environmentally friendly as one and the same.

Non-meat meats are a place where that beguiling gestalt breaks down. Many are highly processed products—the antithesis of the purity prized by those who favour whole foods. Yes, they are plant-based. But making those plants meaty removes much of what is healthy about plants. “Once processed into solely protein, legumes and beans no longer exist”, Larissa Zimberoff, a journalist, argues in her magnificent book “Technically Food”.

That said, the foods that the most popular plant-based meats are intended to replace—burgers, breaded chicken, sausages and the like—are not particularly healthy, either. There is, though, one big difference. Meat alternatives, true to their tech-industry inspiration, can be continually upgraded, as the Beyond labs in El Segundo show. The Impossible burger currently on the market also feels and tastes more like meat than the one available just a few years ago. Once producers have taste and texture licked, they can turn their attention to health in various ways. Making things more meat-like and at the same time more healthy is not impossible, if the market wants such things.

Continuous improvement and the R&D needed to provide it, though, add to a basic problem for the meat alternatives: price. Ground meat, sausages and the like are cheap. The better plant-based burgers remain more expensive in most markets than standard beef—closer to the price of organic, grass-fed beef. Though they are clearly preferable in terms of greenhouse-gas emissions, and infinitely better in terms of reduced animal suffering, those costs are externalised. The cost visible at the checkout is, for many consumers, the one that matters most.

How far prices can come down and quality further improve has yet to be seen. Meat and dairy incumbents are hedging their bets. Major meat producers such as Cargill, JBS and Tyson Foods have their own plant-based lines, just as Danone and Chobani are getting into plant-based milks. But “strategically,” says Florian Schattenmann, chief technology officer at Cargill, “we see this as an ‘and’ story. A car manufacturer does not only make minivans.” Just as carmakers produce different models for different consumer needs, so meat producers increasingly understand they need plant-based as well as animal offerings.

The alternative view is that, in carmaking terms, this is not a matter of additional product lines but of a new sort of drive train for everything. In this view meat alternatives are to raising livestock what batteries and electric motors are to the fuel tank and internal-combustion engine: a successor technology that will find its way into all the products, rather than be a distinct product line itself. “Ultimately,” says Impossible’s Mr Woodside, “we want to replace the animal.” That is a worthy aim, but one that might require a bit of help from the animals themselves. ■

Corrections: This article was changed on September 29th to show the correct fast-food chains where Beyond burgers are available, and to reflect that Beyond do their tests on plant-based beef.

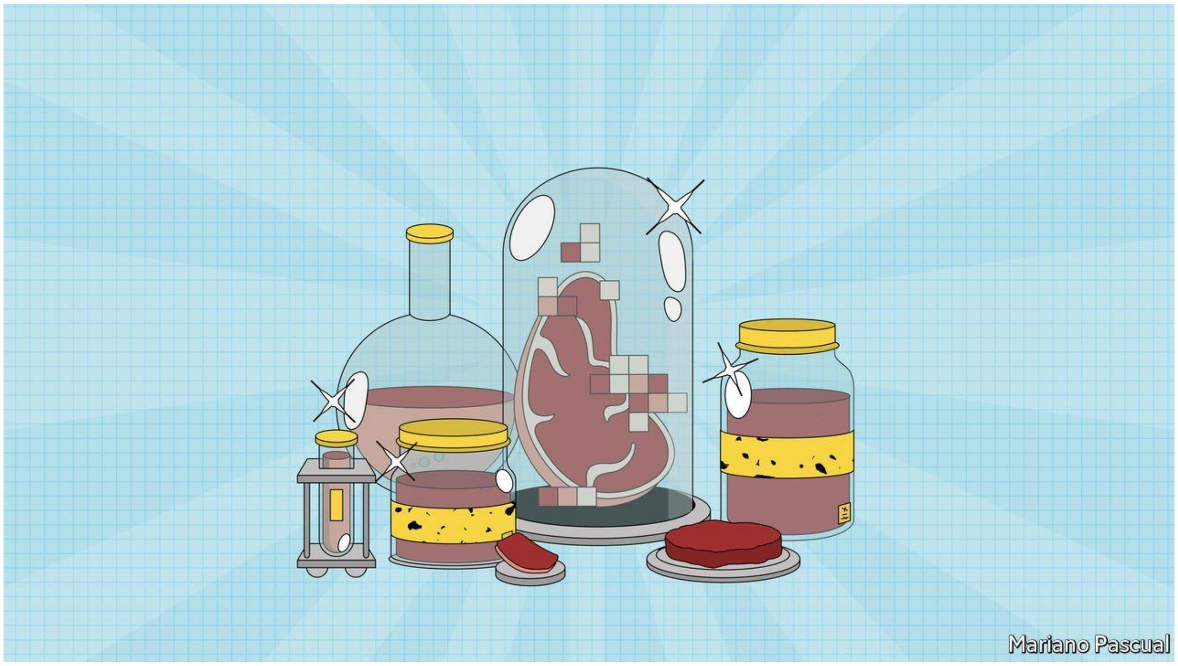
Full contents of this Technology Quarterly

Cell-side markets

Meat no longer requires animal slaughter

You can grow it in a laboratory

Sep 28th 2021



A GENERAL PRINCIPLE of restaurant dining is this: if you look into the kitchen and see at least one chef wielding tweezers, prepare for a markedly lighter wallet. This is not because the tweezers will place anything particularly expensive on your plate (the occasional flakes of gold leaf notwithstanding) but because they signify that you are eating at a restaurant so devoted to every detail of your dining experience that it pays people to hover over your plate carefully distributing tasteless little flower petals or sprigs of greenery. They signify luxury, and luxury costs.

In the well-equipped test kitchen of Upside Foods, in an unremarkable office park in Berkeley, California, Morgan Reese uses long tweezers to place two frazzled mushroom slivers and a single caper next to an almond-sized piece of sautéed chicken. Plain chicken may not seem like a gold-flake-calibre luxury. But as Uma Valeti, Upside's CEO, noted while Mr Reese worked, there are only "maybe a thousand-plus people that have tasted [this type of chicken] so far in the world".

That is because this particular chicken was grown entirely in a lab. Some time ago, Upside took a tissue sample from a living chicken that survived the procedure unharmed; the cells gathered in that biopsy were used to form a cell line from which the company is able to produce meat like that on the plate. It looks, smells and tastes exactly like a boneless piece of white-meat chicken—which is precisely what it is, just created using novel means.

It is not a new idea. In "The Space Merchants", a dystopian satire by Frederik Pohl and Cyril M. Kornbluth published in 1952, the hero spends some time gathering algae to be fed to a thing called "Chicken Little": "a grey-brown, rubbery hemisphere some fifteen yards in diameter. Dozens of pipes ran into her pulsating flesh. You could see that she was alive." Chicken Little has been grown from cultured cells to feed a resource-poor world in thrall to hucksterism. A small chamber hollowed out of its flesh provides access to meetings of a revolutionary groupuscule.

Today Upside Foods and its backers hope that lab-grown meat will not shield the revolution, but be the revolution—and in a much more appealing way. The company has broken ground on a new production facility in California's East Bay. It is not alone. Nearly 100 firms are vying to be the first to bring cultured meat to market. Select locations—including a private club in Singapore and a test kitchen in Tel Aviv—serve it from time to time. But as yet it remains unavailable to the average diner.

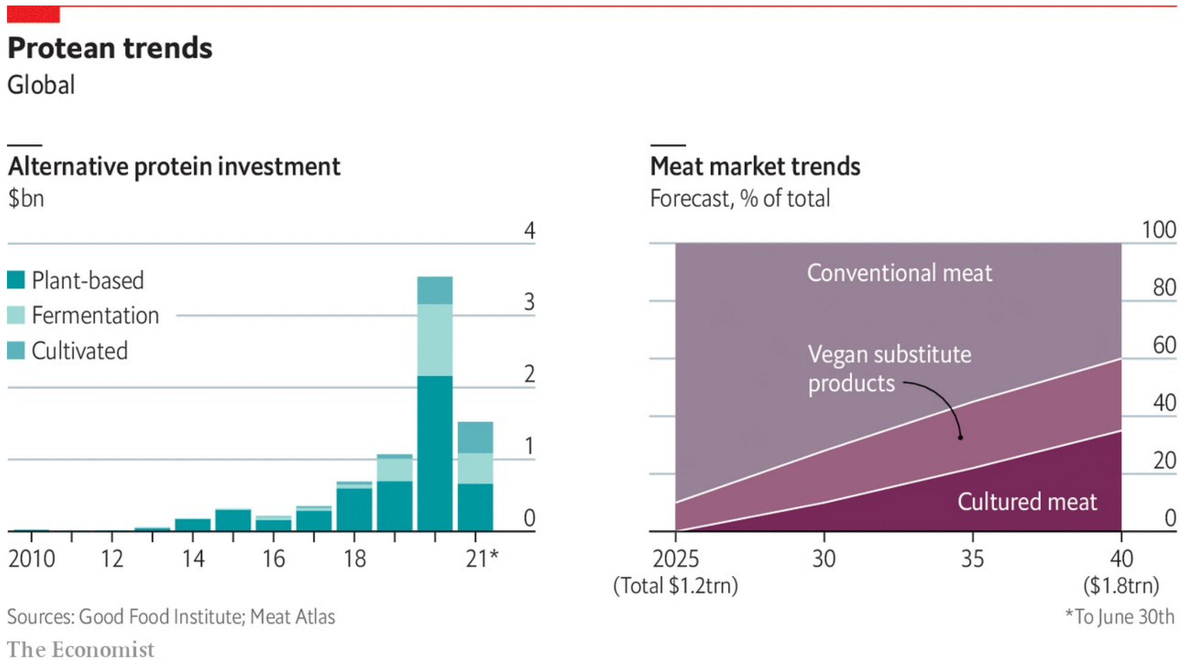
It is not hard to see why investors are excited. Demand for meat and fish is soaring, particularly among the rapidly growing middle classes in parts of the developing world. Making that meat the old-fashioned way uses a lot of land and produces gigatonnes of greenhouse gas. Much of the fish people want is not caught sustainably, and some comes from endangered or threatened species. Plant-based substitutes can meet some of the increased demand, but currently they only really compete with processed products such as those based on mince. Growing meat directly from animal cells offers a way of squaring the circle, while also satisfying the moral demands of consumers uneasy about factory farming and animal slaughter. But it is a hugely ambitious undertaking.

Cells, tissues and muscle fibres have been grown *in vitro*, as scientists say, for decades; Alexis Carrel and his associates first grew the cells of a chick's heart in a lab in 1912, and kept the culture going for more than 30 years. Such cultures are fundamental to much biological research. One of the things that now makes the process appealing to food producers is that it has become practical to extract stem cells that can give rise to different types of cells, such as those that make up fat and muscle, and have them do it to order. A cardiologist by training, Mr Valeti says he was inspired to start Upside by "the idea of injecting stem cells into the human heart" to help it regenerate muscle after a heart attack.

Unlike Chicken Little, which was immortal, the cells these firms use are harvested after just a few weeks of culture. What happens then varies by company; each has a proprietary method for turning muscle cells into meat. Animals naturally grow fat, muscle and connective tissue together, in coherent and familiar forms around a skeleton. Cultured-meat producers must figure out how to replicate the mouthfeel engendered by such forms.

Some put the cells on scaffolds, to give them shape: cultured muscle cells, unlike the natural type, do not have bone and sinew to grow around. Others use extrusion, in a process similar to making pasta. Such techniques allow firms to customise the final shape of their product. BlueNalu, a San Diego-based firm growing bluefin tuna and mahi-mahi in a lab, boasts of being able to give chefs "a sheet-pan" of sashimi-quality fish if that is what they want. An Israeli firm, Aleph Farms, uses 3D printers to turn cow cells into steaks—a process borrowed from techniques being used to grow human tissue and organs outside the body for transplant.

Most of the companies emphasise that their process is "species-agnostic," meaning they can replicate any type of protein for which they can find cells, but most also have placed bets on specific end products. New entrants boasting of a unique approach to some specific tissue or other turn up with remarkable regularity. Some are working on high-value fish, as BlueNalu is. The cultured product will compete against an incumbent product made increasingly rare and expensive by overfishing.



There are echoes here of the strategy successfully used by Tesla to build its electric-car business. Rather than starting with small cars that looked like toys at worst and just a bit weird at best, it kicked off with a sexy sports car and followed up with an expensive luxury sedan, flourishing in that niche as it built up the technology and manufacturing capacity for the mass market.

BlueNalu is not the only firm looking to enter the market at the top end. Gourmey, a French startup, is using cells cultured from duck eggs in an effort to replicate *foie gras*, a product which combines a high price with high cruelty. Researchers at Osaka University recently announced the stem-cell-and-3D-printer creation of a steak in which muscle, blood vessels and fat were arranged to mimic the structure of Wagyu beef. But it is worth remembering that Tesla's success depended not just on making a high-end product, but on making one that could outperform the competition in almost every way, not just in its lack of exhaust-pipe emissions. No cultured-meat company can yet make that claim.

Vegetable or mineral?

Even so, the technology has inherent charms. When it comes to the quartet of healthy not harmful, natural not artificial, pure not processed, environmentally friendly not pernicious, cultured meat might seem irredeemably artificial. It may be cytologically indistinguishable from meat, but it has never been part of an animal's life. What makes it less cruel also makes it less natural, at least to most. (It also seems to mean that it can be neither kosher nor halal; both sets of restrictions require meat to be slaughtered according to particular rules.) But to its advocates, such meat does offer a particular type of purity.

Fish meat grown in sealed, sanitised bioreactors will never be exposed to the microplastics, mercury and other pollutants often found in wild seafood. Chicken built up from its constituent cells never comes into contact with faeces, thus eliminating the risk of salmonella. No livestock means no chance of animal pathogens crossing over into humans, whether in the farm, the market, the slaughterhouse, the kitchen or the dining room.

Companies willing to venture beyond tissue culture into genetic modification or gene editing could go further—improving the nutritional value or even, perhaps, the flavour. The Osaka beef-engineers imagine dialling the fat content of pseudo-Wagyu up or down according to taste or health requirements. Chicken could be loaded with the omega-3 fatty acids that fish get from eating algae, or beef with beneficial plant proteins. And fresh fish can be fresher if it comes straight from the lab than if it must be caught at sea.

But several challenges remain before these products come to a supermarket near you. First is regulation. Here Singapore leads the world. It introduced a regulatory framework in 2019 which allows "alternative protein products that do not have a history of being consumed as food" to be sold if they pass an expert panel's safety review and are properly labelled. Meat grown in labs must be sold as "cultured", that made from plants must be labelled as "plant-based" or "mock". Eat Just, a San Francisco-based firm, got approval for its cultured chicken there late last year. The process is typically expected to take just three to six months.

This compares well, for producers, with America's, which requires the attentions of two different agencies: the Food and Drug Administration, which monitors cell growth and issues premarket safety assessments; and the Department of Agriculture, which will conduct ongoing inspections, as it does for live-animal facilities, when licensed production gets under way. The

European Food Safety Authority's process may be all under one procedural roof, but it is nevertheless expected to take at least three times longer than Singapore's.

Singapore had good reason to create a streamlined process. Cultured meat fits with the tiny country's goal of producing 30% of its food by 2030 to avoid disruptions in supply. And the reason why that goal requires it to get into cultured meat—its lack of an incumbent meat industry—meant a lot less lobbying against cultured meat than can be expected elsewhere.

Another challenge is the range of cuts. In principle cultured meat can be grown as tissues, not just cells. In practice compressible nubs similar to ground animal meat are much easier and what most of the companies do best. Eat Just serves chicken nuggets in Singapore, and SuperMeat offers "crispy cultured chicken fillet" in Tel Aviv (it's a burger, but made from fried chicken). Whole chicken breasts—to say nothing of a rack of ribs, or any other meat on the bone—remain far off. But given the improvements in plant-based meat alternatives, it is to that level of ambition that the new industry needs to aspire if it is to show decent margins.

At the same time it also needs to make a fundamental part of its process much cheaper. Just like animals in fields, cell cultures in bioreactors need feeding, and they are fussy about nutrients. You cannot just feed them processed algae, as Pohl and Kornbluth imagined. Fetal bovine serum (FBS), a nutrient-rich liquid long used by scientists in the lab, has become the nourishment of choice for many cultured-meat companies. But unfortunately for an industry which wants to sell meat untainted by death, FBS is derived from blood collected from pregnant cows at slaughter. And unfortunately for an industry trying to make its wares a lot cheaper, it is also expensive and subject to wild price fluctuations. On top of that, it is also nutritionally variable from batch to batch.

Cultured-meat companies would like to use synthetic alternatives (as would many laboratory scientists). Creating something truly comparable, though, would almost certainly involve genetically engineering yeast in order to make it produce at least some of the necessary nutrients. That yeast would itself need to be fed in order to produce what is required. To make a cell-based alternative to meat, you need to make a food chain for those cells as surely as you need to provide grass, silage or feedstock to cattle. And the meat will never be cheaper than the medium it grows in.

This drawback has not stopped investors from piling in to the sector. If they are doing so on the basis that biotechnologists are both cunning and armed with ever more subtle tools, fair enough. But no cultured-meat company is as yet either producing at scale or making money. Upside and BlueNalu are in the process of opening production facilities a lot larger than their original laboratories—not big enough to serve a national or even a significant regional market, but enough to provide a proof-of-concept that could justify the capital investment needed for the big time.

If they can scale up at reasonable cost, though, there will still be doubts as to the eventual size of the market. The benefits of plant-based meat alternatives may not be as clear as some consumers think, but the idea of eating plants is neither novel nor disturbing. The idea of eating something grown from a tissue culture is definitely novel and may prove to be disturbing. How much of a problem that will prove is a question that will only be answered when the choice is presented to more than just a self-selected group of already curious diners in a few cosmopolitan cities. Polls asking people's views of cultured meat show varying responses.

Proponents argue that people frequently eat meats that seem familiar but are not made from the breed, or through the processes, that they used to be. The rich world's pork has been bred to be leaner and its chickens to be more breast-heavy; its production has moved from fields, farmyards and sties to squalid, hurtful factories. But this is a sadly double-edged argument. If people are sufficiently adaptable about the way food is raised as to be happy with today's cruelty, they may also be adaptable enough to embrace meat from the lab. But having learned to accept the cruelty, will they be motivated to make the change?

Upside hopes they will, and to that end it is set on educating consumers and gaining their trust. It is designing its East Bay facility with immense windows into the production rooms, to let consumers see as much as possible. For maximum effect it might consider offering an abattoir the lease on a similarly open building next door free of charge. The lack of takers would be telling. ■

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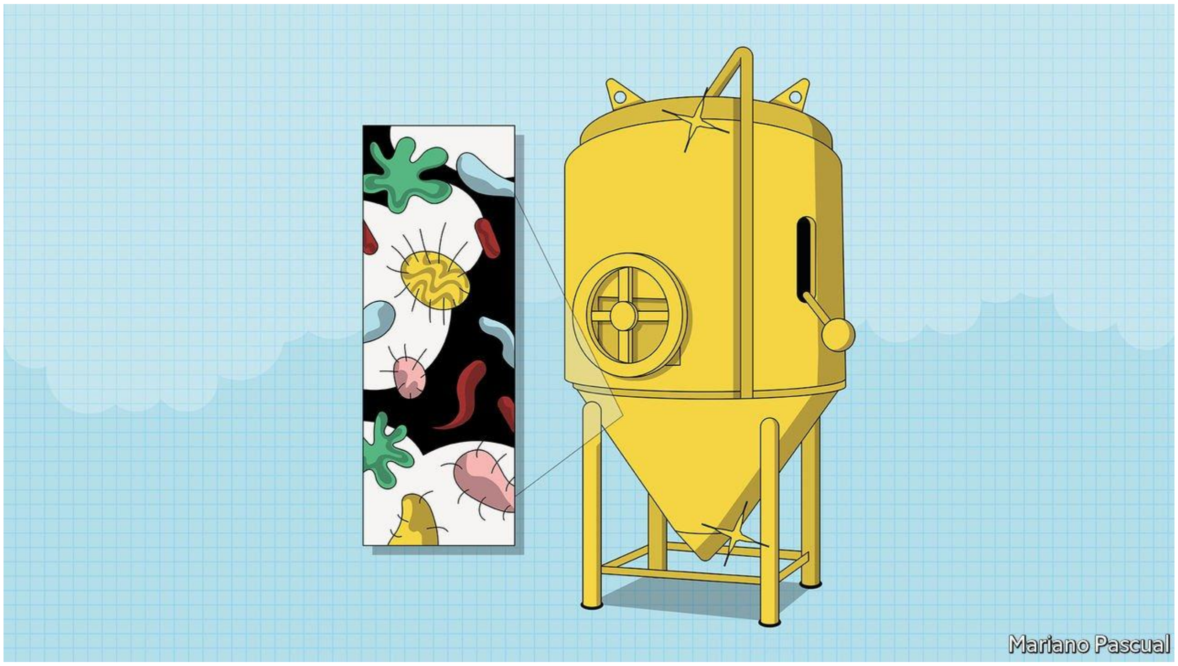
Culture club

Microbes are being used more and more to make delicious food

A new realm of "precision fermentation" beckons

Sep 28th 2021



THE FETID salinity of prosciutto, bresaola's jaw-wearying toughness and the pallid greasiness of lardo, which is cured solid fat, all have their fans—if not, normally, among those in the business of keeping arteries clean. But the single best cured meat in the world comes from north-eastern Thailand. Rice, pork, garlic, salt and herbs are stuffed into a casing and left at room temperature for a few days. When cooked, this *naem* has a robust pigginess. But it is best eaten raw, with chilies and garlic cloves.

Its sinus-clearing sourness, a perfect balance to the other strong flavours, comes courtesy of bacteria that produce lactic acid. It is a strategy the bacteria evolved to prevent the growth of other, less acid-tolerant microbes; by nobbling the competition they get more food for themselves—and leave the rest safe for human consumption. Such bacteria are also at work in Nigerian *ogi*, Korean *kimchi*, and a host of other foods including that lockdown mainstay, sourdough bread.

Humans have been harnessing microbe-based biochemistry for food preservation since before history began. Without lactic-acid fermentation a bumper crop of cabbage would rot uneaten. With the right microbes, salt and time it can be turned into sauerkraut. Ethanol fermentation raises bread and fizzes champagne. Acetic-acid fermentation provides vinegar and thus pickling, not to mention the peerless lambic beers of the Zenne Valley in Belgium.

In many cases, such as that of a sourdough starter or a yoghurt culture, the microbes put to work come not as individual species but as long-standing collectives. The processes by which these collectives are controlled—or at least cajoled—have for millennia been governed by the algorithms of traditional knowledge and the data inputs of sight, smell, taste and, for dough, touch.

Many have now been simplified, industrialised and scaled up. An array of vitamins, flavourings and colours have long been made using microbial fermentation. Not all these products of fermentation are preservatives or additives; some are foods in themselves. When yeast produce alcohol for beer they also produce more yeast—which sometimes turns into Marmite, a savoury spread about which British people delight in having divergent views. Quorn, a plant-based meat alternative that has been on the market for decades, is made from a quickly-growing microfungus discovered by a chemical company in the 1960s.

Now that food technologists have genome sequencing and gene editing at their disposal they are exploring a realm of "precision fermentation" in which microbes can be chosen, or engineered, for very specific purposes. The breakthrough took place in 1990, when Pfizer used the genetic-engineering techniques previously used to make medicines such as insulin to create a microbe that produced the clotting agent found in rennet, which is used to curdle milk proteins into cheese. Rennet was previously sourced from the fourth stomachs of unweaned calves, which is inconvenient. The engineered version is now used in most mass-market cheeses.

Genetically altered microbes now make a variety of proteins important in foodstuffs, such as the leghaemoglobin which provides Impossible Foods with the haem for its burgers. Other companies are editing microbes to produce whey and casein for animal-free cheeses, collagen to use in synthetic leather and spiders' silk for clothes.

Scientists think the right microbes in the right fermenters could eventually produce abundant saturated fats, such as those in avocado or coconut oil, to give a rich texture to plant-based meat-substitutes. Palm oil could, in principle, be created without the need for deforestation. That said, something will always have to be grown somewhere to provide the bugs doing the work with energy and raw materials. Fermentation can change things, but it cannot create them out of nothing: it is metabolism, not magic

But the right plate of *naem* might have you challenging that assertion.

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The new Anthropocene diet: Technology can help deliver cleaner, greener delicious food
Mooving on: Cows are no longer essential for meat and milk
Cell-side markets: Meat no longer requires animal slaughter
*Culture club: Microbes are being used more and more to make delicious food**
Green castles in the sky:Vertical farms are growing more and more vegetables in urban areas
Features and bugs: Feeding 9bn people will mean reimagining the edible world

Green castles in the sky

Vertical farms are growing more and more vegetables in urban areas

They don't need soil or sunlight

Sep 28th 2021

THE BEST basil in the world is grown in a small village on the Ligurian coast just west of Genoa. Picked at the height of ripeness, after just the right number of sunny days and temperate nights, the delicate basil is perfect in the pesto for which Liguria is justly famed.

Unfortunately, many more people use fresh basil than live within driving distance of Genoa. And even on the Ligurian coast, nature does not always provide perfect weather. But a close approximation—crisp and recognisably peppery with the right anise undernotes, perhaps not quite vibrant enough to make a Genoese chef do cartwheels, but better than the limp stuff in plastic sachets sold in supermarkets—can be found in a few shipping containers at the back of a car park in north Brooklyn, just down the block from a synagogue and around the corner from a petrol station.

Those containers house a vertical farm—a farm in which crops grow on top of each other, rather than just next to each other, as they do in a field, allowing growth at far higher density. Square Roots, the farm's owner, grows fresh herbs here, delivering them to 100 retailers in New York within 24 hours of harvest using emission-free electric tricycles. The company has a larger facility in Grand Rapids, Michigan, and ambitions for further expansion.

Not all vertical farms are small. Across the country in South San Francisco, a firm called Plenty runs an 8,100-square-metre (two-acre) vertical farm that, it claims, grows as much produce as a normal farm over 300 times its size. Plans are under way for massive vertical farms in the UAE and Switzerland. China plans to build an entire neighbourhood in Shanghai around vertical farming.

Most vertical farms share a few attributes. One is a lack of soil. Their stacked rows of crops are grown aeroponically, meaning the roots are fed with a nutrient-rich mist, or hydroponically, meaning the roots either sit in an aqueous, nutrient-rich solution or in a container in which the solution constantly flows over them.

This lets a lot less water than is usually used do a lot more work. No soil means precise control over what level of nutrients all the roots receive. It also eliminates weeds and helps keep down microbes, insects and other crop-devouring pests, many of which need soil for some of their life cycles. No soil also means no fertiliser runoff into waterways; vertical farms tend to recycle things, not dispose of them. Some contain aquaponic ecosystems in which aquaculture and horticulture combine: the plants feed the fish, the fish fertilise the plants.

Sunshine is absent, too. Light comes from strips of LEDs arranged so that all the dense-packed leaves are optimally illuminated. The problem with this is that LEDs and the electricity which powers them cost money. Proponents of vertical farms note that the cost of LEDs is dropping and the amount of light they generate per kilowatt hour is climbing; what is known as Haitz's law says that the efficiency of LED lighting systems improves by a factor of 20 every decade. Even so, energy costs for lighting and temperature control remain high.

In time, things will improve, and not just thanks to Haitz's law. The energy used in vertical farms is almost all electricity, which is becoming both greener, as grids take on more renewable capacity, and cheaper, as that renewable capacity relieves electricity suppliers of fuel costs. Vertical farms can also time their "days" and "nights" to match times when power is cheaper, and drop demand a bit if the grid needs it—a service grids will increasingly pay for.

That is one example of their greatest gift: control. With light, temperature and nutrients all delivered directly, the conditions for growth can be optimised. And the crops raised are carefully chosen, with fast-growing, light, high-margin produce comprising most of them today. High-quality herbs and leafy greens can be guaranteed at all seasons and from a local source.

Berries may be next. Farming berries uses a lot of pesticides and depends on varieties that can tolerate being shipped long distances. As a result the sweet, floral, fire-engine-red berry picked from a wild July vine is nothing like the insipid pinkish golf-balls stacked on November shelves. Through their control of light, temperature and nutrients vertical farms can have fresh-picked summer-succulent punnets on sale throughout a city all year round. Think of it as the Teslaberry: a superior product with environmental benefits (no pesticide use) that establishes a technology and a brand.

Control needs data. Vertical farms can keep track of what is going on in a way field farming, however high its precision, cannot. The bigger a farm gets, the more information it has, and at least theoretically, the better and more efficient it becomes. Anya Rosen, who manages Square Roots's Brooklyn farm, explains that vertical farming "is not really nature. It's the opposite of that. It's basically a big robot that grows plants inside."

That may not, in itself, sound appetising. But when it comes to the authenticity quartet of health, naturalness, purity and the environment, vertical farms stack up pretty well. Technology around a plant seems less off-putting than technology within a plant. The clinical brightness of a farm in which plants are stacked like servers is not natural; but it has a certain purity. A sealed environment is one not harming the greater environment outside (unless its voracious appetite for energy is fed with fossil fuels).

Seeing these advantages, mission-driven investors are pouring money into vertical-farming companies despite their energy costs—Plenty has raised $541m over six funding rounds, while a SPAC may soon take AeroFarms, a New Jersey-based firm with an immense vertical farm in an old industrial building in Newark, public. Again, though, they are doing so in advance of profitability.

To many environmentalists, this is a sideshow. Making real farming less of a stress on the environment is far more important. And vertical farming could be successful as a business without doing much for the planet. It could remain a niche for the urban rich. But vertical farms could have impacts environmentalists and others would value. Unlike plant-based meat alternatives they encourage people to think about how food is produced, rather than just what it tastes like. The experimentation they allow could lead to greater efficiency and higher quality, or both.

Vertical farming will not immediately transform the world's agricultural practices. Plenty of investors will misjudge when to jump in and which firms to back. And even if some investors make it big, their companies will, in the near and medium term, mostly cater to city dwellers who can afford to eat well.

For a world getting richer and more urbanised, that is a good business to be in, and it may be good for the environment, too, if only at the margins. But things could go further. Farming has a long history of, in effect, trading land for energy. Throughout the 20th century tractors and other machinery, artificial fertilisers and pesticides all turned fossil fuels into agricultural productivity, using the energy stored in oil to grow more food on the same amount of land and sometimes less.

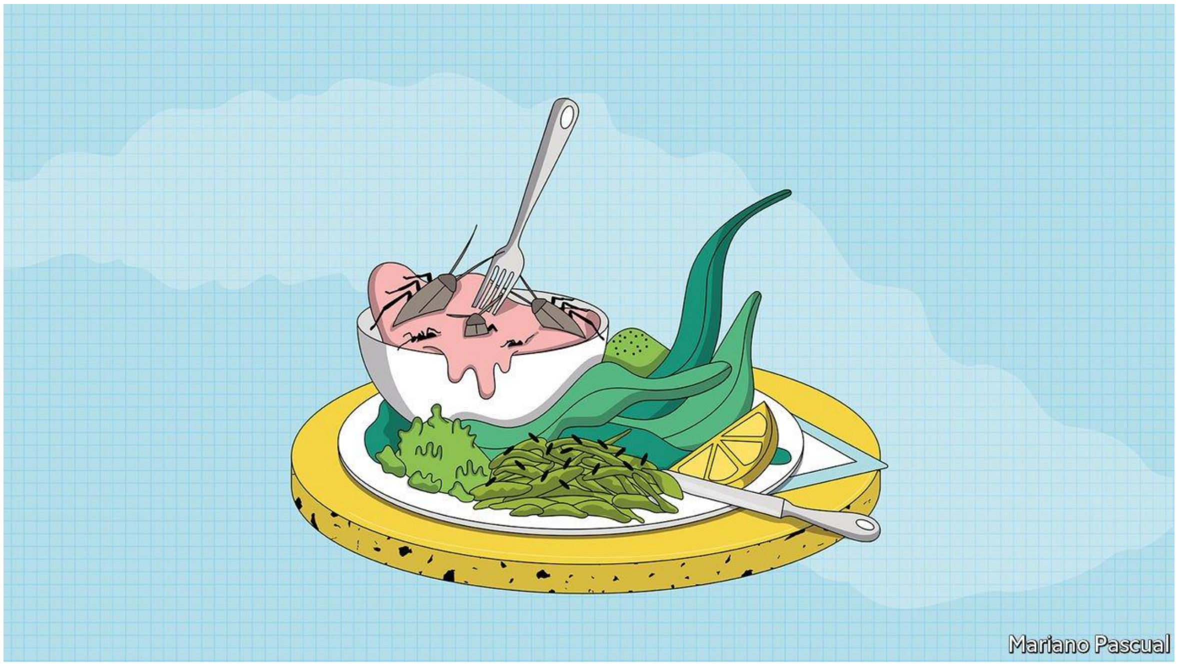
In the mid-to-late 21st century artificial lighting and indoor climate control, all powered by cheap, clean electricity, could continue the trend. That possibility does not mean vertical farming investment will pay off in the short term. But just as 20th-century farming would have been unrecognisable to the 19th century farmer, so 21st-century farms may, eventually, outgrow today's in productivity, in environmental friendliness—and in height. ■

Features and bugs

Feeding 9bn people will mean reimagining the edible world

More insects are likely to be on the menu

Sep 28th 2021



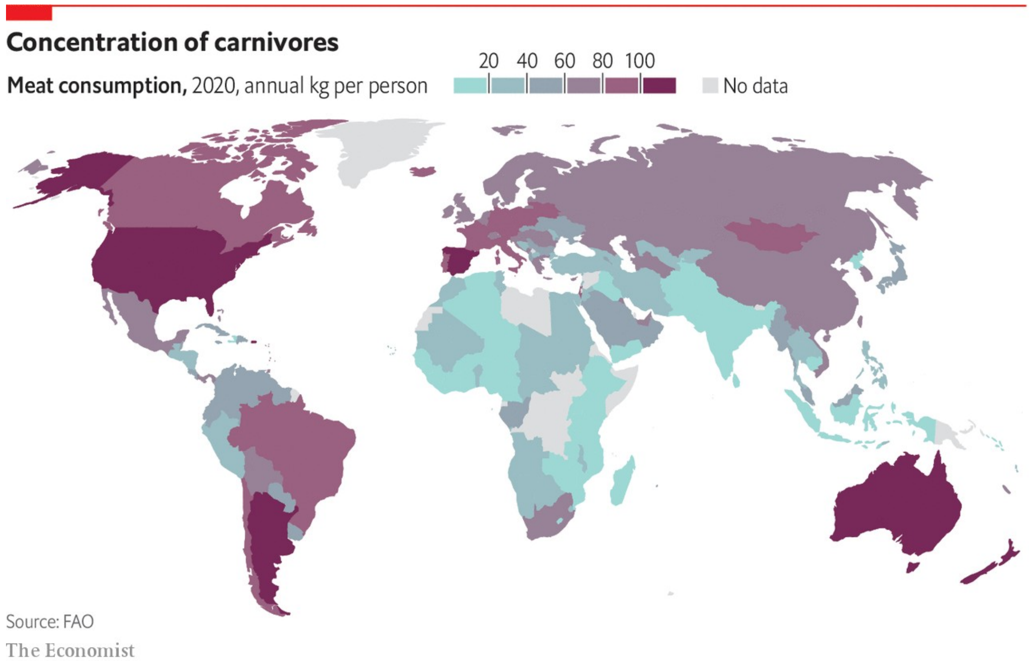
OVER LATE afternoon Cutty Sark and fried haddock at a bar overlooking the working waterfront in Portland, Maine, Steve Train is doing what so many lobstermen do on shore: telling stories. Mr Train has been a lobsterman for 45 years; he first went out when he was 11 years old.

One story is about sea urchins. For years when he and other lobstermen found sea urchins in their lobster traps they would crush them underfoot: the urchins were nuisances. That was before Japanese buyers realised that urchin from the cold waters off Maine produced some of the finest *uni* on earth. There was value, it turned out, in something long overlooked.

Mr Train now hopes the same thing could be true again—this time for weeds. At the end of October, when winter weather and the departure of the lobsters for deeper waters will soon be keeping keep him off the water, Mr Train lays ropes seeded with kelp across 1.6 hectares (four acres) of water close to where he lives on an island in Casco Bay. He uses the same equipment to tend his kelp farm as he does to catch lobsters: boats and ropes, pullers and winches. Atlantic Sea Farms, the company that supplies the seed, promises to buy every usable blade. It ferments some into "sea-chi"—deliciously briny and funky. Some is frozen for smoothies.

The fight to feed a world of perhaps 10bn by mid-century is being fought on many fronts. It demands massive reductions in the amount of food wasted and farming that ensures long-term soil fertility at the same time as increases in yield. It will also be helped by filling in some of the gaps in the current food system: things overlooked until an entrepreneurial eye coupled to an appropriate technology sees what could be made of them. Fishing and agriculture tend to be seasonal, leaving workers with time and unused machinery for part of each year that, with imagination, can find alternative employment. There are foods routinely ignored in some places which other palates and cultures prize—such as sea urchins. Kelp farming happens to tick both boxes.

Seaweeds of various sorts are routinely eaten across East Asia, but the global industry is worth only around $6bn per year according to the UN Food and Agriculture Organisation (FAO)—about as much as Americans spend on tortilla chips. Kelp is loaded with minerals and fibre and a lot more sustainable than many crops it might replace. But as anyone who has ever raised or been a child knows, just because a thing should be eaten does not mean it will be. Filling in the gaps in the world's food web requires unlearning some tastes and preferences.



Consider the insect. Around 1,900 species are eaten around the world, according to the FAO. The cuisine of Oaxaca, arguably Mexico's most complex and delicious, features fried *chapulines* (grasshoppers) seasoned with lime, chilies and salt and rolled into a fresh corn tortilla. Drinkers in rural Thailand snack on deep-fried, thumb-sized beetles; those working the fields of southern Africa prefer chubby mopane worms. Around 2bn people choose to eat insects on a regular basis. The rest of the world does so unknowingly, and to a lesser degree, while eating other things, as FDA rules make fascinatingly clear: American asparagus, for example, is not allowed to contain more than 40 thrips [tiny winged insects] per 100 grams.

Insects convert nutrients and water into protein far more efficiently than more commonly consumed animals. Raising them does not require land-clearing, releases very little greenhouse gas and can be done alongside other crops—another bit of gap-filling. They can be fed on organic waste, reducing the flow of waste into landfills. Most species contain more protein by weight than legumes; some contain more than meat and eggs. Their exoskeletons can be uncomfortable in the mouth; but exoskeletons, as eaters of prawn and lobster know, can be removed.

It would undoubtedly be better for the world if people ate more bugs. And yet many in the Western world (including your correspondent, who is otherwise a reasonably adventurous eater) find the notion of such entomophagy revolting. This is illogical, particularly for diners who happily consume shrimp and other crustaceans, but then eating is only rarely logical.

Fifty years ago, most Western diners looked askance at eating raw fish; today you can get sushi at supermarkets. A number of insect-food startups have been garnering a modest amount of investment hoping for a similar change in taste.

Pat Crowley runs one of the older ones, Chapul, founded through a kickstarter funding campaign in 2012. He's an ento-evangelist—black soldier-fly larvae, he enthuses, are "one of the best-tasting insects I've ever had"—who was drawn into the business by his concerns about water resources in the American west. He says that younger consumers are far more open to entomophagy than older ones, which is a source of hope.

But most of Chapul's business is not in whole insects, but in insect flour. The growth of keto, Palaeo and other protein-heavy diets—as well as those that eschew wheat—has made cricket flour an appealing bet for bug farmers. It abounds in protein and minerals, and its neutral, nutty flavour mixes well with other foods.

Processed-insect products from Chapul and others are also eagerly swallowed up by animals that have neither scruples nor choice in what they eat—that is to say, other farmed animals. This makes insect farming controversial to some, who see it as propping up the cruelties and slaughter of the intensive poultry and livestock business. But from an ecosystem point of view it may be helpful. A rich protein source that does not require large-scale arable farming or lots of water—as soybeans do—may have a lower overall burden, especially if it is largely fed on waste. Replacing fishmeal is particularly appealing. Farmed salmon is often fed with fishmeal made from other species, disrupting the open-ocean food chain. Highly productive insect farms could be a way to turn food waste into fresh fish, which seems greatly preferable.

In time insects may become the sought-after delicacies Mr Crowley would like. It is not just sushi that once turned up noses—potatoes and tomatoes did too. Tastes change over time; the menu from a celebratory dinner in

1921 (consommé viveur, boned squab, friandises) seems as archaic to contemporary eyes as the diners' starched collars and flapper hats.

What will a slap-up menu from 2021 look like to people in 100 years? They may marvel at the idea of rack of lamb when the meat they eat has never seen a bone, skeleton or even a blood vessel. They may pity dining choices limited to a small number of living creatures—no fried, giant crickets, or cultured, cured panda ham. They may be astounded at fruits and vegetables sourced from far away, rather than coming—as all the finest produce does—from a farm just a few floors below the restaurant. They may shudder at the risks of eating line-caught fish, or grow envious at the idea of a world where the climate allowed coffee to come from beans grown on hillsides, rather than from yeast which still doesn't quite get the flavonoids right despite a century of genetic tinkering.

Some will deem the cruelty and environmental damage done by their ancestors' diets unimaginable and unforgivable. If they do so from the moral high ground of a better record in such matters, there is every reason to hope that it will be because some of the technologies described in this report have become mainstream—as unremarkable as slaughterhouses and greenhouses are today. That will help build a diet that reveals its eaters to be part of an Anthropocene that humankind is managing tolerably well, both delighting the palate and lying lightly on the conscience.■

Full contents of this Technology Quarterly

Business

Electric Motor City

Ford and General Motors fight it out to electrify

The switch to battery power is the latest showdown between Detroit's heavyweights

Sep 30th 2021

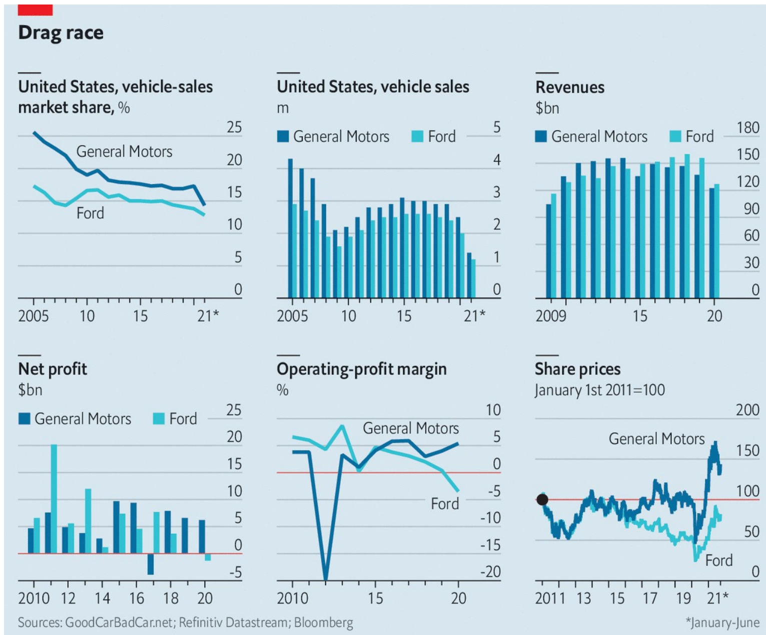
IN 1909 THE founder of General Motors (GM), William Crapo Durant, offered to buy Ford for $8m. Henry Ford spurned the advance, making way for one of the fiercest and most multifaceted rivalries in corporate history. Does Ford's harnessing of mass production with the one-size-fits-all Model T in 1908 trump the marketing genius of GM's Alfred Sloan, who promised a "car for every purse and purpose" in the 1920s? Which is Detroit's finest V8 engine: Ford's "flat head" or the "small block" from Chevrolet, GM's main brand? Did the looks of the Ford Thunderbird outshine the Corvette in the 1950s? Did the Chevrolet Camaro outmuscle the Mustang a decade later?

Even as petrolheads continue to squabble over the history, a new contest is brewing between America's two mightiest carmakers that may be the most momentous in a century. It is the race to electrify their fleets, and especially pickups, the biggest source of profits for both companies. As part of this campaign GM has said it will build four battery factories by 2025 with its partner, LG Chem, a South Korean battery-maker. And on September 27th Ford and its battery partner, SK Innovation, also of South Korea, announced an investment of $11bn in three battery factories and an assembly plant for electric F-Series pickups.

Ford reckons that 40% of its global sales will be electric by 2030 (the deadline President Joe Biden would like to set for half of all new cars in America to be battery-powered). GM wants all its vehicles to be emissions-free by 2035. The ultimate result of this competition will determine which of Detroit's giants will have the upper hand in the market for electric vehicles (EVs) and autonomous driving. It will also help shape the future of both motoring and carbon emissions in the country that invented the gas-guzzler and car culture.

After a slow start compared with European and Japanese rivals like Volkswagen and Nissan, the Detroit duo are revving up their EV plans. The new investment by Ford and SK Innovation, $7bn of which will come from the carmaker, is part of a pledge the company made in May to spend over $30bn on electrification by 2025, up from a previous commitment of $22bn. That put it ahead of GM's target of $27bn by that date. But not for long: in June GM responded by raising its goal to $35bn.

The reason for this newfound ambition is the firms' painful decline in their home market. America "defines both companies", says Dan Levy of Credit Suisse, a bank. In 2020, 65% of Ford's revenues and over 80% of GM's, along with most of their profits, came courtesy of domestic buyers. But although America defines both of them, they no longer define America (see chart). Hubris, bred from decades of effortless success, ran up against smaller, cheaper and better vehicles made by foreign firms. Ford's and GM's combined market share of 30% is a shadow of the combined 50% they commanded 20 years ago, let alone the 70% in the 1970s.



The Economist

GM was quicker to start getting out of the rut. Ironically, that is in part owing to Ford's efforts to do so in the mid-2000s. In 2006 Bill Ford, chairman and Henry's great-grandson, appointed Alan Mulally, an outsider from Boeing, a planemaker, to revive the firm. Mr Mulally's plans included a $24bn credit line. When the financial crisis hit in 2008, this saved Ford from bankruptcy protection and a government bail-out that befell GM and Chrysler (the smallest of Detroit's big three that is now part of Stellantis, a global carmaking group whose largest shareholder, Exor, part-owns *The Economist*'s parent company). But it also let Ford avoid the deep transformation into which GM had been forced.

Neither Mark Fields, a Ford insider who took over from Mr Mulally, nor Jim Hackett, an outsider who replaced him as CEO in 2017, managed to turn things round. New Fords underwhelmed and the firm made a series of missteps, such as the botched launch of the Explorer SUV in 2019. Profits dived between 2016 and 2019. If Mr Hackett indeed had deep thoughts about the future, the ostensible reason Mr Ford appointed him, he proved inept at enunciating them to investors. Critically, he failed to get his hands dirty running the day-to-day operations in the present, says Philippe Houchois of Jefferies, a bank.

By contrast, Mary Barra, who took the helm at GM in 2014, ran the firm with a laser focus on profits over market share. Slashing underperforming parts of the business, she took GM out of Russia and India, and sold Opel, its European operation, to PSA Group. Mr Levy of Credit Suisse says that, thanks to Ms Barra, "not much is left underperforming". This in turn gave GM greater self-confidence in communicating its future direction to investors. Its share price has outperformed Ford's by a country mile in the past ten years.

Ford's new boss, Jim Farley, appointed just over a year ago, has brought fresh urgency. His credentials as a "car guy" are indisputable. He proudly displays his intricate model cars on Twitter. Only Carlos Tavares, boss of Stellantis, spends more time on the racetrack. Mr Farley's love of speed and his attention to detail are evident in Ford's electrification plans.

The company has stolen a march on GM with its current EV line up. GM says it will have 30 electric models by 2025, but the only car on the road now is the Chevy Bolt, a small hatchback in a market hungry for pickups and SUVs. Ford's offerings look more compelling, desirable and closer to the firm's areas of expertise. The battery-powered Mustang Mach-E has revived a dying brand. Whereas the electric Chevy Silverado may not hit the showrooms until 2024, Ford's F-150 Lightning can already be pre-ordered and goes on sale next year. Mr Farley is also exploiting Ford's strength in commercial vehicles by electrifying its famous Transit van. The company expects revenues from the commercial-vehicle unit to rise from $27bn in 2019 to $45bn by 2025. It has an undisclosed but sizeable stake in Rivian, a EV-trucks startup that is set for an IPO that could value it at $80bn (roughly equal to GM's market capitalisation and half as much again as Ford's).

GM is not asleep at the wheel, however. In January it created BrightDrop, a new division dedicated to electric delivery vehicles. And it retains an edge in basic technology, as well as in making batteries in-house, a sure route to cutting the costs of the priciest element of electric cars. Its Ultium batteries, with a wire-free system that cuts weight and costs, married to its new electric motors, could make for a car with a range of 450 miles (724km), nearly 50 more than the longest-range Tesla.

If the electric race is tight, the longer-distance one to autonomous driving is even harder to call. Both companies are tight-lipped about progress in their self-driving divisions. Cruise, of which GM is the majority owner, is widely seen as being ahead of Argo, jointly owned by Ford and Volkswagen. Cruise has landed the backing of SoftBank, a giant Japanese tech-investment group, and a funding round in April valued it at more than $30bn. But its robotaxis, now set to hit the road in 2023, are four years behind schedule. Despite a humbler valuation of around $7bn, Argo is already starting trials of its autonomous cars and is planning to go public this year. And so the age-old rivalry shows no signs of slowing. ■

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Editor's note (September 29th 2021): This article has been amended, to correct the target dates set by Ford and President Biden for electric-car sales. Also, revenues from Ford's commercial-vehicle division were $27bn in 2019—not 2020, as an earlier version misstated.

An early version of this article was published online on September 28th 2021

Out of the groove

The music industry is an unexpected victim of a plastics shortage

The strange knock-on effect of supply-chain bottlenecks

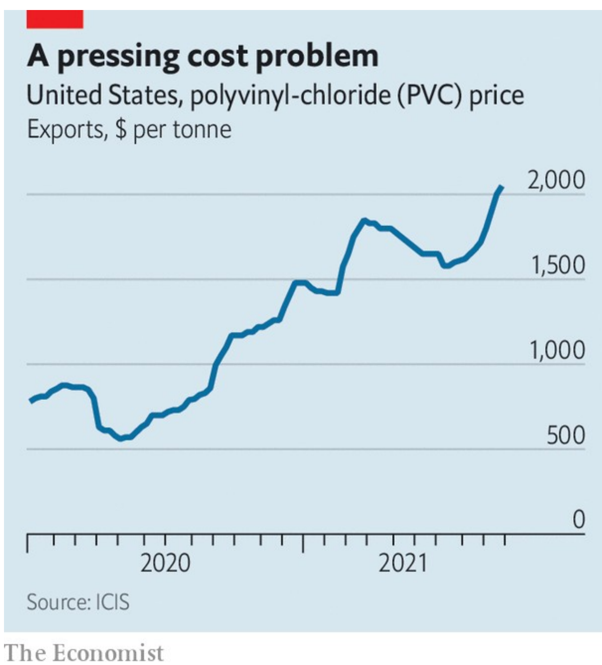
Oct 2nd 2021

AT THE START of 2020 Green Lung, a London heavy-metal act with a cult following, were about to go on their first American tour. Then came covid-19. The band used ensuing lockdowns to produce a second album, "Black Harvest". By December it was recorded and ready to be mastered and pressed onto 5,000 gold-vinyl records. Given pandemic disruptions, Green Lung gave itself lots of time, fully nine months, to make these in time for a tour this September. "We were fairly comfortable," says Tom Templar, the lead singer.

Instead the first pressing of the record, which is sold out in pre-orders, will not be available until October. The band could have launched on a streaming service like Spotify. But it wanted to wait for the LP, which generates far more money in the short run. "The vinyl sales prop up the US tour," explains Mr Templar. In the end, Green Lung played its album-launch gig on

September 1st record-less. The band thus became the latest, unexpected casualty of upheaval in global supply chains.

First CDs, then digital downloads and now streaming have made vinyl records look like a vintage curiosity. In recent years, however, sales have soared, as fans have taken to owning their favourite bands' music in physical form (waxing insistent about its supposedly better sound quality). In March vinyl sales in Britain reached highs last seen in 1989. "Every artist in the world has spent 18 months twiddling their thumbs, so they are making records," says Ed Macdonald, the manager of 100% Records, which represents artists such as We Are Scientists, an indie rock band. "Vinyl is such an integral part of our turnover," he says. Mainstream artists are increasingly involved. Taylor Swift's album, "Evermore", first released digitally in December, broke a 30-year record for vinyl sales. Albums are expected to be released soon by Ed Sheeran, ABBA and Coldplay.



Unfortunately for musicians, getting them pressed is becoming close to impossible. In the late 1990s and early 2000s most vinyl-pressing factories closed. As covid-19 raged the biggest remaining ones—in America, the Czech Republic, Germany and Poland—had to shut temporarily, creating a backlog. Now demand from musicians is outstripping capacity. On top of that, the price of PVC, the plastic used to make LPs, has surged after

Hurricane Ida knocked out 60% of America's production in August, while demand has boomed from firms that use the stuff in cars, pipes and much besides (see chart).

Dirk van den Heuvel of Groove Distribution, a distributor of dance music in Chicago, says that the big labels created the crisis by closing their own pressing factories in the 2000s. If they had kept these running, he grumbles, the majors would have been ready for the demand and smaller musicians would not now be so squeezed. It is true that big labels can often secure priority on the presses. But not always. It may be cold comfort to Mr van den Heuvel or Green Lung, but Ms Swift's fans had to wait months for their LPs, too. ■

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Stockmarket listings in America

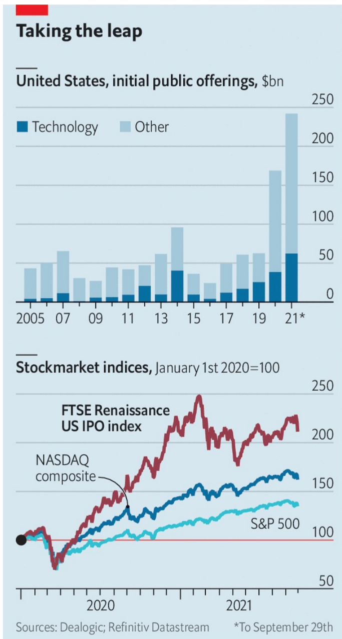
Going public? Here is a how-to guide

As flotations boom, we look at what is changing at a key moment in capitalism

Sep 30th 2021

"A FLOTATION IS like your own funeral. You usually do it only once," deadpans the chief financial officer of a software company that recently staged a blockbuster initial public offering (IPO). Some compare a listing to a wedding, requiring much frantic preparation and ending with a big celebration and bell-ringing. Others liken it to an 18th birthday, marking the moment a young company is launched into the harsh realities of adult life.

Whichever metaphor you choose, going public combines mixed emotions, much complexity and myriad idiosyncracies. Despite that, and undeterred by recent wobbles in equity markets, startups have been listing in droves. So far this year tech firms have raised $60bn, according to Dealogic, a data provider, more than at the height of the dotcom bubble in 2000. Include all types of business and the figure is close to $250bn (see chart). One headhunting agency is said to have more than 50 searches under way for finance chiefs at startups hoping to go public soon.



The Economist

The latest blockbuster flotations include those of Amplitude, a data-analytics firm which went public on September 28th and reached a market capitalisation of $5.6bn after its debut, and Warby Parker, a maker of spectacles popular among hipsters, which started trading a day later, attaining a market value of $6.1bn. Investors can't get enough of the fresh blood. Despite a sharp drop in the first half of the year, recently listed companies are back in favour, and have handily outperformed the stockmarket as a whole since the start of 2020.

Besides being more numerous than earlier cohorts, the new generation of floaters enjoy greater choice in how to go about it. Holders of stakes in Amplitude and Warby Parker have opted to sell their shares directly to public investors without raising fresh capital, as is in an IPO. Last year a record number of companies listed via reverse mergers with special-purpose acquisition companies (SPACs). Even the classic IPO is getting a reboot.

To make sense of it all, *The Economist* talked to bosses and chief financial officers of companies that have recently listed or are about to, as well as venture capitalists, bankers and brokers, most of whom spoke on the condition of anonymity. The result is a rough-and-ready guide to everything that is new in what one chief executive dubs the "key moment in capitalism".

A conventional listing goes something like this. Banks distribute newly created shares, on average 10% of a firm's total, to public investors, and pocket 7% of the money raised as fees. Though this should incentivise them to price the shares highly, the bankers also work for the buyers, who tend to be their long-term institutional clients rather than one-off customers like the listing startup. Pleasing those regulars often means setting a lower price.

That in turn all but ensures a share-price "pop" on the first day of trading, generating a quick profit for the public investors at the expense of the private ones. In the past decade the pop averaged 21%, according to an analysis by Jay Ritter of the University of Florida. And the first-day surge can be much bigger. Snowflake, a cloud-based data platform which went public last year, popped by 112%, adding nearly $40bn to its market value. As a result, its private investors may have left nearly $4bn on the table.

The good news for startup bosses, their early backers and staff, who are often paid in stock, is that banks' power is waning. Faced with options such as SPACs and direct listings, the bankers have become more flexible with the terms they are willing to accept, at least for bigger, high-quality deals aiming to raise $500m or more. The 7% is now negotiable. Strict 180-day lock-ups, which bar pre-IPO investors from selling their shares too soon, are giving way to more staggered ones. Employees of Coursera, a big online-education platform that listed in March, were allowed to sell 25% of their holdings 41 days after the IPO. Management could do the same, but only if the share price stayed at least 33% above the IPO price for 10-15 trading days.

That makes the IPO look a bit more like a direct listing, which by definition has no lock-ups. Direct listings, meanwhile, are looking more like IPOs. Last December the Securities and Exchange Commission (SEC) allowed companies listing directly on the New York Stock Exchange (NYSE) to raise capital—something that had been prohibited. In May the markets regulator waved through a similar rule change for the tech-heavy Nasdaq exchange.

For the time being, startups eyeing direct listings simply raise money ahead of the flotations, as Databricks, a data-management firm eyeing a listing, has done in two rounds this year that brought in $2.6bn. But the ability to raise new capital may in time make direct listings appealing to companies with less cash than the tech darlings that have already taken the direct route, like Spotify (in music-streaming) or Slack (office-messaging).

Then there are the SPACs. These have been around for decades, as has their reputation for dodginess (born of laxer requirements than the conventional avenues to public markets). After a frenzy in late 2020 and earlier this year, this reputation may have caught up with them. Having raised around $100bn between January and March, the SPAC fever has broken. According to one reckoning, new SPACs that had merged with their target by mid-February have lost a quarter of their combined market capitalisation since then, wiping out $75bn in shareholder value.

Still, there may be room for SPACs in the pool of flotation options, especially now that regulators and investors alike are waking up to the iffiness. The SEC is taking a closer look at the practice, fearing that SPACs mostly benefit the vehicles' founders (who customarily get 20% of a SPAC's shares as a fee, or "promote"), their bankers and lawyers. This month an SEC advisory panel recommended that SPACs disclose more information about things like promoters' financial incentives and conflicts of interest, merger due diligence and risks. In August the SEC objected to one novel SPAC format proposed by Bill Ackman, a hedge-fund billionaire, because it looked too much like an investment fund.

Closer scrutiny should help clean up the industry. And even before any new rules are enacted, many SPACs are already offering more generous terms as they hunt for promising startups to merge with, which they must do within two years. Some SPAC sponsors are accepting lower "promotes" than the customary 20%. In one SPAC last year Mr Ackman forwent the promote altogether and settled for warrants that allow him to buy shares in the merged entity.

The sponsors of SPACs are also sticking around rather than flipping shares quickly, which gives them a reason to nurture longer-term success. In the record $40bn SPAC deal involving Grab, South-East Asia's biggest super-app, due to be completed this year, founders of the shell company, Altimeter Growth, vowed to hold on to their shares for at least three years, rather than the customary 12 months.

Other parts of the listing process look a bit more familiar. A CEO must find a trusted finance chief, and IPO-hardened ones remain a scarce commodity. Startups also continue to rely on investment bankers to take on legal liability, underwrite the share issue (as "stabilisation agents" that vow to support the share price should it tank) and act as a marketing department for the listing. Bosses are still advised to talk to the more taciturn members of the sales team pitching a bank's offer (they do more work than the garrulous types) and forge close relations with brokers that will track their firms' public fate (as the saying goes, "You date the banker but marry the analyst"). And firms in Silicon Valley still have only three real choices for the two "lead" banks: Goldman Sachs, JPMorgan Chase and Morgan Stanley. If a tech startup picks some other bank as the lead, investors will wonder what is wrong with its offering.

But here, too, change is afoot. Improved access to information and investors lets bosses play off the big three banks, and the ten or so others in the prospectus that provide additional distribution of shares and analyst coverage, against each other. Banks are responding by throwing in ever more extra sweeteners, such as offering to manage a founder's future wealth, or loans in exchange for collateral in the form of privately held stakes. Some startups that make business technology, like SimilarWeb, which provides tools to analyse website traffic, require banks which want to vie for the contract to purchase their wares.

Once the syndicate is in place, it is time to sell a story. This has grown in importance as the technology offered by startups has become more complex and their business models more unusual. Few firms these days leave the prospectus entirely to the bankers. The middlemen can deal with the financial disclosures and other legal boilerplate. But the opening letter to shareholders is virtually always written by the founder CEO. "It helps clarify the essence of what you do as a company," says Daniel Dines, the boss of UiPath, which sells automation software and raised $1.3bn in an IPO in April that valued it at $29bn.

Nowadays many firms file their prospectus, or S-1 in SEC-speak, confidentially, which lets them modify the document in response to queries by the regulator without the embarrassment of a public refiling. The "roadshows" that make up the other part of the sales pitch are also more of a back-and-forth process. Some firms begin meeting investors before they file their S-1. After the filing they do another round of meetings to hone the presentation and the accompanying pitch deck. Only then comes the roadshow proper, which gets cracking after the S-1 is made public.

As a result of the pandemic this arduous process involves fewer actual roads. Investor presentations have mostly gone virtual, sparing bosses visits to a dozen cities in ten days, including a handful overseas. And the tedium of endless Zoom calls is now punctuated by instant gratification. After each presentation investors put in their bids, which pop up instantly in an app provided by the banks. These enable all manner of fancy analytics, including drawing demand curves for an offering.

Nevertheless, actual share allocation and pricing still requires "man-to-man combat", in the words of a (female) banker. If a bank senses no pushback, the client startup will find many hedge funds on the investor list. Most startups do try to push back, however, demanding that all their future shareholders are long-term and blue chip. CrowdStrike, a cyber-security firm which went public in 2019, had confronted its bankers with a spreadsheet of some 400 investors that management had already vetted. Some firms are offering shares to their users. In its IPO Uber set aside 3% of its stock for drivers. Its ride-hailing rival, Lyft, did something similar. In July Robinhood, a day-trading app, reserved up to a third of shares in its IPO for its users.

Once the price is set and the allocations decided, the last task for the exhausted boss is to ring the bell on the opening day of trading. Besides being the culmination of a protracted process this remains a marvellous marketing opportunity. So when the bell chimes on the NYSE or the Nasdaq, bosses should smile, wave and watch traders spring into action, making their wildest capitalist dreams come true. ■

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An early version of this article was published online on September 26th 2021

Bartleby

Why companies need middle managers

Organisations embrace flat hierarchies at their peril

Oct 2nd 2021

EVERY LARGE business has a boss and minions, who do most of the work. What comes between the corner office and the shop floor is a matter of managerial preference. Some firms' organisational charts are towering *mille-feuilles*, with staff piled into rigid hierarchies stuffed with assorted supervisors. More fashionable of late has been the pancake organigram: fewer layers of workers reporting to a smaller cadre of chieftains. As appealing as such "flat" organisations might seem, the thinning of managerial ranks comes at great cost.

Vice-presidents, area supervisors and other department heads were once the corporate machine's central cogs. Now such middle managers are derided as pound-shop CEOs, there largely to organise and attend pointless meetings. A few modish startups bill themselves as having no administrative tiers at all, leaving independent employees flitting between tasks as they see fit. Such holacracy, as it is dubbed, clearly won't do for a Unilever or Goldman Sachs. But even big firms now ritually boast about "delayering" their ranks.

Flat organisations are meant to reflect the modern workplace. Businesses in generations past used to be steeply hierarchical to mimic the armed forces, remembered by bosses of yesteryear as a place where missions were accomplished. Starting off at the bottom of a pyramid, perhaps six or seven rungs below the top brass, wasn't so bad if you intended to progress at the same firm for your entire career. Millennials and later Gen-Z recruits had other ideas. Reporting to an overbearing boss crimped their ability to make an immediate mark.

Several factors contributed to the "flattening" trend. Businesses discovered that having lots of mini-barons could lead to stultifying silos. New ways of working—starting with modern technology—mean that executives can manage more subordinates, including some far away. Add enough direct reports to each supervisor, and the number of rungs between the chief executive and the graduate trainee shrinks accordingly.

Proponents of flat organisations say they give each employee added responsibility: bosses with dozens of flunkeys can hardly be expected to micromanage them. Uncluttered organigrams make companies more agile, enable faster decision-making and trim costs to boot. Business titans like Elon Musk of Tesla, a car firm, have painted delayering as a way of improving communication and shedding corporate deadweight.

Clearly there are limits to how far one can go. Not every Tesla factory hand is going to seek their annual appraisal from Mr Musk. In fact any amount of delayering hacks away at what it means for an employee to be part of a company. The key corollary—indeed the enabling factor—of flat organisations is for each employee to have less boss. That will sound appealing to some workers.

Such bosslessness, however, is a false Utopia. Companies that went furthest in scrapping management tiers discovered that getting rid of a formal pecking order resulted in informal hierarchies taking hold instead. A leadership vacuum risks being filled by petty tyranny. It is inevitable when large groups of people spend time together, in the office or elsewhere, that someone ends up in charge (and often lots of people end up in charge of different little tasks). That can be layers of managers put in place formally according to their competence and track record. Or, if everyone is on paper holacratically equal, it might be whoever talks loudest at meetings.

Fewer tiers mean fewer people with day-to-day experience of corralling employees. Yet managing others is not an ancillary task which companies do to reach other aims. It is the precondition for any of their aims to be reached. Sometimes skimping on the degree to which each human resource is supervised doesn't matter much. But there inevitably comes a time—for the employee or the company—when it matters a great deal. Having lots of organisational tiers means that those in charge of managing lots of people have had experience managing fewer people before.

Covid-19 has already upended many individuals' working lives. Gone are the days of sitting every day in the same office as your co-workers. Plenty will be adapting to the new managerial normal for a while yet. That makes keeping employees in the loop and engaged more important than ever. Layers of bosses provide structure. For all the joy of belittling them, middle managers are part of the solution.

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Schumpeter

How bosses should write books

CEOs are at risk of giving business writing a good name

Oct 2nd 2021

Brett Ryder

CHIEF EXECUTIVES are not, it goes without saying, the world's most natural writers. They do not rise to the top without laserlike ambition, a trait that rarely leads to literary reflection. To achieve success, they have to murder their straight-talking selves and master corporate twaddle instead. They need neither fame nor fortune—the main reasons writers go through the agonies that they do. And when they do write, as a business publisher admits, you often "weep for the trees". Think only of Jack Welch's paean to great (ie, his own) leadership called "Winning". Its first pearl of wisdom is: "Winning in business is great, because when companies win, people thrive and grow."

So it is with trepidation that Schumpeter celebrates the flourishing of a genre at which most book-lovers would shudder: the CEO memoir. True, it has its drawbacks. The authors are mostly white, male and middle-class. They are neither Hemingways nor Dostoevskys. There is no sex, drugs and only middle-of-the-road rock ’n’ roll. And they can afford the best ghostwriters so it is hard to tell how much is their work anyway.

That said, the genre has many things going for it—especially when the authors are founders of successful firms who, by definition, have mastered the art of telling a good story. It has recently hit its stride with books by Phil Knight, who co-founded Nike, in 2016 and Stephen Schwarzman, co-creator of Blackstone, in 2019. Its newest addition is “Play Nice but Win”, the story of how Michael Dell built the PC company named after him that would eventually change the way computers were made and sold. Ignore the boy-scout title. The book is acidly funny, nail-biting and fast-paced. It is also blessed with a villain from central casting: Carl Icahn, activist investor and publicity hound, whose sparring with Mr Dell gives the story its bite.

Moreover, for those interested in business, such accounts provide a ringside seat for observing some of the big dilemmas of recent decades: staying private or going public; prioritising shareholders or stakeholders; building hardware or software. In a world of unreadable business books and overpriced business schools, it is worth taking CEO memoirs seriously. If nothing else they help expose what most self-styled business gurus get wrong.

The first trait the books celebrate is competitiveness. The memoirs bristle with it. These are not win-win firms created to make the world a better place. Business, as Mr Knight puts it, is “war without the bullets”, fought one sale at a time, which someone inevitably has to lose. In 1988, when Mr Dell was 23 years old and Compaq was his biggest rival, he placed a billboard outside its headquarters in Houston, Texas, with an arrow pointing west towards Austin, where his own four-year-old company was based. “158 miles to opportunity”, it read. In “Shoe Dog”, Nike’s former boss writes about the importance of being first into China to gain an advantage over its competitors. “What a coup that would be,” he writes. “One billion people. Two. Billion. Feet.”

The second factor is how character affects business. In most such books, personality is overshadowed by bloodless abstractions: visions, narratives, missions. In reality, businesses are built by people with flesh-and-blood strengths and weaknesses. Of course, all entrepreneurs crave success. But part of Mr Dell's genius lay in realising that his triumph would come from complementing his cocky young self with colourful elder statesmen who understood the pitfalls of building a business at lightning speed. The laconic Mr Knight's sidekick was Jeff Johnson, an oddball so enthusiastic about selling trainers that he wrote endless letters to his exasperated boss. He never got a response, yet the affection between the two men helped make Nike what it is. A cast of Wall Street characters brightens Mr Schwarzman's book. One of the most memorable is Jimmy Cayne, boss of Bear Stearns, who pigheadedly refused to write a cheque that could years later have saved the bank from collapse.

Third comes candour. Be honest about failure as well as success. Founding a business always comes with what Mr Schwarzman calls "the moment of despair": when you think you are a master of the universe, but no one else does. In Mr Knight's case it was the word uttered by his banker that ran through his head as he punched his pillow at night: "equity", ie, cold, hard cash he needed to inject into his firm. He had none. For Mr Dell, it was the frustration of having Mr Icahn, a master of the soundbite, accusing him of grossly undervaluing Dell when attempting to take it private in 2013. He likens it to being "smacked in the face with a flounder".

Finally, context. The books all channel the cacophony that surrounds business, coming from employees, customers, competitors, lenders, investors and regulators. This makes keeping a single-minded focus on success so hard. When Dell temporarily goes private in 2013, Mr Dell silently waves goodbye to the "legions of whiners, back-seat drivers, kerbside experts, rear-view-mirror thinkers, and second guessers". Mr Knight takes issue with what he calls the "bland, generic banner" of business itself. "What we were doing felt like so much more. Each new day brought 50 new problems, 50 tough decisions…and we were always acutely aware that one rash move, one wrong decision, could be the end."

Over to you, Jeff Bezos

The lure of self-aggrandisement remains. Mr Schwarzman ends his book with pages of name-dropping. Mr Dell descends into pieties about doing good for the world. Refreshingly, Mr Knight, who in later life studied creative writing, finishes before his tale becomes a dull one of Nike's success. And the genre has room to develop. Soon, the west coast's middle-aged tech barons will be itching to tell their stories. The world may wince less if the CEO scribes remember the four Cs: competitiveness, character, candour and context. And if they need a ghostwriter, remember the business hacks who, unlike superstar bosses, toil in obscurity. ■

Finance & economics

The property complex

How a housing downturn could wreck China's growth model

Evergrande's woes expose the economy's unhealthy dependence on property

Sep 30th 2021 | HONG KONG

ADD "MALICIOUS price-cutting" to the growing lexicon of Xi Jinping's China. The phrase has cropped up in the past but is being increasingly used by provincial authorities to decry property developers' attempts to slash home prices. Some developers, desperate to bring in revenue, are offering discounts of as much as 30%. Officials, fearing that the price cuts might frustrate recent homebuyers and lead to protests and distortions in the property market, regard the discounts as undermining social stability and have banned them. In the central city of Yueyang the government has told developers to stop increasing prices but also to refrain from reducing them by more than 15%.

In such cases both regulators and developers are walking a tightrope, teetering between sky-high prices and a damaging downturn. The property market is probably the single largest driver of the country's economy. Urban

Chinese have flocked to it as a haven. House prices have soared over the past 15 years, often by more than 10% a year in large cities. Yet developers have borrowed huge amounts in the process. The industry's total debt is about 18.4trn yuan ($2.8trn, equivalent to 18% of GDP), according to Morgan Stanley, a bank. Housing costs, relative to incomes, now make large Chinese cities some of the least affordable places in the world.

These trends have collided with officials' goals of reducing corporate indebtedness and inequality, which lie at the heart of Mr Xi's mission to bring "common prosperity" to China. The campaign has already brought down several large real-estate companies as regulators have tightened their access to credit. The latest is Evergrande, a developer with about $300bn in liabilities that has started to miss payments on dollar bonds. (As *The Economist* went to press Evergrande seemed to have missed another offshore-bond payment, due on September 29th.) The fear for officials is not just that the unwinding of the group will unleash systemic financial risks. If the property sector were to tip into a correction, everything from local-government and household finances to the country's growth model would be imperilled.

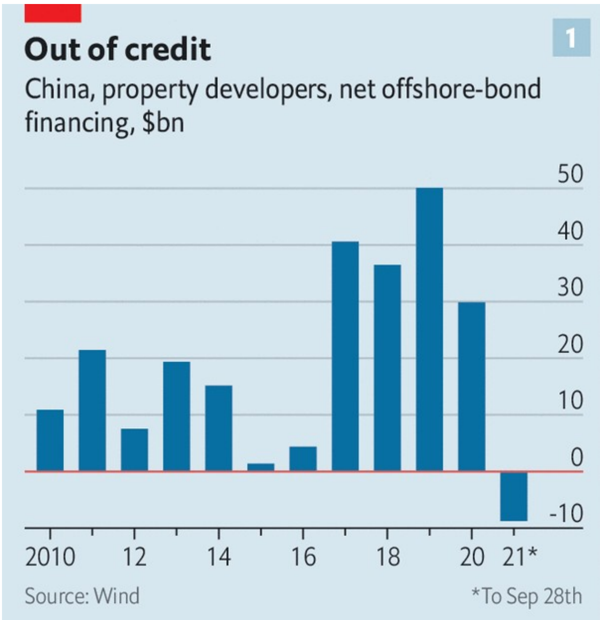
China's leaders have cheered on the property boom for the best part of 30 years. When the central government overhauled the tax system in 1994, local authorities lost a large chunk of revenue. At the same time, local governments were prevented from issuing debt. Yet they were tasked with hitting high economic-growth targets, sometimes exceeding 10% a year. Selling land became one of the few things municipal officials could do to generate revenues, which would in turn finance roads and other public works. They could also set up companies that could borrow from banks and raise debt from other sources. This arrangement meant economic growth was tightly bound to booming property.

Between 1999 and 2007 the quantity of rural land transferred to urban use increased by an average annual rate of almost 23%, and public-land sales soared by an average of 31% a year. Soon the property market became the prime lever for controlling economic growth. During the global financial crisis much of China's $586bn stimulus package came in the form of loans and shadow-banking funds for developers. "The property market was a vehicle for delivering the stimulus," says Kevin Lai of Daiwa Capital

Markets, a broker. By 2010 land sales accounted for more than 70% of municipal incomes a year, although the rate varied between regions.

The failure to break away from this setup is one of China's biggest economic blunders of recent decades. The relationship between the property market and overall growth remains as strong as ever. Residential investment alone makes up 15% of GDP; the economic importance of property rises to 29% once construction and other related industries are added in, according to an estimate by Kenneth Rogoff of Harvard University and Yuanchen Yang of Tsinghua University. As a result, homebuyers and developers alike have considered the housing market too important to fail, finds Hanming Fang of the University of Pennsylvania. They have treated their investments as one-way bets.

The Evergrande crisis and some property indicators are beginning to threaten that long-held belief. Malicious price-cutting may be in the headlines, but only especially cash-strapped developers have resorted to it. Yet demand is weakening from its high base. One gauge is growth in prices, which has slowed in recent months. Another is the secondary market, where speculative investors cash out. In Shenzhen, a southern boomtown, transactions fell for four consecutive months to 2,423 in August, compared with a monthly average of 8,376 in 2020, according to Rhodium Group, a consultancy.



The Economist

The easy stream of credit that kept construction sites buzzing is drying up. Access to bank and shadow-bank loans, as well as demand for on- and offshore bonds, is weakening for the industry in general, says Cedric Lai of Moody's, a rating agency. Net offshore dollar-bond issuance has turned negative for developers for the first time in at least a decade (see chart 1). Land sales for residential projects declined in the first half of the year, mainly because of government limits on bank exposures to developers. S&P, another rating agency, has downgraded many developers to junk. Moody's says its outlook on China's property sector is now negative.

The Economist

Such news has grabbed the attention of local officials. Declining demand for homes and a shortage of funds will mean less demand for land. The development of a municipal-bond market over the past decade has helped some regions move away from land sales. But on the whole local officials have only become more addicted. Total government sales revenue has climbed since 2015 and reached about 8.3% of GDP in 2020 (see chart 2). Any decrease bodes ill for the economies of smaller cities.

Households, meanwhile, are on some measures more exposed to property than ever. In 2019 housing represented about 60% of their total assets (financial assets accounted for just 20%). This overreliance has driven up mortgage debt to about 76% of total household liabilities. As developers lost other forms of funding over the past five years they became heavily reliant on pre-sales income, where buyers pay for their homes, sometimes in full, months or years before completion. Between 2015 and July 2021 the share of pre-sale revenue as a source of funding for developers rose from 39% to 54%, according to Natixis, a French bank. Some of the people who paid in advance for Evergrande homes or bought one of the company's wealth-management products have protested outside its offices.

Investors are now waiting for government action. Some expect that, as the economic outlook darkens, officials will ease monetary conditions. Most banks have used up government quotas for property-sector loans this year, says Zhang Zhiwei of Pinpoint Asset Management, a hedge fund based in Shanghai. The quotas will be renewed in January, leading to a burst in lending, he says. Raymond Yeung of ANZ, a bank, thinks that regulators are well enough informed of the risks that few other developers will encounter the same problems as Evergrande. A property slowdown might knock a half of a percentage point off GDP growth this year, he says. Mo Ji of Fidelity International, an asset manager, says she expects the turbulence to take a percentage point off growth.

The short-term outlook, however, might ignore a bigger secular shift. Mr Lai of Daiwa says the market is "very close to the end of the housing boom", because the accumulation in debt cannot continue. Efforts to make China more equal could mean more moderate price rises in future, says Oxford Economics, a consultancy. Whether China's unfavourable demographics can continue to support a market of this size over the next decade is an open question, reckons Mr Yeung.

Few options for decoupling economic growth from housing exist. China should have focused more of its construction on megacities, which tend to have diverse sources of funding and competent administrators, says Andy Xie, an economist. Instead local officials in small towns have squandered land revenues, often spending on vanity projects even as young workers leave for large cities. For the economy to end its unhealthy dependence on property development, it may be necessary for many local governments to cease to exist. ■

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An early version of this article was published online on September 29th 2021

The China discount

China’s new political risk premium

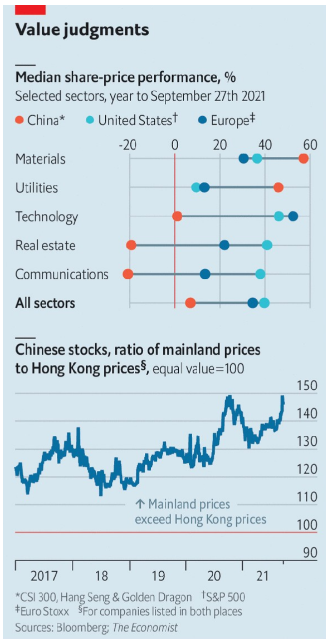
A series of policy upheavals is putting off some investors

Sep 30th 2021 | HONG KONG

FOR THE average investor, China is the source of all sorts of uncertainty. A regulatory crackdown on social-media and education firms has sent stocks tumbling. Companies with exposure to property are suffering as a result of a clampdown on leverage and a liquidity crisis at Evergrande, a developer. A ban on cryptocurrency transactions briefly knocked the price of bitcoin. And a rush by provincial authorities to meet carbon-emissions targets is causing power shortages, which could weigh on both the economy and asset prices.

If investors expect policy to remain volatile, then they could start to demand a greater premium for holding Chinese assets. “The intensity of policy change has caught investors off-guard,” says Chetan Ahya of Morgan Stanley, a bank. “It’s not clear what the end game is for each sector, so there’s a lot of uncertainty, and it’s this uncertainty that adds to the risk.” Indeed, a risk premium may already be becoming apparent for some assets.

Over the past six months the MSCI China index of stocks listed on the mainland and in Hong Kong has underperformed global equities by the most in over 20 years. Yields on offshore Chinese high-yield dollar bonds, at around 14.5%, are higher than they were during the covid-induced market panic of March 2020.



The Economist

Analysis by *The Economist* suggests that stocks in sectors that have been most affected by crackdowns, such as information technology and property, have lagged behind those of similar firms in America and Europe (see chart). Goldman Sachs, a bank, has examined what a change in the policy treatment of "socially important" sectors, such as media and entertainment, might entail for private firms. Although privately owned companies have always had higher returns on equity than state-owned enterprises (SOEs), recent policy changes will curtail their profits. The range of potential outcomes is huge, depending in part on how much of the private sector will see SOE-like returns. In the most optimistic case, the MSCI China index may already be undervalued by a double-digit percentage. In a more pessimistic scenario, it could still be overvalued by a similar amount.

Working out which case is more likely is a question more of politics than finance. The policies of any government have a bearing on investment outcomes, and are tracked by asset managers around the world. But monitoring and predicting the machinations of the Chinese Communist Party is no simple task for experts, let alone the average Western financier. "For an offshore bond investor, why play this game?" asks Alex Turnbull of Keshik Capital, a Singapore-based investment fund.

Sure enough, investors in offshore assets have cooled towards China. One way to gauge this is to compare the stock prices of Chinese companies that are listed both on the mainland and in Hong Kong. Equities are typically more expensive at home, as China's capital controls leave punters with few alternatives. But the gap has widened substantially, with onshore investors paying a premium of around 45%. That is roughly as wide as in 2015, when domestic stocks enjoyed a frenetic rally driven by margin debt. This time mainland stocks have been roughly flat. The wedge reflects the pessimism of foreign investors, rather than the optimism of mainland punters.

Not all assets have a higher risk premium attached to them. Interbank-lending markets have been quiet so far (perhaps aided by support from the People's Bank of China). Safe, state-run companies at the heart of the financial system have shown no signs of turmoil. On September 17th the Industrial and Commercial Bank of China, a state-owned lender and by some estimates Evergrande's largest bank creditor, issued \$6.2bn in contingent convertible bonds, with the lowest coupon for such a sale for a Chinese company on record. The sovereign-bond and foreign-exchange markets have been calm, suggesting that investors do not think that current woes will shake China's capital controls.

What does a reduction in foreign investment mean for China? For now the economic effect is limited. Although overseas ownership of government bonds has risen in recent years, corporate borrowing is still very much a domestic affair. Foreign institutions own just 1.5% of the roughly 7.6trn yuan (\$1.2trn) in medium-term notes in the corporate-bond market. Some economists argue that China's ageing population will mean that it will run current-account deficits instead of surpluses, which would need to be funded with more foreign capital. But those expectations have yet to be realised. The current-account surplus declined to a 25-year low of 0.2% of GDP in 2018, but picked up again in 2019 and 2020.

A broad risk premium, though the result of various government initiatives, would however defeat another policy aim. In recent years regulators have tried to encourage investors to be more discriminating about risk. They have allowed more company-bond defaults, in order to dispel the idea that the state will always bail out troubled firms. Those efforts had some clear successes. The spread between the yields of AAA- and AA-rated onshore corporate bonds has risen from 1.7 percentage points two years ago to 2.3 points today. Investors paid more attention to the credit fundamentals of Chinese companies.

Now those efforts are being undone. Investors are instead guessing where government policy might go next, and a blanket risk premium is in place, particularly on assets most accessible to foreign investors. Instead of helping investors differentiate risks, the recent barrage of shocks has forced them to apply a broad brush again, with Chinese companies the biggest losers from the shift. ■

An early version of this article was published online on September 27th 2021

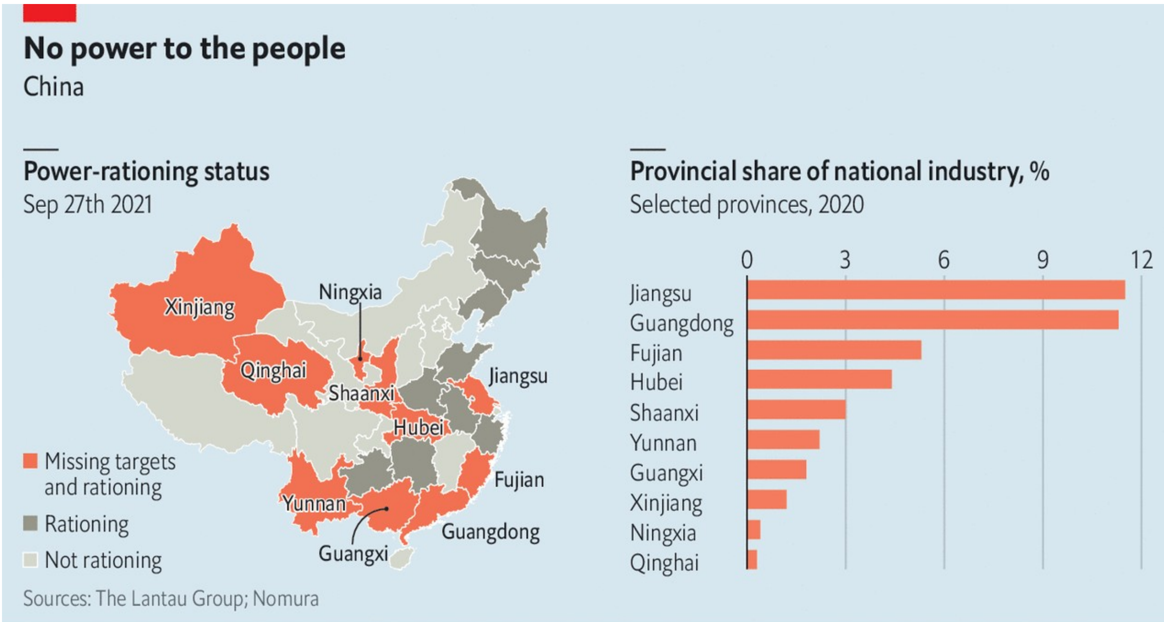
Xi’s electric

The latest shock to China’s economy: power shortages

At least 19 provinces have suffered power cuts in recent weeks

Oct 2nd 2021

At least 19 of China’s provinces, including many of its industrial heartlands, have suffered power shortages in recent weeks, with some unplanned and indiscriminate cuts. In many parts of the country, the high price of coal is to blame. Ten provinces are also trying to meet strict environmental limits on energy consumption. Nomura, a bank, expects China’s GDP to shrink in the third quarter, compared with the second.



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Home truths

Can lending controls solve the problem of unaffordable housing?

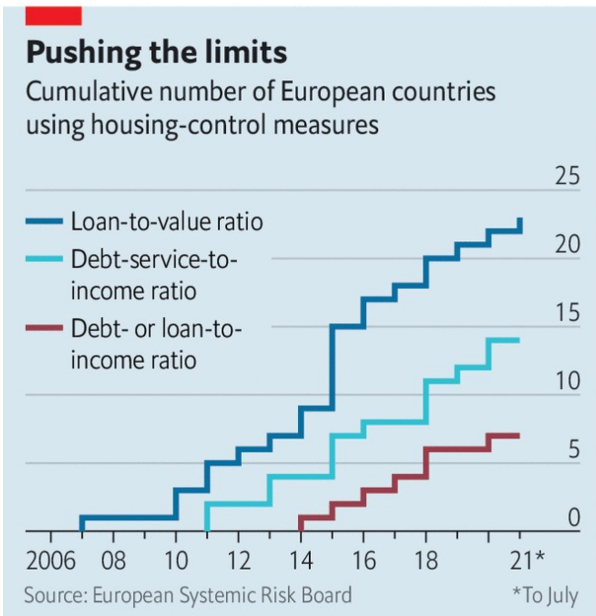
More central banks are tightening curbs on risky lending. But that is unlikely to make housing much cheaper

Oct 2nd 2021

HOUSE PRICES in the rich world are growing at their fastest rate for 30 years. Those in America rose by a record 19.7% in the year to July, according to figures published on September 28th. House prices measured relative to incomes are above their long run averages in three-quarters of OECD countries. Policymakers nearly everywhere are under increasing pressure to make housing more affordable.

Higher interest rates would bring down house prices relative to incomes, by making mortgages more expensive to service and tempering housing demand. But raising interest rates to cool the property market now runs the risk of jeopardising the economic recovery from lockdowns. More promising, in some people's eyes, could be to tighten the "macroprudential" tools available to central banks and financial regulators, which seek to limit risky mortgage lending.

On September 23rd the Reserve Bank of New Zealand tightened macroprudential housing policy for the third time this year, saying that past tightening had not done enough to tackle unsustainable house prices. Regulators in several other countries, including France, have also become stricter this year. Although these tools were designed to make lenders and borrowers more resilient by restraining the growth of debt, the case for using them to control house prices directly is weak.



The Economist

Macroprudential policies have a long history and encompass a wide range of levers, such as capital and reserve requirements and direct controls over lending rates and quantities. Policies aimed at the housing market can include restricting the amount of lending that banks can do at high loan-to-value (LTV) or loan-to-income ratios. LTV tools are the most common: in Europe more than 20 countries deploy them, and their use has increased significantly since the global financial crisis of 2007-09 (see chart).

These controls, by having limited credit growth, may well have been one reason why last year's covid-induced recession did not trigger a financial crisis. Because household-borrowing growth and house-price growth often feed off one another, it could be tempting to tighten lending controls in order to improve affordability. But there are three reasons why that policy would be a mistake.

The first is that research suggests that the effects on house prices do not seem to be large enough to make much difference to affordability. One intriguing example is a recent paper by Steven Laufer of the Brookdale Institute and Nitzan Tzur-Ilan, then of Northwestern University, which studies an LTV policy introduced in Israel in 2010. Faced with rampant house-price inflation, the central bank told lenders to hold additional capital against loans with LTV ratios of more than 60%, but only for lending of more than 800,000 shekels (around $220,000). This allowed the authors to compare the price growth of the houses subject to the measure with that in the rest of the market. The measures were found to reduce aggregate Israeli house prices by no more than 0.6%.

Moreover, lending controls typically make mortgages more expensive for affected borrowers by rationing credit. So even if prices end up slightly lower, houses may not be more affordable. A study of European countries, for instance, shows that average mortgage rates rise when LTV policies are tightened.

The third reason why macroprudential policies are not suited to improving affordability is that LTV controls may affect disadvantaged households disproportionately. The Israeli study found that the biggest negative effects on house prices were in the less desirable parts of more expensive cities, which they suspect occurs because credit-constrained households tend to buy in those areas. A previous paper by Ms Tzur-Ilan concluded that affected borrowers in the residential areas around Tel Aviv had to move on average 4-7km farther from their place of work following LTV-policy tightening, and faced up to an hour a day of extra commuting time. These side-effects may be justified if the ultimate goal is a more resilient financial system. But if the policies were intended to reduce house prices to help poorer households, they could prove counterproductive, entrenching existing inequalities.

Over the past decade macroprudential policies, including housing tools, have played a big role in reducing borrowing growth in some countries, making the financial system safer. But the tools were never designed to improve housing affordability, and are ill-suited to that job. People frustrated by eye-watering rises in house prices might do better to press governments, rather than financial regulators, to solve the problem. ■

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Setting rates and trading them, too

Two Fed presidents resign after criticism of their investment activities

The fact that no rules were broken means they need to be tightened

Oct 2nd 2021 | Washington, DC


Getty Images

ROBERT KAPLAN had a busy 2020. As a voting member of the Federal Reserve's monetary-policy committee, he participated in its decisions to ramp up stimulus. As head of the Dallas Fed, he made two dozen public appearances, speaking at chambers of commerce, think-tanks and conferences. And as a wealthy individual, he traded millions of dollars' worth of stocks in companies from Apple to Chevron.

On September 27th, amid growing questions about the propriety of such activity for a Fed official, Mr Kaplan announced his resignation. The focus on his trading, revealed in his annual financial disclosure, risked becoming a distraction for the central bank, he said.

He was not alone. Eric Rosengren, president of the Boston Fed, resigned on the same day, under the same cloud. His trading was less hefty than Mr Kaplan's, with most of his orders valued at less than $50,000. But he had invested in trusts that held mortgage-backed securities at around the same time that the Fed was buying such assets. Mr Rosengren said he was stepping down for health reasons.

At a press conference on September 22nd Jerome Powell, the Fed's chairman, had voiced his displeasure but stopped short of censuring his two colleagues. Their investments had been judged by ethics officers to be consistent with the Fed's rules. They did not, for example, buy stocks in banks supervised by the central bank. And they did not trade within a ten-day window before rate-setting meetings.

It was also hardly the first time that Fed officials, many with backgrounds in finance, have disclosed big investments. Critics have never much liked that. But the Fed's outsized role in markets in response to the covid-19 pandemic has forced the issue. At best, active trading looks unbecoming for central bankers tasked with safeguarding the economy. At worst, there are questions about whether Fed officials might benefit from private information or whether their personal portfolios might influence their policy thinking.

Other central banks might face similar quandaries. The Bank of Canada, for instance, permits employees to invest in a wide range of assets, restricting just higher-level staff from holding shares in financial firms. The Bank of England is similarly relaxed, though it does require its staff to obtain approval before trading securities. The Fed, arguably, is already more accountable: the trading activities of Messrs Kaplan and Rosengren were self-reported in their annual disclosures, available to journalists by email.

Mr Powell has vowed that the Fed will tighten its ethics rules after a thorough review. Yet it is hard to see how to avoid the appearance of conflicts of interest with just about any investing. As Mr Powell said, he had owned municipal bonds for years partly because they were deemed a safe asset for Fed officials, with the central bank unlikely to buy them. But last year he helped guide the Fed to rescue the muni market when it came under stress. Blind trusts, invested across a wide range of index funds and asset classes, might be the best solution. Any self-respecting central banker should also know that such passive strategies are, on average, likely to outperform active portfolio management. ■

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Buttonwood

Making sense of the chaos in commodity markets

The 2000s were about the supercycle. The 2020s are about supermayhem

Oct 2nd 2021

THE WORLD championships of slot-car racing are a microcosm of mayhem. Tiny remote-controlled models of cars fly up, down and off a convoluted circuit faster than befuddled spectators can follow. Forecasting winners is impossible. This year's race, due to be held in America, was cancelled owing to travel restrictions. But amateurs of high-risk betting might instead find consolation in the equally bewildering, rapidly changing world of commodities.

Until recently these seemed comfortably installed in the fast lane; the Dow Jones Commodity Index rose by about 70% in the year to June. But the rally has since run out of puff. Some materials, such as lithium, continue to climb. Other once-hot commodities have gone into reverse. The price of iron ore is down by 45% since its peak in mid-July; lumber, by 63% since early May.

Things used to be much simpler. During the 2000s China's rise fuelled a commodity "supercycle"—a prolonged period of high prices. When Chinese growth ebbed in the mid-2010s the sustained boom ended. This time, however, no single motor is propelling commodities upward. Both supply and demand are being hit by a series of short-term shocks that are interacting in unpredictable ways, creating a sense of chaos.

Three categories of shock matter. The first is the stop-start, uneven nature of the economic rebound. China seemed on a tear early this year but has since faltered. America is going at full throttle, with Europe in its trail, but the Delta variant and supply bottlenecks may slow it down. Many poor countries have yet to pick up pace. All this creates sudden surges in demand for raw materials at a time when both producers and the shipping infrastructure, still disrupted by local bouts of covid-19, are already under strain. The price of copper was pushed up as demand recovered, but also because of mine closures in South America early in the pandemic. Freight futures, which investors, curiously, class as a commodity, have surged.

At the same time, governments are intent on speeding up the green transition. This creates demand for the wood and the metals used to construct wind and solar farms, and boosts natural gas, a popular bridge between the dirtiest fuels and clean ones. Lithium, used in electric-vehicle batteries, rose by 21% in September alone. The same underlying cause—climate change—is causing disruptive weather events. Snow in Brazil, for instance, has helped push coffee prices up by 22% since early July. In August Hurricane Ida shut down most of the offshore oil and gas output in the Gulf of Mexico.

Geopolitical tensions, the third driver, muddy the outlook further. Australia, a mining and farming giant, has entered a new alliance with America that is intended to contain China, its main customer, after the government in Beijing imposed embargoes on its prized exports. Russia is accused of limiting natural-gas sales to Europe to justify a controversial pipeline linking it to the continent. The European gas spot price has shot up by more than 80% since mid-August.

Combine these factors and you get an insight into the commodity chaos. Iron ore has cratered because China no longer wants so much steel. But coking coal, the other ingredient in steelmaking, is glowing hot because Mongolia, a big producer, is in lockdown.

Oil crossed $80 a barrel for the first time in three years on September 28th. Prices are high because OPEC and its allies are being unusually disciplined in limiting output, and shale wells in America, often quick to turn on the taps, are instead paying down debt. That would typically boost corn, the main component of American biofuel. But President Joe Biden is mulling a cut to the amount of biofuels refiners must blend into the total fuel pool, dampening demand. The price of palladium, used to make catalytic converters, has slumped by 25% in the past month because a shortage of microchips has halted car production.

Jean-François Lambert, a former head of commodity-trade finance at HSBC, a bank, reckons the mayhem could well last until 2025, when the pressures on the market will start to ease. That might be why few investors seem keen to bet on the direction of prices. Although commodity markets have attracted strong inflows since the start of the year, analysts at Capital Economics, a consultancy, reckon that is mostly down to the popularity of exchange-traded funds tracking gold. Considering the chaos in the world's commodity markets, it's no surprise that investors want a haven.

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Free exchange

Just how Dickensian is China?

Inequality is better than it was. But it doesn't feel that way

Oct 2nd 2021

WITH ITS fast trains, super-apps, digital payments and techno-surveillance, China can seem like a vision of the future. But for some scholars, such as Yuen Yuen Ang of the University of Michigan, it is also reminiscent of the past. Its buccaneering accumulation of wealth and elaborate choreography of corruption recall America's Gilded Age at the end of the 19th century, an era that takes its name from a novel by Mark Twain and Charles Warner.

China, including Hong Kong and Macau, now has 698 billionaires, according to Forbes, almost as many as America (724). The habits of the new rich could fill a novel in the spirit of Twain. Even the non-fiction accounts are outlandish. One billionaire, according to the book "Red Roulette" by Desmond Shum, offered the author's well-connected wife a $1m ring as a gift. When she refused, he bought two anyway. One businessman remarked to Ms Ang that his neighbour's dog will only drink Evian. Meanwhile, over 28% of China's 286m migrant workers lack a toilet of their own. And in parts of rural China, 16-27% of pupils suffer from anaemia, according to a 2016 study, because they lack vitamins and iron.

None of this makes Xi Jinping, China's ruler, happy. According to a leaked account by a professor who grew up with him, he is "repulsed by the all-encompassing commercialisation of Chinese society, with its attendant nouveau riche". Mr Xi has begun to talk more frequently about "common prosperity". In January, he declared that "we cannot allow the gap between the rich and the poor to continue growing…We cannot permit the wealth gap to become an unbridgeable gulf."

The Economist

Measuring China's gaps and gulfs is tricky. The most common gauge of income inequality is the Gini coefficient, which has become popular despite being hard to interpret. One way to make sense of it is with a thought experiment. Suppose two people in a country are to meet at random. What will be the expected income gap between the two? If you know the income of everyone in the country, you can guess by calculating the average gap from every possible pairing. That expected gap can be expressed as a percentage of the society's average income. Cut that percentage in half (to get to a number between 0 and 100) and you have the Gini coefficient. China's official Gini is 46.5%, meaning that the expected gap will be 93% (ie, twice the Gini) of China's average disposable income. Since average disposable income was 30,733 yuan ($4,449) in 2019, the expected gap would be about $4,138.

China's official Gini is higher than that of many advanced countries, including America and Britain. An alternative calculated by the World Bank looks better (38.5% in 2016), because it takes account of cheaper prices in rural areas. Another source, the World Inequality Database overseen by Thomas Piketty and his colleagues, reports higher figures, because they look at pre-tax income and because they take extra pains to ferret out the unreported income of the rich. But, as Martin Ravallion of Georgetown University points out, the poor may also have unreported resources, which may be large relative to their paltry reported incomes.

Although the level of inequality differs between these measures, they all agree on one striking point. Inequality in China today is not as bad as it was about a decade ago. Indeed, some scholars have remarked on the "great Chinese inequality turnaround".

Why then has concern about inequality turned up, even as inequality itself has turned around? Twain may offer one answer. One of the protagonists of "The Gilded Age" comforts himself with the thought that although he and his wife have to "eat crusts in toil and poverty", his children will "live like the princes of the Earth." Similarly, many Chinese may tolerate life on the lower rungs of society, if they think they or their children can climb up the ladder.

But that kind of social mobility seems to be slowing. Yi Fan and Junjian Yi of the National University of Singapore and Junsen Zhang of Zhejiang University have tried to calculate the persistence of income from one generation to the next. Chinese born in the 1970s inherited about 39% of any economic advantage enjoyed by their parents. Those born in the 1980s inherited over 44%. That is, if you knew one set of parents was 1% richer than an otherwise similar set of parents, you would expect their children to earn 0.44% more in their own careers than the other parents' kids.

Inequality may also be more conspicuous than it was. As Mr Ravallion and Shaohua Chen of Xiamen University have pointed out, the decline in Chinese inequality since 2008 does not reflect softer divisions within cities.

It results instead from a narrower gap between urban and rural China. People tend to be more conscious of social fault-lines within a city than they are of disparities between one far-flung place and another.

The guilted age

Mr Ravallion suggests another reason why China’s great inequality turnaround has gone unnoticed: people do not think in Ginis or percentages but in yuan and fen, dollars and cents. The expected income gap between two random Chinese may have declined from 98% of average income at inequality’s peak in 2008 to 93% now. But because average income has risen in that time, the expected gap in yuan terms is still far larger. The income per person of the top fifth of households was 10.7 times that of the bottom fifth in 2014. That ratio has since fallen a bit. But the gap in yuan has increased from 46,221 yuan in 2014 to 69,021 yuan in 2019.

The professor who grew up with Mr Xi speculated that if he became leader Mr Xi would “aggressively” tackle China’s gilded decadence, even “at the expense of the new monied class”. Mr Xi has already browbeaten some billionaires into public acts of philanthropy. The gestures will do little to shift the Gini coefficient. But they will make redistribution more conspicuous. Deng Xiaoping, one of Mr Xi’s predecessors, famously said that he did not care if cats were white or black as long as they caught mice. Mr Xi’s main opinion about cats is that he does not like them fat. ■

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Science & technology

Aquaculture

Floating offshore farms should increase production of seaweed

And they might even help alleviate climate change

Sep 30th 2021

IN MANY PLACES where seaweed used to thrive, often growing in vast "forests", it is disappearing. The cause is global warming, which, by heating the ocean's upper layer, reduces its density through thermal expansion—thus making it more buoyant. That extra buoyancy means it is less likely to mix with cooler, denser and more nutrient-rich waters below. This is bad for the marine environment in general. More specifically, it is bad for commercial seaweed farming, a business with revenues of (depending on whom you ask) between $6bn and $40bn a year.

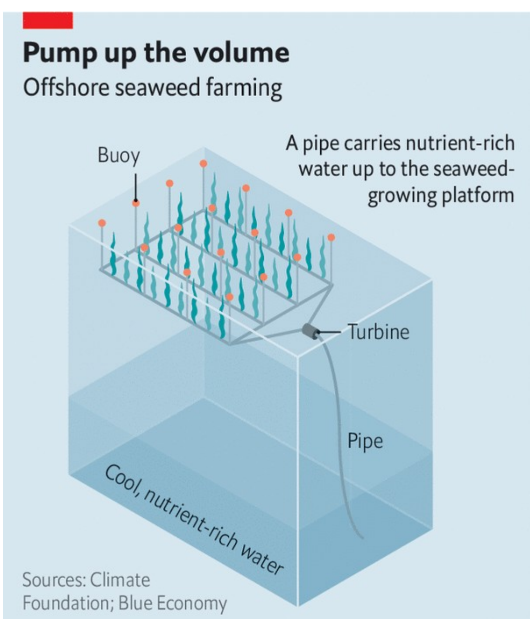
The algae involved, particularly kelp, are popular in Asian cuisine. They are also used as fertiliser, and are processed into carrageenan, a natural binder and emulsifier employed in foods, cosmetics and drugs. Most are grown either on the seabed or on ropes attached to it (see picture above). But some are cultivated on small floating platforms.

To counter the effects of surface heating, which are particularly pronounced in the tropics, researchers are trying to improve the floating-platform approach by assisting the upwelling of cooler waters to stimulate algal growth on such platforms. This would also increase the area available for seaweed farms, by allowing them to be located well away from coastlines. An experimental floating farm installed in August, off the coast of the Philippines, by a group led by the Climate Foundation, an American charity, is one of the largest attempts so far to do this.

Pictures of a floating world

Artificial stimulation of upwelling is not a new idea. It has been touted for years as a way to regenerate kelp forests, in particular. And for good reason. With enough nutrients, fronds of giant kelp, which grow to an average length of about 30 metres, can elongate by more than 50cm a day. Only now, however, is upwelling-stimulation being attempted seriously.

The foundation's test platform has an area of 100 square metres. It employs solar-powered turbines to suck water up from a depth of several hundred metres through flexible, cylindrical pipes. The foundation plans to experiment with wind-powered and wave-powered turbines, too.



The Economist

If this works, which early results suggest it does, and can be scaled up, not only could such technology boost seaweed production, it might also help ecosystems that depend on seaweed forests. And—at least in theory—if part of the harvest were sacrificed by sinking it into the deep ocean, that might act as a novel form of carbon capture and storage which could help slow the warming that caused the problem in the first place.

According to Brian von Herzen, who runs the foundation, the organisation carried out smaller-scale experiments, using similar technology, in 2020. These showed that seaweed grows four times faster on platforms irrigated with upwelled water than on equivalent, unirrigated platforms. Moreover, it continues to grow during the warmest months of the year, when seaweed not so irrigated actually shrinks.

Dr von Herzen and his colleagues hope to use experience gathered from their latest rig to develop a platform that would cover an entire hectare of the ocean's surface—100 times the area of the one just launched. To that end, they are collaborating with the Marine Bioproducts Cooperative Research Centre, a public-private partnership in Australia. At this scale, the partners estimate, a seaweed farm could pay for itself within five years.

Moreover, seaweed farms bring benefits beyond the immediate value of their crop. Seaweed is a habitat for many marine creatures, including fish. Some of these can be harvested for food. Indeed, for artificial upwelling to bring about that desirable state of affairs it may not even be necessary to farm seaweed. Ocean artUp, a project led by the Helmholtz Centre for Ocean Research in Kiel, Germany, is experimenting with the use of upwelling to encourage the growth of the small, planktonic creatures eaten by sardines.

That could help restore stocks of these fish, which are shrinking rapidly in both the Atlantic Ocean and the Mediterranean Sea. Ocean artUp, which began in 2017 and is scheduled to run until the end of this year, has concentrated on simulating and measuring exactly how artificial upwelling affects the quantities of nutrients transferred between ocean layers. One thing the project's researchers have discovered is that if you pump too hard, some of the upwelled water simply drops back into the depths, without mixing properly. Stirring the ocean in this way may thus require the design of floating water-mixers, too, to keep the nutrients at the surface.

Meanwhile, in San Francisco, Otherlab, an independent research laboratory, is working on an underwater robot intended to screw large tethers firmly into the seabed, to ensure that floating seaweed farms stay put, and can better survive stormy weather. Otherlab is part of a consortium paid for by ARPA-e, an American-government agency that is exploring the idea of using seaweed as a source of biofuel.

Those squeamish about anything that smacks of geoengineering—in other words, technology intended to change the world's climate in ways that oppose global warming—view artificial upwelling with scepticism. They argue that it could damage other parts of ocean ecosystems, and might even create unwanted side-effects that end up accelerating climate change rather than slowing it. Proponents, conversely, see these early efforts, at least, as simply restoring upwelling that has been suppressed by climate change.

Stratified, not stirred

A study published last year in *Nature Climate Change*, by a team of researchers from America and China, suggested that the overall stratification of the world's oceans has increased by 5% since 1960, with up to 20% more stratification in the tropics. This is despite any countervailing effect of the more extreme weather that global warming brings, which leads to greater churning of the oceans. Any such churning is overwhelmed by the extra buoyancy of the warmer surface layers.

Cooling the ocean surface by encouraging upwelling might also have a direct effect on the local air temperature. Warmer surface waters keep the atmosphere above warmer, too. Cooler waters do the reverse. But the technology would have to be deployed on a vast scale—over millions of hectares of the ocean's surface—before it had a noticeable effect on the atmosphere.

As Dr von Herzen, who does not advocate geoengineering, points out, any such plans would face more than just economic barriers. The London Protocol, an international legal framework that regulates marine pollution, sets stringent limits on deliberate geoengineering of the oceans. The protocol does, however, tolerate justifiable commercial exploitation, along with some carbon capture.

If large-scale seaweed farming were, nevertheless, to be considered for geoengineering, there would be a certain irony in that fact. To do this would mean dumping the algae thus grown on the ocean floor, to stop the carbon in them returning to the atmosphere. That would probably work in the short term. But it was just such a process of sedimentation of organic matter which, over millions of years, produced modern-day petroleum fields. And it is their oil, furiously pumped up for over a century, that has generated much of the excess of greenhouse gases of which the world is now trying to rid itself. ■

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An early version of this article was published online on September 29th 2021

Nanopore gene sequencing

An ambitious unicorn hopes to up-end DNA analysis

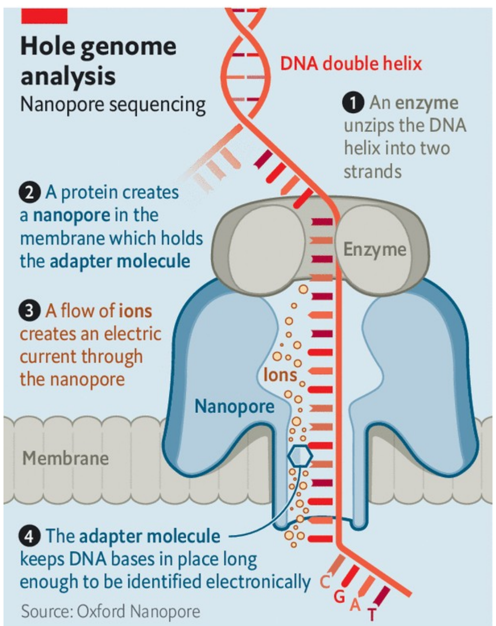
The technology pulls genetic material through holes in proteins

Oct 2nd 2021

GENETICISTS LIKE to compare progress in their field with the breakneck speed of innovation in computing. There, large, slow mainframes developed into fast, midsized desktops and then into the pocket-sized supercomputers known as smartphones. Similarly, the sequencing of the first human genome was announced, amid great pomp and fanfare, in 2003. It had taken 13 years and cost around $3bn. Two decades on, sequencing a human genome will set you back around $600, and might be done within a week.

Gordon Sanghera, boss of Oxford Nanopore, a firm based in the eponymous British university town, thinks, however, there is room for more. As *The Economist* went to press his company was set to make its debut on the London Stock Exchange. Its technology, nanopore sequencing, can cut the cost of gene analysis and reduce the time involved from days to hours or even minutes. At the same time, just as smartphones did with computing, it can make gene sequencers small enough to fit in a pocket rather than on a desktop.

Nanopore sequencing employs engineered versions of proteins that, in nature, open holes in cell membranes to allow ions (electrically charged atoms of things like potassium and chlorine) in and out. These proteins are used to punch holes in a membrane separating two chambers full of liquid, and an electrical current is applied. The DNA to be sequenced is then fed through the hole (see diagram). DNA stores its information using four different chemical bases, abbreviated as A, C, G and T. Each has a different shape, and partially blocks the pore in a different way. That causes different fluctuations in the current, allowing the sequence of bases to be read.



The Economist

The idea of nanopore sequencing dates back to 1990s, says Dr Sanghera. But commercialising it has taken many years. One trick is to ensure DNA molecules move through pores at a predictable speed—and never go backwards—something the firm has solved with a specially designed molecular ratchet. Integrating the biological bits of the technology with the silicon ones has been tricky. And a pore does not, by itself, sense individual bases, but combinations of them. Translating those signals is done with the help of machine learning, a technology that has come into its own only in the past few years.

Nanopore sequencing offers several advantages over other approaches. Its compactness is one. Oxford Nanopore's smallest product, the MInION, is the size of a chunky mobile phone. Existing sequencers resemble fridge-freezers or (at best) microwave ovens. The MInION's minuteness permits field analyses, with no need to send samples off to a distant laboratory. It has been used everywhere from Norwegian glaciers to Welsh coal mines to the International Space Station.

Another advantage is speed. Previous technologies have chopped DNA into fragments, made copies and tagged them with fluorescent chemicals. That takes time. The record for sequencing an entire human genome is believed to be 13 hours. Oxford Nanopore reckons it can cut this routinely to a handful of hours. And the nanopore approach also provides a continuous read-out. Other methods deliver a result only at the end.

Chopping DNA into tiny fragments, meanwhile, makes it hard to work out what is going on in regions made up of repetitive sequences. Nanopore-based devices can read pieces of DNA millions of bases long, offering a clearer picture of what is happening. And they can sense methylation—a chemical modification of bases that is an important means by which gene expression is regulated in a body.

Launch sequence

On paper, nanopore sequencing sounds transformative. Whether that will come to pass in reality remains to be seen. Like all good tech startups, Oxford Nanopore has yet to turn a profit, though it hopes to do so within five years. (Its losses last year were £73m, or $98m, on revenues of £114m.) Julian Roberts, an analyst at Jefferies, a bank, says the world market for gene sequencing is worth perhaps $7.5bn a year and is growing "in the low teens [per cent] per year—healthy, but not spectacular". It is dominated by Illumina, a firm based in San Diego.

But, says Mr Roberts, as with computers, better technology may create new uses, making the market bigger. Cheap, real-time gene sequencing could boost everything from cancer treatment (researchers in Norway are looking to use it to read the genomes of brain tumours during surgery) to environmental modelling to disease surveillance (the usefulness of sequencing in the covid-19 pandemic has put this application, in particular, uppermost in many epidemiologist's minds).

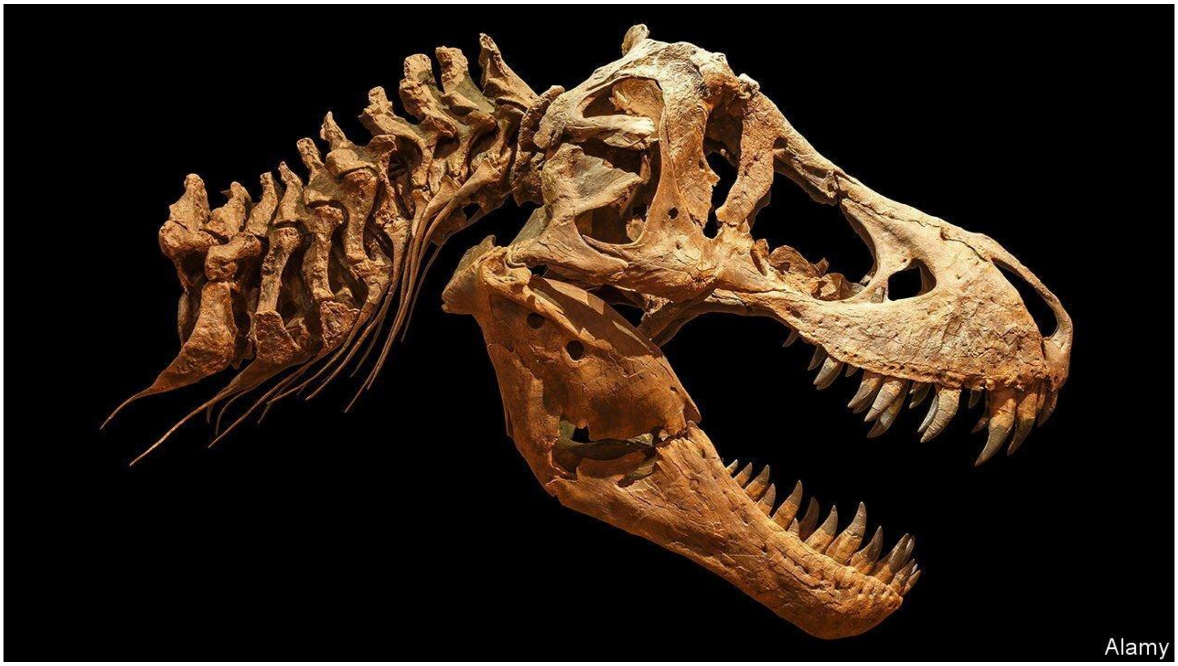
The firm's choice to list in London rather than America goes against conventional wisdom, which holds that America offers savvier investors who are more prepared to tolerate losses today for the prospect of a big payout tomorrow. And it hopes, for now, to stay British. Its shareholding structure gives Dr Sanghera (or, if he is unavailable, two other senior managers) the ability to block unwelcome takeovers. Mr Roberts points to the example of Solexa, a British firm bought by Illumina in 2006 for $600m. These days, Solexa's technology is a foundation of Ilumina's business, and the American company is worth $64bn. ■

Dinosaur love bites

Tyrannosaurs may have nibbled each other when mating

That is the message of bite marks on their jaws

Sep 29th 2021



HOW DO PORCUPINES mate? Very carefully! An old joke, but one that applies even more forcefully to creatures with big, sharp teeth than it does to those with big, sharp spines. And few creatures have had teeth bigger and sharper than those of *Tyrannosaurus re*x.

How tyrannosaurs mated will never be known for sure. But Caleb Brown of the Royal Tyrrell Museum of Palaeontology, in Alberta, Canada, thinks, as he describes in *Paleobiology*, that it might have involved what amounts to the ultimate in love-biting. Previous examinations of tyrannosaur skull bones have revealed scars that look as if they were delivered by other tyrannosaurs. Aware of the fact that many animal species bite one another during battles over access to mates, and sometimes even bite their mates during courtship (an endearment from which *Homo sapiens* is not exempt), he and his colleagues thought it worth looking at these bites in more detail.

They therefore tracked down every tyrannosaur skull fragment that they could lay their hands on—528 bones from 202 individuals. They identified 324 wounds grievous enough to have damaged the bones in question, but which also showed signs of healing, and thus indicated that they had not been fatal (which wounds inflicted during the mating fights and rituals of living species rarely are). Measuring the sizes and shapes of these wounds confirmed that they were probably tyrannosaur bites.

Tellingly, such bites seemed confined to older animals. Skull bones that clearly belonged to animals which were unlikely to have been sexually mature, of which the team obtained 18, showed no signs of having been bitten. Bites started to appear on the skulls of tyrannosaurs which were half the size of adults, with three of 17 such specimens (18%) showing relevant healed bites. In fully grown adults that proportion rose to 60%.

Nor were wounds distributed at random. They were, rather, concentrated around the centre and base of the lower jaw. This indicates they were inflicted from a particular, consistent posture. That, in turn, suggests the bites involved were part of a ritual. Whether this was ritual fighting between males for access to females or was part of the process by which males and females checked each other out in a search for suitable mates is impossible to determine—not least because no one has worked out a way to identify the sex of a tyrannosaur skull. What does seem clear, however, is that not all sharp-toothed dinosaurs behaved in this way. When Dr Brown and his colleagues looked at the skulls of smaller carnivorous dinosaurs like *Velociraptor*, they found no evidence of these animals biting each other's faces.

An early version of this article was published online on September 29th 2021

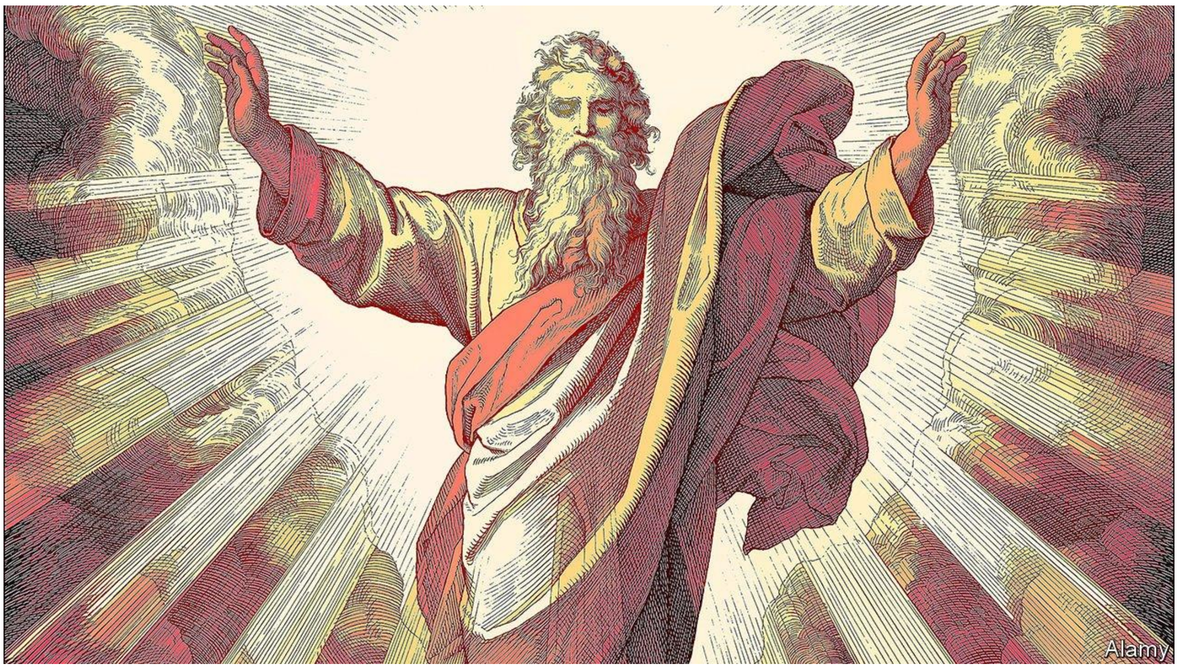
Books & arts

Picturing God

A theologian presents God as few readers will have seen him before

Francesca Stavrakopoulou's book will offend some. But it will delight more

Oct 2nd 2021



God: An Anatomy. By Francesca Stavrakopoulou. *Picador; 608 pages; £25. To be published in America by Knopf in January; $35*

PROFESSORS OF THEOLOGY are imagined to be dull, gentle souls. This book, however, is a great rebel shout. Francesca Stavrakopoulou, when a student, was annoyed to be told that the physical representations of the Judaeo-Christian God in the Bible were just metaphorical, or lyrical, or poetical. He was invisible and ineffable, of course. She wasn't meant to see him corporeally at all. But, she fretted, why not? Why shouldn't she see him "as a gigantic man with a heavy tread, weapons in his hands and breath as hot as sulphur"? As someone who enjoyed roast meat and pretty girls, laughed, shouted and wept? In short, as the ancient Israelites who first worshipped Yahweh so vividly painted him?

The result of her annoyance is a learned but rollicking journey through every aspect of Yahweh's body, from top to bottom (yes, that too) and from inside out. The God in whom millions of Christians proclaim their faith each Sunday is firmly placed in a great crowd of other divinities of south-west Asia: Baal, Marduk of Babylon, Ninurta of Mesopotamia, Adad of Assyria, Teshub, Tishpak and Ra. He began life as nothing important, a minor storm god, one of 70 children of El, the Levantine father of the gods. Then he usurped the throne, and his reign began: in full tumultuous technicolour and with every aspect, feature and failing of the human beings who dutifully fell on their faces before him.

Appropriately for a book that aims to upend the notion of a cloudy, spiritualised creator, Ms Stavrakopoulou starts with his feet. Huge feet, which stroll across landscapes creating sacred spaces and which, north-west of Aleppo in Syria, stride into a temple and do not leave again. Feet that can trample his enemies like grapes one day and, on the next, relax, propped on a footstool. (Until it was destroyed, the Temple in Jerusalem was said to be the favourite footstool of God.)

Walking with God, now a description of saintly closeness and spiritual holiness, was in ancient times a sort of male-bonding exercise, over rough ground, with Yahweh setting the pace, sure-footed in the sandals all local gods wore. The worshipper, by contrast, went barefoot, as Yahweh shouted that Moses should be as he approached the burning bush. Moses emerges in this book as by far the most successful walker-with-God, even coming to resemble him, and later acquiring in art Yahweh's original bull-horns on his head, which Yahweh himself had lost by then in light-rays and a mass of white hair.

Feet and legs are followed by genitals. Here Ms Stavrakopoulou has almost too much fun. God's penis becomes the focus of all sorts of divine action: fructifying the world, imposing order on the cosmos, rampaging like a bull, shooting a bow and arrow. Every mention of a bow, she assures readers, really means a penis; even the rainbow is a polychrome heavenly tool.

But her purpose is serious—to show that God has been steadily and prudishly emasculated. The primary concern of the biblical God was to defend his prerogative to have sex with whomever he chose, sometimes shockingly. According to Eve, he fathers Cain, to her grateful surprise. And in the book of Ezekiel he lusts after Israel as after a teenage girl:

> Your breasts were formed, your [pubic] hair had grown; you were naked and bare! I passed by you and looked at you: you were at the age for lovemaking. I spread the corner of my cloak over you, and covered your nakedness…

Rape, in other words. In the book of Hosea it is even more explicit: God takes the teenage Israel walking in the wilderness, "and there she will cry out". Afterwards, he gives her earrings, bangles, a necklace and a crown, displaying her as his own beautiful property.

The book moves on to God's back, turned as a sign of his displeasure, though Moses on Sinai begs to see his rainbow-shimmering front; his white shining skin, the ancient source of persistent racial prejudice; his guts, which writhe in pain when the Babylonians attack Jerusalem; his right hand, creator and shaper of humans, over whom he bends like a potter over a wheel; his writing and smiting arm. Yahweh's stomach is dainty and discerning: he expects the cream of the crop, the first-born of the flock and the "fatty parts" of beasts, withdrawing his protective arm and sulking if they don't appear. (An astonishing passage describes a present-day Passover in Samaria, with the wholesale slaughter of lambs and smearing of blood on doorposts, as if this is still required.) Deities other than himself, especially the wood or stone sort, are "shitgods", says God.

After all this bold or bad behaviour by the humanised Father, God made human in the Son is a breath of fresh air. Jesus, whenever he makes a rare appearance, seems appealingly rational, restrained and modern. Yet connections with Yahweh naturally continue. The washing of his disciples' feet is a throwback to the notion of barefoot holiness in Yahweh's presence. The moment when he writes with his finger in the dust to save a woman from stoning, overwriting the Torah in the Temple itself, is a reminder of the finger of God that conjured the ten plagues of Egypt and inscribed the Ten Commandments on tablets of stone. Most shockingly, in several Renaissance *pietàs* the deposed body of Christ is shown with an erection under his loincloth, the sign of the death-defying virility of the creator-God.

Such scenes more or less guarantee that many readers will consider this book offensive. As many, and probably more, will find it instructive, vivid and frequently hilarious. Above all, it is a corrective to the notion that, when it comes to religion, modern Christians and Jews have become wanly sophisticated.

Even if most believers avowedly dismiss an anthropomorphic God as a primitive idea (Islam, of course, rejects the notion completely), they still offer prayers to a being who, they suppose, listens to them, and sometimes even speaks in reply. Indeed, it would be a rare member of a Christian congregation who, invoking God the Father in the usual Sunday way, does not catch at least a mental glimpse of a flowing beard, a white robe and those huge, world-striding, sandalled feet. ■

Graveyard of empires

The second world war was fuelled by imperial fantasies

And it sounded the death knell of the colonial era, argues Richard Overy in a new history

Oct 2nd 2021

Blood and Ruins: The Great Imperial War, 1931-1945. By Richard Overy. *Allen Lane; 1,040 pages; £40*

WHY ANOTHER single-volume history of the second world war? Richard Overy has himself written more than 20 books covering different aspects of the conflict and the global crisis of the first half of the 20th century. But his aim in "Blood and Ruins" is to question the widespread assumption that the war was simply the result of the territorial aggression of the Axis powers, and Allied resistance to it. Instead, he sees the policies pursued by Adolf Hitler, Benito Mussolini and the Japanese military establishment as effects of the crisis as well as a leading cause.

It makes more sense, Mr Overy argues, to think in terms of a "long" second world war that began in China in the early 1930s and ended there—and in

South-East Asia, eastern Europe and the Middle East—only in the decade after 1945. The origins of the war, he says, lay in the zenith of European colonialism in the late 19th century; it became imperialism's violent nemesis. His title comes from Leonard Woolf, a Bloomsbury intellectual who in 1928 wrote: "Imperialism, as it was known in the 19th century, is no longer possible, and the only question is whether it will be buried peacefully or in blood and ruins."

Resentment over the post-1919 settlement, which preserved and expanded the British and French empires—while denying the three Axis powers what they saw as their own rightful autonomy—was a powerful motive for conquest. In Berlin, Rome and Tokyo, the notions of racial superiority that legitimated the territorial drive seemed little different from those underpinning the existing empires. The so-called policy of appeasement, pursued by Britain and France in the 1930s (Mr Overy prefers "containment"), reflected a degree of sympathy for these ambitions, as well as a "sometimes incoherent" bid to "square the circle of growing international instability and their own desire to protect the imperial status quo".

Dreams and nightmares

It was never going to work. The problem was the dynamic nature of all imperial expansion. Each success whetted the appetite for more, now driven by the belief that the old powers were in terminal decline. That conviction was reinforced by the speed of the Western collapse after the German invasion of Poland. The die was cast at the signing of the Three-Power Pact on September 27th 1940, heralding a "New Order" in which Germany would have an empire in continental Europe, Italy in the Mediterranean basin and Africa, and Japan in East Asia. The facts that the British Empire had not admitted defeat and that America, though not yet party to the fray, was preparing to throw in its economic might through the Lend-Lease programme, were not allowed to disturb this fantasy.

The Axis powers saw their imperial mission almost entirely in terms of looting resources, and of resettling new colonies at the expense of local populations, who were often regarded as less than human. Much like the Japanese in China and elsewhere in their Greater East Asia Co-Prosperity

Sphere, which was “built on warfare and ruined by war”, Hitler offered people in the occupied east only brutal subjugation, deportation or death. (Nazi racial and cultural attitudes meant western Europe was a somewhat different story.)

Neither of the twin Axis imperial objectives went well. Prospective settlers were few; exploiting the resources of conquered territories in wartime proved difficult, too. In the oilfields of the Caucasus, which Hitler expected to fuel his war effort, barely any oil was actually extracted before the area was abandoned in early 1943.

There were, however, fantasies on the Allied side as well. No doubt victory for the Axis powers would, as Winston Churchill warned, have sunk the world into a new Dark Age; yet he was himself determined that the old European empires should endure—an outcome at odds with the liberal internationalism on which Franklin Roosevelt insisted, and which was spelled out in the Atlantic Charter of 1941. Given its commitment to self-determination as a right for all peoples, Churchill (pictured on previous page) signed it only reluctantly.

While Britain was locking up tens of thousands of Indian nationalists in 1942 and shooting hundreds of protesters, America also fell far short of Roosevelt’s rhetoric. The racial segregation that scarred the country was reflected in its armed forces. The navy was all white until 1942, only subsequently recruiting a handful of African-Americans, mainly as stewards. Less than 2% of army officers were black; the vast majority of the 1.2m black servicemen were deemed unfit for combat and sent to labour or service units. Neither government, meanwhile, was much interested in saving Europe’s Jews. As Mr Overy puts it, on this question the authorities in London “displayed a callousness that entirely belied the claim that the British were fighting for decent values”.

Mr Overy gives as much weight to the Pacific and East Asia as to Europe. Within the overall conflict he discerns a number of different struggles—involving how belligerents mobilised, how they adapted economically, their use of civilians (who were both participants and victims of the war on an unprecedented scale), and how they fought (American and British technology and manufacturing, he says, offset the Wehrmacht’s superior battlefield performance). And how they justified the ordeal: very few Germans or Japanese questioned the rightness of their cause, one reason they held on long after defeat was certain.

The data, information and insights that Mr Overy musters can occasionally seem overwhelming, but even the most expert reader will emerge knowing more. In his penultimate chapter, he enumerates the crimes and atrocities of the war. It is a tough read. The capacity of apparently ordinary people to do the most terrible things should no longer come as a surprise, but the extent of barbarous inhumanity remains hard to comprehend.

At the end, he gallops through the events in the decade after 1945 that shaped the world as it is today. Were the old empires simply replaced by new American and Soviet imperiums? Mr Overy concludes not, though his view that Soviet domination of the Eastern bloc lacked the essential characteristics of an empire is not wholly convincing. That is a minor criticism. This is a magnificent book that reflects the deep scholarship and humane judgment of a magisterial historian. ■

A farewell to cash

Finance is changing dramatically. A new book explains how

"The Future of Money" asks whether central banks can adapt to hold the ring

Oct 2nd 2021

The Future of Money. By Eswar Prasad. *Belknap Press; 496 pages; $35 and £28.95*

FOR MOST people, money still means physical cash printed by a sole, public authority. Yet that is a surprisingly modern incarnation: only a century ago, private currencies competed with government-issued banknotes. It may be short-lived, too, as cash succumbs to the digitalisation of finance and new means of payment take over. This big bang will have huge implications for states, people and companies. Whether it does more good than harm, says Eswar Prasad, depends on the world's dowdiest institutions—central banks—embracing change without losing control.

That cash is declining may not surprise readers. Many will bank from laptops and make payments on their phones. Financial innovation is old news, too. One of the first "fintech" breakthroughs happened centuries ago, when China helped engineer a boom in Asian commerce by introducing paper currency to replace metal coins, which were heavy and scarce. Yet this time is different, Mr Prasad insists. Previous overhauls mainly improved existing systems, he notes. The end of cash—likely within a decade or two—is revolutionary.

Three types of disruptive agents are involved, he says. The first are fintech firms, a varied group that all have a big online presence and a knack for crunching data. Their onslaught differs from previous, isolated breakthroughs—such as the debit card or the ATM—because it targets every facet of financial markets and institutions, from lending and payments to investment. By expanding the market for financial services, they help to democratise them. All the same, they are not imposing regime change. Banks remain dominant.

Bitcoin, and the many other digital monies it has inspired, could bring about a more fundamental shift. By enlisting a network of users to validate transactions, they make payments possible without the need for a trusted, central authority. Mr Prasad doubts decentralised money—less safe, stable and efficient—will ever trump its official cousin. But he warns that the technology involved is being co-opted by big corporations, such as Facebook; with their billions of users and financial clout, they could make private currencies an attractive means of exchange and store of value.

Fearing this could do them out of a job, many central banks are beginning to disrupt themselves by developing their own digital currencies—the third and most important shock. Done well, these “CBDCs” will upgrade the financial system. More efficient than cash for settling transactions, they could also provide a backstop to digital-payment systems managed by private firms, should those fail. They could offer “unbanked” communities access to digital payments and other financial products. And they may let central bankers experiment with new monetary-policy tools and more easily track illicit transactions.

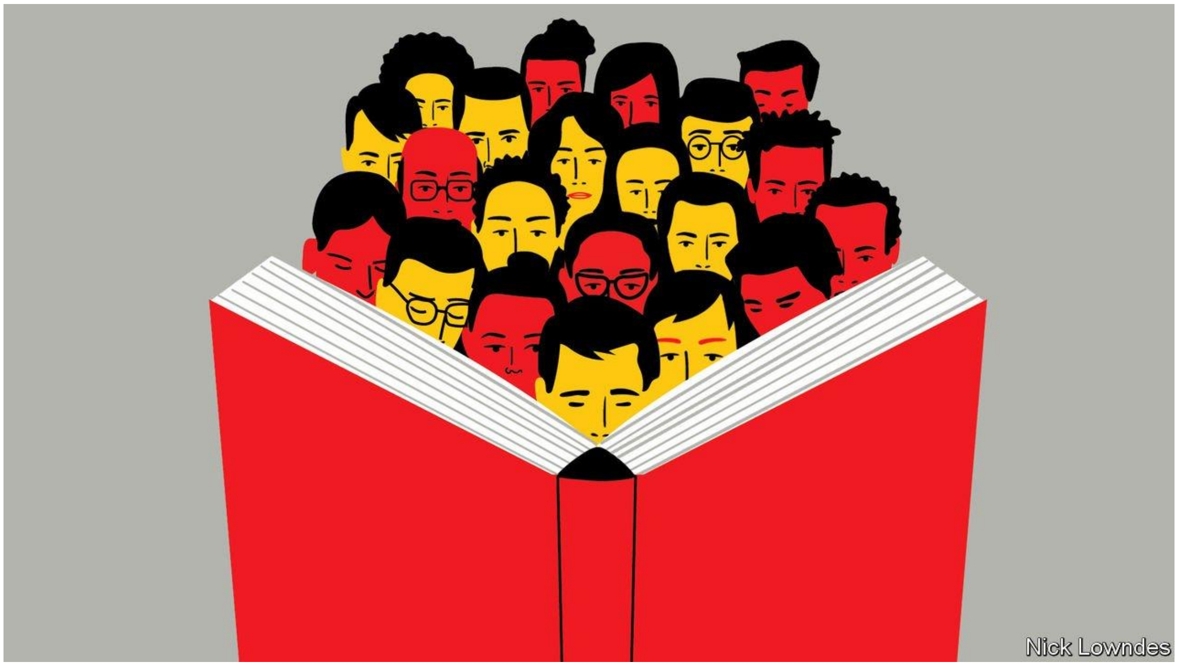
Formerly at the IMF, Mr Prasad might have been expected to favour public solutions. Even if the pendulum swings back towards the private sector, he reckons central banks should and will remain at the heart of finance. But a strength of his analysis is his mastery of both technical details and big-picture trade-offs. He fears CBDCs may be vulnerable to hacking and bugs; they could crush private innovation and cause the instability they are meant to forestall. Meanwhile, central banks' new responsibilities may erode their independence. The privacy of transactions will be lost. Practising the balance he advocates, Mr Prasad is enthusiastic but nuanced.

He also manages to make the financial system intelligible and interesting without resorting to shortcuts and exaggeration. His patient description of how it works, peppered with well-researched examples and personal anecdotes, imposes a cosmic order on the constellation of institutions that determine how money flows. As it loses physical form, money's meaning will become ever harder to grasp. This book explores the economic and social effects of that upheaval, giving shape to this most abstract of concepts. ■

Don’t ditch standard English. Teach it better

Other dialects have their place. But the standard version remains vital

Sep 30th 2021



TEACHING ENGLISH as a first language is not easy—many youngsters leave school feeling they never quite mastered its finer points. Recently some commentators have been wondering whether the standard version of English really deserves to be singled out as “proper” and worthy of teaching at all. The debate they set off has been unedifying because of entrenched views that have as much to do with politics as with language.

Speaking recently to the *Daily Telegraph*, Willem Hollmann of Lancaster University argued that standard English is not uniquely “correct”. This view is common among linguists. Today’s standard English just happens to descend from the dialect prevailing near the seats of power (London) and learning (Oxford and Cambridge) at the critical time when printing took off. It uses “you were”, and not “you was”, only because that dialect did so—not because “you were” is more logical. (If standard English were logical, “to be” would have a single past-tense form, as every other verb does.)

Linguists know perfectly well, though, that standard English does have a social superiority, if not a grammatical one. It is the language of serious writing (including linguistics journals) and formal speech. It binds together Dorset, Kent, Yorkshire and London, as well as Alabama, Massachusetts and California. It can be spoken with any accent, allowing a speaker from Belfast to talk to one from Johannesburg or Auckland with little misunderstanding. There is nothing wrong with black vernacular American or Yorkshire English; they just don't happen to be the dialect that newspapers are written in, or parliamentary debates are conducted in. Both halves of that proposition are equally true, and pupils should be apprised of both.

But when linguists make this case, they are often misconstrued as saying students should not be marked down if, for instance, they write "you was" instead of "you were" when deploying standard English. No longer considering "you was" to be incorrect in formal prose would imply the end of any standard at all.

Even from the left-wing perspective that many academics share, that would be counterproductive. Sociolinguists are at pains to point out that all dialects are valuable to their speakers—Yorkshire English and so on persist for that very reason. But standard English is valuable to its speakers too. It is dear to those lucky enough to have it as their native tongue (a category that includes most newspaper columnists). But it is also hugely important to those many strivers who didn't grow up with it—yet hope to master it, so that they can join the wider community around the world that uses it.

And there are ways to inculcate it without resorting to snobbery. To begin with, it helps to avoid irrelevant pet peeves. In a column in the *Times* replying to Mr Hollmann and supposedly sticking up for standard English, Clare Foges was distracted by things like accent (saying *fencin* for *fencing*), slang (including the British tag-question *innit?*) and minor variations such as *off of* in place of *off*.

These ephemera have nothing whatever to do with standard English. "G-dropping" isn't lazy, merely an accent; it used to be an upper-class habit, too. Nor does relaxed have to mean incorrect: *innit* may not be common in the boardroom, but it has its place in casual British English. And *off of* is standard in America, if not in Britain.

Pedagogues have already devised thoughtful approaches for teaching standard English without making students feel stupid for speaking another variety. Linguists like Mr Hollmann are working to get these techniques into classrooms.In the early years, they might include what are in effect translation exercises, getting kids to take the "you was"of their home English and turn it into "you were" for essays. In advanced classes, that sort of task may open up the chance to talk about things like dialects, class and power. Mr Hollmann says all this makes for a "deeper, more engaging and more inclusive discussion of standard English"—not an elimination of it.

Yes, standard English stems from the vernacular of power in the 1500s, and is preferred by a middle- and upper-class, mostly white elite today. Some academic types hang labels like "hegemonic" on it. So be it; but it was also the English that Martin Luther King and Nelson Mandela enlisted to fight for change. Mandela learned Afrikaans, too, while imprisoned on Robben Island. He did not reject the languages of his oppressors. He knew that changing their minds first required knowing how to reach them.

Economic & financial indicators

- Economic data, commodities and markets

Economic data, commodities and markets

Oct 2nd 2021

Economic data

1 of 2

	Gross domestic product % change on year ago: latest		quarter*	2021[†]	Consumer prices % change on year ago: latest		2021[†]	Unemployment rate %	
United States	12.2	Q2	6.6	6.0	5.3	Aug	4.3	5.2	Aug
China	7.9	Q2	5.3	8.0	0.8	Aug	1.2	5.1	Aug[‡§]
Japan	7.6	Q2	1.9	2.3	-0.4	Aug	-0.2	2.8	Jul
Britain	22.2	Q2	20.7	6.6	3.2	Aug	2.6	4.6	Jun[††]
Canada	12.7	Q2	-1.1	5.4	4.1	Aug	3.0	7.1	Aug
Euro area	14.3	Q2	9.2	4.8	3.0	Aug	1.9	7.6	Jul
Austria	12.0	Q2	21.1	3.1	3.2	Aug	2.4	6.2	Jul
Belgium	14.9	Q2	7.0	4.8	2.9	Sep	2.1	5.9	Jul
France	18.7	Q2	4.5	5.5	1.9	Aug	1.6	7.9	Jul
Germany	9.4	Q2	6.7	3.1	3.9	Aug	2.5	3.6	Jul
Greece	16.4	Q2	14.5	5.4	1.9	Aug	0.1	14.6	Jul
Italy	17.3	Q2	11.2	6.0	2.0	Aug	1.3	9.3	Jul
Netherlands	10.4	Q2	15.9	3.9	2.4	Aug	2.2	3.2	Aug
Spain	17.6	Q2	4.3	6.2	4.0	Sep	2.0	14.3	Jul
Czech Republic	8.9	Q2	4.2	3.5	4.1	Aug	2.7	2.8	Jul[‡]
Denmark	8.7	Q2	9.3	3.2	1.8	Aug	1.7	3.8	Jul
Norway	6.1	Q2	4.4	3.0	3.4	Aug	3.0	4.2	Jul[‡‡]
Poland	11.2	Q2	8.7	5.3	5.5	Aug	4.1	5.8	Aug[§]
Russia	10.5	Q2	na	3.8	6.7	Aug	5.8	4.5	Jul[§]
Sweden	9.5	Q2	3.6	4.0	2.1	Aug	1.9	8.5	Aug[§]
Switzerland	7.7	Q2	7.4	3.5	0.9	Aug	0.3	2.9	Aug
Turkey	21.7	Q2	na	6.3	19.3	Aug	17.1	12.1	Jul[§]
Australia	9.6	Q2	2.7	4.3	3.8	Q2	2.5	4.5	Aug
Hong Kong	7.6	Q2	-3.7	5.4	1.6	Aug	1.6	4.7	Aug[‡‡]
India	20.1	Q2	-41.2	8.2	5.3	Aug	5.4	8.3	Aug
Indonesia	7.1	Q2	na	3.0	1.6	Aug	2.0	6.3	Q1[§]
Malaysia	16.1	Q2	na	3.8	2.0	Aug	2.4	4.8	Jul[§]
Pakistan	4.7	2021**	na	3.8	8.4	Aug	9.2	6.9	2019
Philippines	11.8	Q2	-5.1	4.3	4.9	Aug	4.1	6.9	Q3[§]
Singapore	14.7	Q2	-7.2	5.4	2.4	Aug	1.8	2.7	Q2
South Korea	6.0	Q2	3.1	3.9	2.6	Aug	2.2	2.6	Aug[§]
Taiwan	7.4	Q2	-4.2	5.7	2.4	Aug	1.8	4.1	Aug
Thailand	7.5	Q2	1.5	1.4	nil	Aug	0.8	1.5	Dec[§]
Argentina	17.9	Q2	-5.5	7.8	51.4	Aug	47.5	9.6	Q2[§]
Brazil	12.4	Q2	-0.2	5.5	9.7	Aug	7.5	14.1	Jun[§‡‡]
Chile	18.1	Q2	4.2	10.3	4.8	Aug	3.9	8.9	Jul[§‡‡]
Colombia	17.0	Q2	-9.2	7.8	4.4	Aug	3.1	14.3	Jul[§]
Mexico	19.6	Q2	6.0	6.4	5.6	Aug	5.2	4.1	Aug
Peru	41.9	Q2	3.5	12.6	5.0	Aug	3.6	10.1	Aug[§]
Egypt	7.7	Q2	na	3.3	5.7	Aug	5.5	7.3	Q2[§]
Israel	17.5	Q2	16.6	5.0	2.2	Aug	1.7	5.0	Jul
Saudi Arabia	-4.1	2020	na	2.2	0.3	Aug	3.1	6.5	Q1
South Africa	19.3	Q2	4.7	4.5	5.1	Aug	4.3	34.4	Q2[§]

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.

The Economist

Economic data

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	Current-account balance % of GDP, 2021[†]	Budget balance % of GDP, 2021[†]	Interest rates 10-yr gov't bonds latest,%	change on year ago, bp	Currency units per $ Sep 29th	% change on year ago
United States	-3.4	-12.6	1.6	89.0	-	
China	2.8	-4.9	2.7 [§§]	-28.0	6.47	5.4
Japan	3.4	-8.9	nil	-8.0	112	-5.6
Britain	-4.5	-10.9	0.9	72.0	0.74	5.4
Canada	-2.6	-9.4	1.5	97.0	1.27	5.5
Euro area	3.3	-7.2	-0.2	33.0	0.86	-1.2
Austria	2.7	-7.7	nil	39.0	0.86	-1.2
Belgium	-0.2	-7.2	0.1	39.0	0.86	-1.2
France	-1.4	-8.7	0.1	37.0	0.86	-1.2
Germany	6.7	-5.7	-0.2	33.0	0.86	-1.2
Greece	-3.8	-5.7	0.8	-19.0	0.86	-1.2
Italy	3.8	-11.5	0.8	-2.0	0.86	-1.2
Netherlands	9.8	-4.7	-0.3	22.0	0.86	-1.2
Spain	0.8	-8.7	0.4	19.0	0.86	-1.2
Czech Republic	3.2	-8.7	2.0	115	21.9	5.5
Denmark	7.5	-0.3	0.1	53.0	6.40	-0.8
Norway	6.9	-3.0	1.4	76.0	8.74	7.9
Poland	2.3	-6.6	2.1	84.0	3.99	-3.3
Russia	4.5	-1.8	7.4	92.0	72.8	8.9
Sweden	4.3	-1.9	0.4	52.0	8.78	2.2
Switzerland	6.8	-3.8	-0.1	37.0	0.93	-1.1
Turkey	-2.4	-2.4	17.9	490	8.87	-11.5
Australia	1.9	-6.1	1.4	61.0	1.39	1.4
Hong Kong	2.5	-4.2	1.3	82.0	7.78	-0.4
India	-0.9	-7.2	6.2	17.0	74.2	-0.4
Indonesia	0.3	-6.0	6.3	-63.0	14,293	4.2
Malaysia	4.0	-6.0	3.4	63.0	4.18	-0.5
Pakistan	-3.3	-7.2	10.4 [†††]	72.0	170	-2.9
Philippines	-0.9	-7.5	4.7	166	50.9	-4.6
Singapore	19.4	-4.2	1.6	71.0	1.36	0.7
South Korea	4.9	-4.4	2.2	80.0	1,182	-1.0
Taiwan	15.5	-0.8	0.5	4.0	27.8	4.2
Thailand	-0.9	-7.5	1.7	52.0	33.9	-6.6
Argentina	1.3	-5.5	na	na	98.7	-22.9
Brazil	0.1	-5.9	11.1	406	5.42	4.1
Chile	-1.5	-6.7	5.5	281	803	-2.3
Colombia	-3.4	-8.5	7.5	240	3,829	1.2
Mexico	1.6	-2.8	7.4	160	20.4	9.4
Peru	-3.6	-5.8	6.3	277	4.13	-13.1
Egypt	-4.6	-8.1	na	na	15.7	0.3
Israel	3.8	-7.0	1.1	44.0	3.22	7.1
Saudi Arabia	4.5	-2.0	na	na	3.75	nil
South Africa	1.8	-9.0	9.3	-24.0	15.2	11.9

Source: Haver Analytics. [§§]5-year yield. [†††]Dollar-denominated bonds.

The Economist

Markets

In local currency	Index Sep 29th	% change on: one week	% change on: Dec 31st 2020
United States S&P 500	4,359.5	-0.8	16.1
United States NAScomp	14,512.4	-2.6	12.6
China Shanghai Comp	3,536.3	-2.5	1.8
China Shenzhen Comp	2,347.2	-3.8	0.8
Japan Nikkei 225	29,544.3	-0.3	7.7
Japan Topix	2,038.3	-0.3	12.9
Britain FTSE 100	7,108.2	0.3	10.0
Canada S&P TSX	20,158.1	-1.2	15.6
Euro area EURO STOXX 50	4,080.2	-1.7	14.9
France CAC 40	6,560.8	-1.1	18.2
Germany DAX*	15,365.3	-0.9	12.0
Italy FTSE/MIB	25,736.9	0.1	15.8
Netherlands AEX	775.8	-2.1	24.2
Spain IBEX 35	8,879.4	0.8	10.0
Poland WIG	69,871.4	-1.5	22.5
Russia RTS, $ terms	1,756.5	0.5	26.6
Switzerland SMI	11,628.3	-1.8	8.6
Turkey BIST	1,391.9	-1.1	-5.7
Australia All Ord.	7,500.2	-1.2	9.5
Hong Kong Hang Seng	24,663.5	1.8	-9.4
India BSE	59,413.3	0.8	24.4
Indonesia IDX	6,162.6	0.9	3.1
Malaysia KLSE	1,547.7	1.2	-4.9
Pakistan KSE	44,366.7	-2.7	1.4
Singapore STI	3,074.3	0.9	8.1
South Korea KOSPI	3,060.3	-2.6	6.5
Taiwan TWI	16,855.5	-0.4	14.4
Thailand SET	1,617.0	-0.2	11.6
Argentina MERV	76,589.3	2.5	49.5
Brazil BVSP	111,106.8	-1.0	-6.6
Mexico IPC	51,084.6	-0.5	15.9
Egypt EGX 30	10,391.1	-1.9	-4.2
Israel TA-125	1,855.8	0.2	18.3
Saudi Arabia Tadawul	11,383.7	1.0	31.0
South Africa JSE AS	64,363.7	1.6	8.3
World, dev'd MSCI	3,028.7	-1.5	12.6
Emerging markets MSCI	1,251.3	-0.9	-3.1

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2020
Investment grade	114	136
High-yield	325	429

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

The Economist

Commodities

The Economist **commodity-price index**

2015=100	Sep 21st	Sep 28th*	% change on: month	% change on: year
Dollar Index				
All Items	143.5	151.4	-7.8	21.8
Food	126.8	129.6	-0.3	28.7
Industrials				
All	159.0	171.8	-12.5	17.4
Non-food agriculturals	139.4	142.3	1.2	38.5
Metals	164.9	180.5	-15.2	13.4
Sterling Index				
All items	160.5	170.7	-6.3	15.6
Euro Index				
All items	135.7	143.8	-6.8	22.4
Gold				
$ per oz	1,779.0	1,737.0	-3.8	-7.9
Brent				
$ per barrel	74.7	78.7	7.8	91.9

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.

The Economist

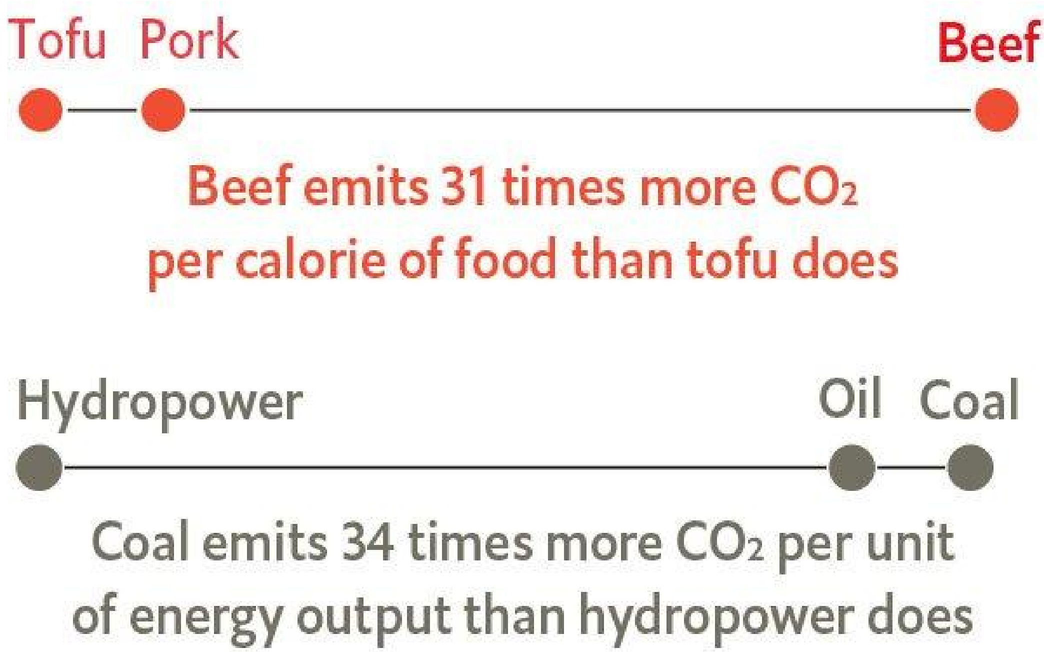
Graphic detail

The beef with beef

Treating beef like coal would make a big dent in greenhouse-gas emissions

Cattle are a surprisingly large producer of greenhouse gases

Oct 2nd 2021

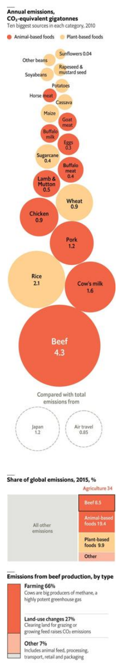


FEW DISHES whet more palates than a juicy cut of beef. One poll in 2014 found that steak was Americans' favourite food. Unfortunately, by cooking so many cows, humans are cooking themselves, too.

The impact of food on greenhouse-gas (GHG) emissions can slip under the radar. In a survey in Britain last year, the share of respondents saying that "producing plants and meat on farms" was a "significant contributor" to climate change was the lowest among ten listed activities. Yet two papers published this year in *Nature Food* find that food, especially beef, creates more GHGs than previously thought. Forgoing steaks may be one of the most efficient ways to reduce your carbon footprint.

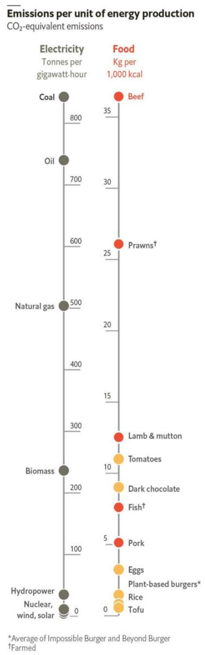
In 2019 the UN's Intergovernmental Panel on Climate Change estimated that the global food system was responsible for 21-37% of GHG emissions. This March researchers from the European Commission and the UN's Food and

Agriculture Office released a study with a central estimate near the top of this range. It attributed 34% of GHGs produced in 2015 to food.



This elevated share stems in part from accounting choices. The paper assigns the full impact of deforestation to the agriculture that results from it; includes emissions after food is sold (such as from waste and cooking); and counts non-food crops like cotton. But even when the authors excluded embedded emissions from sources like transport and packaging, they still found that agriculture generated 24% of GHGs. According to the World Resources Institute, a research group, cars, trains, ships and planes produce a total of 16%.

Another recent paper, by Xiaoming Xu of the University of Illinois at Urbana-Champaign and eight co-authors, allocates this impact among 171 crops and 16 animal products. It finds that animal-based foods account for 57% of agricultural GHGs, versus 29% for food from plants. Beef and cow's milk alone made up 34%. Combined with the earlier study's results, this implies that cattle produce 12% of GHG emissions.



Relative to other food sources, beef is uniquely carbon-intensive. Because cattle emit methane and need large pastures that are often created via deforestation, they produce seven times as many GHGs per calorie of meat as pigs do, and around 40% more than farmed prawns do. This makes beef a bigger outlier among foods than coal is among sources of electricity: burning coal generates just 14% more GHGs than burning oil, another common fuel.

These figures may understate the environmental benefits of shrinking the cattle population. Methane dissipates relatively fast, meaning that past bovine emissions soon stop warming the planet if those animals are not replaced. Such a change could also raise output of plant-based foods, by making land now used to grow animal feed available for other crops. It takes 33 plant calories to produce one calorie of beef.

The simplest way to cut beef output is for people to eat other animals instead, or become vegetarians. But convincing carnivores to give up their burgers is a tall order. Fortunately, lab-grown meats are moving from Petri dishes to high-end restaurants (see Technology Quarterly). Doing without beef from live cattle is hard to imagine, but the same was true of coal 100 years ago. Cultured meat could play an essential role in staving off a climate catastrophe.■

Sources: “Food systems are responsible for a third of global anthropogenic GHG emissions”, by Crippa et al., 2021; “Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods”, by Xu et al., 2021; Quantis; Heller et al., 2018; J. Poore, & T. Nemecek, 2018; The World Resources Institute; Pehl et al., 2017; IPCC AR5; Our World in Data

Obituary

- George Holliday: The man on the balcony

The man on the balcony

Obituary: George Holliday fortuitously filmed the beating of Rodney King

The Los Angeles plumber died on September 19th, aged 61

Oct 2nd 2021

FOR NEAR ON nine minutes, George Holliday stood outside his second-floor windows with his three-pound Sony Handycam clamped to his eye. It was somewhere round one in the morning on March 3rd 1991. He and his wife Maria had been woken from deep sleep by the clatter of a helicopter low over their apartment in Lake View Terrace in north Los Angeles, and the sirens of police cars. His first thought, hearing all that, was to grab the camera.

The Handycam was new, a Valentine's gift for Maria which would give them both fun. Already he'd caught some of the filming of "Terminator 2" in the biker bar across the street, the scene where Arnold Schwarzenegger came in naked, stole a biker's clothes and took off on his Harley. That was on the same tape he was using to capture the ruckus outside, and later on he was going to film a friend running in a marathon. It certainly livened his plumber’s life, working his butt off crawling under houses and unclogging drains. He wanted to film everything now.

It was tricky to do, since he was still learning. He couldn’t get the autofocus to work in the dark, and there were two bits where the tape was blurry, especially at the start. That might not have mattered, except that this video became the crucial piece of evidence in a police trial that convulsed the city of Los Angeles and shocked the world—nine minutes in which the everyday mistreatment of American blacks by the police was, for the first time, laid bare in a citizen recording for everyone to see.

His video, starting a bit late, showed a group of white officers who had stopped a car. Four of them approached the driver, later identified as Rodney King, a black man on parole for a robbery. He had been driving wildly with alcohol in his blood. In the first 81 seconds of the video the officers beat and kicked King, on whatever part of his body they could hit, 56 times. King kept trying to get up, then falling down again under the blows, until in the end the officers handcuffed him and threw a white sheet over his face as if he was dead. He almost was, with 11 fractures of the skull.

Mr Holliday, filming, had mixed thoughts. He had spent almost all his young life in Argentina, where his British father had worked for Shell Oil. There the police often took matters brutally into their own hands. But in America, which a friend had enticed him to move to in 1980, he believed they were generally kind. If they stomped and hit someone, so fiercely that he picked up the whack of their batons, they must have some good reason. But what could the guy have done to deserve such a beating as that?

The LAPD would not tell him, and at first showed no interest in the tape. But he and Maria both thought it should be seen. The local KTLA TV channel took it, cagily at first, and ran it on the news that evening. But then they shared it with CNN, and his world exploded. He opened the door on a sea of reporters, so that he could hardly get to work. His phone rang off the hook. Everyone wanted copies of the tape, but he had no equipment to make them. Instead he had left the master-tape with KTLA, for just $500, and soon enough higher authorities took it away and kept it.

In 1992 the officers were tried and, despite his video, acquitted of assault. The southern section of Los Angeles went up in flames then for almost a week, with more than 60 dead and $1bn-worth of damage. And, having been a five-minute hero, he got the rap now for sharing the tape. Even in Lake View Terrace, a quiet, horsey, middle-class place which saw no riots, his customers blamed him, and death-threats were stuck on the windshield of his van.

For he was still a plumber, though freelance to avoid hassle, still scraping round at the back of sinks and fitting new pipes to boilers. So much for the TV show, the biopic and the George Holliday crime-fighting toy, none of which happened. An expensive lawyer failed to get his tape back from the FBI, so he lost Arnie and the marathon too, and though he owned the broadcast rights they did not earn him much. In 2020 he put his camera up for auction for $225,000 to buy a new place, but it drew no bids.

It seemed wrong that he couldn't make money from this. When Abraham Zapruder's sightseeing ciné film was seized by the government after Kennedy's assassination, his family was paid $16m. King, too, after a second trial had found two officers guilty of civil-rights violations, got $3.8m from a civil suit against the city. He met King once as he filled up at a petrol station, not recognising him with his face smoothed out again. King thanked him for saving his life, and they shook hands.

Saving a life was surely something to be proud of, and a beating like that was out of line. So he did not regret that he had made the tape. But it cost him his marriage, in fact two marriages, for more or less nothing. It gave the LAPD a very bad rap, one he felt they didn't deserve. And he couldn't understand, being a plumber and not into politics, why race was always such a big thing. Surely it didn't matter what colour anyone's skin was? As King himself said, couldn't they all just get along?

For the media he had no respect. They had twisted his words into their own story, making him say what he hadn't said. Only the videotape spoke true and couldn't be argued with. He no longer bothered to watch the news, which was spun to the left or the right, but picked up talk-radio news as he drove from job to job.

He heard, therefore, in 2020, about the death of George Floyd in Minneapolis. But he did not see the video almost all America saw, on which, three decades after he had rushed out on his balcony, another citizen-recorder, one of legions now, filmed a white police officer forcing the life from an unarmed black suspect for near on nine minutes. Again. Still. ■

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