

The Economist

The Fourth of July—with tanks

Foreign savers mob China

The epic haggale over who runs the EU

Our annual supplement: The World If

JULY 6TH–12TH 2019

The global crisis in

CONSERVATISM



Data has a story to tell.
We give it a voice.®

Inovalon is a leading provider of cloud-based platforms
empowering data-driven healthcare.



inovalon®

www.inovalon.com

NASDAQ: INOV



On the cover

The new right is not an evolution of conservatism, but a repudiation of it: leader, *page 9*. How conservatism has been eclipsed, *page 16*.

• **The Fourth of July—with tanks** The pageantry of Donald Trump's presidency: Lexington, *page 25*

• **The epic haggle over who runs the EU** Europe settles on some surprising, but potentially strong, appointments: leader, *page 11*. Germany's defence minister is nominated to head the European Commission, *page 43*

• **Foreign savers mob China** America and China are at each other's throats, but also in each other's pockets: leader, *page 10*. Foreign financiers look past the trade war and ramp up in China, *page 56*

• **Our annual supplement: The World If** Future scenarios...after *page 38*. It's worth reading crazy-sounding scenarios about the future: leader, *page 12*. Republicans owe much of their success to liberals who don't vote: Graphic detail, *page 73*



The world this week

6 A round-up of political and business news

Leaders

9 **Politics** Conservatism's crisis

10 **China v America** Counter-flow

11 **The EU's top jobs** Dea ex machina

11 **Libya** A country apart

12 **Futurology** Navigating the rapids

Letters

15 On mental health, war literature, plastic waste, magistrates, air-traffic control, Boris Johnson, pets

Briefing

16 **Conservatism** The self-preservation society

The World If

Our annual supplement After *page 38*



Schumpeter Royal Dutch Shell's boss serves up some hard truths on oil and climate change, *page 55*

United States

- 19 Immigration detention
- 20 Laura Yeager, General
- 21 The Democratic primary
- 21 The Supreme Court's term
- 22 Policemen and their posts
- 24 Alaska's changing climate
- 25 **Lexington** The Fourth, with tanks



The Americas

- 26 The cocaine boom
- 27 Colombia's peace deal
- 28 **Bello** AMLO one year on



Asia

- 29 Uzbekistan's economy
- 30 South Korean smartphone addicts
- 30 Polio in Pakistan
- 31 Water shortages in India
- 32 **Banyan** Trump-Kim III



China

- 33 Hong Kong's protests
- 34 Recycle, or else
- 35 **Chaguan** A chained dragon



Britain

- 36 The Brexit time warp
- 37 Paths to EU citizenship
- 38 **Bagehot** Boris Johnson, illusionist



Middle East & Africa

- 39 Tripoli under siege
- 40 The war in Yemen
- 40 Tunisia's test
- 41 Kenyan prisons
- 42 Stalemate in Sudan

**Europe**

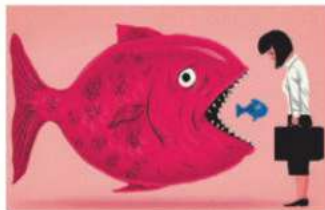
- 43 The EU's top jobs
- 44 The ECB's new boss
- 45 A political murder in Germany
- 45 Trouble in Georgia
- 46 France's heatwave
- 47 **Charlemagne** Kyriakos Mitsotakis

**International**

- 48 Credit scoring goes global

**Business**

- 50 M&A in America
- 51 **Bartleby** Microsoft's cultural revolution
- 52 A respite for Huawei
- 52 Who owns startups?
- 53 Obituary: Lee Iacocca
- 54 Aramco's IPO—part 2
- 54 Book prices in France
- 55 **Schumpeter** Royal Dutch Shell and the climate

**Finance & economics**

- 56 China's financial opening
- 57 Nominees for the Fed
- 57 Cash in on your Picasso
- 58 **Buttonwood** The joys of private capital
- 59 OPEC and American shale
- 59 The EU bullies the suits
- 60 Japan's pensions problem
- 61 An EU deal with Mercosur
- 62 **Free exchange** Yellen's unlikeliest student

**Science & technology**

- 63 Farming insects
- 64 Superhydrophobicity
- 65 Fighting Zika
- 65 Japan goes whaling
- 66 Chemical archaeology

**Books & arts**

- 67 Censorship in the Gulf
- 68 Social media in Pakistan
- 69 Predicting the weather
- 69 Jackson Brodie returns
- 70 **Johnson** Accents in politics

**Economic & financial indicators**

- 72 Statistics on 42 economies

Graphic detail

- 73 What if America required everyone to vote?

Obituary

- 74 Judith Krantz, queen of the bonkbuster novel

The Economist

Volume 432 Number 9150

Published since September 1843 to take part in 'a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress.'

Editorial offices in London and also:
Amsterdam, Beijing, Berlin, Brussels, Cairo, Chicago, Johannesburg, Madrid, Mexico City, Moscow, Mumbai, New Delhi, New York, Paris, San Francisco, São Paulo, Seoul, Shanghai, Singapore, Tokyo, Washington DC

Subscription service

For our full range of subscription offers, including digital only or print and digital combined, visit: Economist.com/offers

You can also subscribe by mail, telephone or email:
North America
The Economist Subscription Center,
P.O. Box 46978, St. Louis, MO 63146-6978
Telephone: +1 800 456 6086
Email: customerhelp@economist.com

Latin America & Mexico
The Economist Subscription Center,
P.O. Box 46979, St. Louis, MO 63146-6979
Telephone: +1 636 449 5702
Email: customerhelp@economist.com

One-year print-only subscription (51 issues):

United States.....US \$189 (plus tax)
Canada.....CA \$199 (plus tax)
Latin America.....US \$325 (plus tax)

Please recycle



PEFC 29-31-58

PEFC certified
This copy of *The Economist* is printed on paper sourced from sustainably managed forests certified to PEFC
www.pefc.org



He's a fan.



To find out why Adam Scott is a fan or to become a Fan of M.O. visit mandarinoriental.com BANGKOK • BARCELONA • BEIJING • BODRUM • BOSTON • CANOUAN • DOHA • DUBAI • GENEVA • GUANGZHOU • HONG KONG
JAKARTA • KUALA LUMPUR • LAKE COMO • LONDON • MACAU • MARRAKECH • MIAMI • MILAN • MUNICH • NEW YORK • PARIS • PRAGUE • SANYA • SHANGHAI • SINGAPORE • TAIPEI • TOKYO • WASHINGTON D.C.



Protesters ransacked **Hong Kong's** legislature, spraying graffiti and waving British-era flags in the chamber after commemorations for the 22nd anniversary of the handover of Hong Kong to China. Hong Kong's chief executive, Carrie Lam, condemned the "extreme violence". China's government accused the demonstrators of trampling on "the rule of law".

Rahul Gandhi resigned as leader of Congress, **India's** oldest political party and the only national force opposing the ruling Bharatiya Janata

Party (BJP). Mr Gandhi's father, grandmother and great-grandfather all served as prime minister. Congress has been thrashed by the BJP at the past two elections.

Taliban insurgents killed some 40 people in an attack in Kabul, the capital of **Afghanistan**. The attack came as American and Taliban negotiators were meeting in **Qatar** to discuss a possible peace deal.

Prayuth Chan-ocha, the general who has served as **Thailand's** prime minister since leading a coup in 2014, appeared to threaten another putsch, this time against his own government. Mr Prayuth was upset at his squabbling supporters in parliament, who have been fighting over cabinet posts. They seem to have taken the supposed restoration of democracy too seriously.

Japanese commercial fishermen caught their first whale

since **Japan** withdrew from the International Whaling Commission, an intergovernmental body which has maintained a moratorium on whaling for 30 years. The Japanese government has scrapped supposedly scientific whaling expeditions in Antarctic waters that involved killing a much larger number of whales.

A mushrooming problem



Iran has breached a limit imposed in 2015 on how much enriched uranium it can stockpile. The limit was part of a deal that eased economic sanctions

on Iran in exchange for restrictions on its nuclear programme. President Donald Trump withdrew **America** from the deal last year and reimposed sanctions, including a ban on Iranian oil sales. But the other signatories, including Britain, France and Germany, had urged Iran to continue to comply with the agreement. Iran's president, Hassan Rouhani, said the country also plans to enrich uranium to higher levels than those allowed under the deal, raising concerns that it is stepping closer to developing a nuclear bomb.

An attack on a migrant centre near Tripoli, the capital of **Libya**, killed at least 44 people held there. The Libyan government blamed an air strike by forces under the command of Khalifa Haftar, a warlord who controls much of eastern Libya. Mr Haftar's forces claimed that the government had shelled the centre. ▶▶



This simple banana peel inspired a bold idea:



To turn trash

► **Nigeria**, Africa's most populous country and one of its two biggest economies, said it will sign a free-trade deal known as the African Continental Free Trade Agreement. The deal aims to increase trade between African states.

Tens of thousands of people marched through **Sudan** in protest against military rule almost a month after government forces killed more than 100 people.

Job watch

After a marathon three-day session, the leaders of the **European Union** decided on an allocation of the bloc's top jobs. In a surprise move, one of the most important jobs, president of the European Commission, went to Ursula von der Leyen, Germany's defence minister. The appointment is subject to ratification by the European Parliament, which may not approve it.

In another surprise, the European Central Bank is to be run by Christine Lagarde, currently boss of the IMF. The leaders also picked Spain's foreign minister, Josep Borrell, to run **EU** foreign policy and Charles Michel, prime minister of Belgium, to be the new president of the **European Council**.

Protests erupted in Madrid, the capital of **Spain**, against a decision to suspend a ban on polluting vehicles in the city centre. The ban, similar to those in other European cities, was introduced in November. The city's new conservative mayor suspended it from July 1st. Without the policy, the city could face sanctions under the EU's clean-air rules.

Not so shipshape

America and European countries condemned **Venezuela**, after Rafael Acosta Arévalo, a captain in the country's navy, died in custody just days after

appearing in court, having apparently been tortured. Mr Acosta was accused of plotting to murder the country's disputed leader, Nicolás Maduro.

Jesús Santrich, a former commander in the FARC, a **Colombian** guerrilla group, who had become a politician, disappeared. He has reportedly fled to Venezuela, throwing Colombia's peace deal into disarray.

Third time lucky



Donald Trump met Kim Jong Un, **North Korea's** dictator, for the third time. The two agreed

to restart talks about ending the North's nuclear-weapons programme; the talks had stalled since the failure of their previous summit in February. The latest meeting took place in the demilitarised zone that divides the two Koreas. Mr Trump briefly crossed the demarcation line and entered the North, becoming the first serving American president to set foot in the country.

America's Department of Homeland Security said that it will investigate revelations that Border Patrol agents traded offensive content in a private Facebook group. ProPublica, an investigative service, revealed that border agents had mocked dead migrants, made jokes about throwing burritos at visiting Latino members of Congress, and faked sexual images of Alexandria Ocasio-Cortez, a Hispanic Democrat who has criticised the Trump administration's border policies.

Into jet fuel.

We see possibilities everywhere.

BP is partnering with Fulcrum BioEnergy to convert landfill waste into biofuel for planes. It's one more way BP is working to make energy cleaner and better.

keep advancing

bp

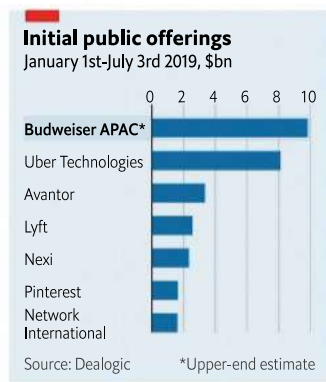
America and China agreed to resume trade talks. At a summit of G20 leaders in Japan, President Donald Trump agreed not to slap new tariffs on \$300bn-worth of Chinese goods. He also said he would allow American companies to sell products to Huawei, a Chinese telecoms firm which was blacklisted in May. In exchange, Xi Jinping, China's president, agreed to make new purchases of American agricultural products. The truce lacked specifics and did not include a timeline for completing negotiations. Mr Trump declared victory anyway, telling reporters, "We're right back on track."

Days after the China ceasefire, America threatened to impose tariffs on \$4bn-worth of goods from the **European Union** as part of a 14-year dispute at the World Trade Organisation over aircraft subsidies to Boeing and Airbus. In April America identified \$21bn-worth of European goods that could be hit with tariffs over the WTO spat. The 89 products targeted under the new levies include cheese, pasta and whisky.

Bloc party

The **European Union** and **Mercosur**, a South American trade group, agreed to a free-trade deal. The agreement, which was reached 20 years to the day after negotiations began in 1999, would eliminate tariffs on more than 90% of goods traded between the two blocs. Jean-Claude Juncker, president of the European Commission, hailed the deal as a victory for "open, sustainable and rules-based trade".

The European Commission decided not to take disciplinary action against **Italy** for violating EU budget rules, which might have resulted in fines. Italy's cabinet pledged to cut its deficit for 2019 from 2.4% of gross domestic product to 2%, in line with a previously agreed target. Italy's debt, at 132% of gross domestic product, remains more than twice the EU's 60% limit.



Anheuser-Busch InBev, the world's biggest brewer, is seeking to raise up to \$9.8bn by listing its Asia-Pacific business in Hong Kong. The share offering of the unit, Budweiser APAC, is expected to be the world's biggest so far this year. The initial public offering would help the firm reduce its \$100bn-plus debt pile and give it a platform for making acquisitions in the region.

European leaders tapped Christine Lagarde, head of the International Monetary Fund, to become the next president of the **European Central Bank**. Ms Lagarde, a former French finance minister, would succeed Mario Draghi whose term ends on October 31st. If approved by the European Parliament, she will become the bank's first female boss.

Saudi Arabia revived plans for an initial public offering of **Saudi Aramco**, the world's biggest oil company. Khalid al-Falih, the oil minister and Aramco's chairman, said the IPO was back on track after being put on hold last year. The listing, first announced in 2016, is the cornerstone of Muhammad bin Salman's "Vision 2030" plan to diversify the kingdom's economy beyond oil. In April Aramco raised \$12bn in its first international bond sale.

At a meeting this week in Vienna, **OPEC** agreed to extend oil production cuts by nine months. The cuts, first negotiated in December, will reduce output by the oil cartel and its allies by 1.2m barrels a day from October production levels. The price of oil has been under pressure from expanding American shale output and a slowdown in global demand.

Warren Buffett, the 88-year-old chairman of **Berkshire Hathaway**, said he will donate \$3.6bn-worth of shares in the conglomerate to five charities. It is one of his largest charitable gifts ever. Mr Buffett, the world's fourth-richest person, has pledged to give away his entire fortune. Since 2006 he has donated more than \$34bn.

Donald Trump announced via Twitter that he would be nominating Christopher Waller, director of research at the Federal Reserve Bank of St Louis, and Judy Shelton, America's representative on the board of the European Bank for Reconstruction and Development, to fill two vacancies on the **Federal Reserve Board**. Ms Shelton, a former adviser to Mr Trump's presidential campaign, will no doubt be the more controversial pick. She is an outspoken critic of the Fed and has called for a return to the gold standard.

Bad blood

Ithaca Holdings, a music-investment company run by Scooter Braun, a music manager, announced it was acquiring Big Machine, a Nashville-based independent record label. The deal, reportedly valued at more than \$300m, includes the entire six-album catalogue of **Taylor Swift**, a pop star. Ms Swift, who signed with Big Machine at 15 and left the label in November, criticised the acquisition and Mr Braun, saying she had spent years trying to buy back her master recordings. Justin Bieber, another pop star, came to Mr Braun's defence and suggested the three talk it out.



The global crisis in conservatism

The new right is not an evolution of conservatism, but a repudiation of it

Vladimir Putin, Russia's president, has declared the liberal idea "obsolete". It will not surprise you to learn that we disagree. Not just because he told the *Financial Times* that liberalism was all about immigration, multiculturalism and gender politics—a travesty—but also because he picked the wrong target. The idea most under threat in the West is conservatism. And you do not have to be a conservative to find that deeply troubling.

In two-party systems, like the United States and (broadly) Britain, the right is in power, but only by jettisoning the values that used to define it. In countries with many parties the centre-right is being eroded, as in Germany and Spain, or eviscerated, as in France and Italy. And in other places, like Hungary, with a shorter democratic tradition, the right has gone straight to populism without even trying conservatism.

Conservatism is not so much a philosophy as a disposition. The philosopher Michael Oakeshott put it best: "To be conservative...is to prefer the familiar to the unknown, to prefer the tried to the untried, fact to mystery, the actual to the possible, the limited to the unbounded, the near to the distant." Like classical liberalism, conservatism is a child of the Enlightenment. Liberals say that social order emerges spontaneously from individuals acting freely, but conservatives believe social order comes first, creating the conditions for freedom. It looks to the authority of family, church, tradition and local associations to control change, and slow it down. You sweep away institutions at your peril. Yet just such a demolition is happening to conservatism itself—and it is coming from the right.

The new right is not an evolution of conservatism, but a repudiation of it. The usurpers are aggrieved and discontent. They are pessimists and reactionaries. They look at the world and see what President Donald Trump once called "carnage".

Consider how they are smashing one conservative tradition after another. Conservatism is pragmatic, but the new right is zealous, ideological and cavalier with the truth. Australia suffers droughts and reef-bleaching seas, but the right has just won an election there under a party whose leader addressed parliament holding a lump of coal like a holy relic. In Italy Matteo Salvini, leader of the Northern League, has boosted the anti-vaxxer movement. For Mr Trump "facts" are just devices to puff up his image or slogans designed to stir up outrage and tribal loyalties.

Conservatives are cautious about change, but the right now airily contemplates revolution. Alternative for Germany has flirted with a referendum on membership of the euro. Were Mr Trump to carry out his threats to leave NATO (see "The World If" in this issue), it would up-end the balance of power. A no-deal Brexit would be a leap into the unknown, but Tories yearn for it, even if it destroys the union with Scotland and Northern Ireland.

Conservatives believe in character, because politics is about judgment as well as reason. They are suspicious of charisma and personality cults. In America plenty of Republicans who know better have fallen in with Mr Trump even though he has been credibly accused by 16 different women of sexual misconduct. Brazilians have elected Jair Bolsonaro, who fondly recalls the

days of military rule. The charismatic Boris Johnson is favourite to be Britain's next prime minister, despite being mistrusted by MPs, because he is deemed to be the "Heineken Tory" who will, like the beer, refresh the parts other conservatives cannot reach.

Conservatives respect business and are prudent stewards of the economy, because prosperity underpins everything. Hungary's prime minister, Viktor Orbán, paints himself as a low-tax economic conservative, but undermines the rule of law on which businesses depend. Mr Trump is a wager of trade wars. Over 60% of Tory members are willing to inflict "serious damage" on the economy to secure Brexit. In Italy the League is spooking markets by toying with issuing government paper that would act as a parallel currency to the euro. In Poland Law and Justice has splashed out on a welfare bonanza. In France, in the campaign for the European Parliament elections, the rump Republican Party made more of a splash about Europe's "Judeo-Christian roots" than prudent economic management.

Last, the right is changing what it means to belong. In Hungary and Poland the right exults in blood-and-soil nationalism, which excludes and discriminates. Vox, a new force in Spain, harks back to the Reconquista, when Christians kicked out the Muslims. An angry, reactionary nationalism kindles suspicion, hatred and division. It is the antithesis of the conservative insight that belonging to the nation, a church and the local community can unite people and motivate them to act in the common good.

Conservatism has been radicalised for several reasons. One is the decline of what Edmund Burke called the "little platoons" that it relied on, such as religion, unions and the family. Another is that the old parties on both right and left were discredited by the financial crisis, austerity

and the long wars in Iraq and Afghanistan. Outside the cities, people feel as if they are sneered at by greedy, self-serving urban sophisticates. A few have been wound up by the xenophobia of political entrepreneurs. The collapse of the Soviet Union, some believe, loosened the glue uniting a coalition of foreign-policy hawks, libertarians and cultural and pro-business conservatives. None of these trends will be easy to reverse.

The right stuff

That does not mean everything is going the way of parties of the new right. In Britain and America, at least, demography is against them. Their voters are white and relatively old. Universities are a right-wing-free zone. A survey by Pew last year found that 59% of American millennial voters were Democratic or leaned Democratic; the corresponding share of Republicans was only 32%. Among the "silent generation", born in 1928-45, Democrats scored 43% and Republicans 52%. It is not clear enough young people will drift to the right as they age to fill the gap.

But the new right is clearly winning its fight against Enlightenment conservatism. For classical liberals, like this newspaper, that is a source of regret. Conservatives and liberals disagree about many things, such as drugs and sexual freedom. But they are more often allies. Both reject the Utopian impulse to find a



▶ government solution for every wrong. Both resist state planning and high taxes. The conservative inclination to police morals is offset by an impulse to guard free speech and to promote freedom and democracy around the world. Indeed conservatives and liberals often bring out the best in each other. Conservatism tempers liberal zeal; liberals puncture conservative complacency.

The new right is, by contrast, implacably hostile towards classical liberals. The risk is that moderates will be squeezed out as right and left inflame politics and provoke each other to move to the extremes. Voters may be left without a choice. Recoiling

against Mr Trump, Democrats have moved further to the left on immigration than the country at large. The British, with two big parties, may have to pick between Jeremy Corbyn, Labour's hard-left leader, and a radicalised Tory party under Mr Johnson. Even if you can vote for the centre, as with Emmanuel Macron in France, one party will win repeatedly by default—which, in the long run, is unhealthy for democracy.

At its best conservatism can be a steadying influence. It is reasonable and wise; it values competence; it is not in a hurry. Those days are over. Today's right is on fire and it is dangerous. ■

China v America

Counter-flow

America and China are at each other's throats, but also in each other's pockets. Good

TRADE WAR, tech war, new cold war or just plain decoupling: call it what you will, the confrontation between America and China has been bruising. Tariffs are up, exports down. Even as they resume trade negotiations, they talk of blacklisting each other's firms. In the words of Henry Paulson, a former American treasury secretary, the danger is that an "economic iron curtain" will soon divide the world. All the more remarkable, then, that one crucial sector—finance—is bucking the trend. Financial links between China and the West have grown tighter since the trade war broke out. They are set to grow tighter still.

For years Western insurance firms, asset managers and brokerages have been allowed to own only minority stakes in local firms. Now China is giving foreign financial firms more leeway on the mainland. Since mid-2018 they have been able to apply for 51% control. On July 2nd Li Keqiang, China's prime minister, said that financial firms would be allowed full control by 2020.

That is not the only sense in which financiers and trade negotiators exist in parallel universes. China is also making it easier for foreigners to buy into its markets. Since the start of 2018 they have ploughed \$75bn into Chinese shares. In the same period they have pulled \$8bn out of all other big emerging markets. In the next decade, Goldman Sachs estimates, \$1trn will enter China's bond market from abroad, putting it among the world's top investment destinations (see Finance section). All this is possible because China has not stopped foreigners from cashing out, despite the strict capital controls it imposes on its own citizens. As the rules have eased, stock and bond indices that investors mirror in their portfolios, such as MSCI's equities benchmark, have added Chinese securities.

Helping Wall Street and the City of London do more business in China is not a popular cause there or in the West, but the implications for finance are profound. Firms like Morgan Stanley, BlackRock and Schroders which have long dabbled on the mainland must now decide whether to go for it. Some worry that they lack clout and connections. Few insurers, for example, relish a brawl with China Life, a state-run behemoth with 1.7m sales agents. Foreign banks' assets in China have soared to \$650bn, but still amount to less than 2% of the country's total.

Nonetheless a few global firms have a good chance of building large Chinese businesses. HSBC, a London-based firm with roots in Asia, already makes three-quarters of its profits from

Hong Kong and China. AIA, which was spun out of AIG, an American firm, is the leader among foreign life-insurers. Western asset managers have long records and global expertise that local firms do not. Over time, as Chinese savers seek to diversify, this could help them win market share.

China needs to make this opening count. Many Wall Street bosses have gone from Sinophiles to hawks in the past few years. So, tactically, China has a chance to win brownie points with America's business lobby. That gain could be dwarfed by the benefits within the country itself. Western firms will push up standards in its immature but giant capital markets, a priority if it is to allocate capital more efficiently and get more out of its savings. And China needs foreign funding more than in the past—its current-account surplus has dropped from 10% of GDP in 2007 to less than 1% last year. Without a steady flow of capital into the country, there could be a destabilising fall in the yuan.

Some political figures in the West argue that financial links with China count as a betrayal. Steve Bannon, who was once President Donald Trump's adviser, talks of removing Chinese companies from American stock exchanges. Marco Rubio, a hawkish Republican senator, has accused MSCI of channelling American cash to the Chinese Communist Party by including state-owned companies in its benchmarks.

In fact closer financial links could have a beneficial effect, which is why longtime China-watchers like Mr Paulson back them so strongly. When Chinese firms have foreign shareholders or underwriters, their calculations change. They face tougher questions, as Alibaba, a Chinese e-commerce giant, is reminded on every earnings call. None of this will suddenly transform China into a free market but it will encourage its firms to be more open, to respond to market signals and to respect intellectual property. Chinese firms that use Western banks when they go abroad, as Huawei used HSBC, are less able to circumvent global rules on corruption and sanctions.

If America excludes China from the global financial system, China will eventually build an alternative to the dollar-based order that has dominated markets since 1945—which would then feed into a wider strategic rivalry. For the time being, despite the hostilities over trade and tech, China welcomes foreign investors and firms. That is to be celebrated. There is more to be gained from building connections than cutting them off. ■



The European Union's top jobs

Deae ex machina

Europe settles on some surprising appointments, but potentially strong ones

IT WASN'T PRETTY, but they got there in the end. After an epic three-day haggle, the leaders of the European Union came up with a slate of names for its top jobs: the presidents of the European Commission (the executive arm), the European Council (the forum where the leaders meet) and the European Central Bank (ECB), as well as its grandly titled High Representative for Foreign Affairs and Security Policy. None of the jobs went to the front-runners, nor indeed to anyone who had featured on most observers' lists until a few hours before the dénouement.

Critics will object to the murky process, though it was always going to take horse-trading to satisfy 27 states (Britain politely sat the business out), while striking a balance between right and left, north and south, east and west, big states and small ones, and between the sexes. Along the way, the notion that a decision on the more technocratic ECB boss would be kept apart from the political jobs was abandoned. So, too, was the hard-fought principle that the commission job should go to the *Spitzenkandidat* or "lead candidate" of one of the European Parliament's political groups. That could well bring the whole deal crashing down if, as many MEPs threaten, the parliament uses its veto against the proposed candidate, Ursula von der Leyen, Germany's defence minister (see Europe section).

She does not deserve that fate. Inevitably, the team that has emerged is a compromise that has its weaknesses. The star of Mrs von der Leyen (pictured right) was generally reckoned in Berlin to have faded before her abrupt elevation; she was not, for instance, a contender to succeed Angela Merkel as party leader and chancellor. *The Economist* would have preferred Margrethe Vestager, a steely liberal Dane. At the ECB, Christine Lagarde (pictured left), a former French finance minister, was another surprise. Her time as head of the IMF has been broadly successful, but leading the ECB is very different: she has experience neither as a central banker nor as an economist, which many would re-



gard as part of the job description.

However, much worse alternatives were being bandied about. Like the choices of Spain's Josep Borrell for the foreign-affairs job and Belgium's Charles Michel to preside over the council, Mrs von der Leyen and Ms Lagarde are solid, experienced administrators and established public figures. They can be expected to act calmly, pragmatically, but purposefully.

They will need to. The task ahead of Mrs von der Leyen is monumental. In the next few years the EU needs to make hard choices on euro-zone integration, climate change and migration. It must decide how to respond on trade and security to President Donald Trump, as well as to an assertive Russia and an ever more powerful China. This requires not just strength of purpose but also the building of alliances. Mrs von der Leyen has not shown much of a knack for that in her attempts to overhaul Germany's dismally run and curmudgeonly armed forces. The new European Parliament, like the EU itself, is fractious and requires skilful handling. Encouragingly, Mrs von der Leyen will want to see a stronger European dimension in tackling these problems. As the EU urges reluctant northern states (including Germany) towards risk-sharing within the single-currency area, it could help to have a German at the helm.

For her part, Ms Lagarde joins the ECB just as there is churn at the top. Like her, the newish vice-president, Luis de Guindos, is a former minister without monetary-policy experience. She brings fine political and communication skills, and at the IMF advocated sensible reforms to the euro zone. But her new role is more technical than the old one. If another downturn hits, the bank will hastily need to draw up creative policy options. That will require appointing the right staff and knowing whose advice to follow in times of crisis—precisely when the bank's governing council may be deeply divided. If she can do this then she, like Mrs von der Leyen, may yet prevail. ■

Libya

A country apart

How to put Libya back together

“IF THE SUN lost its gravity, its gases would explode and its unity would no longer exist. Accordingly, unity is the basis for survival.” Muammar Qaddafi's “Green Book”, his rambling political manifesto, is full of pabulum. But the former Libyan dictator was right about the importance of unity, something his country has sorely lacked since he was killed in a revolution in 2011.

Libya has been mired in conflict ever since, creating a jihadist playground and a jumping-off point for migrants desperate to reach Europe. The latest fighting pits the “government of national accord” (GNA) in Tripoli against the self-styled Libyan National Army (LNA), under Khalifa Haftar, which rules by fear in the east

and south. The UN was trying to bring them together when he attacked Tripoli in April—while the secretary-general was in town.

Peace is a distant prospect (see Middle East & Africa section). But the West has an interest and a responsibility to help repair Libya. NATO members led by Britain and France supported the revolution with air strikes—then watched as the country sank into chaos. Barack Obama says that failing to plan for the day after Qaddafi was the “biggest mistake” of his presidency. America and Europe can start to fix that omission by putting their weight behind a UN-led peace process.

Mr Haftar believes that Libya can be stabilised only by a ►►

► strongman (himself, naturally). Some foreign powers seem to agree. Egypt, France, Russia and the United Arab Emirates (UAE) have supported him. America has flirted with him. But their calculus is flawed. Mr Haftar needed three years just to take Benghazi, the country's second city, which he flattened in the attempt. In April the LNA said that it would take days to capture Tripoli, but today it is still fighting—and losing ground. The militias of Misrata, who are stronger foes, lie in wait for him. Far from stabilising Libya, Mr Haftar is sowing more chaos.

The LNA's backers risk turning the civil war into a regional conflict. Egypt and the UAE are the source of most of the weapons flowing into Libya (some of which were made in America), but Turkey, which opposes their anti-Islamist agenda, has lately tried to even things out by supplying the militias that prop up the GNA. Even with help, neither side in Libya looks able to achieve absolute victory. The LNA is overstretched and short of cash; the GNA is weak and unpopular. War will only prolong the country's misery. A single attack on July 3rd killed more than 44 people at a detention centre near Tripoli; each side blamed the other.

The good news is that a once-divided Europe has begun to narrow its differences over Libya, and that, now Mr Haftar no longer looks a winner, America seems to have cooled on him. Together they should lean on other countries to stop fuelling the war—and threaten to punish those who violate the UN arms embargo, which has been in place, but rarely enforced, since 2011. No progress can be made until a ceasefire is reached, but that should not stop new thinking about the peace. Too much focus has been placed on getting a deal between Fayezi al-Serraj, the head of the GNA, and Mr Haftar. A broader dialogue is needed, involving representatives from the east, west and south. Countries, such as Egypt, France and Italy, with interests in Libya should also have a voice.

That is not so different from what the UN was planning when the LNA launched its attack. Ghassan Salamé, its envoy to Libya, proposed holding a national conference that would bring together rival factions to agree on a new constitution and electoral law, leading to elections. It is still a sensible plan. America and Europe should make it credible by supporting it. ■

Futurology

Navigating the rapids

It is worth reading crazy-sounding scenarios about the future—including our own

PREDICTING THE future is hard. But preparing for its uncertainties, while you lie on the beach, can at least be entertaining. It can also broaden the mind and subtly change your understanding of the present. Rather than the Great American Novel or a tall stack of chick-lit bonkbusters (see our Obituary on Judith Krantz), we propose a different sort of summer reading. Speculating about the future, even if it is far-fetched, can help people and institutions cope with what comes next. For the best material, here are three places to look.

The first is scenario planning. This originated in the armed forces during the second world war and was pioneered in industry by Royal Dutch Shell, enabling it to react more quickly and effectively than rival oil firms to the oil shock of 1973. The central idea was to avoid betting everything on a single forecast and instead to test future projects and plans against a set of plausible scenarios. Mapping out several futures, deciding how to respond to them and identifying the early signs that they might be coming about has been widely adopted by multinational firms, particularly after the terrorist attacks of September 11th 2001. In that spirit, we publish our own annual set of speculative scenarios, "The World If", in this week's edition. What if America leaves NATO, or antibiotics stop working, or Facebook switches itself off in Europe? These things may never happen, but it is mind-stretching to think about what you should do if they did.

Science fiction, a second realm of speculation, is perhaps a more familiar beach read. It is wrong to see sci-fi as chiefly predictive, however. Its contemplation of the future is often a commentary on the present: many sci-fi authors take current concerns, from robots to climate chaos to gender politics, to the logical extremes and consider their implications. As a result, sci-fi can play a useful role as a forward-scanning radar for tech-

nological, social and political trends. But sci-fi does directly shape the future in one concrete way: the tech industry is full of people trying to make it come true. Amazon's Alexa voice-assistant is the talking computer from "Star Trek"; SpaceX lands its rockets on drone ships whose names are borrowed from Iain M. Banks's "Culture" novels; an entire industry is trying to bring to life the virtual world of Neal Stephenson's "Snow Crash". Beyond these familiar tropes, Chinese sci-fi and Afrofuturism offer refreshingly different perspectives and possibilities.

The last speculative category is corporate anthropology and trendspotting. Many large companies employ roving anthropologists to seek out "edge cases": examples of emerging technologies and behaviour that have yet to become widely adopted, but have the potential to go global. As the sci-fi novelist William Gibson once put it, "the future is already here—it's just unevenly distributed." Two decades ago, Japanese schoolgirls led the way with modern smartphones, capable of taking pictures and downloading apps; we are all Japanese schoolgirls now. What's next: the death of cash? Clothes made of mushrooms? Artificial meat? Trendspotters often get it wrong. But it is worth paying attention to what they think might be coming, just in case they are right.

The rewards of speculation

Pierre Wack, one of the gurus of scenario planning at Shell, once likened dealing with the future to shooting the rapids in a boat. You know the general direction of travel, but not the exact path, and the trick is to be able to respond quickly. Reading about possible futures can shift your perception of the present and help you understand what might be around the corner. It can also be fun. So why not give it a try, starting with the speculative scenarios in this issue: who knows what might happen? ■





Gender, Diversity and Inclusion Division Chief

Do you want to mainstream gender and diversity issues into economic and social development projects? If you are recognized as a thought leader and expert practitioner on these topics, then this opportunity is for you.

We are looking for our **Gender, Diversity and Inclusion Division Chief** to work across Latin America and the Caribbean from our office in Washington D.C.

In this strategic managerial position, you will lead, steer, craft and deepen our support to governments in our member countries to address the challenges in this field and achieve inclusive development. You will lead a highly skilled interdisciplinary, multi-cultural, and multi-site team of professionals, conduct high-level policy dialogue with government authorities, and handle the timely provision of analytical and advisory services to our client countries in Latin America and the Caribbean.

To be successful in this role, you will need 10 years of relevant experience in government, bilateral aid agency or multilateral institution; strong interpersonal skills; and the demonstrated ability to quickly establish and maintain trust and credibility with all stakeholders. We also require that you hold a master's degree or Ph.D. (preferred) in Social Sciences, Political Sciences, Public Policy, Administration, or another relevant field.

Interested? Please go to <https://jobs.iadb.org/en> to find the complete terms of reference and to apply online (ref. **190000488**).



We offer a competitive compensation and benefits package and a diverse and inclusive work environment.

The Foreign and Commonwealth Office works at home and overseas to safeguard the United Kingdom's national security, promote and build prosperity as well as support British people overseas.

We are currently seeking exceptional candidates for four high-profile roles.

Governor of Gibraltar Start date: January 2020 Closing date for applications: 14 July 2019	HM Ambassador Kuwait Start date: September 2020 Closing date for applications: 14 July 2019
HM Ambassador Luxembourg Start date: April 2021 Closing date for applications: 14 July 2019	HM Ambassador Seoul Start date: March 2022 Closing date for applications: 21 July 2019

These are fascinating and crucial positions, shaping our partnerships in fast-moving international contexts. Candidates will need to be strategic and influential leaders, able to build varied relationships actively and publicly to deliver complex and wide-ranging objectives.

To discover more on each role and to apply, please visit www.civilservicejobs.service.gov.uk

The FCO values and promotes diversity and is committed to equality for all.



LuiSS University – Rome Expression of Interest for 23 Tenure-Track and Tenured Positions

LuiSS University (www.luiss.edu) invites outstanding scholars to express their interest for 23 positions of Full, Associate or Assistant Professor in the following key areas:

- Accounting
- Administrative Law
- Banking and Finance
- Civil Law
- Computer Science
- Corporate Finance (Fintech)
- Corporate Law
- Corporate Strategy
- Criminal Law Procedure
- Demography
- Economic History
- Game Theory
- Law and Technology
- Management (Entrepreneurship)
- Marketing
- Microeconomics
- Organizational Theory and Behaviour
- Statistics and Data Science

This recruitment campaign is part of the LuiSS 2018-2020 Strategic Plan, aimed at strengthening the University's reputation for excellence in research and high-quality teaching. Successful candidates will teach and pursue research in LuiSS University's Schools and Departments.

About the University

Located in the heart of Rome, LuiSS specialises in the Social Sciences to educate over 9,000 students, providing a diverse and international learning environment that weaves academic rigour with practical relevance. The University's educational approach is interdisciplinary, open, and problem based. LuiSS is committed to producing innovative and cutting-edge research. Through its privileged relationship with Confindustria, Italy's largest industry association, LuiSS has developed strong connections with the business community, governmental institutions, and the civil society. With over 200 international partnerships, LuiSS offers 34 double degree programs with universities in Europe, North America, and East Asia.

Requirements

We seek scholars of the highest profile, with a strong commitment to research and teaching, and the aspiration to contribute to the international growth of LuiSS. Successful candidates will be – or show a drive to become – leading academics in their own fields. They will develop research projects and engage in the academic environment of LuiSS, contributing to the University's further development. Each position offers the opportunity to launch new research streams while teaching on preferred subjects. LuiSS is particularly interested in attracting scholars who have submitted – or are in the process of developing – a proposal to apply for a European Research Council (ERC) Grant.

LuiSS University is an equal opportunity employer. It accepts applications without discrimination on any grounds such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation.

Closing date: August 7, 2019 - 2:00 p.m.
(Central European Summer Time CEST, UTC+2)

For further information please visit: www.luiss.edu/expression-interest-tenure-track-tenured-positions



 **TRANSPORT COMMUNITY**
The Permanent Secretariat

**DRIVE THE TRANSPORT COOPERATION
ACROSS SOUTH EAST EUROPE**

Location: Belgrade

The Transport Community is an international organisation composed of the EU and the Western Balkan parties with the mission of progressively aligning the transport legislation and further integrating the transport networks and markets of South East Europe (Albania, Bosnia and Herzegovina, Republic of North Macedonia, Kosovo*, Montenegro and Serbia) into those of the European Union. The Transport Community focuses on projects, networks, interoperability standards, safety, traffic management, social policy, public procurement and environmental issues, spanning all transport modes except air. You will play a vital role in creating a seamless Transport Community as you direct the activities of the Permanent Secretariat, which is responsible for delivering comprehensive administrative and technical support to underpin this initiative.

Director – Permanent Secretariat of the Transport Community

Your responsibilities:

- To act as the Transport Community's legal representative and public face;
- To support the implementation of EU legislation;
- To manage the Permanent Secretariat.

Your skills:

- Strategic and operational management experience;
- Broad understanding of relevant EU policies;
- Familiarity with South East Europe.

Deputy Director – Permanent Secretariat of the Transport Community

Your responsibilities:

- To prepare and monitor budgets;
- To establish communication and IT policies;
- To steer staff recruitment and retention.

Your skills:

- Experience of managing budgets and human resources;
- Knowledge of EU financial management rules;
- Familiarity with South East Europe.

The Transport Community applies a policy of equal opportunities, non-discrimination and geographical equilibrium.

**This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.*

For full job descriptions and to apply please visit:
https://ec.europa.eu/transport/themes/international-relations/enlargement/western-balkans/transport-community_en

The closing date for registration is **15 September 2019, 12.00 noon Brussels time.**

 United Nations
careers


**Under-Secretary-General
for Internal Oversight Services**


The United Nations is seeking a Senior Executive of outstanding stature with the vision to lead the Office of Internal Oversight Services which assists the Secretary-General in fulfilling his internal oversight responsibilities through internal audit, inspection, evaluation and investigation.

Applications must include a detailed curriculum vitae with full contact information (e-mail and telephone) and must be sent to eosg2019oios@un.org by 29 July 2019.

Women are strongly encouraged to apply.

For more information on this position and other senior leadership vacancies, visit: www.un.org/sg/en/vacancies

 College of Europe
Collège d'Europe

 NatoLin

College of Europe – Rector

The College of Europe invites applications for the position of Rector. He or she will succeed the present Rector, Professor Jörg Monar, whose second mandate will end in August 2020.

The College of Europe is a postgraduate institute of European studies founded in 1949 in the wake of the first Congress of the European Movement held in The Hague in 1948. The College benefits from the support of the European Union, the Belgian federal government, the Polish government, the Flemish authorities, the City of Bruges and from many European countries and regions, as well as from a number of private sector partners. Its truly European and international character is reflected in its faculty, student body and administrative organs. The College consists of two campuses, one in Bruges (Belgium), the other in Natolin (Warsaw-Poland). Further information on the College of Europe and its legal status can be found at www.coleurope.eu.

The Rector holds the overall academic and administrative responsibility for the College as a whole and is assisted by a Vice-Rector who assures the daily administrative management of the Natolin (Warsaw) campus. He or she is committed to further the objectives and traditions of the College, as outlined in the statutes. He or she reports directly to the President of the Administrative Council, currently Mr Íñigo Méndez de Vigo, as from November 2019 Mr Herman Van Rompuy.

Candidates must have the nationality of a European country and should demonstrate substantial academic qualities in the field of European studies, a proven experience of the administration and management of an academic structure of some complexity, and should be able to combine the pursuit of academic excellence at international level with sound budgetary management.

The rectorship is a full-time position, which excludes the pursuit of any other professional activity or academic affiliation. It requires permanent residence in Bruges and a regular presence in Natolin. Full knowledge of the two working languages of the College, English and French, is required.

The appointment is for five years, renewable once, starting on the 1st September 2020. The employment contract falls under Belgian law.

Accommodation is provided both in Bruges and Natolin.

Before taking up his or her appointment, the new Rector is expected to be available to liaise with the current Rector in order to become familiar with College matters.

Applications for the position should be made by e-mail to :

Mr Íñigo Méndez de Vigo
President of the Administrative Council
c/o Ms Ann Verlinde
ann.verlinde@coleurope.eu

by *Monday 30th September 2019*. A detailed curriculum vitae, a letter of motivation and the names of two referees should be included.

Interviews of the shortlisted candidates are scheduled to take place on 27th November 2019.

Information about the governance and the status of the College can be obtained from Mrs Ewa Ośniecka-Tamecka (ewa.osniecka@coleurope.eu), Vice-Rector. Further particulars about employment and accommodation conditions can be obtained from Mr Jan De Mondt (jan.de_mondt@coleurope.eu), Director of Administration and Finance or Mrs Angela O'Neill (angela.oneill@coleurope.eu), Director of Communications.

Digital mental health

You rightly point out that “the world needs more tools to deal with depression and addiction” (“Let magic into the daylight”, June 8th). Psychological treatments such as cognitive-behavioural therapy and interpersonal psychotherapy are effective for about two-thirds of cases of clinical depression.

A growing number of randomised control trials demonstrate that mood-management interventions based on these treatments can prevent half or more of new episodes of major depression in people at risk.

Fully automated digital health interventions have been shown to be effective in administering treatment and preventive therapy: anyone with access to the internet could use them. The marginal cost goes down dramatically the more people use the treatment, making it economically feasible to provide it to anyone in the world free of charge.

We should create digital apothecaries, that is, online portals providing unlimited access to evidence-based Massive Open Online Interventions in as many languages as possible. We can do that with today’s knowledge and technology, at a reasonable cost.
 PROFESSOR RICARDO MUÑOZ
 Director
 Institute for International Internet Interventions for Health
 Palo Alto University

Using your time wisely

Vasily Grossman was a gifted reporter, able to paint compelling panoramas during the second world war. But, contrary to the thrust of your article (“Smoke and dust”, June 8th), he was a mediocre novelist. His characters lack the inner life that Tolstoy’s have. I wonder whether “Stalingrad” is worth the amount of my remaining life I’d have to give up to read its 1,000 pages.

If you want great war literature, I recommend Christa Wolf’s “Kassandra” (she knows

something about defeat and captivity) and “Trilogy” by H.D., the most eloquent expression of what was at stake in the war and the debt people owe, those who fought for democracy.

ERIC PURCHASE
 Lewiston, New York

Plastic fantastic

Europe and America ship their collected plastic waste en masse to Asia and wrongly assume that it is recycled there (“Refusing refuse”, June 15th). Nothing could be further from the truth: it is dumped.

After China halted imports of Western plastic waste in 2017, it seems that Malaysia will soon follow. As a consequence, plastic waste will go to underdeveloped countries in Africa and Asia with even lower environmental standards and thus there is a greater chance that these plastics will be dumped and litter the ocean.

In Europe waste policy focuses on households separating their waste. As a result, it is expected that much less plastic will disappear in an incinerator. However, these targets and the increase in the related taxes mean that the quality of the plastic waste is becoming increasingly poor.

In terms of carbon emissions, the benefit of plastic recycling compared with plastic incineration is very modest. It would take an average household 60 years of plastic separation to compensate for the carbon emissions of a single plane trip from Amsterdam to Los Angeles.

Burning plastic seems like a mortal sin. But it is better for the environment to set fire to low-grade plastics in efficient incinerators. Machines can use infrared techniques to extract plastic from the residual waste. Because machines take out the good types of plastic, the quality of the plastic to be recycled increases.

RAYMOND GRADUS
 Professor of public economics and administration
 Vrije Universiteit
 Amsterdam

Order, order!

Though I don’t recognise your characterisation of the magistracy as characters from a Wodehouse novel (“Bench pressed”, June 22nd), two elements of your article are beyond dispute.

First, the number of magistrates has halved in the past decade, driven by short-sighted recruitment freezes leaving too few magistrates to do the work required. And the second is that with the current statutory retirement age of 70, more than half the remaining magistrates will retire in the next decade, leaving a significant gap to fill. As an emergency measure this could be dealt with in part by raising the retirement age in areas where there is a clear shortage.

But the bigger need is to recruit thousands more magistrates, creating a modern, diverse magistracy that reflects the community that it serves. This should bring in volunteers from every background, because it is wrong that only lawyers can make the complex decisions facing courts. With training, and support from legal advisers, lay people can and will make well-informed, well-reasoned decisions that bring about just outcomes.

JOHN BACHE, JP
 National Chair
 Magistrates Association
 London

Life with a view

You are correct in noting that the air-traffic-control industry is resisting change (“A holding pattern”, June 15th). For most, the opportunity for change is simply to merge and enhance existing systems, creating economies of scale and raising the standard of technology. A more fundamental shake-up would be to replace ground-based air-traffic management with trajectory management, for which traditional air-navigation service providers are largely unnecessary.

It is difficult to imagine any industry volunteering for its own extinction, but the concepts are mature and the tech-

nology plausible; someone without the burdens of legacy will almost certainly find a way to realise it in the near future.

JIM COZENS
 Air-traffic management
 consultant
 Whiteley, Hampshire

The desire of superiority

Rather than turning to Plato’s “The Republic” for an insight on Boris Johnson, Bagehot (July 22nd) might find a better comparison with Alcibiades, an Athenian statesman and orator. Alan Ryan notes that he was “brilliant, self-destructive, and wayward...with a passion for fame and no inhibitions about attaining it.”

FORREST STUDEBAKER
 Plattsburgh, New York

The Aristocats

Your interesting leader on pets (“Reigning cats and dogs”, June 22nd) asks the age-old question of how *Homo sapiens* came to dominate.

Observing any furry mammal for a period of time—my cats spend a good six hours a day grooming themselves—makes me wonder: could we handle the task of, say, piloting an aeroplane for 12 hours across the oceans, or a desktop computer through a ten-hour office day, if we had to lick our fur every 20 minutes?

MATTHIAS KISTLER
 Zürich

With respect to our often indulgent relationship with our pets *The Economist* asks “who’s in charge now?” Some 450 years ago, Michel de Montaigne, in “An Apology for Raymond Sebond”, asked a very similar question: “When I play with my cat, who knows if I am not a pastime to her more than she is to me?”

GARY MARTON
 New York

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



The self-preservation society

Reactionary nationalism is a challenge to liberalism. It is even more threatening to conservatism

TO APPRECIATE HOW politics in America, and elsewhere, has changed, a quick quiz: a) Which American presidential candidate said the following three things; b) How did they do in their campaign?

What is the matter with our leaders? Every year millions of undocumented aliens break our laws, cross our borders, and demand social benefits paid for with the tax dollars of American citizens.

For every tax on manufactured goods that are made in the USA, let us put an equal tax on foreign goods dumped in the USA. For every tariff China puts on us, let us put an equal tariff on them.

We're going to bring the jobs home and we're going to keep America's jobs here, and when I walk into the Oval Office, we start looking out for America first.

Answer a) is Pat Buchanan, a speechwriter for Richard Nixon and television pundit. He tried to win the Republican nomination in 1992 and 1996, and won that of the Reform Party in 2000. Answer b) is he fared

well enough when within the Republican Party. He won a few primaries, gave some convention speeches. Outside the Republican Party he did ignominiously. In 2000 he took 0.4% of the vote.

That was in part because of Mr Buchanan. "It's just incredible that anyone could embrace this guy," said one of those he beat for the Reform Party nomination, referring to him as "a Hitler lover" who "doesn't like the blacks". It was also because Mr Buchanan's message did not resonate. In 2000 America stood proud as the only superpower; its cold-war rival, the Soviet Union, had disintegrated. Its economic challenger of the 1980s, Japan, was in the doldrums and the GDP of China had only just overtaken that of Italy. September 11th meant no more than the 10th or 12th. Why pay heed to Mr Buchanan's resentful pessimism?

When Donald Trump—the one-time Reform Party hopeful who had denigrated Mr Buchanan as a "Hitler lover" in 2000—ran for the Republicans in 2016, his similar message struck a more powerful chord. But

this was not just because war, a financial crisis and the rise of China had changed the world. Politics had changed, too.

The American right of the 1990s was, like most successful and long-lived political parties, a broad church with any number of internal schisms. Though it had its Buchananites, it contained enough conservatives of the old school—small-government, pro-business types, often religious and socially staid, attached to many of the institutions of American life, flag and family above all, and confident of their ability to govern—to keep vulgar, reactionary and isolationist chauvinism from the ascendancy. By 2016, not so much.

In America and much of the rest of the rich world, conservative parties have been taken over or challenged by reactionary nationalism. This is a threat not just to the parties involved, but to conservatism as a political idea, at least as it has been understood in the English-speaking world for the past 200 years. Those who have defined themselves in opposition to the right will miss that conservatism when it's gone.

At the core of endangered conservatism is a belief that things are the way they are for good reason, even if that reason is indiscernible or forgotten. Such conservatives are suspicious of centralised government power—especially in the hands of demagogues—and set store by a range of other institutions, such as monarchies, the armed forces and churches. They value the ►►

► nested associations, from the local and specialist to the national and general, out of which society is composed. Their respect for tradition “means giving votes to the most obscure of all classes, our ancestors. It is the democracy of the dead,” wrote G.K. Chesterton in “Orthodoxy” (1908). “Tradition refuses to submit to the small and arrogant oligarchy of those who merely happen to be walking about.”

Conservatives tend to nostalgia and dread disorder. Political psychologists note that liberals are generally more open than conservatives to new experiences, from food to foreign travel. William F. Buckley, an American writer, memorably quipped that the conservative’s role is “to stand athwart history, yelling Stop, at a time when no one else is inclined to do so.”

But the key conservative insight is that not all history is stoppable, nor is stopping it always the best option. Some changes are to be resisted, some retarded, some governed. As Edmund Burke put it in “Reflections on the Revolution in France” (1790): “A state without the means of some change, is without the means of its conservation.” Sometimes the dead must be overruled.

Hayekety-yak

Thus, before the era of universal suffrage, British conservatives favoured the preservation of a social order that ran from the monarch at the top to the farm labourer at the bottom. Later they championed self-improvement. Having favoured land over trade and industry, they became pro-business across the board. Having long preferred a woman’s place to be in the home, when offered a woman they thought up to the job they gingerly chose Margaret Thatcher as their leader, embracing her fervently when she proved a successful one. They had principles, but their attitude to them was the one George Orwell encouraged towards rules about writing. They were to be abandoned if sticking to them would mean doing something outright barbarous, such as losing power.

Losing power is bad because conservatism is a governing creed. Its interest in channelling change cannot be furthered from the sidelines. But the power it craves is that of the brake more than the steering wheel. In his essay “Why I am not a conservative”, Friedrich Hayek, an Austrian economist, argued that, by its nature, conservatism cannot offer an alternative to society’s direction of travel. Though it “may succeed by its resistance to current tendencies in slowing down undesirable developments,” he wrote, it is invariably the fate of conservatism “to be dragged along a path not of its own choosing.” He meant this as a dig. Not every conservative would take it that way.

This sort of conservatism has a prehistory as ancient as scepticism and privilege. As a collection of arguments it began, in

the nicely turned phrase of Roger Scruton, a British conservative writer, “as a hesitation within liberalism” over the French Revolution. Some liberals leapt at the storming of the Bastille. Thomas Jefferson saw it as a second triumph of freedom following the American Revolution; Charles James Fox, leader of Britain’s Whigs, welcomed it as a re-run of Britain’s Glorious Revolution of 1688. But others, most notably Burke, Fox’s fellow Whig, thought it would lead to disaster.

Much of what is best in later conservatism was built on Burke’s response: his scepticism about radical change and his belief that, human nature being what it is, the passions of the people must be checked by authority and good judgment. Liberals—including Hayek—often felt that new order would spring into being spontaneously from new freedoms. Burkean conservatives saw order as something institutional,



anchored in restraint and hierarchy.

Elsewhere in Europe, the 19th-century right was often much more politically radical. In Britain liberals and conservatives might be seen as sparring partners, the ring in which they fought roped off by respect for property rights and a degree of individual liberty. On the continent they were often bloody-sworded enemies. Europe’s reactionary conservatives sought to beat change back, not merely govern it. They often wanted restorations—of monarchies, of the power of the clergy, of the status of the aristocracy. Compare and contrast Burke’s “Reflections” with “Considerations on France” (1797) by Joseph de Maistre, a Savoyard admirer of the Bourbon monarchy. Faced with the overthrow of the monarchy, Maistre did not merely want to resist; he wanted to return France to the Middle Ages, when the divine right of monarchs to rule over all was unquestioned. Maistre vener-

ated the executioner, whose axe he saw as underpinning all order. You find little restraint here: it reads like the work of an 18th-century Rush Limbaugh.

Burkean conservatism tends to be as suspicious of reactionary change as of other sorts; tolerable in small measure, dangerous at the radical extreme. But in the second half of the 20th century much of the West’s political right found ways for such impulses to coexist. And they brought in libertarians, religious conservatives and quite a few liberals, too. The glue was opposition to a political left which, even in its milder forms, cared less about the maintenance of property and the safeguarding of wealth than the right did, and which in its more extreme variants sought to impose new forms of order neither sanctioned by the past nor generated spontaneously, but dictated by the Comintern.

In America and elsewhere this late-20th-century right included people deeply distrustful of big business and people who cared for little else. It included conservationists keen to keep the environment safe and people sceptical of all government regulation to that or any other end. It included elitists distrustful of the people and populists distrustful of the elite. It included libertarians who wanted licence in all things and believers who thought the state existed to do God’s will. It included racists, people willing to pander to the racism of others and people who genuinely opposed racism. What they shared was a desire to keep the economy growing, keep the nation secure from communists and keep the left out of office. It was enough, when combined with good management, to keep such shows on their various roads.

In the past two decades the wheels have come off. The attacks of September 11th 2001, later echoed in Madrid, London and elsewhere, brought new fears. The financial crisis brought new deprivations, exacerbated in parts of Europe by the rigidities of the euro zone. Some jobs were lost to imports from elsewhere; many more felt precarious. People who were not deeply economically marginalised—unemployment has remained low in most countries—nevertheless became susceptible to feeling excluded and to blaming others. In many countries immigration rose with the approval, or at least the acquiescence, of liberal left and broad right alike.

To prosper in this world reactionary nationalism no longer needed the bedmates with whom it had been tucked up. It did not need ideological commitments to small government or balanced budgets. It did not need those who valued and sought to serve society as a whole, in the way that Britain’s “one nation” conservatives do, or who thought that businesses benefited from firm but fair regulation. It did not need devotion to institutions. It did not need those ►►

who sought to ameliorate societal change that seemed inevitable. It felt empowered, instead, to decry some changes and seek to reverse others.

The reactionary right embraced resentment against “elites”—notably, in Europe, those in Brussels—and “others”, as judged by race or place of origin. This does not mean all supporters of the reactionary right are racists; it does mean that where there are racists, they will mostly support the reactionary right. In France the anti-immigrant National Front, now rebranded, became increasingly acceptable. In Britain concern about immigration turned out to be one of the best predictors of voting Leave in the Brexit referendum. In America support for President Trump correlated more strongly with a belief that black Americans do not suffer from racism than with economic distress (see chart). According to the Co-operative Congressional Election Study run by Harvard, about 60% of Trump voters in 2016 had family incomes above \$50,000. The median Clinton voter was bit poorer.

The Reconquista revisited

Most of America’s serious conservative thinkers, as opposed to the people who play conservatives on Fox News, are repelled both by the Republican Party’s leader and by the willingness of its officials and officeholders to stand by him. The premier league of the conservative commentariat—people like Max Boot, David Brooks, Ross Douthat, David French, David Frum, Bill Kristol, Yuval Levin, Jennifer Rubin, Reihan Salam, Peter Wehner and George Will—are all either rooting for the Democrats, thinking about how they might influence the party after Mr Trump has gone, or retreating altogether from politics. “There is a debate going on about how far we want to adapt what we believe to the new circumstances,” says Henry Olsen, a fellow at the Ethics & Public Policy Centre, a conservative think-tank in Washington, DC. “But nobody is excited about the guy who created the ruckus.”

In short, though the left lost an election to Mr Trump, many on the right have lost their party to him, which feels worse. In Britain a similar end has been arrived at by a different path. The Conservative Party’s membership has become fixated on Brexit at any cost. Their would-be leaders are disgracing themselves trying to keep up. Only one of the six Tories who got to the second round of the race to succeed Theresa May in June refused to countenance a no-deal Brexit. Rory Stewart’s faith in his own judgment would have made Burke proud, and it got him further than many expected. But he was never going to win.

In first-past-the-post electoral systems like Britain’s and America’s, the reactionary nationalists have taken over parties from within. In the multiparty systems

seen in much of western Europe, conservative parties are instead threatened, or have already been overtaken, by startups and reinvigorated far-right rumps. France’s Gaullists, who ran the country for the majority of the Fifth Republic, have been torn apart by a new liberal party, La République en Marche, and the National Rally, the new avatar of the National Front.

In Spain the equivalent established conservative party, the People’s Party, is in similar decline, undermined by the liberal centrists of Ciudadanos and the new party of the far right, Vox. In Italy the old conservative party was killed off long ago by a mixture of scandal and Silvio Berlusconi, and has since been replaced by the Northern League (now just called the League). Meanwhile, to the east, Hungary has gone straight to the reactionary nationalist right with barely a latitudinarian moment.

One thing all these movements share is a devotion to pride, particularly manly sorts of pride, and especially pride that involves the loud proclamation of an unwillingness to apologise—for the Southern Strategy, for Franco, for Vichy, for Mussolini, for the Raj, for the Confederacy. At a rally last year Santiago Abascal, the leader of Vox, swore to his followers that “The left will never succeed in making us feel ashamed for that which only merits pride,” such as opposing feminism, Muslims, gay rights and constraints on fighting goaded bits of beef in tight embroidered trousers.

Particularly worrying, in this respect, is pride centred on ethnicity. Where Burkean conservatives tended to value the institutions they found in the past, reactionaries value the identities they can find there. The 30% of Americans who say that you have to be a native-born Christian to be a real American leans heavily Republican. Conservatives have a respect for a universal human nature; reactionaries tend to value some natures more than others.

Will this persist? It is tempting to think not. Conservatism has a long tradition of adapting to the world which has served it

well. Opportunist, incoherent and unmoored, the reactionary right will fail to deliver and conservatives will rise again from the rich institutional soil they value so much to check and channel change.

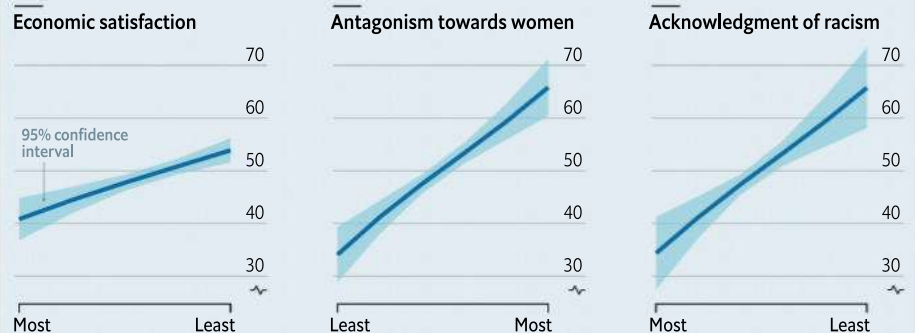
Yet in the first decades of the 21st century the most politically salient ways in which life is changing have to do with things that nobody in the rich democracies voted for. More people in poor countries than ever before can see media images of the West and can afford to try to get there. China has an economic model that produces goods others want to buy. Women have more political power and more freedom to choose how to live their lives. Family structures are changing, as people marry later or not at all. The climate is changing in ways that carry the risk of catastrophe in the absence of radical action. Politicians from conservative traditions might do something about some of this. But these are not changes they can easily control.

In America, some Roman Catholic conservatives have decided that there is no way back to the way things were—what they call the “dead consensus”. This, they argued in an article for *First Things*, a journal, is not necessarily a loss. “Yes, the old conservative consensus paid lip service to traditional values. But it failed to retard, much less reverse, the eclipse of permanent truths, family stability, communal solidarity, and much else.” They may have a point. They do not have a plan. It was not the presence of business people and libertarians in the Republican coalition of yore that prevented it from stopping the sort of things these people disapprove of. They are not the sort of thing politics stops.

Burkean conservatives are not the only enemies of reactionary nationalism; it is opposed by liberals and the left as well. That said, old-fashioned conservatives may still have the best chance of mounting a victory of moderation. If they do not, they may have the most to lose. As Hayek had it, they risk finding themselves dragged along a path not of their choosing. ■

It’s not about the money

United States, probability of voting for Donald Trump based on cultural and economic attitudes, 2016, %



Source: “Explaining White Polarization in the 2016 Vote for President: The Sobering Role of Racism and Sexism”, by B. Schaffner, M. MacWilliams and T. Nteta



Immigration detention

In the land of the free

WASHINGTON, DC

The distressing scenes at the southern border are a result of circumstances beyond the White House's control, of deliberate policy and of plain incompetence

IT IS ALWAYS the best of times and the worst of times in America for President Donald Trump. Various things have simultaneously never been worse, owing to Democratic meddling, but also never been better, thanks to his own intervention. "Our country has a hole, nobody sees anything like it, but we've stopped them," he said at a raucous rally in Orlando, Florida, to launch his re-election campaign on June 18th. "Thanks to Democrat policies, school-children across the country are being threatened by the vicious gang MS-13 that ICE [Immigration and Customs Enforcement], by the way, is taking out of the country and dropping them back home by the thousands." Another problem solved.

Meanwhile in the real world American border police apprehended 132,887 migrants in May, the most recent month for which data has been officially released. That is the highest recorded number in 13 years, and a ninefold increase from May 2017, when border arrests were at the lowest levels in nearly 50 years. Preliminary data collected by the US Customs and Bor-

der Protection agency and released by the Mexican government suggests that arrests declined by 30% in June to 95,000.

That decline might be owing to a deal cut with the Mexican government after Mr Trump threatened to impose tariffs unless the migration surge subsided. It might be owing to the heat, since fewer cross the desert in summer. Yet this is still more than double the number of people detained the previous June. An unusually large share of recent arrivals are children. According to the Migration Policy Institute, a think-tank, more than half of those arriving at the

border are coming as families, and 9% are unaccompanied children.

This all presents a problem for American authorities. After they are apprehended, migrants are processed in facilities run by the Customs and Border Patrol. They are not supposed to stay there for longer than three days. Adults and children who arrived with their parents or guardians are then dispatched to facilities run by ICE until a hearing can be held. Unaccompanied children are supposed to be cared for by a separate agency, the Department of Health and Human Services (HHS).

At least that is how it is meant to work. In fact just 424 judges nationwide hear these cases. There are 892,517 cases outstanding, says TRAC, a research outfit at Syracuse University, and hundreds of thousands more are pending. This logjam creates a problem across the country. Hearing dates in New York City, an especially overburdened court system, are being set for August 2023. The backlog of cases and the unexpected migration surge has filled both ICE and HHS facilities to overflowing.

Immigration detention centres were built to handle single adult men, not to house families and children. Partly because of this the Border Patrol is not releasing detainees to these longer-term facilities. A doctor visiting detained children reported that they had not been given toothpaste or soap and were being kept in freezing rooms where the lights were kept on for 24 hours. She visited facilities in the

→ Also in this section

20 Laura Yeager, General

21 The Democratic primary

21 SCOTUS wraps up

22 Police officers and social media

24 Alaska's changing climate

25 Lexington: The calm within the storm

► Texas towns of Clint and McAllen encountered babies who were sick and losing weight and described the conditions as comparable to “torture facilities”.

The Border Patrol has insisted that reports of deplorable conditions for migrants were exaggerated. That was then contradicted by another report from the Department of Homeland Security’s inspector-general. It found detainees were being kept in overcrowded conditions for much longer than three days. Many children had been held longer than a week; most of the facilities visited by government inspectors did not give children showers and little access to fresh clothing. They were not fed hot food. Some adults were being held in standing-room-only conditions for as long as a week. Detainees had started to clog their toilets with blankets so they could at least leave their confinement while the pipes were unblocked. They pressed notes to the windows as the inspectors passed by, including one on a piece of cardboard, saying “HELP 40 DAY HERE”.

Congress has had to scramble to respond. By June 26th both the Republican-led Senate and the Democratic-led House had agreed to the figure requested by immigration agencies—\$4.6bn for emergency humanitarian spending. But they differed on how it ought to be spent. The House version of the funding bill had more restrictions aimed at preventing the administration from using the money to round up more migrants. After moderate Democrats revolted, Nancy Pelosi, the speaker of the House, had to concede defeat and pass the Senate bill over the howls of the party’s Hispanic caucus. Then a delegation from the caucus managed to tour two of the customs and border facilities. They described sordid conditions. Alexandria Ocasio-Cortez, a congresswoman from New York, says she encountered women sobbing “out of fear of being punished, out of sickness, out of desperation, lack of sleep, trauma, despair”. The Hispanic caucus described the border-funding bill as “a betrayal of our American values”.

Embarrassing as this was for Ms Pelosi, the emergency funding is a temporary reprieve for a recurring problem. Mr Trump’s administration has tried various methods to quell the influx. First, the short-lived practice of deterring family migration by separating children from their parents; now other tactics designed to scare off potential migrants and the strong-arming of the Mexican government into detaining many more central Americans on their way to the United States.

At the same time, prospective challengers vying to be the Democratic presidential nominee are adopting ever-leftier ideas. Several Democratic contenders have recently embraced decriminalising border crossing, a position held by Julián Castro, a

former federal housing secretary and primary candidate. Cory Booker, a senator from New Jersey, says he would like to “virtually eliminate” immigrant detention and wrote that America must guarantee hormone therapy for detained transgender migrants who seek asylum.

As Mr Trump’s election showed, sympathy for migrants at the southern border ebbs and flows, but there is always demand for draconian border enforcement. Democrats need to tread carefully. ■

Laura Yeager

Madam General

LOS ALAMITOS, CALIFORNIA

A woman takes the helm of an infantry division for the first time

THE HEADQUARTERS of the 40th Infantry Division in Los Alamitos is awash in historical memorabilia. In a long glass case sit yellowing photographs of men in uniform and a tattered cap from when the unit was founded in 1917. Displayed in frames are a collection of bayonets and rifles carried by the unit in its past deployments to France in the first world war, Hawaii and the Philippines in the second, Korea in the 1950s and, more recently, Iraq. Past the threshold of the main office wing hang portraits of the division’s previous commanders: 31 men clad in blazers decorated with service ribbons.

In the future, that wall will look a little different. On June 29th, in a ceremony featuring cannon fire and a helicopter flyover to honour her time as a Black Hawk pilot, 54-year-old Major-General Laura Yeager as-



Top brass

sumed command of the division. She is the first female leader of an infantry division in American history.

Major-generals, who sport two stars on their uniform, typically command over 10,000 soldiers. General Yeager’s division is made up of four brigade combat teams, usually over 4,000-strong, spread across 13 western states and Pacific territories. Much of her time will be spent managing a sprawling network of bases and facilities.

When she joined the armed forces in the 1980s—first applying to the Reserve Officers’ Training Corps programme for college students at the Los Alamitos training base she now leads—women were not allowed to drive tanks, join certain special operations units, or serve in any combat capacity, including infantry, which generally engages the enemy at closer range than artillery and tanks.

In 1997 a study by the RAND Corporation, a think-tank with close ties to America’s armed forces, found that the integration of women into the armed forces did not degrade readiness, cohesion and morale, despite dire warnings that all three would suffer. Yet progress was slow. Until 2000, Canada was the only NATO country which accepted women into combat arms. In 2013 the Obama administration eventually followed suit.

In January 2016 the Pentagon threw open all military positions to women. “Women could be generals and admirals and do all sorts of things. But until the removal of restrictions on women in combat, there was still this secluded part of the military that women couldn’t enter,” says Kara Dixon Vuic of Texas Christian University. “It’s been the last brass ceiling, so it is a big deal that a woman is now in charge of an infantry division.”

According to the Centre for Naval Analyses (CNA), a think-tank, the share of women serving across the armed services rose from 4.2% in 1973 (when America moved from conscription to an all-volunteer force) to 18.4% in 2017 among commissioned officers, who manage enlisted personnel, and from 2.2% to 16% among enlisted members.

Speaking at the division’s headquarters a few days before she took command, General Yeager, who is amiable but direct, added: “As far as I’m aware, there’s no other occupation where you know you’re going to make exactly the same amount of money as the male doing the work that you’re doing. And I didn’t have to negotiate that—it’s just part of the plan.” Though she is heartened by the increasing number of women joining military ranks, she says she is keen for the trend to continue until the armed forces more closely resemble the country they serve.

That will take time. The Army and Marine Corps adopted a “leaders first” policy ►►

► in 2013, prioritising recruiting female officers ahead of female enlisted personnel, with the intention of building a cadre of female leaders. That process was expected to take two decades, notes Monica Medina of Georgetown University. Although over 500 women now hold jobs previously closed to them, the army has more than a million soldiers. Tests conducted by Britain's defence ministry suggested that only 1% of serving women there could pass physical tests for service in the infantry.

Even so, having witnessed Ms Yeager make history on a sunny Saturday morning, Captain Gerrelaine Alcorido, a 35-year-old who works in public affairs for the 40th Infantry Division, was overflowing with optimism. As politicians and uniformed men and women milled about the base, she exclaimed: "Now little girls can say, 'Oh my god, I can do that!' If I had a daughter and she was here I would be like: 'You can do that. You can be in the infantry, you can go into combat roles and be powerful.'" ■

The Democratic primary Debatable

WASHINGTON, DC

The best lines in the first televised debate may hurt the Democrats

IN THEIR FIRST televised debates of the 2020 nominating contest, Democratic presidential candidates made one thing clear: they will not be hiding their enthusiasm for policies that delight the party's activists. The most memorable moment came when Kamala Harris, the junior senator from California, confronted former vice-president Joe Biden for his record on school busing (Mr Biden introduced legislation in 1977 that would have curbed the practice, if passed). "You know, there was a little girl in California who was part of the second class to integrate her public schools, and she was bused to school every day," Ms Harris told Mr Biden. "And that little girl was me."

Ms Harris's barbs appear to have won favour from Democratic primary voters. According to a poll conducted on behalf of *The Economist* by YouGov, their support for Ms Harris increased by 6 percentage points in the week following the first debates. This is no fluke. Other pollsters have also detected a boomlet in support for the senator. The share of Democratic primary voters picking Ms Harris as their first choice doubled from 7% in polls fielded during the two weeks before the debate to 15% in those taken after. Mr Biden has taken a direct hit, slumping an average of 6 points since last week. One poll now has them neck-and-

neck. Although in our poll Mr Biden is still the first choice of a plurality of Democratic voters, what might happen if he—or a similarly moderate candidate—were to lose to someone seen as more progressive?

Some Democrats are worried that nominating a candidate with views on race that are too far to the left of the average voter could scare off the remaining conservative members of their coalition. This worry is justifiable. In an article published last year, Tyler Reny of UCLA, Loren Collingwood of UC Riverside and Ali Valenzuela of Princeton wrote that "white voters with racially conservative or anti-immigrant attitudes switched votes to Donald Trump [in 2016] at a higher rate than those with more liberal views on these issues." According to the authors, those losses could have been enough to cost Hillary Clinton the election.

Ms Harris might also face a backlash for holding views on economics that are too liberal for the electorate. The senator supports lefty proposals like the Green New Deal and abolishing private health insurance, for example. In another paper last year Andrew Hall and Daniel Thompson, both of Stanford, found that candidates perceived as ideologically extreme face a penalty at the ballot box because they fire up the other side. This is another possible explanation for Mrs Clinton's loss in 2016. Although she was no Bernie Sanders, voters viewed her as more extreme than Mr Trump. According to a poll in 2016 by the Pew Research Centre, 58% of voters thought Ms Clinton was liberal on "most" or "almost all" issues, whereas just 44% thought Mr Trump was mostly or almost always conservative. A plurality believed the now-president to be a "mix of liberal and conservative", whereas just 28% thought the same of Mrs Clinton.

Whoever wins the Democratic nomination will need to retain the support of a small but still important band of conservative Democrats. According to YouGov's polling, they still make up 9% of the party today. Yet nominating a candidate just to assuage this group comes with a trade-off. The Democratic nominee also needs to get non-white voters to the polls. After having the largest voter turnout of any racial group in both 2008 and 2012, 11% of black voters who cast ballots for Barack Obama stayed home in 2016, according to *The Economist's* analysis of survey data from the Cooperative Congressional Election Study, a bi-annual survey administered by Harvard. They might have been the difference in vital states like Michigan and Wisconsin.

Whomever the Democrats nominate will have to mimic the campaign style of Mr Obama, who owed his wins to a multiracial coalition. He simultaneously convinced whites of his moderation and excited African-Americans. In March 2008 Mr Obama delivered the most memorable



The Democratic disco

speech of his campaign. Americans, he said, "need to come together" to solve a set of problems "that are neither black or white or Latino or Asian, but rather problems that confront us all." Whether they like it or not, Democrats need votes from white Americans who did not attend college. If Ms Harris were the nominee in 2020, she would have to replicate Mr Obama's formula, or else see her prospects threatened by the electoral divide over racial attitudes. ■

SCOTUS

Holding court

NEW YORK

The Supreme Court wraps up its term, inching to the right

THE SUPREME COURT opened for business in October amid high drama over President Donald Trump's nominee to replace Justice Anthony Kennedy, a 30-year veteran. Following testimony from a high-school classmate that he had assaulted her as a teenager, Brett Kavanaugh, Mr Kennedy's more conservative former clerk, squeaked through the Senate by a 50-48 vote. In some ways, Justice Kavanaugh has met expectations. He voted to preserve a gigantic cross on public land in Maryland. He rebuffed several last-minute stay requests in death-penalty cases.

The conservative justices took turns joining the liberal justices in nine 5-4 victories—and they chalked up only half as many wins in closely divided cases as they did a year ago. It seems the partisan confirmation fight may have tamed Mr Kava- ►►

► naugh a bit in his first go-round. The junior justice disappointed abortion opponents when he joined the liberals and John Roberts, the chief, in refusing to hear two challenges to funding for Planned Parenthood. He broke with the conservative bloc in an antitrust lawsuit against Apple, holding that consumers could sue the company for gouging them on its app store. And in *Flowers v Mississippi*—provoking an irate dissent from Justices Neil Gorsuch and Clarence Thomas—he sided with a black death-row inmate whose trials were infected by racial bias in jury selection.

Remarkably, Justice Kavanaugh broke with his fellow Trump appointee, Neil Gorsuch, in nearly a third of the term's 72 rulings. Meanwhile, reflecting a preference for the centre-right, he and Chief Justice Roberts voted the same way over 90% of the time—among the highest buddy rates of any pair of justices.

The most indelible mark of Justice Kavanaugh's first year was his vote to abandon his predecessor's ambition, announced 15 years ago, to rein in "the business of rigging elections". The judiciary "should be prepared to order relief", Justice Kennedy wrote in 2004, providing that a workable standard for policing partisan gerrymandering could be found. It now seems that quest is dead. Despite voicing concerns about the dangers to democracy posed by gerrymandering in two redistricting hearings, Justice Kavanaugh anchored a 5-4 majority in *Rucho v Common Cause* to preserve extreme gerrymandering from constitutional objections.

Chief Justice Roberts, author of the *Rucho* opinion, did not applaud skewed district lines. They are, he acknowledged—pointing to the 10-3 seat advantage for North Carolina Republicans in the House of Representatives, despite the state's fairly even Republican-Democratic split—"highly partisan". But that does not mean the practice is unconstitutional. Federal judges cannot stop stunts like North Carolina's, even those that may "reasonably seem unjust", because challenges to engineered maps "present political questions beyond the reach of the federal courts."

In a thunderous dissent, Justice Elena Kagan wrote that what the court says "can't be done has been done". Lower-court judges from Wisconsin to Ohio to Maryland "have largely converged on a standard for adjudicating partisan gerrymandering claims" and struck down maps drafted by both parties that are extreme outliers. *Rucho*, she wrote, will embolden state legislators who have "debased and dishonoured our democracy, turning upside-down the core American idea that all governmental power derives from the people." The conservative bloc's decision, she concluded with "deep sadness", risks "irreparably damag[ing] our system of government."

Another challenge to the integrity of America's democracy was averted in a row over the Trump administration's wish to add a citizenship question to the 2020 census. After the oral argument, it seemed certain the five conservative justices would hand the government a win despite evidence the question would spur a pronounced undercount of people in mostly Democratic states. The stakes were high: population data from the decennial census direct the flow of billions of federal dollars and set the number of congressional representatives allocated to each state.

Chief Justice Roberts knocked down the challengers' legal arguments one by one but saved a plot-twist for the end. While there is nothing in the constitution or federal law stopping the government from asking census-takers if they are citizens, he wrote, Wilbur Ross, the commerce secretary, violated administrative law when he gave a "contrived" reason for the change. Enforcing the Voting Rights Act of 1965, the official justification was a "distraction", the chief wrote. This is as close as a chief justice gets to calling a cabinet secretary a liar.

The ruling left open a small window for Mr Ross to come up with a "genuine" rationale, but on July 2nd he closed it, saying the census form was rolling off the presses without the citizenship question. Pandemonium ensued on July 3rd after a defiant tweet from Mr Trump; the government now says it will give the question another go. However this circus ends, Melissa Murray of New York University cautions that the Supreme Court ruling "does not foreclose such a question being included in a future census" and predicts that if Republicans hold the White House in 2030, "it will be on there." She also notes that the lawsuit may depress response rates even with no citizenship query. ■



You did good

Police officers and social media

Slur and protect

PHILADELPHIA

What to do with police and border patrol officers who publish bile online?

“WE SERVE THE American people with vigilance, integrity and professionalism” is part of the ethos of the Customs and Border Protection, the agency charged with guarding America's borders. On July 1st ProPublica, an investigative journalism non-profit, exposed a private Facebook group of current and former border patrol agents who have been sharing comments about migrants and misogynist memes about Latina lawmakers. The group, which has some 9,500 members, is called “I’m 10-15”, code for aliens in custody. One commenter mocked a 16-year-old migrant's death. Another made fun of a man carrying his child in a plastic bag to cross a river: “At least it's already in a trash bag.” Alexandria Ocasio-Cortez, a New York representative who has called detention centres concentration camps, was crudely photoshopped into a sex act with a migrant and being sexually assaulted by the president.

The Border Patrol agents are not the only law-enforcement officials who have been busy online. The Plain View Project, launched by Emily Baker-White, a Philadelphia lawyer, looked at the social-media accounts of 2,900 officers and 600 retired officers from eight police departments, including Philadelphia, Dallas, Phoenix and St Louis. It reviewed tens of thousands of posts and discovered reams of racist, misogynistic and anti-Islamic imagery and memes. Some posts referred to Muslims as “goat-humpers” and “savages”. Many posters bashed immigrants and refugees. Some applauded violence and glorified police brutality. One Phoenix officer declared it was “a good day for a chokehold”, a dangerous and largely forbidden police tactic. At least 60 of the Philadelphia police officers in the database are in command positions, such as captains, inspectors and sergeants.

The officers may have thought they were posting private thoughts, but Chuck Wexler, head of the Police Executive Research Forum, a research and policy group, says the postings are a “21st-century version of conduct unbecoming a police officer”, a police disciplinary rule that has been upheld by state and lower federal courts. Law-enforcement officers are rightly held to a high standard. “A cop is still a cop even when not in uniform,” says David Thornburgh, of the Committee of Seventy, a Philadelphia government watchdog.

Jerry Ratcliffe, a former Metropolitan Police officer in London and now head of ►►

FEEDING THE FUTURE

Technology for a hunger-free world

September 26th 2019
London



Speakers include:



PHYLLIS KURLANDER COSTANZA
Chief executive
UBS Optimus Foundation



JAMIE CRUMMI
Co-founder and director
Too Good To Go



SHENGGEN FAN
Director-general
International Food Policy Research Institute

A world with more mouths to feed presents a challenge to governments and private enterprise alike. How can technology and innovation help fill more bellies without depleting the world's natural resources?

Join editors of *The Economist* to discuss the opportunities of and obstacles to food production, and the ways technology can be used to nourish the world.

Register to attend:
+44 (0) 20 7576 8118
events@economist.com

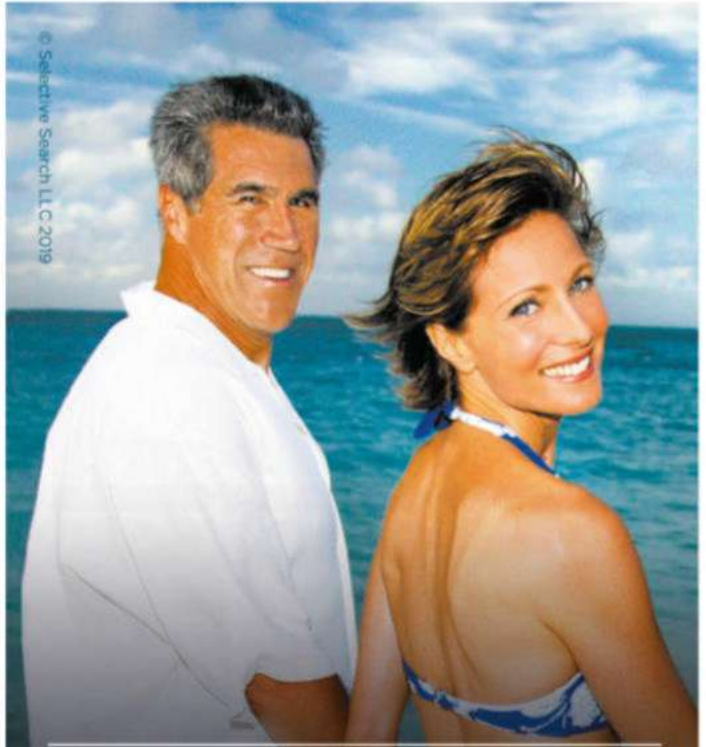
feedingthefuture.economist.com

@EconomistEvents
#EconFTF

Silver sponsor



© Selective Search LLC 2019



A LIFE WITHOUT LOVE IS LIKE A YEAR WITHOUT SUMMER.

— SWEDISH PROVERB

You've worked hard to enjoy the finer things in life. But somehow you're still missing the best part, a passionate connection with someone special. Make this summer your summer of love. Contact North America's leading matchmaking firm for a complimentary consultation.

100%
CONFIDENTIAL & OFFLINE

3,902
HAPPY COUPLES

87%
SUCCESS RATE

SELECTIVE  SEARCH®

EXECUTIVE SEARCH MEETS PERSONAL MATCHMAKING

866.592.1200 selectivesearch.com

info@selectivesearch.com



► the Centre for Security and Crime Science at Temple University, finds the officers' posts abhorrent, but worries about policing policemen's thoughts. "Are we going to fire people for having views we don't like?" Some of the posts are political in nature and are opinions held by a lot of Americans, including the president. Social-media training is unlikely to change thinking, though policy may change superficially to satisfy critics. It is already difficult to recruit high-quality officers, says Eugene O'Donnell of John Jay College of Criminal Justice. Some departments have had to lower academic requirements. Perhaps too far: ten police cadets in Philadelphia resigned this week after they admitted cheating in an exam.

Richard Ross, Philadelphia's police commissioner, put 72 of the 300 Philadelphia officers identified by the database on administrative leave. He expects some to be fired. The department intends to develop social-media training and will monitor officers' accounts in the future. He has asked an outside law firm to conduct a probe to determine whether the posts are protected under the constitution's first amendment, which protects free speech.

Prosecutors, meanwhile, are refusing to work with some officers. Larry Krasner, Philadelphia's district attorney, says he is reviewing the database. Some officers may no longer be asked to testify in court because they lack credibility. He wants to avoid having to notify defence lawyers of any evidence that could help their clients (such as that the arresting officer would appear to be racist). About 120 Philadelphia officers in the database have had federal civil-rights cases filed or settled against them. St Louis's prosecutor also refuses to work with certain officers. She has banned 22 from bringing cases to her office. That, ultimately, may be the best incentive for officers to change. ■

Alaska

Baked

HOMER

The Last Frontier is warming fast

AROUND A RECENT backyard bonfire on the outskirts of this small fishing and tourism town in the south-central part of Alaska, local residents debated whether a massive release of spruce pollen, which accumulated on every surface—including car bonnets, picnic tables and the nearby Kachemak Bay—amounted to a "golden sheen" or a "yellow scum". The fine dust turned the surface of the sea the colour of butter and left a bright, lemony line on shore that marked the extent of high tide and gave off a sickly sweet smell.

Eric Clarke manages trails at the nearby Kachemak Bay State Park, a rugged coastal area of dense spruce forests. He has been with the park for 24 years. "I haven't seen a pollen dump like this in years," he said. This huge release of pollen might be yet another symptom of a rapidly changing environment. Spruce pollen is made up of microscopic, double-lobed orbs that look a bit like Mickey Mouse heads. The "ears" are minute air sacks that help the pollen grains disperse over hundreds of miles, which in this region of Alaska means across mountains, glaciers and bays.

Spruce trees release pollen annually, but every three to five years there is a natural bump in pollen production. This cyclical process is called masting, and it flushes the forests every few years with spruce seeds, overwhelming seed-eating animals like red squirrels and white-winged crossbills, and thereby ensuring many uneaten

seeds go on to germinate.

Climate change is also affecting how trees and other plants release pollen. Rising temperatures and increasing atmospheric carbon-dioxide concentrations are intensifying pollen seasons, much to the chagrin of allergy sufferers. In Alaska, where temperatures are warming at twice the national average, the change is getting up people's noses. "Increased carbon dioxide will drive pollen levels," says Jeffrey Demain of the Allergy, Asthma and Immunology Centre of Alaska, who began pollen counts here nearly 25 years ago. His clinic treats patients with especially pernicious pollen-related symptoms.

More carbon dioxide in the atmosphere spurs plant growth. The pollen season is extending as well. Trees release pollen in the spring after a short stretch of frost-free days. Because the last frosts of spring are occurring earlier in the year, trees are blasting out pollen earlier as well. And because warming temperatures are keeping autumn frosts at bay later into the year, plants continue to release pollen for weeks longer than in years past. And in Alaska, where trees are moving north into formerly treeless landscapes, the geographic reach of pollen is changing.

Already this year, Alaska has seen record temperatures, more than 20 degrees Celsius (40 degrees Fahrenheit) above normal. And each year atmospheric carbon dioxide concentrations increase. While spruce pollen is irritating to local residents, the massive pollen release could be a boon to the region's forests, which have been decimated in recent years by beetle and aphid infestations brought on by rising temperatures. The yellow mist rising from the trees looks like an indicator of a rapidly changing environment, which is leaving its mark on human health, local forests and the tideline. ■



Watch out for the yellow flow

Lexington | The calm within the storm

Donald Trump's frenetic administration has created stuck policies and immovable politics



JULY 4TH could not come a day too soon for Donald Trump. As Lexington sat down to write, the president was finalising plans for the “Salute to America” pageant he had dreamed of presiding over ever since witnessing Emmanuel Macron’s columns of armoured cars and strapping legionnaires two years ago. Tanks, planes and other things that go were promised—plus, Mr Trump teased by tweet, “an address by your favourite President, me!” Trump devotees, including the donors and other cheerleaders for whom a section of the National Mall had been cordoned off, were in for a treat.

Equally delightful for the president, his critics were outraged. There were reports that \$2.5m in national park receipts had been siphoned off to help foot the jamboree’s bill, and that Mr Trump’s tanks could damage the underground vaults of the Lincoln Memorial. To see Independence Day being so politicised was sad. For a president who has elevated “owning the libs” from a Twitter meme to a governing strategy, this was both part of the plan and a timely distraction from more damning events. Mr Trump has issued a series of bold foreign-policy pledges for his first term: including to improve America’s trade with China, deal with the nuclear threats of North Korea and Iran, wind down the war in Afghanistan, pacify the Middle East and restore order to America’s southern border. And it has become apparent, in a recent cascade of bad news for his dealmaking ambitions, that he has a diminishing chance of honouring any of them.

In a meeting with his Chinese counterpart at the G20 summit in Osaka he agreed to extend trade negotiations with China—but only after making concessions, including the reversal of his decision to blacklist Huawei, a Chinese telecoms firm his administration accuses of spying. President Xi Jinping also adopted a less conciliatory public tone than he had before the two leaders’ previous meeting, last year in Argentina. The prospects of a substantial China settlement appear remote. Mr Trump’s subsequently arranged trip to meet Kim Jong Un on the front-line between the two Koreas looked like an effort to divert attention from this climb-down.

His Korea trip, in turn, provided a reminder that despite Mr Trump’s affectionate encouragement, Mr Kim has taken no step to denuclearise the peninsula, nor—even within the administration—is he expected to. Happily for Mr Trump, the much-criticised

efforts of his daughter Ivanka to promote herself on the Korean front-line provided an additional diversion. Ms Trump’s parading for the cameras was the distraction from the main distraction.

The list goes on. Iran said this week that it had stockpiled more than 300kg of enriched uranium—Mr Trump having torn up its promise to America not to do so. America’s negotiators meanwhile prepared to rejoin peace talks with the Taliban in the absence, at the militants’ insistence, of any representative of Afghanistan’s elected government. The insurgents are also stepping up attacks across the country. If Mr Trump goes ahead with the troop withdrawal he claims has already taken place, he risks triggering an explosion. As for the Middle East, better not ask. The summit in Bahrain last week at which Jared Kushner unveiled his economic blueprint for peace was a farce. The president gave it a wide berth; no plausible Palestinian attended. Which leaves the border—and this may be Mr Trump’s most damaging failure of all. Despite his effort to push Mexico into deterring border crossings, they are soaring, which is dismaying his base even as the administration’s brutal treatment of poor migrants angers everyone else.

This is not all Mr Trump’s fault. He has taken on major problems, some of which defeated his predecessors. And on China and Afghanistan especially his approach has been novel, good in parts and may yet form a basis for progress. The problem is his relentless divisiveness, hitherto more damaging at home than abroad, is hurting his prospects. His Iran, North Korea and Middle East policies were launched largely in an effort to repudiate his Democratic predecessor. This has encouraged the Democrats to oppose all his efforts, even—as on Afghanistan and China—where they share his aims. That partisan schism is in turn encouraging Mr Trump’s foreign counterparts to play a long-game, to think they can hold out for better terms from a future Democratic administration, or that such an administration would in any event scrap whatever deals Mr Trump might have done.

The only way the president looks able to unlock the dramatic progress he craves, on any of these fronts, would be by making further concessions: for example, by agreeing to a weak trade pact with China or a replica of Mr Obama’s Iran deal. Yet he could in that case expect a backlash from within his own party. Marco Rubio, one of several Republicans senators who consider foreign policy a safe space from which to criticise the president, called the concessions on Huawei a “catastrophic mistake”.

This reflects a broader dilemma for Mr Trump. Because he now has little prospect of expanding his support—beyond the large minority of Americans who are not offended by him—he must at all costs keep the Republican coalition together. He is therefore constrained by politics as well as the poor progress of his deal-making efforts: both are stuck. The daily controversies Mr Trump generates, including this week’s Trump show on the steps of the Lincoln Memorial, are meant to mask that reality.

Tanks but no tanks

It is depressing how well the tactic is working. By rising to the daily bait, Mr Trump’s opponents are doing as he is: whipping up their supporters, without in any way impressing the other side. To be fair, it is hard not to be thus riled; the controversies Mr Trump stirs, including over his politicising of Independence Day, are often real scandals. Yet his critics risk losing sight of his actual record. It suggests an administration that is less unstable than many believe; but one with weak support and signature policies, fully 18 months out from an election, that are mostly running into the sand. ■



The war on drugs

Blow up

URIBE, META

Colombia's cocaine boom risks a new confrontation between soldiers and farmers

ON HIS FARM in Uribe, a district in central Colombia, Efraín Silva, a 50-year-old farmer, points at a solitary coca bush still on his land. "This one must have been left by a lazy soldier," he laughs. The rest of the six hectares (15 acres) on which Mr Silva used to grow the cocaine-producing plant was torn up by the army in 2017, as part of a voluntary agreement he struck with the government in the wake of Colombia's peace deal. He proudly shows off the crops that have replaced it: cocoa, some avocados, plantains as well.

Until the end of 2016 Uribe was mostly controlled by the Revolutionary Armed Forces of Colombia, or FARC, a Marxist guerrilla movement with a sideline in drug trafficking. Its fields, chopped from the forest over the past few decades, produced plentiful coca. Now most of the local farmers are like Mr Silva, trying to move on from drug production. When Colombia's gov-

ernment signed a peace deal with the group, the local militants disarmed. The government, working with the UN Office on Drugs and Crime, stepped in to pay farmers as much as 1m Colombian pesos (\$312) a month to grow something else.

But though coca production has collapsed in Uribe, elsewhere in Colombia it has soared. The crop of 2017 was the largest ever. On June 26th the White House published American estimates which showed that coca production in Colombia last year fell only slightly from that peak. Colombia provides 70% of the world's nose powder. "Alternative development", as the projects like the one benefiting Mr Silva are known,

are hardly working better than the more militarised war on drugs did. By February, of 99,000 families involved, 41,000 had not received a payment. The coca boom creates huge problems for Colombia's conservative president, Iván Duque. Cocaine use is rising in rich countries once again. Donald Trump is desperate to reduce the supply.

At Mr Silva's farm, the first profitable legal crop seems a long way off. His land is at the end of a long dirt track that few vehicles can travel on, about six hours' drive from the nearest tarmac road. When growing coca, that was not a problem. "The narcos taught us how to industrialise it," he says. By processing it with petrol and then sulphuric acid, he could turn a hectare-worth of coca leaves into a kilogram of cocaine paste, which could be carried into town in a backpack. Avocados sadly are not so easy to transport. Of all of his legal activities, only the cattle make any money, says Mr Silva, because they have legs.

Farmers in Uribe all say that they do not want to go back to growing coca. But soon the government subsidies will run out, and the new businesses that are meant to replace drugs are scarcely viable. Mr Silva, who grew coca for 30 years, says that he would rather that the government fulfils its promises to give him a better livelihood. But if it does not, he points out, a kilo of ►►

→ Also in this section

27 Colombia's conflict

28 Bello: AMLO one year in

coca paste is selling for 3m pesos. “This is a test. If the government fails, we may have to go back,” he says. Perversely, the peace deal may even have boosted the crop in recent years, as farmers grew coca in the hope of later being paid to stop.

The trouble in places like Uribe, says Adam Isacson, of the Washington Office on Latin America, an advocacy organisation, is that although the FARC have disarmed, the conditions that allowed them to survive so long have not changed. “The coca and the armed groups are symptoms of the same problem,” he says. State services—not just roads but also electricity, water and the like—are all but absent. Almost nobody has a title to their land. Much coca production now happens deep in national parks or other remote places. In some new villages cut out of the rainforest, people use coca paste as currency instead of pesos. When the FARC disarmed, new armed groups quickly took over the trade.

For Mr Duque’s government, there are few options for reducing production. Aerial spraying of crops with glyphosate, a herbicide, is what America would like. In early June Mike Pompeo, America’s secretary of state, told the Senate that spraying “is an important tool they need”. And Mr Duque does not want to upset America more (see next story). Speaking to *The Economist* last month, he used the same phrase as Mr Pompeo. He argues that cutting coca production is the only way to stop the drug from financing armed groups and so wrecking Colombia’s fragile peace.

However, aerial spraying was banned after a ruling by the constitutional court in 2015, because of concerns that it causes cancer. The government may be able to persuade the court that it can spray safely, complying with its ruling. But, says Isabel Pereira of Dejusticia, a think-tank, that is a dangerous strategy. Even if the court allows some spraying, the government could still find itself liable for damages. To reduce production by the equivalent of one hectare, 32 must be sprayed, at a cost of as much as \$25,000. Ms Pereira thinks the best thing

is to focus on reducing violence, not the coca crop. Countries like the Netherlands produce lots of illegal drugs without suffering from insurgencies. But, she says, it is easier for politicians to get public opinion on side by targeting coca farmers.

Since a change of heart in the prohibition of narcotics seems unlikely, the government will instead resort to more manual eradication—sending soldiers in

helicopters to tear out crops while others hold farmers back. The number of teams doing that has already increased from 23 when he came to office last year to over 100 now, says Mr Duque. According to Lilian Olarte Aranda, another former coca farmer in Uribe, when manual eradication was used there, it was “like a war between farmers and the army”. It seems that war may soon return. ■



Colombia's conflict

Jesús on the run

BOGOTÁ

A former guerrilla leader disappears, threatening Colombia's peace deal

ON THE MORNING of June 30th bodyguards from Colombia’s national protection unit arrived to escort Jesús Santrich, a former FARC commander, from an ex-combatant reintegration camp to an event organised by his supporters in Barranquilla, a city in northern Colombia. But when they arrived, they found his room empty. The window was open. Outside, tyres were stacked up into a staircase. Mr Santrich (an alias, his real name is Seuxis Hernández Solarte) had left without anyone noticing, despite supposedly being almost blind. Nobody has seen him since.

Mr Santrich’s mysterious disappearance is the latest twist in his fraught transition from FARC militant to politician. Last year he was to take up one of the ten congressional seats promised to the guerrilla group in the peace deal that ended Colombia’s 50-year conflict. But he could not be sworn in because he was arrested at the request of the United States. They want to extradite and prosecute him on drug-trafficking charges; he is accused of smuggling ten

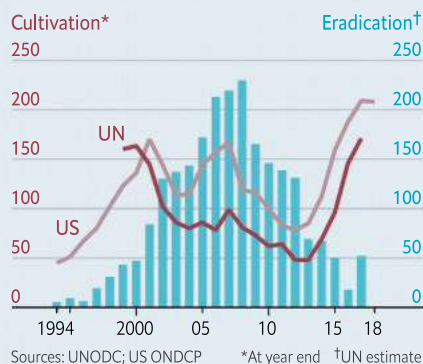
tonnes of cocaine to America.

In May, Colombia’s peace tribunal, known as the JEP, blocked his extradition and ordered his immediate release, saying they did not have enough proof to determine if he had broken the terms of the peace deal. The attorney-general resigned in protest; his office rearrested Mr Santrich again seconds after his release, saying it had new evidence to prosecute him that the JEP had not considered. He was eventually released again, this time by the judges of the supreme court, who say that only they can prosecute a congress member—even one who has not yet been sworn in.

Mr Santrich’s supporters say he fled because he discovered a plot to kill him in Barranquilla. It is more likely that he is evading justice. He was due to defend himself against the American government’s charges before the supreme court on July 9th. Colombian military intelligence claims he has crossed the border into Venezuela, which is just 11 miles away from the camp where he was staying, and has be- ►►

Getting high

Colombia, coca, '000 hectares



► come a haven for many Colombian armed groups. The army believes he is in the company of Iván Márquez, another demobilised FARC leader gone underground.

Both guerrilla leaders claim the government of Iván Duque, who campaigned to modify the peace deal as a presidential candidate, wants to destroy any chance of peace in Colombia. Sadly, Mr Santrich's disappearance has probably done more damage. Thousands of victims are waiting for him to appear before the JEP to account for his role in the FARC's kidnapping business. Without his testimony they might never

know why they or their family members were taken hostage.

The JEP is the backbone of the peace deal, but it has been plunged into a reputational crisis. The most radical members of the Democratic Centre, the president's party, say Mr Santrich's behaviour proves that it is a sham court which wants to let the FARC off the hook. They want a referendum to eliminate the JEP and even modify the entire justice system through a constitutional assembly.

Worse yet, Mr Santrich has discredited his old comrades who vehemently de-

fended his innocence. The FARC's political party is more divided than ever, between those defending the peace deal and those who regret it. By abandoning his seat he has left his party without a crucial vote in congress. Former militants are scared they will be punished for their boss's crimes: funding for reintegration projects could be slashed or public anger could hinder their return to normal life. The peace deal's supporters are begging him to show up. But the authorities reckon Mr Santrich is gone for good. He has dealt a blow to Colombia's peace deal on the way out. ■

Bello Populism, rampant and constrained

A year of Mexico's new regime

ON JULY 1ST Andrés Manuel López Obrador, Mexico's president, celebrated the anniversary of his landslide election victory by addressing thousands of supporters from a podium in front of the Cathedral in the Zócalo, a vast square in Mexico City. "It wasn't a simple change of government," he told them. "It was to overcome forever the corrupt and pitiless regime that prevailed." His aim is to eradicate corruption, cronyism and "neoliberalism" and to create a more equal society. He has not disappointed his supporters. But many of his critics are alarmed by the direction in which he is taking his country.

His victory, at the third attempt, was a consequence of the failings of his predecessors. The economy has been better at producing billionaire monopolists than broad-based prosperity, while violent crime has surged. During the government of Enrique Peña (2012-18) corruption became blatant.

AMLO, as the president is often known, owes his popularity—a poll this week put his approval rating at 66%—to his mastery of political symbolism. He has made personal austerity a trademark: he spurned the presidential residence, abolished the presidential guard, takes commercial flights and cut his salary. He takes the same approach to his government. "We can't have a rich government with a poor people," he said in the Zócalo. All this has helped to persuade many ordinary Mexicans that he has their interests, rather than his own, at heart.

Since formally taking office in December, AMLO has quickly put his stamp on policy. This week a new 70,000-strong National Guard, mainly of former army conscripts, began to deploy to 150 of the most violent localities across the country. This is a sensible innovation,

but not a comprehensive security strategy, and some worry about the guard's military character. He has taken swipes at projects which he identifies with fat cats. He cancelled a half-built new airport in Mexico City, claiming it was marred by corruption. His government is seeking to renegotiate contracts for vital gas pipelines previously awarded to private energy companies.

The crux of AMLO's strategy is to bend the state to his political project, by redirecting public spending. He has slashed the running costs of government while ramping up social spending, especially on non-contributory pensions. He has shut down Prospera, a successful conditional cash-transfer scheme, and eliminated federal subsidies for day nurseries. In their place, he has set up several new cash-transfer programmes, including stipends for mothers, youngsters and the disabled.

Giving money directly, rather than to providers like the nurseries, cuts out corruption, he says (it also happens to be a "neoliberal" approach). His critics see it as clientelist populism: the new schemes are identified with the president himself. The



list of beneficiaries has been drawn up by 17,500 "Servants of the Nation" from Morena, AMLO's political movement. They report to Gabriel García Hernández, AMLO's shadowy right-hand man, who is said to be a devotee of Ernesto Laclau, an Argentine theorist of populism. The critics see this as part of a broader weakening of Mexican institutions. There are fewer competent civil servants, there is less transparency, less public information and the president scorns official information, says María Amparo Casar of CIDE, a university.

AMLO's populism faces constraints. The biggest is the dependence of Mexico's economy on a trade agreement with the United States. That was underlined when President Donald Trump last month threatened to levy tariffs on Mexico's exports unless its government cracked down on Central American migrants, which it quickly agreed to do.

Second, AMLO has pledged macroeconomic stability and to maintain the value of the peso. So far he has stuck to that, at the expense of economic growth, which is unlikely to exceed 1% this year. That is partly because business, suspicious of AMLO's intentions, is not investing. Third, he lacks the two-thirds majority in the Senate required to change the constitution. And Morena itself is a broad and loose movement rather than a disciplined party.

AMLO's sights are set on a mid-term election in 2021. If he increases his parliamentary majority, some of those constraints might fade. But some government officials know that too much populist anti-capitalism risks losing the middle-class support he won a year ago. "He's an activist whom we want to turn into a statesman," says one. On this battle for AMLO's soul hinges Mexico's future.





→ Also in this section

30 Smartphone addicts in South Korea

30 Polio in Pakistan

31 Water shortages in India

32 Banyan: Trump-Kim III

Uzbekistan

Ready, steady, reform

ANDIJAN

The government attempts to overhaul the economy at breakneck speed

THE LIGHT and airy *chaikhana*, or tea-house, had been built to take advantage of the traffic between two of the biggest cities of the Fergana Valley, a fertile region at the heart of Central Asia. After the break-up of the Soviet Union Andijan and Osh had found themselves in two different countries, Uzbekistan and Kyrgyzstan, creating a nearby border post (see map). Then in 2005 the Uzbek authorities brutally repressed anti-government demonstrations in Andijan and sealed the border, halting trade and dividing many families. The *chaikhana* was boarded up.

It took the death in 2016 of Islam Karimov, the strongman who had led Uzbekistan since Soviet days, to bring the *chaikhana* back to life. His successor, Shavkat Mirziyoyev, reopened the border as part of an ongoing process of economic reform. Now waiters serve hearty bowls of lamb soup to migrant workers, traders and shoppers on their way between the two cities. Outside, lorries carrying everything from cement to electronic goods rattle back and forth. In Taskhent, the Uzbek capital, hotels are bustling with Western consultants, Saudi princes and eager Asian investors.

The febrile atmosphere is reminiscent

of the economic opening after the fall of communism elsewhere in the former Soviet Union. In Uzbekistan, communism never really fell. Whereas neighbouring Kazakhstan embraced capitalism and welcomed foreign investment, Karimov, a former central planner, kept the Uzbek economy largely closed and dominated by the state. The private sector was confined to retail and other services. Currency and capital controls left not just dollars but cash of any sort in short supply. Corrupt of-

ficials gummed up all interactions with the state. Some 2m Uzbeks migrated to Russia in search of jobs. The government funded itself by monopolising exports of natural gas and cotton, the latter harvested by forced labour. The security services ruled the roost.

Mr Mirziyoyev has never publicly repudiated Karimov, but has spent the past two years undoing his legacy. He dismissed the previously all-powerful head of security, Rustam Inoyatov; business-friendly technocrats now call the shots. The government has abolished most of the capital and currency controls, dramatically curbed forced labour and opened the borders. Payroll levies have fallen from an effective rate of 70% to about 30%, officials say. "We lost 20 years and have a lot of catching up to do," says Ravshan Gulyamov, the deputy economy minister.

The number of registered businesses ►►



► has doubled in the past year. Foreign investment has jumped fourfold, although its growth rate has recently dropped. But the changes made so far, says Jamshid Kuchkarov, the minister of finance, have been the easy ones, since they have been popular with ordinary citizens. Raising utility prices, rationalising and privatising state-owned firms and trying to improve the productivity of agriculture, which provides employment for a third of workers, will be much more controversial. Moreover, half of the population is under 30, requiring a brisk pace of job creation.

Most of the country's arable land is given over to cotton and wheat. Economically and environmentally this makes little sense: the two crops consume a lot of precious water but are not very profitable. The government is encouraging farmers to grow fruit and vegetables instead. "A hectare of cotton creates only two jobs. A hectare of tomatoes generates 20 jobs and that is before you count storage and transportation," says Mr Gulyamov. The huge markets of China and Russia, which are hungry for Uzbek cherries and tomatoes, are nearby.

The government has undone many of

the subsidies for cotton farmers, but is paying them something closer to a market price for their crop. At the same time, it is trying to create a domestic textile industry by sharply restricting exports of raw cotton. Exports of textiles have risen from \$100m ten years ago to \$1.9bn last year. The government hopes to reach \$7bn by 2025.

Uzbek diplomats have been instructed to focus on drumming up investment above all; each big embassy has been assigned a different region to champion. Mukhsinkhoja Abdurakhmonov, the deputy governor of Fergana region, once worked at Coca-Cola and wrote a doctoral thesis at a Japanese university about foreign direct investment. "We still have to overcome our bad legacy. We need to demonstrate some success stories, to prove that property rights are sacrosanct," he says.

"They are pushing reforms faster than many of us think possible," says one Western diplomat. To foster this ambition, Mr Mirziyoyev has drafted experienced émigrés, such as the former investment banker who now heads the stockmarket regulator and the ex-director of the European Bank for Reconstruction and Development who

is now minister of trade and investment. It is also relying heavily on the expertise of the IMF, the World Bank and the Asian Development Bank, especially to help pave the way for a crowd of privatisations.

"Everything should go through them. They provide transparency and expertise, which we might lack, and have no interest in cheating us," says Mr Kuchkarov. In the end, it does not matter who owns what as long as everything is above board, he says: "I love the principle of an American super-market, where every buyer is equal."

But some question how committed the government really is to equality. Kristian Lasslett of Ulster University, in Britain, points out that the mayor of Tashkent is overseeing a big new residential and office development, which firms with ties to him are helping build. Alisher Usmanov, a metals magnate who has become involved in Uzbekistan's copper and steel industries, recently flew Mr Mirziyoyev on his private jet to meet Vladimir Putin, Russia's president. A good way to put Uzbeks off Mr Mirziyoyev's reforms is to give them the impression that changes are being made for the benefit not of the many, but the few. ■

Smartphone addiction in South Korea

Smombie apocalypse

SEOUL

A dangerous creature is haunting crossroads

IN SOUTH KOREA smartphone cases come with rings mounted on the back, to prevent clumsy owners from dropping them. This makes people look like they are literally married to their phones. In many of Seoul's most Instagrammable coffee shops, couples on dates spend vastly more time looking at their screens than at each other. The ramifications go beyond the potentially dire consequences for romance.

Walk around the streets of Seoul or any other South Korean city, and there is a real risk of bumping into people whose eyes are glued to their smartphone screens. Insurers estimate that around 370 traffic accidents annually are caused by pedestrians using smartphones. That figure does not include those who bump into lamp posts and the like while perusing the latest cat videos.

The government initially tried to fight the "smombie" (a portmanteau of "smartphone" and "zombie") epidemic by distributing hundreds of stickers around cities imploring people to "be safe" and look up. This seems to have had little effect even though, in Seoul at least, it recently replaced the stickers with sturdier plastic boards.

Instead of appealing to people's good

sense, the authorities have therefore resorted to trying to save them from being run over. Early last year, they began to trial floor-level traffic lights in smombie hotspots in central Seoul. Since then, the experiment has been extended around and beyond the capital. For the moment, the government is retaining old-fashioned eye-level pedestrian lights as well. But in future, the way to look at a South Korean crossroads may be down.



Polio in Pakistan

Drop goal

ISLAMABAD

The government tries new tactics to eliminate the disease

WORRIED PARENTS began arriving at hospitals in ones and twos, then dozens and soon hundreds. Each was convinced their child was sick, poisoned by polio drops dispensed in the latest government vaccination campaign. By the end of the day, a total of 25,000 children had overwhelmed hospitals in Peshawar alone. Health officials declared an emergency and the nationwide campaign was suspended. Yet doctors say none of the children was ill and none was admitted to hospital.

Pakistan had seen resistance to polio vaccination before, but nothing like this bout of mass hysteria, which took place in April. It was triggered by false rumours that schoolchildren outside Peshawar had fainted, vomited or even died after taking drops. Fake videos of ailing children on social media amplified the panic. As imams called people onto the streets, a mob ransacked and burned a small clinic. In the aftermath of the panic, 2m children have gone unvaccinated.

The worldwide campaign to eradicate polio is close to fruition. When it began in 1988, polio was endemic in 125 countries and infected 350,000 children a year. It ►►

► now exists only in Pakistan and Afghanistan, which saw 33 cases in 2018. (There have been some cases in other countries, but derived from live vaccine, not from the wild virus.) Last year, however, international monitors declared that the eradication campaign had stalled. A few years ago, when Islamist terrorism was at its height in Pakistan, militants killed dozens of vaccine-distributors, who often worked with armed guards. Security has now improved, but polio cases are going up, not down. There have been 37 so far this year. Officials expect the annual figure to top 50, compared with 12 last year. Tests on sewage show that the virus lurks in many cities.

Extremists have long peddled conspiracy theories about polio drops: that they are a Western plot to sterilise Muslims, or that vaccinators are spies. The panic in Peshawar showed that concerns are not limited to a lunatic fringe, however. At fashionable schools in Islamabad, the leafy, purpose-built capital, parents share fears about vaccines on WhatsApp groups.

Even those who accept the need for the vaccine resent the government for insisting that children take it while failing to provide much else in the way of health care. "People have lost confidence in the health department," says Raees Khan, a councillor in Bannu, a district where there have been 14 cases of polio this year.

It does not help that much of neighbouring Afghanistan is off-limits to health workers, who are accused by the Taliban of snooping on behalf of the Afghan army. The persistence of the disease on both sides of the porous border allows it to return to areas where it had been eradicated—and increases the risk that it will spread to other countries.

Around 90% of parents accept the vaccine, says Babar bin Atta, the government's pointman on polio. To win over the final 10%, he argues, the campaign must become less punitive and intrusive. "We have to make parents feel they are in charge of their child's right to immunisation and nothing is being forced on them."

Some households have been subjected to as many as eight visits during eradication drives in their area, not just from health workers but from clipboard-wielding monitors, too. Parents face a volley of personal questions. Gun-wielding guards are prominent. But from now on, vaccinators will ask fewer questions, and there will be fewer follow-up visits. The authorities will stop prosecuting parents who refuse the vaccine. The hope is that reducing the intrusion will help dissipate the resentment and suspicion. Eradication depends on winning everyone over. "Even a single case is a case too many," says Mr bin Atta. "You are either a polio-free country or you are not a polio-free country. There's nothing in the middle." ■

Water shortages in India

Do or dry

CHENNAI

A parched city of 8m makes plans to refill the taps

BETWEEN DECEMBER and June the largest reservoir supplying Chennai, India's sixth-biggest city, shrivelled and then vanished. From the window of a plane, darker patches suggest Puzhal Lake still holds some water. Close up, the "water" turns out to be just a different shade of mud.

Puzhal is indeed "bone dry", says T. Prabhushankar, the head of Chennai's water board, and so are three more lakes that are the other main sources of water for the city's 8m people. In his air-conditioned office a computer screen indicates that the city's reservoirs, which have a total capacity of 11bn cubic feet, contain a minuscule 25m cubic feet. "There is nothing to hide about it," he shrugs. "There has been no rain for 190 days, so there is no water." Yet Mr Prabhushankar is not worried. Not only does he expect to get through the current dry spell—Chennai's worst since 2004—he also insists that, for the city, water scarcity will soon be a thing of the past.

As with India as a whole, the growing city's demand for water has placed huge stress on traditional sources such as groundwater, rivers and lakes. And, like all of India's 1.3bn people, Chennai's thirsty inhabitants may very well face long-term dangers from climate change, one effect of which is more erratic rainfall. But while it is easy to blame both the city's and India's water woes on nature, a closer look reveals

a legacy of poor management, lax laws and underinvestment. Most of the time, the two annual monsoons suffice to top up lakes and groundwater. The trouble comes when leaks spring in the system.

To allay Chennai's acute scarcity, which is likely to last until the winter monsoon in November (for India's east coast this is heavier than summer rains), the water board has contracted an impressive 1,000 GPS-tagged water tankers, each making up to a dozen daily runs. Free deliveries of drinking water reach every street in the city once every two days. Local volunteers ensure it is rationed fairly—typically 30 litres a day for each household.

As neighbours in the middle-class Mylapore district line up brightly coloured pots for the scheduled tanker to fill, there is more good humour than annoyance. It was worse in the 2004 drought, recalls the tanker driver: there were so many fights he needed police protection. Kamala Kanan, a local businessman, says it is a bore having to wait for and haul water, and it is barely enough for the 13 people in his house. But the distribution is reliable, free and fair. And luckily his family has access to groundwater. This has grown saltier but they use it for washing and sanitation. Residents of two different slum districts say they get piped water for a few minutes a day. It is also enough, but sometimes stinks of sewage, so for drinking they buy 20-litre drums for about \$0.50 each.

Mr Prabhushankar explains that the city has been able to sustain about two-thirds of normal supply because it planned ahead. Two recently built desalination plants, new borewells, expanded facilities to recycle sewage and a new 220km pipeline from a distant reservoir all add to supply. Both desalination and recycling capac- ►►



Much better than 2004

ity are set to triple within five years. Faced with complaints of dwindling groundwater, the government promises to enforce long-standing laws mandating that all buildings should be equipped to harvest rainwater. It has also pledged to maintain not only its big reservoirs, but hundreds of smaller bodies of water that could help insure against drought.

The promise is welcome, but not convincing to Sekhar Raghavan of the Rain Centre, an NGO that lobbies for better water management. Its research shows that, despite 99% compliance on paper, only 40%

of buildings actually do trap rainwater and store it or inject it into aquifers. The severity of floods that hit the city in 2015 was largely owing to the government's failure to clean and desilt canals and lakes or to build an adequate sewer system, Mr Raghavan says: "They are jokers. They would rather spend huge money on big new projects and giant storm drains than on fixing what is broken, which is our natural water-storage capacity."

Still, Mr Raghavan is optimistic. When he started out decades ago, his was a lonely voice. Now, he says, ordinary citizens are

demanding action, or acting themselves. He has another new ally, too. Spooked by rapidly depleting groundwater, the central government plans a vast nationwide campaign to revamp local reservoirs. Perhaps if the government also stopped promoting greedy crops such as rice and sugarcane, did more to curb rampant pollution, and considered installing meters and applying realistic prices to regulate water consumption, India really would not have to worry about going thirsty. As Mr Raghavan says, "You cannot complain about nature. It's we that have to adapt to nature." ■

Banyan Non-working-level talks

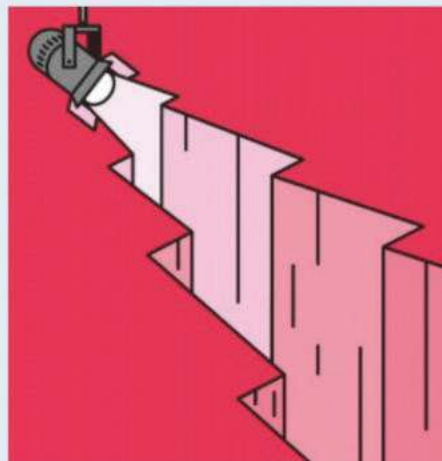


Underlings will struggle to flesh out the ideas of Donald Trump and Kim Jong Un

DONALD TRUMP claims that his week-end meeting with Kim Jong Un at the Korean border village of Panmunjom came about thanks to an impromptu invitation issued less than a day before on Twitter (the North Korean dictator "follows" him there, of course). In fact, preparations must have been under way for longer. Yet like everything else about the hour-long get-together, which involved Mr Trump becoming the first serving American president to set foot in North Korea, the social-media invitation seemed designed to heighten the sense of drama and flourish, while the old diplomatic rulebook was tossed aside.

Past presidents, bomber jackets on, went to the demilitarised zone to glower across the world's most dangerous fault-line, as did Mr Trump's own vice-president, Mike Pence, saying he wanted the North Koreans "to see the resolve in my face". Mr Trump, in contrast, is always in search of a televised triumph. He does not hold the vileness of Mr Kim against him, even though he has had his uncle, half-brother and many others killed. On the contrary, after three meetings the despot is a firm buddy. Nor does Mr Kim's nuclear arsenal appear to Mr Trump to be a threat. Since his first clinch with the young dictator at a summit in Singapore just over a year ago, "All of the danger went away." Like magic.

To the killjoys, not only has Mr Kim kept his nuclear arsenal, he has quietly expanded it since then to perhaps 60 warheads. Only the testing of nuclear devices and long-range missiles to carry them has stopped, for the moment. Killjoy-in-chief is John Bolton, Mr Trump's national security adviser. He has long highlighted North Korea's litany of broken promises. Pointedly, he was not next to his boss in Panmunjom but over



1,000 miles away, on important business in Mongolia.

Mr Bolton doubtless did not like the idea of giving away the symbolic honour of hobnobbing with America's president while receiving nothing in return, bar a promise to keep talking. Does that really matter? Since North Korea revolves around its leader, it is logical to deal directly with him. President Moon Jae-in of South Korea, who accompanied Mr Trump to the border, was wildly exaggerating when he called the meeting the "de facto declaration of an end to hostile relations and the beginning of a full-fledged peace era". But he was surely right to point out the limitations of the previous "diplomatic grammar" that flowed from seven decades of mutual hostility.

It seems unlikely that Mr Trump has the blind faith he sometimes professes in Mr Kim's sincerity. He must know that rocketman, as he once called him, is hoping to keep his nukes while seeking relief from sanctions. After all, at the pair's previous summit in Vietnam in February, Mr Trump, bolstered by Mr Bolton and the

secretary of state, Mike Pompeo, rejected Mr Kim's offer to destroy an ageing nuclear complex, Yongbyon, which is no longer central to his nuclear ambitions, in return for an easing of sanctions.

Yet there is now much speculation that Mr Trump's team will somehow sell the farm in the working-level discussions that the leaders promised to restart. One rumour circulating in Washington suggests that Mr Trump will agree to lift sanctions in exchange for a mere freeze of North Korea's nuclear programme, without surrendering the bombs it has already made. American officials have forcefully denied any such prospect. There have been hints, however, that America might accept a staggered deal, in which it gradually eases up on North Korea in return for a series of small concessions, rather than a one-off trade of complete disarmament for across-the-board relief from sanctions.

Such gradualism has not worked with North Korea in the past. It would discomfit many in Japan and South Korea (though not Mr Moon). Moreover, it is far from clear whether Mr Kim is ready to offer more—or submit to the kind of intrusive inspections that enforcing such a deal would require.

But there is a prior obstacle to striking any deal, however daring or flawed. In a top-down diplomatic dance led by strongmen, lower-level negotiators know that they and their counterparts have little authority. Even if reports that a furious Mr Kim had some of his negotiating team executed after the shambles in Vietnam are exaggerated, it would be a brave apparatchik who agreed to anything much on Mr Kim's behalf. Mr Trump is not as violent, but just as mercurial. How can working-level talks get anywhere?



Hong Kong's protests

Anti-establishment day

HONG KONG

Protesters expose the fractured state of Hong Kong, but China's grip on the territory will only tighten with time

IT WAS A dramatic rebuke of Chinese rule of Hong Kong, on the day it was meant to be celebrated. On July 1st, a public holiday known as Establishment Day in honour of the handover of the territory in 1997 from Britain to China, anti-government protesters stormed into and ransacked the city's Legislative Council, displaying a British-era colonial flag for cameras and live social-media feeds. Hours after Carrie Lam, the territory's chief executive, had toasted the putative success of 22 years of mainland rule, protesters laid bare for the world the reality of a deeply fractured, fractious Hong Kong.

The violence provided Mrs Lam and Chinese leaders in Beijing, on the defensive after weeks of massive but mostly peaceful protests, an opening to harden their line against protesters. They moved quickly to take it. Mrs Lam held a press conference at police headquarters at 4am on July 2nd, condemning the break-in and defacement of the Legislative Council, known as Legco, and vowing that perpetrators would be caught and punished (there

have already been some arrests). The Chinese central government's Liaison Office in Hong Kong declared that the "savage acts were an outright provocation and trampling of the city's rule of law." On July 3rd Liu Xiaoming, the Chinese ambassador to Britain, denounced Hong Kong's "ultra-radicals", saying they had "challenged the bottom line of one country, two systems", the framework, negotiated in a treaty with Britain, under which Hong Kong's freedoms are meant to be protected until 2047.

Mr Liu had taken the unusual step of holding a press conference in London to admonish the British government, which had warned China to abide by its commitments under the bilateral treaty. "The UK government chose to stand on the wrong side," Mr Liu said, warning of "consequences" to the relationship with China if

Britain continued to "interfere". "Hands off Hong Kong," he said. "It is not what it used to be under British colonial rule."

There will be no confusion about that. The tough, co-ordinated response to the Legco break-in, and to critics abroad, will reinforce concerns that Chinese custodianship of the territory will grow only more stern with time. The protest movement this year is the latest of several since the handover that have been sparked by fears that freedoms in Hong Kong are eroding under Chinese rule. This time the tinder was an extradition bill that would allow people accused of crimes in mainland China to be sent there for trial, a power which many worry would be wielded to stifle dissent. On June 15th, after massive protests and clashes with the police, Mrs Lam suspended consideration of the bill. A day later a crowd estimated by organisers at 2m people marched, in a territory of 7.5m; many demanded that the bill be withdrawn entirely, and that Mrs Lam resign. She did not, but as the demonstrations kept going in the weeks following, Mrs Lam decided to lie low and adopt a more contrite tone.

As long as the marches remained peaceful, the authorities waited them out, as they did in 2014 when large democracy protests went on for months in what became known as the Umbrella Movement. It dissipated, its ringleaders later arrested and jailed, without any democratic concessions from the government. The successes in Hong Kong protests have been almost

→ Also in this section

34 Department of waste management

35 Chaguan: A chained dragon

► exclusively defensive: stopping the government from passing a security law, or from mandating patriotic education.

A sense of powerlessness may have informed protesters this time. On the morning of July 1st Mrs Lam promised that the government would be more open and would listen to the people of Hong Kong. Outside, protesters were facing police on the streets. Across town, crowds were gathering for another march through the city to demand political reform, an annual rite on Establishment Day; organisers say this one drew 550,000 people (the police say 190,000). Many walked peacefully past the government's offices in Admiralty. But hundreds heeded calls to turn towards Legco, where some protesters had been gathering since the early morning.

One group used a makeshift battering-ram, fashioned from a trolley, to break a large glass door on the outside of the building. Later, at about 9pm, they breached a metal gate and got inside. Some sprayed graffiti and ransacked offices. From the main council chamber they read out a list of demands, which included the removal of unelected politicians from Legco. One protester unfurled a colonial-era flag; another painted over the part of Hong Kong's official title which describes it as being part of the People's Republic of China. Again they repeated calls for Mrs Lam to resign.

Many in the protest movement are sympathetic to those who ransacked Legco, while disavowing the violence. On July 2nd Joshua Wong, one of the leaders of the Umbrella Movement, who on June 17th emerged from a third stint in jail, posted to Twitter that Mrs Lam suspended the extradition bill only after police clashed violently with protesters around Legco, on June 12th. "Months of Hong Kongers and the world expressing concern did not matter to her at all until she saw blood," he tweeted. He also has called for Mrs Lam to resign.

Demonstrators should be careful what they wish for. Some veterans of the democracy movement have privately told foreign contacts that Mrs Lam's resignation as chief executive is something to fear, because only the fiercest of hardliners would be willing to take her job in the present climate. Others worry, too, that the Liaison Office would exert more influence, pushing Hong Kong towards more political integration with the mainland.

Yet China has its own reasons to fear an early change of chief executive before the end of Mrs Lam's first term in 2022. To remove Hong Kong's leader now would be to re-open the painful question of how chief executives are chosen—a process which involves a pro-establishment selection panel and endorsement by Communist Party bosses in Beijing, rather than anything approaching a free, democratic election. That would provide more tinder for protests. ■

Department of waste management

Recycle, or else

SHANGHAI

Cheerleaders, celebrities and police usher in a new era of rubbish-collecting

"WHAT KIND of rubbish are you?" This question might normally provoke anger, but in Shanghai it has elicited weary groans over the past week. On July 1st the city introduced stringent trash-sorting regulations that are expected to be used as a model for the country. Residents must divide their waste into four separate categories and toss it into specific public bins. They must do so at scheduled times, when monitors are present to ensure compliance (and to inquire into the nature of one's rubbish.) Violators face the prospect of fines and worse.

Shanghai authorities are responding to an obvious environmental problem. It generates 9m tonnes of garbage a year, more than London's annual output and rising quickly. But like other cities in China, it lacks a recycling system. Instead, it has relied on trash pickers to sift through the waste, plucking out whatever can be re-used. This has limits. As people get wealthier, fewer of them want to do such dirty work. The waste, meanwhile, just keeps piling up. China churns out 80bn pairs of disposable chopsticks a year.

Officials have tried before to get people to limit their rubbish. But bins marked for recycling have in practice served as yet more garbage cans. This time the government sent a signal that it was more serious: Xi Jinping, the president, visited Shanghai



I want to say one word to you

last year and called on the city to make a success of its trash-sorting. Propaganda authorities have spared little effort. It has been a top item on news broadcasts for days on end. Just about every building has been plastered with recycling instructions. A popular reality-television show featured celebrities walking along river banks to pick up garbage. There have also been public performances, including cheerleaders dancing to a peppy song about recycling and traditional drumming troupes battering away at rubbish bins.

The threat of punishment is integral to Shanghai's drive. On the first day of enforcement the government sent 3,600 city-management officers, a quasi-police force, to 4,216 rubbish-collection points. They began by making an example of wealthy foreigners: the first warning was issued to Swissôtel Grand, a five-star hotel, for improper sorting.

Individuals who fail to recycle could be hit with fines of up to 200 yuan (\$29). For repeat violators, the city can add black marks to their credit records, making it harder for them to obtain bank loans or even buy train tickets. Some object to this. Peng Feng of the Shanghai Academy of Social Sciences warns that the use of the credit system is overkill, raising a risk that officials will abuse their power. But others say a tough campaign is necessary. "Slowly people will get used to it," says Li Changjun of Fudan University.

Many residents appear to support the idea of recycling in general but are frustrated by the details. Rubbish must be divided according to whether it is food, recyclable, dry or hazardous, the distinctions among which can be perplexing, though there are apps to help work it out. Some have complained about the rules surrounding food waste. They must put it straight in the requisite public bin, forcing them to tear open plastic bags and toss it by hand.

Most vexing are the short windows for dumping trash, typically a couple of hours, morning and evening. Along with the monitors at the bins, this means that people go at around the same time and can keep an eye on what is being thrown out; no one wants to look bad. But it is inconvenient. "People have to get to work. We don't have the time for this," said Mr Wu as he threw out rubbish outside his apartment building. To your correspondent's untrained eye, his sorting looked impeccable. ■

Chaguan | A chained dragon

China's maritime expansion reflects a curious mix of ambition and paranoia about being contained



GEOGRAPHICAL GOOD luck gave Wu Zhaozong a front-row seat as China opened to the world. As a boy he watched his grandfather steer a horse-drawn cart through the docks of Tianjin, on China's northern coast. Poor neighbours, living in courtyard homes shared with four families, would follow carts to pick up horse dung and fallen coal-lumps for fuel. Coal was a Tianjin export, as was garlic for Japan. "I very rarely saw cars," Mr Wu recalls.

Today Tianjin is one of the world's ten busiest ports, and Mr Wu is operations director of a ship-supply company. The firm's work includes securing giant wind turbines on ships bound for Chinese partners in Africa. Earlier this week Mr Wu gave Chaguan a lift in his BMW to Tianjin's passenger terminal. There he oversaw crisply uniformed Filipino sailors loading fresh produce onto a cruise ship, before it carried newly affluent Chinese tourists to Japan. The changes witnessed by Mr Wu—driven by Tianjin's location as a gateway to Beijing and other northern cities—have been both dramatic and astonishingly rapid. For Mr Wu, an amiable father of two little girls, is just 38 years old.

China was an inward-looking, continental power when Mr Wu was born. It rose in part by turning to the sea. Seven of the world's ten largest container ports are in China. Overseas, Chinese companies had by 2018 helped build or expand 42 ports in 34 countries, often as part of the Belt and Road Initiative, a global infrastructure scheme. Chinese operators own majority stakes in foreign ports from Abu Dhabi to Zeebrugge.

Unusually in its long history, China faces no serious threat of invasion by land. Against that, its national wealth is concentrated in regions near the sea, as never before. Coastal provinces and cities account for a small fraction of its landmass, but more than half of its GDP. Unsurprisingly, China is striving to become a maritime great power. Its navy, now the largest in Asia, is tasked with defending all that coastal wealth, but also with protecting shipping lanes that carry 85% of the country's trade in goods by volume, as well as vital energy imports. Naval might backs up territorial claims that include the island of Taiwan and almost the whole of the South China Sea. A final naval mission involves denying American warships risk-free access to seas within the "first island chain", the archipelago that encircles China's coastline, compris-

ing Japan and its southern islands, Taiwan and the Philippines.

Not so long ago China called America imperialist for operating foreign military bases. In 2017 China opened an overseas naval base of its own, in the African country of Djibouti. Ostensibly commercial Chinese investments in ports around the Indian Ocean or the South Pacific now routinely trigger sharp questions from America, Australia and other Western powers with Pacific security interests, asking whether another Chinese base is about to open. In late June a senior Pentagon official wrote to Cambodia's government to express concern that Chinese military assets might soon be welcomed at the Ream naval base, the country's largest. Cambodia denies such plans, though it is awash with Chinese money.

Many ordinary Chinese insist that China's only fault is to grow large enough to frighten the West. "We're not and, in our history, have never been an aggressive country," says Mr Wu in Tianjin, loyally, though he is sure that China will defend itself if attacked.

Hawkish Americans scoff at such assurances, which they often hear from Chinese leaders. They point to such acts as China's construction of airbases and missile batteries on disputed reefs in the South China Sea and see aggression and swaggering confidence.

Chinese strategists urge Westerners to understand that their country's maritime rise is also guided by deep insecurity. They call China not so much blessed by geography, as cursed. They have a point. In "Red Star over the Pacific", an influential book on China's maritime ambitions, Toshi Yoshihara and James Holmes, two naval scholars, note that President Dwight Eisenhower saw the first island chain as a means for America and allies to hem China in, a view shared by Chinese admirals. The book quotes a Chinese military strategist who calls Taiwan, at the chain's centre, "a lock around the neck of a great dragon". It describes the claustrophobia of Chinese planners when they contemplate paths to the ocean that run through narrow choke-points between South Korea, Japan, Taiwan and the Philippines, or through the Strait of Malacca near Singapore. China has 14 land neighbours. America is envied for having two, friendly ones, and vast oceans to each side.

America's geography is even luckier below the waves, argues Owen Cote of the Massachusetts Institute of Technology, in a new study in the *Bulletin of the Atomic Scientists*. Since the cold war, he writes, America has successfully tracked foreign submarines with acoustic arrays placed where continental shelves end and deep oceans begin. Asian allies host American arrays to detect Chinese submarines heading for the ocean past Japan, Taiwan or the Philippines. Geographical constraints—such as the shallowness of Chinese inner seas—make it hard for China to build similar arrays.

Ties that bind

Hu Bo, a prominent naval strategist at Peking University, suggests that China may need perhaps two more overseas military bases between Djibouti and the South China Sea, because Djibouti would be too far from home "once we are in an emergency, say on the brink of war". Whereas America gained many bases by fighting world wars, China must seek bases through discreet negotiations. Some might be primarily commercial in peacetime, he suggests. Increasingly, China has "huge interests overseas". That offers avenues for co-operation with other countries, but also vulnerabilities. Mr Hu says it would be a "suicide mission" for China to take any actions that might provoke a blockade in its near seas—whether by America or other sea-powers. That is an oddly reassuring argument, at least for the rest of the world. In geopolitics, if not geography, a sense of vulnerability can be a stroke of luck. ■



→ Also in this section

37 Brexit and citizenship

38 Bagehot: Boris Johnson, illusionist

Brexit plans

The Tory time warp

Both men vying to be prime minister are repeating discredited claims from 2016

THE CONSERVATIVE leadership contest was triggered by Theresa May's repeated failure to pass her Brexit deal. The deadline for Britain to leave the European Union is less than four months away. So the big question for the two men hoping to succeed her is: how credible are their plans for Brexit? And the answer is: not very. Worse, their campaigns are reverting atavistically to claims made after the referendum in 2016 that have since been debunked.

Both Jeremy Hunt and Boris Johnson make much of their Trump-like dealmaking ability. Neither is prepared to smudge Mrs May's restrictive red lines of leaving the single market, customs union and European Court of Justice. Both agree that threatening to walk away with no deal is the best way to extract further concessions from Brussels. And they are equally adamant that they can get Brexit done by October 31st.

As a leading Leaver in the referendum campaign, Mr Johnson espoused having his cake and eating it. That is a fair description of his plan now, to take the bits of Mrs May's withdrawal agreement he likes and

junk the rest, postponing arguments over the Irish border and holding back most of the money Britain owes. If this fails, his plan B is to agree with the EU to work towards a free-trade deal and, during a transition period, exploit World Trade Organisation (WTO) rules to keep trade barrier-free. And if this does not work, plan C is to leave with no deal—though curiously he says the odds against this are a million to one.

As a former Remainer, Mr Hunt sounds softer, but his Brexit plan is actually quite close to Mr Johnson's. He too would take out the Irish backstop, shake up the negotiating team to include hard Brexiteers, prepare for no-deal and be ready not to pay the whole Brexit bill. The main difference is over timing. Mr Johnson says Britain must leave at the end of October, "do or die". Mr Hunt says he will decide by September 30th if a deal looks possible and be ready to extend the deadline if necessary. His thinking is informed not so much by opposition to no-deal, which he would accept "with a heavy heart", as by fears that Parliament might stop it, risking an early election.

None of this will be easy to negotiate, let

alone by October 31st. Mujtaba Rahman of the Eurasia Group consultancy says the EU sees the withdrawal agreement as a compromise that cannot be unpicked. It may expand the accompanying political declaration about the future, but that would amount to putting lipstick on a pig. Contrary to Mr Johnson's plan B, there would be no transition period if there were no deal. Even Liam Fox, the pro-Brexit trade secretary, is clear that WTO rules cannot be used unilaterally to avert trade barriers. As for no-deal, most MPs are against it.

Sir Ivan Rogers, a former ambassador to the EU, likens the Tories to the Bourbons, who learnt nothing and forgot nothing. The list of implausible Tory claims is long, including old assertions that Britain holds all the cards in the negotiation, that what is needed is simply more determination, that the EU is desperate for Britain's money and that a new prime minister can bypass Brussels and deal directly with Berlin and Paris. Equally unbelievable arguments are made about trade. German carmakers and Italian vintners need the British market, it is claimed. Because Britain runs a trade deficit in goods, no-deal would do more damage to the EU. A fall in the pound would offset any tariffs. Most of the world trades on WTO terms, so Britain would be fine doing ▶▶

Vacancy: *The Economist* is looking to hire a staff writer to cover British economics. Journalistic experience is not necessary; the ability to write clearly and entertainingly is. For details of how to apply, visit economist.com/britainjob2019. The deadline is August 4th.

▶ the same. As for Ireland, the two governments can agree bilaterally not to impose a hard border with customs controls.

As Mrs May found over two years of hard bargaining, the truth about power and red lines is less forgiving. German and other EU firms have made clear that they value the integrity of the single market more than access to Britain. The EU acts as a bloc, not through its individual leaders. Exports to the EU make up 14% of Britain's GDP, whereas exports to Britain account for just 4% of the EU's. Another drop in sterling would raise prices. Almost no countries trade solely on WTO terms—which is precisely why Brexiters want free-trade deals round the world. And the Irish border would be an EU border, not a bilateral one, so without a deal controls would be required, especially for agrifoods.

Nothing has changed

The sense of déjà vu should worry anyone involved in negotiations in Brussels, not least because of the tight timetable. The new prime minister will take office on July 23rd, barely three months before exit day. And there are two areas in which the Tory leadership election is making matters worse. The first is a willingness to indulge in spending promises. At times Mr Hunt and Mr Johnson seem to be competing to pledge public money to those who could lose out from Brexit, such as farmers. This seems odd when one argument during the referendum was that a "Brexit dividend" would free up money for the NHS and other public services. Moreover, as Philip Hammond, the chancellor, says, any fiscal headroom he has would soon be exhausted by a no-deal Brexit.

The second is a shift of Brexit talk towards the extreme, epitomised by the two candidates' embrace of no-deal. The linguistic changes are telling. Mrs May's deal used to be termed a "hard" Brexit, as it would take Britain out of the single market and customs union. Now it is widely derided as "Brexit in name only". A "soft" Brexit that would keep Britain in the single market, like Norway, is pilloried as no Brexit at all. And a no-deal Brexit, once considered almost unthinkable even by most Leavers, has become normalised through talk of a "clean" or "WTO" exit that would at least give business certainty.

The harsh realities for whoever becomes prime minister will change little from those confronting Mrs May. The EU has the negotiating advantage. There is a clear trade-off between prosperity and sovereignty. And although most Tory party members like the sound of a no-deal Brexit, a majority of MPs and voters are firmly against it. Manoeuvring round all these obstacles would test any prime minister, never mind one who still believes old myths from 2016. ■

Brexit and citizenship

Passport to Portugal

Who might help Remainers? Nobody expected the Spanish Inquisition

ELLA RACHAMIM can remember the moment she discovered Britain had voted to leave the European Union as if it were yesterday. Rather than turn off the television and go to sleep, the disappointed Remain-voter picked up her laptop and navigated to the website of the Portuguese government. The research begun that night has led Dr Rachamim, a paediatrician from London, to the brink of receiving a Portuguese passport. Her only connection to the country, and her sole qualification for citizenship, is that her ancestors were expelled from it during a bout of anti-Semitism half a millennium ago.

A year before the Brexit referendum of 2016, Portugal and Spain passed laws which offered Sephardic Jews—those whose families once lived on the Iberian peninsula—a path to citizenship. Each country intended the gesture to act as recompense for the forcible exile of Jews in the 1490s, in one of the first acts of the Spanish Inquisition. But the two countries have unwittingly offered a lifeline for Remainers anxious to retain EU citizenship after Britain leaves the bloc. "I really want to be European, I want my kids to be European," says Dr Rachamim. To guarantee her three children's ability to live and work across the continent, she has sought Spanish passports for them, on top of her own application to Portugal. The cost will run to more than £10,000 (\$12,650).



A 15th-century Leave campaign

She is not alone. A friend and fellow Sephardic Jew, Fran Leigh, has also embarked on the expensive process. "I wanted to prove to my child that freedom of movement is the most precious thing we can have as human beings," she says. Campus, an Israeli firm which has been helping to manage applications by Sephardim, says the majority of its British clients are Remainers. "It comes in waves," says Eylon Kasif, a company spokesman. "Every time Theresa May did a speech about the Brexit."

So far at least 420 British Jews have been granted Portuguese passports under the new law; a handful more have obtained passports from Spain (whose rules are stricter, at least for adults). The process requires applicants to demonstrate ancestry dating back to at least the mid-18th century, when Sephardim arrived in England. David Mendoza, a genealogist, says this is fairly straightforward, as the tight-knit community's synagogue kept excellent records. Nobody knows for sure how many of Britain's 280,000 or so Jews have Sephardic heritage; Mr Mendoza estimates that the number is in the tens of thousands. He has helped about 200 people research their ancestry in order to claim Spanish or Portuguese citizenship.

Among their reasons for wanting an EU passport before Brexit, some Sephardim cite concerns about rising anti-Semitism. Dr Rachamim believes the referendum unleashed racism that had been simmering under the surface. "Even though the Holocaust didn't directly affect my family, I always felt there was this thread of fear that it would happen again," she says.

Britain's equality watchdog is investigating whether the opposition Labour Party illegally discriminated against Jews. Jewish leaders recently condemned the party's "disgraceful step backwards in its half-baked 'fight' against anti-Semitism," after it readmitted (and later re-suspended) Chris Williamson, an MP accused of showing prejudice towards Jews.

Portuguese Jewish groups advertise what they say is a friendlier environment in their country. The Jewish Community in Porto claims there is "no anti-Semitism in the city", making it perhaps the "best safe haven for Jews in Europe." Mr Mendoza, a ninth-generation Londoner, is wary of such language, noting that it could even inadvertently reinforce anti-Semitic tropes which cast Jews as rootless wanderers. "My family unpacked their bags over 300 years ago. It sounds a little bit hysterical to me, to be honest," he says. Most Sephardim claiming citizenship in Iberia come from countries such as Turkey or Venezuela, where political conflict is of a different order to that in Britain. "The whole world is very strange at the moment," he concedes. "But for Jews, England has been, since the times of Cromwell, a good place to live." ■

Bagehot | The illusionist

Boris Johnson's greatest strengths may vanish in a puff of smoke



A FEW WEEKS ago the received wisdom in Westminster was that “only Johnson can defeat Johnson.” Now it is that “not even Johnson can defeat Johnson.” The front-runner’s campaign has lurched from one crisis to another—a fiery row with his girlfriend, an ill-thought-out tax break for the rich, a succession of weird interviews—but the race still looks pre-determined. Boris Johnson leads Jeremy Hunt by an apparently unbridgeable margin.

Conservative Party members know very well that they are not electing a saint or a details man. Over the past few weeks even Tory-friendly journalists have called him “epically unreliable”, “all flaw and no character” and a “habitual liar”. But members are convinced that Mr Johnson’s negatives are more than outweighed by his positives. Are they right? Let us examine Mr Johnson’s four great qualities in turn.

The most important is that he is said to be an election winner. He supposedly possesses the magic qualities to keep Jeremy Corbyn out of 10 Downing Street: an “x factor” that turns him into the centre of attention; a “Brexit factor” that means that he can crush Nigel Farage’s Brexit Party; and an ability to reach beyond the Conservative Party’s core voters. It is true that, in the age of Donald Trump, star power can beat conventional political skills. And in the age of Brexit it is clear that the biggest electoral danger to the Conservative Party comes from the accusation that it is not following “the will of the people”.

But Mr Johnson’s supposed cross-party appeal is less convincing. The Brexit vote has incinerated his ability to woo metropolitan liberals. Today he couldn’t win a vote to become a dog-catcher in London, let alone mayor. His upper-class style limits his ability to appeal to working-class Brexit supporters, while his fondness for donning the jester’s cap puts off thoughtful moderates. He is despised in Scotland. A YouGov poll shows that Mr Hunt leads Mr Johnson among the British public by 41% to 29%. Far from drawing new supporters to the Tories, Mr Johnson may turn out to be like an educated version of Mr Corbyn: a rock star among the party faithful but hated by the other side and distrusted by the public.

His second positive quality, in the eyes of Tory members, is that he can make Brexit happen. The wilder Brexiteers think he can bully the Europeans into submission through force of belief and per-

sonality. The more sensible ones believe he can sell a compromise to Parliament. Both are wrong. Even if the EU were minded to help Mr Johnson, it would be constrained by the complicated rules that bind a collection of 27 countries together. And it is not minded to help a man who built his career writing lies that poisoned attitudes towards the EU in Britain and beyond. At home, the parliamentary arithmetic is unforgiving. The Conservatives lack a majority and the Leave and Remain wings of the party are irreconcilable.

Mr Johnson’s third positive is that he is tough: a man who models himself on Winston Churchill and Margaret Thatcher rather than establishment trimmers and toadies. But this supposed toughness is incompatible with his longing for approval and fear of opprobrium. His habit of making opposite promises to different factions in the party (offering One Nation Toryism to the left and hard Brexit to the right) owes less to strategic cunning than to a craven desire to be liked. His habit of disappearing into blue funks is the product of a thin skin. Most genuine reformers, such as Thatcher in Britain or FDR in America, relish the opposition of their opponents. Mr Johnson is hyper-sensitive to the brickbats of the liberal elite into which he was born, and sulked after the referendum when his neighbours in Islington turned against him.

His supporters reinforce their case with a fourth argument: that Mr Johnson’s downsides can be managed. “Left to himself, he wanders off into scrapes, puns and odium,” says ConservativeHome, a website for the faithful. “Minded and directed, he is more than capable of real achievement.” There can be no doubt that Mr Johnson has a talent for delegation. When he was mayor of London, Simon Milton and then Edward Lister kept things running at City Hall while Mr Johnson functioned as chairman of the board. Sir Edward’s reappearance by his side is encouraging.

But there are limits to how far this model can be applied to a job that has been likened to drinking from a fire-hose. The prime minister personally has to make decisions about an extraordinarily wide range of questions—including matters of national security—that require a close command of detail. What’s more, the Conservative Party is at war with itself over fundamental ideological questions, from the size of the state to Britain’s place in the world. Its various factions will treat the prime minister’s desire to delegate as an opportunity to advance their causes.

The blond leading the bland

What of Mr Johnson’s rival? Mr Hunt is certainly a less entertaining figure. But then the candidates are auditioning for the job of prime minister rather than a place on “Love Island”. Like Mr Johnson, Mr Hunt has pandered to the right of his party by talking up the possibility of a no-deal Brexit. But that is the inevitable result of giving a rump of party members the final say. Mr Hunt possesses lots of conventional strengths: his long career in government, for instance, suggests that he would preside over a well-run and efficient Downing Street operation. And many of his supposed weaknesses are as illusory as Mr Johnson’s supposed strengths. The fact that Mr Hunt held one of the most difficult jobs in British politics, that of health secretary, and faced down a furious strike by doctors, suggests that he is a much tougher figure than his rival.

Johnsonites may yet be proved right that their man has the charisma to change the rules of the political game. But at the very least, the evidence regarding how the rest of the country sees him suggests that Tory members need to think very carefully about their decision. If they land the country with its second dud prime minister in a row, their party may never recover. ■

What if...

- America pulls out of NATO
- there are too few robots
- Facebook shuts down in Europe
- antibiotics stop working
- geoengineering goes rogue

The World **If**





Revolutionizing **the fan experience** *of the Tour de France*

It's been a privilege to partner with the Tour de France - first as Dimension Data, and now as NTT. In July this year, we combined the capabilities of 28 remarkable companies to create a new NTT.

We're excited about the journey ahead as we continue to innovate and reshape how fans experience the Tour de France.

- Visit global.ntt/tdf to see how we're using technology to transform the world of professional sports.

Follow live data reporting on [@LeTourData](https://twitter.com/LeTourData).



Politics

- 5 **If America leaves NATO**
Europe alone
- 7 **If Egypt collapses**
Pyramid scheme

Business & economics

- 8 **If robots don't take all the jobs**
A different dystopia
- 9 **If America introduces a wealth tax**
Rich people's problems
- 11 **If Facebook shuts down in Europe**
Network effects

Science & technology

- 12 **If antibiotics stop working**
Attack of the superbugs
- 14 **If geoengineering goes rogue**
Reaching for the sunshade

History

- 16 **If the Allies had been more generous to Germany in 1919**
Versailles revisited

If America and China clash at sea

China crisis

October 2020

How might a maritime confrontation in the South China Sea affect America's election? An imagined scenario from 2020

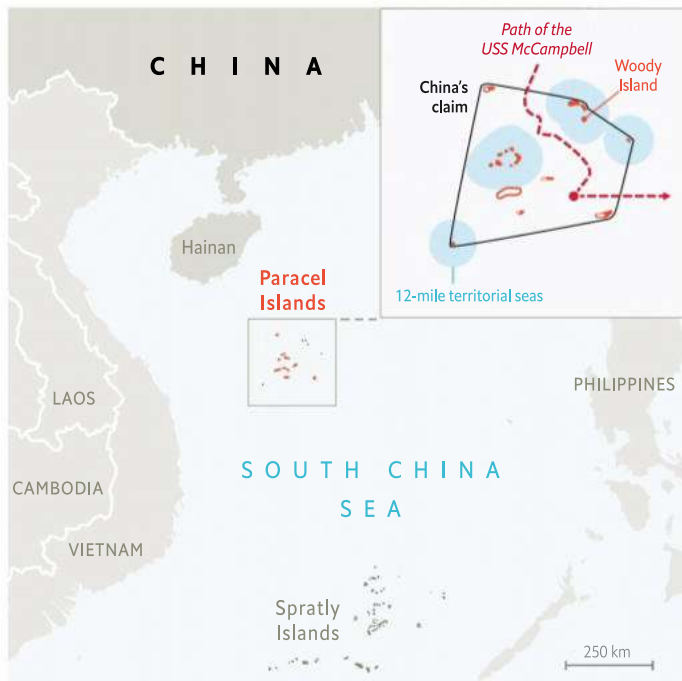
MANY AMERICAN presidential elections have been jolted by an October surprise. Few were as alarming as the one that just hit the 2020 contest—a crisis of deadly brinkmanship in the South China Sea, now abruptly resolved after two tense and confusing weeks. The stand-off was dismaying too, showing that even near-conflict with a foreign power is not enough to unite an America gripped by partisan furies. In purely electoral terms, the crisis may explain a slight dip in approval ratings for President Donald Trump, who was seen as more blustering than in command. But with voters now so entrenched in rival camps, poll numbers for his Democratic rival, Senator Kamala Harris, barely moved.

China, by contrast, has scored a clear victory. The world saw the *USS McCampbell*, a guided-missile destroyer of the American navy, apparently being humbled by a swarm of Chinese fishing boats and militia ships. Surrounded by smaller craft, and with one of its sailors detained by the Chinese, the ship was immobilised for 13 days. Gold-braided admirals insisted the *McCampbell* had not been defeated, but merely exercised laudable restraint in the face of Chinese aggression. But as the world breathes a sigh of relief, one thing is crystal clear: the cost of future American operations in the disputed waters of the South China Sea has just risen dramatically.

Already, China is pressing home its advantage. It is filling the

Listen to a bonus scenario, on parenting in 2029, on "The world ahead", our future-gazing podcast





▶ scene of the stand-off—the waters around the Paracel Islands, a clutch of sunbleached rocks and reefs which are also claimed by Vietnam and Taiwan—with a hybrid armada comprising scores of navy ships, coastguard cutters, maritime militia craft and trawlers. After Chinese state television broadcast images of the departing *McCampbell* being “expelled from the sacred waters of the Motherland” by fishing boats, China hawks in Congress called for American warships to return in force to the area. A bipartisan group of senators urged the navy to conduct “freedom of navigation” operations through waters off the Paracels and the Spratly Islands, another disputed archipelago, as soon as possible. But polls show American voters overwhelmingly oppose such a move.

A week after the end of the stand-off, Washington, DC, continues to witness a briefing war about what happened. The official account of the crisis begins with a terse Pentagon statement, issued on October 9th, that the *McCampbell*, an Arleigh Burke class destroyer, had been forced to stop in international waters by vessels “answering to China’s military chain of command” while conducting a “routine, lawful transit in the vicinity of the Paracel Islands”.

The Pentagon demanded that China allow the *McCampbell* “and all its equipment” to continue its passage. The reference to equipment was clarified an hour later when Xinhua, China’s state news agency, released a video showing Chinese fishermen with boat-hooks grabbing at a half-submerged underwater drone fouled in a net, described as an American spy submarine. A second Xinhua video showed an inflatable speedboat, manned by armed American sailors, apparently adjacent to the drone but trapped by two dozen Chinese fishing boats organised into a ring formation.

Both countries agree on some of what happened next. After about 30 minutes the American inflatable broke through the circle of fishing boats as sailors fired shots with their small arms, and returned to the destroyer, where Ji-Hoon Kim, one of the speedboat’s crew, was reported missing. Soon afterwards a growing fleet of Chinese fishing trawlers, many of them flying large red flags, surrounded the *McCampbell*.

After that, American and Chinese accounts sharply diverge. China’s defence ministry accused the destroyer of illegally

conducting military operations in Chinese territorial waters. It further accused American sailors of firing recklessly at unarmed Chinese fishermen, leaving one of them dead, which it called “a shameless, warlike act”. At almost the same moment Xinhua reported that Mr Kim was on board a Chinese fishing boat. Quoting “relevant authorities”, the news agency said the American sailor was being investigated in connection with the fisherman’s death. The report added that Mr Kim was being treated for minor injuries, “in accordance with China’s solemn responsibilities to provide search-and-rescue assistance in its territorial waters”.

At a hastily organised Pentagon press briefing, an hour before the planned start of a televised presidential debate on October 9th, a senior naval officer said that the *McCampbell* had never strayed from international waters. A chart on an easel showed the box-shaped boundary that China drew around the entire Paracels archipelago in 1996, claiming all waters within. That box has no basis in law, the Pentagon insisted. Instead, each individual islet is surrounded by a 12-mile-wide strip of territorial waters, but the seas in between—where the *McCampbell* sailed—belong to nobody.

As for the ship holding Mr Kim, the Pentagon identified it as the *Qiongsanshayu 00111*, a 750-tonne vessel with a reinforced hull and a mast-mounted water cannon, belonging to the Sansha City Maritime Militia, a force based on Woody Island, the largest of the Paracels. An officer told reporters that hundreds of Chinese trawlers appeared to have been mobilised by the People’s Armed Forces Maritime Militia, and summoned to the Paracels in a pre-planned operation. “They weren’t out there catching fish,” he said.

That evening, American allies in the Asia-Pacific region watched aghast as Mr Trump and Ms Harris argued on live television about how to respond, turning the penultimate presidential debate of the 2020 campaign into a reality-tv version of the White House Situation Room. “The American people do not want to start World War Three over a bunch of rocks,” said Ms Harris. Mr Trump countered that “China respects me like they have never respected an American president” and then alleged—without further explanation or evidence—that “the Democrats are bought and paid for by China. It’s disgusting if you knew what I know.”

Demander-in-chief

In the days that followed, Mr Trump staged shows of unity with the armed forces, inviting generals and admirals to join him in the White House Rose Garden as he called upon China’s president, Xi Jinping, to release “my ship” or face “extremely horrible consequences”. Such scenes were offset by press reports of Mr Trump berating military chiefs in the Oval Office, claiming they were trying to sabotage his re-election. Little had changed by the time of the final presidential debate on October 19th, when Mr Trump made finger-jabbing demands that China hand back Mr Kim. Yet the president also appeared to blame Mr Kim, who is Korean-American, for “letting himself be captured”, and questioned the sailor’s loyalties in terms that Democrats called racially charged.

There were mixed signals from the Chinese Communist Party leaders and military commanders, too. Plans were announced for a formal military funeral for Zhou Haibo, the Chinese fisherman killed during the chaotic initial skirmish. They were then abruptly cancelled, and his family, who live in the southern island province of Hainan, are now said to be resting at an unknown location. And universities in several Chinese cities were put on lockdown after a small group of students in Sanya, the provincial capital of Hainan, protested against Mr Kim’s sudden release on October 22nd, saying that he ought instead to have been charged with murder in connection with the fisherman’s death.

Exactly why Mr Kim’s release came ▶▶

October 2020:
The cost of American operations in the South China Sea has soared

when it did remains unclear. Mr Trump denies that he resolved the crisis by apologising to Mr Xi in a telephone call—a claim made by China's foreign ministry, and since repeated by Ms Harris. He has tweeted "NO APOLOGY" three times, and says the release of Mr Kim and the *McCampbell* prove that China's president is "smart". Asked by reporters if he will authorise new freedom-of-navigation operations in the South China Sea, Mr Trump replied: "Vietnam says these are their islands. So Vietnam can spend its money on them."

Pentagon officials defended the decision of the *McCampbell's* commander to stay put for two weeks, besieged by Chinese vessels, to keep the ship holding Mr Kim within sight. They noted that the *McCampbell* had endured constant harassment, including mock attacks by small boats every night, which forced the crew to stand guard with machineguns, small arms and high-pressure water hoses at all times. The ship's helicopters were prevented from flying after their pilots were dazzled with laser beams. "It was a mess, but the commander only had bad choices," said one officer.

But Pentagon spokesmen have not addressed the details of the

equipment at the heart of that first, deadly skirmish. An unnamed military official told CNN, however, that the alleged spy submarine was an "unmanned mobility capability" attached to the far end of a "multi-function towed array". Such arrays are long, thin tubes packed with sophisticated electronics that can detect underwater threats from submarines, torpedoes and mines, and are designed to be towed behind warships. "The towed array was the prize," the official said, comparing the unmanned vehicle to "the guy you see at the back of a long firetruck, steering it round corners."

Mr Xi has yet to speak in public about the crisis, prompting speculation that he had been surprised by it, or even opposed it. That theory became less plausible after the *People's Daily* carried a front-page photograph of the Sansha City Maritime Militia, depicting its leaders studying a letter from Mr Xi which urged them to build "a great maritime power." Meanwhile the *New York Times* reported that China had recovered sections of the *McCampbell's* towed array and shipped them to the mainland for analysis. Both presidential campaigns declined to comment. ■

→ If America leaves NATO

Europe alone July 2024

PARIS AND BERLIN

With America gone, Europeans struggle to fend for themselves. An imagined scenario from 2024

IF EUROPEANS WON'T take American soybeans, they don't get American soldiers. AMERICA FIRST!" The tweet was dispatched by President Donald Trump in the early hours of April 5th 2023, as he watched "Fox & Friends", his favourite breakfast-television show. It landed as officials in the foreign ministries of Paris, Berlin and Warsaw were settling down for lunch. Most rolled their eyes.

The president had, after all, issued similar threats at each of the NATO summits after his narrow re-election in November 2020. At the alliance's gathering in Potsdam in 2021 Mr Trump had unnerved fellow leaders by proposing that Russia join the alliance. The following year in Skopje, as the US-EU trade war spiralled out of control, he had insisted that his chief trade negotiator accompany him to every meeting with allies, in place of the secretary of defence. Despite that, 60,000 American troops remained scattered across the continent.

Yet it quickly became apparent that Mr Trump's latest tweet was not just another shot across the bow. Within hours of his broadside, couriers from the State Department began delivering letters to the embassies of all 29 NATO members across Washington, DC. Each one, signed by Jared Kushner, Mr Trump's son-in-law and secretary of state, was a "notice of denunciation", giving the requisite year's notice of America's intention to quit the alliance.

Both chambers of Congress roundly condemned the decision the next day. But Mr Trump made it clear that he would ignore this "unconstitutional" effort to overturn his decision. "I'm the commander-in-chief," he said, flanked by queasy-looking

generals on each side of his desk. "And we're not going to be ripped off by the world any more." Though the Pentagon calculated it would take five years to extract every soldier, sailor and pilot—the accretion of eight decades of Pax Americana—Mr Trump demanded that 10,000 be brought home by Thanksgiving in November.

Europeans had imagined this possibility, but the shock came at a delicate moment. Three months earlier, in January 2023, as fighting escalated in eastern Ukraine, President Vladimir Putin had announced the creation of the Federal Union of Russia and Belarus. Mr Putin declared that, though he had anticipated a retirement of judo and fishing, he would reluctantly, and by popular demand, assume the presidency of the new country—and so serve another five years beyond his term limit of March 2024. Hundreds of Russia's Armata tanks had already trundled to the union's new western border—just 200km (125 miles) from Warsaw.

When European leaders gathered at an emergency summit in Brussels, days after Mr Trump's bombshell, the solution seemed simple enough: NATO's 29 remaining members would regroup and marshal their defences without America. The EU had, after all, been steeling itself for this era. It had launched a European Defence Fund in 2016, which had grown from €13bn (\$14.5bn) to more than €30bn. Permanent Structured Co-operation (PESCO), a scheme of joint arms production and defence integration, had fol- ▶▶



lowed in 2017. PESCO had already yielded a world-beating “Eurodrone”, battle-tested in the Sahel.

To be sure, this was not an EU Army. But it certainly laid the groundwork for one. At a press conference after the leaders’ emergency summit, Angela Merkel, president of the European Council, urged calm and pointed out that Europe’s collective defence spending was more than four times that of Russia. “Europe is a sleeping giant”, agreed President Emmanuel Macron of France. “We must realise our own strength.”

In practice, things were not so simple. The EU had hoped to slip effortlessly into the ready-made NATO institutions left vacant by America. That plan was, however, unexpectedly vetoed by Turkey—a member of NATO, but not the EU. Turkey’s relations with Europe had taken a sharp downward turn in 2022 after President Recep Tayyip Erdogan’s cancellation of elections and declaration of emergency rule. He relished thwarting the club that had denied him entry.

By the summer of 2023, after months of wrangling, EU leaders agreed to establish a new European Treaty Organisation (ETO), building on the EU’s embryonic military bodies. The learning curve was steep. Without the cocoon of NATO’s bureaucracy and procedures, everyday military tasks became harder. States were reluctant to share intelligence, because Russian hackers had long ago penetrated the EU’s communication networks, which had been designed to carry information on fishing quotas rather than delicate war plans. A common joke in Brussels was that the EU’s intelligence school in Nicosia, run by Greece and Cyprus, had trained more Russian spies than European ones.

Then came the power struggle. NATO’s Supreme Allied Commander Europe (SACEUR), the alliance’s military chief, had always been an American; his deputy always a Briton. Now America was gone, and Britain had crashed out of the EU in acrimonious circumstances. Germany, now the continent’s largest military spender, won the contest to lead. France agreed, on the condition that ETO’s military command centre be moved to Versailles, the site of NATO’s original 1950s headquarters. Italian, Spanish, Polish and Dutch generals were handed senior posts.

Filling a \$300bn hole

Yet it was “a struggle to claim leadership of a hologram”, as General Sir Richard Barrons, former commander of Britain’s joint forces, noted wryly at the time. The first post-American assessment of Europe’s military position by ETO’s general staff was bleak. “Last year I could count on getting an armoured division, at least two aircraft-carriers and over a dozen nuclear submarines from across the Atlantic,” ETO’s first commander, General Wolfgang Schmitt, told European leaders at the alliance’s first meeting. But there was a bigger problem. America, General Schmitt observed, had provided the bulk of NATO’s air and missile defences; the lion’s share of intelligence and surveillance assets needed to see across the modern battlefield; most of the tankers needed to refuel warplanes; and the logistics to move everything across the continent quickly. It would, he said, take at least \$300bn to fill these holes.

The EU’s estrangement from Britain deepened the problem. Britain had made up a quarter of the bloc’s total military spending before its disorderly departure. Britain’s prime minister, Jeremy Corbyn, had refused to sign up to the new alliance. The time for such power politics was over, he declared.

ETO also faced a thorny nuclear gap. The Intermediate-Range Nuclear Forces treaty,

which banned mid-range American and Russian missiles, had collapsed in 2019. The New START treaty, which covered longer-range missiles, crumbled in 2021, when both America and Russia refused to renew it. Russia’s nuclear arsenal ballooned, including hundreds of new SSC-8 cruise missiles that could reach European capitals in minutes. America countered by placing new conventional missiles in Poland.

Yet by the middle of May 2023, America had whisked away not only these, but also the 180 tactical nuclear bombs it had kept in Europe for decades. Their departure was announced only after the last one had left Büchel Air Base in Germany. “No longer will we put New York or Los Angeles at risk of annihilation for the sake of European countries that drain our economy,” declared Stephen Miller, Mr Trump’s national-security adviser. The bombs, he said, would be shifted to South Korea and Japan—an implicit reward for the trade deals they had signed with America the previous year.

Europe was torn. A growing anti-nuclear movement cheered the departure of American weapons of mass destruction. But leaders were nervous. What if Mr Putin—now ensconced deep in Belarus—grabbed a chunk of Poland and then threatened to use nuclear weapons if ETO counter-attacked? North Korea’s missiles could now comfortably reach all of Europe, and Iran had also revived its nuclear programme. Europe was dangerously vulnerable to nuclear blackmail.

One proposal was a “Euronuke”: the European Commission would fund half of France’s nuclear-weapons programme, in exchange for shared ownership and control. Annegret Kramp-Karrenbauer, Mrs Merkel’s successor as German chancellor, was said to have praised the plan in private. But it was quickly rebuffed by Mr Macron. “The republic’s strategic deterrent”, he pronounced, “is neither for sale nor rent.” Yet after a feisty summit in the summer, Mr Macron agreed that France would use “all means at its disposal” to protect Europe. His aides quietly briefed that this would include nuclear weapons. Few, however, believed that even the ardently Europhile French president would really exchange Paris for Podgorica. Rumours swirled that Sweden, Poland and others had started clandestine work toward nuclear weapons of their own.

As the year turned, things came off the rails. In January 2024, Italy’s parliament dramatically refused to ratify the alliance, with populist parties on left and right clubbing together. Greece and Spain followed weeks later. In Montenegro and Macedonia, coups brought to power pro-Russian governments—which promptly pulled out, too. France and Germany desperately tried to hold the ETO together. Ms Kramp-Karrenbauer even pledged that Germany would spend 2.5% of its GDP on defence, a plan that would make it the world’s third-largest military power, after America and China, by 2030. Even so, others began hedging their bets.

The Nordic countries agreed a tight-knit defence pact—the Kalmar Arrangement—and invited Britain to join on equal terms. Poland, Hungary, Romania and Bulgaria signed their own deal, the Metternich Pact, in February 2024. They pointed to the trouble brewing in Ukraine and Belarus; left unsaid was their anxiety over the breakneck pace of German armament to the west. Weeks later, Italy formed its own Adriatic Alliance, focused on beating back migration from north Africa.

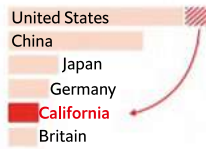
Mr Trump’s own assessment, tweeted from the third hole of the Trump International Golf Club in Florida, was curt: “Europe wanted to build its own army instead of paying its dues to NATO. How did that work out for them?” ■

What if

California was a country?

\$2.7trn

IT WOULD BE THE FIFTH-LARGEST ECONOMY



AMERICA WOULD LOSE HALF OF ITS WINERIES



Sources: IMF; BEA; wineamerica.org

July 2024:
France and Germany tried,
and failed, to hold their
new alliance together



→ If Egypt collapses

Pyramid scheme

What might cause the country to collapse—and what would the consequences be if it did?

IF EGYPT COLLAPSED, millions of Islamic State members would storm the world.” This prediction came from Egypt’s strongman president, Abdel-Fatah al-Sisi, in 2015. He has cynical reasons to sound apocalyptic. His formula for staying in power has two main parts: repression at home, and constantly warning foreign leaders that unless they support him, Egypt will fall into chaos.

It works surprisingly well. Gulf states bankroll him for fear that the alternative is a regime led by the Muslim Brotherhood. This is not an unreasonable fear. The Brothers won elections in 2011 and 2012 and ruled Egypt incompetently until Mr Sisi overthrew them in a coup in 2013. America backs Mr Sisi for the same reason: some in President Donald Trump’s administration consider the Brotherhood a terrorist organisation (and Mr Sisi is adept at flattering Mr Trump himself). Europe turns a blind eye to the awful things that go on in Mr Sisi’s police cells because it fears the millions of refugees who might surge across the Mediterranean, were Egypt to fail. So Mr Sisi’s warning is self-serving. But is it wrong?

Egypt’s collapse is far from impossible. Granted, the country is not Lebanon or Iraq, riven by sectarian feuds. Nor is it like Libya or Yemen, where regional and tribal divides fuel civil wars. Egyptians have a strong sense of nationhood. But they are under great stress, bossed around by a military regime that is both brutal and brittle. Discontent is everywhere. The Islamists who won the only moderately fair elections Egypt has ever held still justifiably seethe at having been ousted from office at gunpoint. Despite an uptick in economic growth, youth unemployment remains worryingly high. In April 2019 Mr Sisi won a grossly unfair referendum to allow himself to remain in power until 2030. A despot with a messianic streak who aims to rule for ever is not a recipe for long-term stability.

The most likely cause of social breakdown is water, or rather the lack of it. Egypt is mostly desert. Its people are nearly all crammed into a narrow fertile strip on either side of the Nile. Successive governments have encouraged them to waste water by charging almost nothing for it. Meanwhile, the countries upstream of Egypt plan to draw more water from the Nile. Ethiopia is building a huge dam to generate electricity and help its people lift themselves out of poverty. Sudan wants to divert water into irrigation projects, hoping to become the regional breadbasket. Many Egyptians, accustomed to taking the pharaoh’s share of the Nile’s waters, view all this as an existential threat.

The potential for conflict may increase as climate change parches the region and Egypt’s population increases: from 100m today to an estimated 130m by 2030. Some Egyptian military officers have suggested that Egypt will go to war to protect its rights

to the Nile’s waters. At the same time, Egypt also has a sizeable jihadist threat in the Sinai region, where an offshoot of Islamic State massacres Christians and Sufis (a minority Muslim sect). It has unstable neighbours, too: war-torn Libya to the west, revolutionary Sudan to the south. With so many potential sources of instability, it would be rash not to think through the possible consequences if Egypt collapsed into the kind of chaos seen in Syria or Libya.

For one thing, the refugee flows would dwarf those from Syria (which, pre-war, was only a fifth as populous as Egypt). A few of the displaced might head for the open, unguarded spaces of Libya. But most would cram into boats and cross the Mediterranean, or try their luck in the Gulf. Italian and Greek ships would try to turn them back. Many would drown. Turkey and Jordan would be slightly more welcoming. Though only a small proportion of the refugees would make it to Europe, anti-migrant parties would wax hysterical about the “Egyptian invasion”. Populists would win elections, starting in France. President Marion Maréchal-Le Pen would close the border with Italy—and then ban halal butchers.

Domino effect

If the Egyptian government lost control, foreign powers would intervene to keep the Suez canal open to global shipping. The United States, which uses the canal to move naval forces from the Mediterranean to the Gulf and farther east, would swiftly take charge, with a token coalition of Saudis and Emiratis at its side. But given the humiliation they suffered in the Suez crisis of 1956, Britain and France would be understandably reluctant to participate.

Some of Egypt’s vast ungoverned territory would provide a safe haven for killers. Rebels from Libya would use the borderlands as a rear base. Jihadists would set up a new caliphate on Egyptian turf. Israel would find this intolerable—Egypt would have transformed from a partner in peace to a mortal threat. Israeli jets would bomb Islamic State targets in Egypt as ferociously as they bombed Iranian missile units in Syria. Even then, having lost its main mediator with Hamas in Gaza, Israel would be desperately vulnerable.

As the chaos in Syria and Libya shows, putting Egypt back together would be excruciatingly hard, and might take decades. Far better to stop it collapsing in the first place—but it is far from obvious that Mr Sisi is the right man for that job. ■





→ If robots don't take all the jobs

A different dystopia

July 2030

What if the real danger to future prosperity is not that there are too many robots, but too few? An imagined scenario from 2030

IT IS HARD to believe now, but a little more than a decade ago people were seriously worried about robots taking all the jobs. Back in 2018 the chief economist of the Bank of England, Andy Haldane, gave a warning that “large swathes” of the population would become “technologically unemployed”. He argued that the “fourth industrial revolution” of automation and artificial intelligence (AI) would create even more disruption to people’s working lives than the previous three. Robots would do everything. There would be universal leisure but mass unemployment. Similar warnings were a fixture at the World Economic Forum’s annual meeting in Davos. Bestselling books predicted dystopian outcomes in which society split into a wealthy, robot-owning plutocracy and an unemployed underclass, and repressive governments would be needed to rein in social discontent. But robots did not take all the jobs—and today, in 2030, much of the world faces the opposite problem as populations age and workforces shrink. What happened to the supposedly inexorable march of the machines?

At the height of the concern about the coming jobs apocalypse, in the late 2010s, the most vulnerable people were thought to be older, unskilled workers. In 2017 the McKinsey Global Institute, part of a business consultancy, predicted that 800m people in 46 countries, or roughly a third of the workforce, could lose their jobs to machines by 2030. Older workers were thought to be especially vulnerable because they were engaged in repetitive, unskilled manufacturing, the kind that was easiest to automate. In 2018 Mer-

cer, another consultancy, used an index of risk developed by Carl Frey and Michael Osborne of the Oxford Martin School to calculate that three-quarters of Chinese workers aged over 50 were at risk of being replaced by robots. In America just over half of older workers ran the same risk, while in Germany and Italy about 60% did.

But these dire forecasts did not come to pass, for two reasons. First, AI failed to advance as quickly as some people thought it would. In 2018 Rodney Brooks, a professor at the Massachusetts Institute of Technology (MIT), forecast that driverless-car services comparable to conventional taxis were unlikely before 2032 and that a robot which could navigate its way around the steps and clutter of an ordinary home would not become widespread until 2035. With just a few years to go, he seems likely to be proved right on both counts. During the 2020s robots powered by AI became more widespread, changing many industries and taking over repetitive jobs. But they were not cheap and still cannot handle many tasks requiring human discretion or empathy. In nursing and social care, in particular, robots are not up to the job.

Second, the 2020s showed that the level of employment depends on more than just automation: it also depends on ageing and immigration. As their populations aged, rich countries saw their workforces shrink. Many invested more in robots as they aged, and some let in more migrants, plugging some of the skills gaps and boosting productivity. Countries with relatively slow ageing and lots of robots did best. But those that underinvested in automation, or shut themselves off from the world, were hard hit.

Help wanted

Britain was an extreme example of the second group. In the 2020s its economy was still suffering a trade shock from Brexit and its political system was in turmoil. But the longer-term problems were demographic, made worse by the increased difficulty of hiring workers from abroad. Between 2000 and 2015 the British population had expanded by 11% and the workforce had grown by 14%, thanks to an influx of foreign-born workers. Over the next 15 years these trends went into reverse. As ageing began to have a larger effect, the population increased by just 6.5% between 2016 and 2030, while net migration dropped to a few thousand a year. The work- ▶▶

force grew by barely 1% in total during that period.

That itself might not have been an insuperable problem. After all, the workforce was at least still growing, unlike Japan's or China's. But Britain was already suffering from a skills shortage, which suddenly got much worse. In 2015, 35% of the workers in health and social care, one of Britain's biggest employers, were over 50; 18% were foreign born. A poll in 2015 found that a third of doctors in the National Health Service were planning to retire by 2020. So as doctors retired and Spanish-born nurses went home, the country found it increasingly difficult to replace them, giving rise to a series of stomach-churning medical scandals which undermined the health service's already-tattered reputation. Similarly, successive governments' promises to build more houses foundered on a lack of suitable workers. In 2018 two-thirds of small and medium-sized building firms said they could not find enough bricklayers, carpenters and joiners, in part because they had become overly reliant on importing plumbers from Poland and carpenters from Hungary. Brexit meant those options vanished altogether in the 2020s.

Had Britain invested more heavily in automation, it might have been better able to cope. As Daron Acemoglu of MIT and Pascual Restrepo of Boston University showed in 2018, countries which age fastest tend to invest the most in robotics—causing their GDP growth to hold up better than you might expect. Britain, though, was a technological laggard. According to the International Federation of Robotics its “robot density” (the number of industrial robots per 10,000 manufacturing workers) was only 85 in 2017, compared with an average of 106 across Europe, and 710 in South Korea. Risk-averse businesspeople and technophobic unions ensured that Britain failed to catch up in the 2020s.

The results were painful. As the workforce stopped growing, labour markets tightened and wages rose. But overall output stagnated and tax revenues fell, reducing the funding available for public and social services, just as they were also being hit by skills shortages and the increasing demands of an older population. Class sizes increased as schools struggled to find enough teachers.

→ If America introduces a wealth tax

Rich people's problems

Would a wealth tax save capitalism, or destroy it? Probably neither

THOMAS PIKETTY proposed a tax on wealth in 2014 as a solution to what he saw as capitalism's innate tendency towards growing inequality. Many reviewers of his book, “Capital in the Twenty-First Century”, thought his idea outlandish. Now it has been adopted by an American presidential candidate, Senator Elizabeth Warren, who could conceivably win the White House in 2020. True, Mr Piketty wanted a global tax. But there is at least an outside chance that the most important rich country—and one of the most unequal—will answer his call.

Mrs Warren's idea is the most novel of many whack-the-rich proposals to have emerged on America's left. Senator Bernie Sanders, another candidate for the White House, wants a higher estate



Standards of service declined in health care, transport, hospitality and other labour-intensive sectors. A series of strikes successfully blocked an unpopular effort to raise retirement ages more quickly. In 2026, caught between the militancy of its supposed allies and the hostility of markets, Jeremy Corbyn's Labour government prevaricated, backtracked, appealed to voters and then finally collapsed.

Britain was an extreme case. Other countries faced different problems, or managed them better. Japan and South Korea have seen their workforces shrink in absolute terms but, by investing in robots and software to perform repetitive tasks, and by retraining workers for employment in caring professions, both countries softened the blow of the demographic transition and maintained high productivity growth.

Germany also had to deal with an ageing, shrinking workforce but reaped the rewards of allowing a large number of migrants into the country in 2015-16. America's population did not age as quickly as those in other rich countries so its workforce did not contract. After the isolation of the Trump years, the country has become more welcoming to immigrants; it has also maintained its traditionally high investment in automation. As for China, its workforce has contracted dramatically, damaging the Communist Party's attempt to introduce a proper pension- and social-security system, and making it hard even to find enough soldiers for the People's Liberation Army. Social disruption and discontent have reined in China's global ambitions.

The dystopia predicted in the late 2010s, of widespread technological unemployment, has not come to pass. Even at the time, the evidence for an imminent jobs apocalypse was noticeably lacking: employment across the rich world reached record levels in 2019, while productivity growth in many countries was anaemic. That suggested machines were not displacing human workers after all, and their ability to do so had been overstated. In retrospect, the doom-mongers of Davos were worried about the wrong thing. Today another dystopian scenario looms instead: that of a world in which there are too few robots, not too many. ■

(inheritance) tax on billionaires. Others want much higher income taxes. If Mrs Warren becomes president, she promises a 2% annual levy on net worth over \$50m, rising to 3% on fortunes above \$1bn. Backers of her policy have, broadly, three aims: to reduce inequality, raise revenue and prevent the accumulation of fortunes so vast that they influence the political process. They think a wealth tax would bring American capitalism to heel. Opponents respond that a wealth tax, like any plan to soak the rich, would crush the country's entrepreneurial spirit.

Were President Warren to sign a wealth tax into law, one thing is certain: it would be subject to an immediate legal challenge. America's constitution forbids almost all “direct” taxes unless each state contributes an amount in proportion to its population. The dispute would centre on whether or not Mrs Warren's tax is “direct”. Though her administration would line up legal scholars to argue that it is not, there is not much legal precedent on which to come to a firm view. An adverse court ruling would stop the wealth tax in its tracks, or leave it to states to implement. But suppose Mrs Warren wins in court. What would be the policy's effect?

Mrs Warren relies on analysis by Emmanuel Saez and Gabriel Zucman, longtime collaborators with Mr Piketty and wealth-tax proponents, and both of the University of California, Berkeley. They calculate that the tax would hit only 75,000 households (less than one in every 1,700) and raise approximately \$210bn, or 1% of GDP, in new annual revenue. Mrs Warren wants to spend that cash ►►



▶ to forgive most student debt, abolish tuition fees at most public colleges and provide universal child care for children under five—policies that could be significant vote-winners. Yet plenty of experts suspect that Messrs Saez and Zucman are too optimistic. For example, Janet Holtzblatt, a former senior budget official now at the Tax Policy Centre, a think-tank, predicts wealth-tax revenue would “fall far short” of Mrs Warren’s hopes.

Experience would seem to be on the sceptics’ side. Net-wealth taxes do not have an encouraging record. In 1990, 12 rich countries levied them. By 2017 only four did: France, Switzerland, Spain and Norway. France has since mostly scrapped its levy, fearing that it made the country unfriendly to investors. Of the remainder, only Switzerland raises significant revenue (about 1% of GDP, comparable to what Mrs Warren hopes for). The Mirrlees review, a study of the British tax system in 2011, found that “wealth taxes have failed to live up to expectations and are generally in decline”. But the fact that many countries have abandoned net-wealth taxes is hardly a killer argument against them. What really matters is why they did so, and whether the problems they found with them would apply in America. There are three primary issues to consider: valuation, avoidance and economic impact.

Start with valuation. A net-wealth tax requires a reliable estimate of net wealth. Financial investments, which account for about four-fifths of the wealth of the rich, can typically be marked to market. American houses are already valued for the purposes of local property tax. The trickier parts of investment portfolios to value include oddities like art and antiques, and, much more significantly, privately held businesses, which account for about a tenth of the rich’s wealth. Perhaps the most prominent example is Koch Industries, an American conglomerate. Another is Bloomberg, a financial-data publisher which is 88% owned by Michael Bloomberg, one of America’s richest men. Putting a value on some assets can be “very challenging”, says Ms Holtzblatt, and costly dis-

putes are inevitable. But not, perhaps, insurmountable: art is often valued for insurance purposes, and businesses can be valued using their profits, although doing so turns the wealth tax into a de facto income tax. Even so, countries with wealth taxes often exempt many types of assets from the levy to make things simpler.

That adds to the second problem: avoidance. When Spain exempted small-business shares from its wealth tax in 1994, for example, business owners reorganised their affairs to exploit the exemption, according to work by Mr Saez and Facundo Alvaredo of the Paris School of Economics. The most lucrative avoidance involves borrowing money and using it to buy non-taxable assets, thereby reducing taxable net worth. Many countries with wealth taxes added rules to exclude debts incurred buying exempt assets.

Wealth can also be hidden overseas, or in complex legal structures designed to avoid tax. Larry Summers of Harvard University and Natasha Sarin of the University of Pennsylvania recently calculated in the *Washington Post* that the estate tax raises far less from estates valued at over \$50m than would be expected from Messrs Saez and Zucman’s wealth data, so adept are the rich at avoiding the tax. Their data on billionaires came from the Forbes 400, an annual list of the mega-rich compiled by *Forbes* magazine. But the Internal Revenue

Service (IRS), America’s tax authority, has found that the taxable value of large estates is only around half what is reported in that list. Many of the countries that have given up on wealth taxes concluded that struggling with avoidance, and the high administrative costs of stopping it, for a relatively small amount of incremental tax revenue did not seem worth it.

Mrs Warren’s backers argue, with some justification, that if America was sufficiently committed to stopping avoidance it surely could. America’s size and importance give it leverage over overseas tax havens, for example. It has extended its reach in recent years, after the passage of a law in 2010 requiring foreign banks to report the assets of their American customers to the Treasury. Mrs Warren would levy a 40% “exit wealth tax” on those who renounce their citizenship to try to escape the clutches of the IRS. Committing to stopping avoidance with such measures would be at least as important as writing the tax into law. But it would be a political challenge. Today America does not fund the IRS enough to enforce even existing tax law properly, having cut its budget by over a fifth in real terms in the current decade.

What’s the damage?

Then there is the question of economic impact. Although tax theory says much less about taxing wealth than it does about taxing income, there are reasons to expect a wealth tax to cause some economic damage. Levies of 2-3% may sound small, but are high enough to gobble up a big chunk of the annual returns investors make. Assuming a return on capital of 5%, for example, a 3% wealth tax has the same effect on an investors’ bottom line as a 60% tax on income from capital, all else being equal.

That high rate is by design. Mr Piketty feared that substantial returns to wealth cause it to grow inexorably relative to the economy. He wanted to prevent that expansion. But taxes are typically designed to have the minimum possible effect on economic behavior ▶▶

► iour, like entrepreneurship and saving, that is seen as broadly beneficial. That is why governments tend to tax only property wealth: the supply of land is fixed and cannot shrink in response to the tax. Mrs Warren, by contrast, wants to tax huge fortunes out of existence. That might deter wealth creation—though backers of the tax retort that Switzerland, despite its wealth tax, has one of the highest saving rates in the OECD, a club of rich countries.

There is a limit to how much Mrs Warren's wealth tax could distort the economy, however, because only about 10% of total American household wealth would actually be subject to it. As for incentives for entrepreneurs to get rich, Messrs Saez and Zucman argue that most innovation comes from people with vastly fewer resources than the \$50m threshold for Mrs Warren's proposal.

The limited scope of the tax is double edged: it would also limit its upsides. Take inequality. Certainly, the levy would put a brake on the ability of the super-rich to enlarge their portfolios. But most Americans probably would not notice a decline in plutocrats' fortunes. Go just a little down the income spectrum and wealth ceases to look very relevant to inequality. Most of the rise in the share of the income of the top 1% of households since the 1970s has resulted from growing disparities between winners and losers in the labour

market, not growing income from wealth. True, labour's overall share of national income has fallen and capital's has risen, but that is primarily attributable to a surge in the returns to owning housing, which is relatively less important to the mega-rich.

A wealth tax will not solve the inequalities that are most plainly visible: those caused by the growing dearth of opportunity for people without college degrees and without expensive houses near successful cities. Yet reducing economic inequality is not the only goal of the policy. Mrs Warren and Mr Sanders both argue that billionaires have captured the political process. Curbing their wealth is in part about curbing their political power.

Regardless, the reluctance of Congress to fund the IRS and its history of creating porous tax laws both suggest that making a wealth tax watertight, even if it is possible, would be a huge political lift. Perhaps it would be achievable for a freshly inaugurated president with control of both branches of Congress. It is more likely, however, that a wealth tax would leak, limiting the impact of an already narrowly targeted policy. That, in turn, would limit its effects, both good and bad. A wealth tax would neither revolutionise capitalism nor mark its end—not least because it would probably prove too leaky to do either. ■

→ If Facebook shuts down in Europe

Network effects

July 2020

What if the social-media giant blocked Europeans from using its services? An imagined scenario from 2020

THE FIRST tweet came from Aarhus at two seconds after midnight, European summer time, on July 1st 2020. "Hottest night of the year and Instagram is down. Now what do I do with this?" It carried a striking picture, taken a couple of hours earlier, of the fiery Scandinavian sun setting over the Jutland peninsula. Then came another, a thousand, a million complaints: "Is Facebook down?" "Messenger's not loading." "What's up with WhatsApp?"

At first people thought it was simply an outage, like the one that had disabled Facebook services for several hours in March 2019. But then users in Europe began to post screenshots on Twitter of the Instagram app displaying a single, clinical sentence in dark grey lettering: "This service is not available in your jurisdiction. Please contact your MEP." The Facebook app displayed a similar message. WhatsApp said "Connecting...", but refused to do so for European users.

Over the previous year Facebook had faced growing scrutiny from Europe's regulators. It stood accused of sins from violating privacy and oversharing data to squeezing competition and undermining democracy. The rumour in Brussels was that the new competition commissioner wanted to make a splash by hitting Facebook with a huge fine. The firm also faced investigations and civil suits in every EU country.



For more than a year "people familiar with Mark Zuckerberg's thinking" had been briefing journalists about potential EU overreach. In May 2019 the *New York Times* had asked if "the region is going too far", and suggested that EU proposals on the removal of hate speech and misinformation risked "accusations of censorship and potentially providing cover to some governments to stifle dissent".

Fifteen minutes after midnight Facebook issued a press release. As of that morning, it explained, its services would no longer be available within the European Union. Negotiations around Europe's data-protection rules, content restrictions and competition concerns had broken

down. Europeans had been cut off. The message was clear: blame your governments, not us.

Within minutes, every major news channel in the world was leading with the news. President Donald Trump tweeted in approval. "Show Europe whose BOSS. Very good decision! WELL DONE MARK FACEBOOK." Sputnik, a Russian online news outlet, noted wryly that Facebook was still available in Russia.

More than 380m people—16% of the company's users—had just lost access to their friends, families and loved ones. The EU's economy was sure to take a hit. Businesses built on selling through Instagram would disappear overnight. Small firms that relied on WhatsApp to stay in touch with customers would be cast adrift.

Within hours of Facebook's move, Europe's politicians found themselves under enormous pressure to find a compromise, and fast. Acting with unusual speed, the EU arranged a summit for noon that day. For all the grumbling about Facebook's power and influence over commerce, politics and social activity, having to do without it was, millions of Europeans suddenly realised, unthinkable. Facebook had succeeded in demonstrating its indispensability. Ironically, it had also highlighted its extraordinary power—and the need to constrain it through regulation.



→ If antibiotics stop working

Attack of the superbugs

July 2041

GENEVA AND NEW YORK

How the world belatedly responded to antimicrobial resistance. An imagined scenario from 2041

AT THE CHAN ZUCKERBERG HOSPITAL in New York, Emma Jones beams a weak smile at her newborn son, cradled in her husband's arms. Ms Jones is recovering from a severe bacterial infection that she contracted during her Caesarean section. The infection had begun to shut down her organs; doctors put her in a coma and hooked her up to a breathing machine. "We didn't think she'd make it," says Rosa Velasquez, an infectious-disease specialist at the hospital. Ms Jones is lucky. She is one of a handful of people to have been treated with parvomycin, the first new antibiotic to become available since 2024. The few older antibiotics that are still in use today work only rarely. In 2040 antibiotic-resistant bacteria killed nearly 400,000 people in Europe and America—more than seven times as many as in 2015. In Africa and Asia, drug-resistant tuberculosis alone now kills nearly 2m people a year, ten times more than in the 2010s.

In Western countries the rise in deadly infections has been primarily in hospitals. Back when antibiotics still worked, they were used preventively in almost all operations. In 2015 surgical-wound infections occurred in less than 5% of cases for most types of operations in Europe; by 2040 the rate had leapt to nearly 30% for some operations. Caesarean sections, which at their peak made up one-third of births in America in 2019, are now carried out only when there is no other option.

Some hospitals no longer perform elective surgeries, such as hip and knee replacements, because so few patients are willing to

take the risk of post-operative infection. But surgeons are busier with amputations, which have nearly doubled in Europe in the past decade. The lack of effective antibiotics means that amputating a limb is sometimes the only way to treat an infected skin ulcer in a diabetic patient. At the Chan Zuckerberg Hospital, most heart-breaking are the paediatric wards. They are full of children recovering from amputations, many as a result of sepsis. "It often starts with just a scrape, a bug bite or a strep throat," says Dr Velasquez, "things that take-home antibiotics easily cleared up 20 years ago."

Parvomycin's remit is to turn this tide. It works for a wide range of *Enterobacteriaceae*, a family of mostly gut-dwelling bacteria that are usually harmless in healthy people. But they can destroy the heart, lungs, bones and other organs when they invade the bloodstream—often through cuts or invasive hospital equipment such as catheters and drip lines. For decades this group of bugs has been the most common cause of infections contracted in hospitals, and it has developed resistance to multiple antibiotics.

The new antibiotic will also make a big difference for cancer treatments. They improved greatly in the early 2020s after a boom in cancer research at big pharma companies. Back then, it seemed all but certain that science would win the war on cancer. But chemotherapy, immunotherapy and stem-cell transplants—used in most courses of cancer treatment—weaken the immune system, making patients highly vulnerable to infections. As the effectiveness of antibiotics waned, so did survival rates for cancer, which are now lower than they were a decade ago.

When the drugs don't work

The loss of antibiotics has been just as bad for organ transplants, which are in greater demand as the number of people with chronic diseases increases. Like cancer patients, transplant patients are easy prey for infections because their immunity is suppressed by the drugs that prevent organ rejection. Adjusted for the risk of deadly infection, the prognosis for most patients in America who are otherwise fit for a transplant is now too poor to justify the operation. (The recent development of artificial kidneys and livers, 3D-printed from stem-cells, offers hope because such organs are not considered to be foreign tissues by recipients' bodies, but this ►►

▶ technology is unfortunately still in its infancy.)

All this means demand for parvomycin will be huge. Doctors are calling it a “miracle drug”—as they did with penicillin a century ago. But there are concerns that parvomycin’s useful lifespan may be shorter than that of older antibiotics, because it is replacing many of them at once. As early as the 1950s, when the first generation of antibiotics became widely available, it became evident that the more an antibiotic was used, the faster bacteria developed mutations that conferred resistance to it.

A decade after the use of penicillin became widespread, more than half of common *Staphylococcus* bacteria in big hospitals were resistant to it. Bacteria strains resistant to newer antibiotics were often found just a year or two after doctors started using them. In response, drug firms churned out new antibiotics at a steady pace to replace ineffective ones. But as the 20th century drew to a close this arms race in antibiotics became harder because of their rampant use worldwide—on humans, livestock and crops.

The peril of overusing antibiotics became apparent in the 1990s when MRSA (short for methicillin-resistant *Staphylococcus aureus*), a deadly superbug, began terrorising hospitals in Europe and America. In Britain a government commission found widespread overuse of antibiotics. They were often given “just in case” or to stop outbreaks caused by lax hospital hygiene and doctors not cleaning their hands routinely. In America 30% of the 260m outpatient antibiotic prescriptions written in 2010 were unnecessary, usually for colds or other infections caused by viruses (against which antibiotics are useless).

In poor countries, meanwhile, bacterial infections still killed millions of people each year because they could not get hold of antibiotics. At the same time, particularly in big cities, many people’s first port of call for an illness was a drug-seller with no pharmacy education, who often gave them whatever antibiotic was in stock, in whatever dose they could afford. Poor sanitation and filthy hospitals made perfect habitats for the spread of superbugs—especially bacteria with the alarming ability to pass their drug-resistant genes to other species of bacteria.

Agriculture was also awash with antibiotics. In the 2010s it was gobbling up 130,000 tonnes of antibiotics consumed each year, more than half of the total. Ailing orange-tree groves in America and Thailand were sprayed with antibiotics that, at the time, were used to treat tuberculosis and other infections in humans. Fish and livestock on industrial farms were fed antibiotics because they turned out to have a fattening effect and were a cheap way to prevent the spread of diseases in cramped, filthy cages and pens. Some were precious last-resort antibiotics used in humans.

Don’t keep taking the tablets

By the early 2010s it was clear that a crisis was looming. In 2011 a survey of infectious-diseases specialists in America, for example, found that more than 60% had seen a pan-resistant, untreatable bacterial infection in the past year. Around that time researchers found more than 1,500 drug-resistant genes in the microbial soup of the sewage of 74 cities around the world.

“Antibiotics stewardship”, the concept of judicious, sparing use of antibiotics, gained currency. National action plans were written, a G20 proclamation issued and a UN resolution approved. In Western countries use of antibiotics began to fall, both in humans and livestock. Developing countries slowly followed during the 2020s, though in many enforcement of the new rules was patchy at best. Bans on the use of antibiotics in healthy animals began to spread in the 2010s. Many big meat producers abandoned antibiotics because their customers became squeamish about eating animals stuffed with drugs.

But all this came too late. In the late 2020s bacterial resistance to older drugs suddenly exploded in rich countries. Most antibiotics were no longer effective. And there were no replacements in sight. Big pharma companies had lost interest in antibiotics decades earlier because margins on them were low and doctors preferred to keep new ones on the shelf, for use when all else failed—which made the quest for antibiotics a poor business proposition. In 1980 there had been 25 large pharma companies working on new antibiotics; by 2020 there were just three. The handful of small biotech firms that stepped up to the task had gone out of business. The world faced a return to the pre-antibiotic era, when anyone could die from a tiny scratch or a simple infection, and even minor surgery could entail life-threatening risks.

GASping for a solution

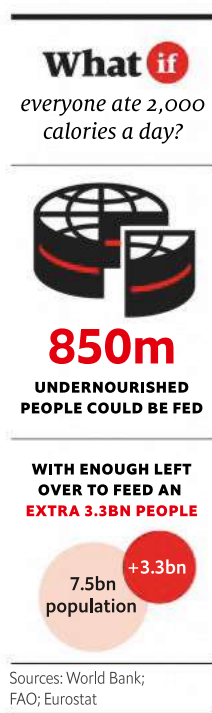
The crisis prompted the creation of the Global Antibiotic Science Partnership (GASP), a public-private outfit launched in 2032. It was given the task of developing new antibiotics as a matter of urgency. Chinese and American tech philanthropists, rallied by Bill Gates, put up money, as did the G20, creating an unprecedented kitty of \$40bn for its first five years. The problem was finding scientists. When big pharma companies shut their antibiotics divisions, the scientists who specialised in the field had scattered, retired or switched to other specialities. In 2015 there were only about 500 of them left (few enough that they would be declared endangered species if they were wild animals, noted an article in *Nature*). “It’s highly specialised knowledge,” says Narita Baseravan, the head of GASP. “We couldn’t put a cancer researcher to work on antibiotics.”

GASP ended up hiring a team of investigative journalists to track down the antibiotics specialists, now mostly in their 50s and 60s. After almost two years, a small team began work on what would become parvomycin at the GASP campus in Geneva built by Seth Resoz, an American augtech billionaire (whose third wife had died of a drug-resistant infection). Experts who were too frail to travel helped remotely using Mr Resoz’s augmented-reality technology, passing on their experience to younger scientists and giving them a crash course in antibiotic research.

Normally, developing a new antibiotic would take 10–15 years. The GASP scientists managed to do it in just six, by taking advantage of artificial-intelligence techniques to scan drug companies’ archives for candidate drugs that had been abandoned decades earlier. One of these candidates formed the basis for parvomycin. The new drug is now being distributed globally by GSKMerckPfizer under an innovative licence that sets differential pricing for countries depending on their ability to pay.

GASP plans to use the same model for the other antibiotics in its pipeline. They include a novel drug for tuberculosis—for which the last new drug was approved in 2012, the first new drug for the disease in more than 40 years. Research has also started on paediatric antibiotics, which were neglected even in the heyday of antibiotic development. “As far as antibiotics are concerned, children have always been treated as if they are small adults,” says Dr Baseravan.

It will probably be years before another new antibiotic reaches patients. But there are two reasons for optimism about the future of parvomycin and any new antibiotics that follow. The first is that the practices that promoted drug resistance in the past have finally been phased out, after decades of dithering. The second reason is that, thanks to the work of GASP, the pipeline of new antibiotics is starting to fill up again. It took a crisis in which millions lost their lives to prompt decisive action, and the fight is still far from over. But at least there is now cause for hope that an end to the post-antibiotic nightmare is in sight. ■



→ If geoengineering goes rogue

Reaching for the sunshade

July 2030

Efforts to cut emissions may fall short. What if some countries try to fix things a different way? An imagined scenario from 2030

THE PARIS climate deal commits its signatories to cuts in climate-changing greenhouse-gas emissions over the coming decades. But even if countries stick to their promises (and some may not), that may not be enough to avert catastrophe. Imagine that by 2030 global temperatures are still creeping up, and sea levels are tens of centimetres higher—significantly worsening the impact of storm surges that push seawater over low-lying areas and corrode coastal infrastructures. In Europe and America, summer heatwaves and winter flooding have become more severe. In America's southern states, the Caribbean and South-East Asia, coastlines are battered by stronger tropical cyclones. The global South suffers worse droughts and more irregular monsoons, undermining fragile agricultural systems and causing famines and civil unrest. The reality of global climate change becomes apparent to rich and poor countries alike.

Under these conditions, it seems likely that some countries will propose the use of a technique called “solar geoengineering” to cool the planet or slow its warming. One way to do this involves injecting tiny reflective particles into the stratosphere, where they would act as a sunshade by bouncing part of the sun's energy back out into space. Something similar also happens naturally: big volcanic eruptions have, in the past, thrown large amounts of material into the atmosphere, cooling the planet for months or years. The eruption of Mount Pinatubo in the Philippines in 1991, for example, reduced temperatures in the northern hemisphere by as much as 0.5°C for four years. Solar geoengineering would, its advocates say, do the same thing in a more controlled manner.

Imagine that the idea starts to gain political support. The first detailed international discussions of the options, starting in the mid-2020s, are fraught. Developing countries, more exposed but less well equipped to cope with the impacts of climate change, call for discussions at the United Nations. A motion is proposed by a group of “least developed countries”, led by Bangladesh, a medium-sized economy with a strong voice in international climate talks. Eventually, the issue makes it onto the agenda in the General Assembly. But, as with negotiations to cut global emissions, years of discussions and resolutions lead to little concrete action. Few see a planetary sunshade as a desirable solution. Supporters observe that a sunshade would buy more time to reduce greenhouse-gas emissions, given that cuts are not happening fast enough. But opponents say it will reduce the urgency of cutting emissions.

A further objection is the risk of unintended consequences, given that the technique has never been tried before, and academic studies and small-scale field trials have been underfunded, for fear of giving countries an easy way to avoid the difficult choices emissions cuts require. There is also the danger of “termination shock”: if a geoengineering project is launched, and it successfully cools the planet, then any failure of the sunshade (due to technical problems, say, or sabotage) could cause a sudden increase in temperatures in just a few years. For all these reasons, there are calls for international rules to govern the use of the technology—because without them, there is nothing to stop one or more countries launching a “rogue geoengineering” scheme on their own.

But that is exactly what some countries might start to consider,

perhaps in 2030, after the UN debate fails to reach any agreement. Fed up with yet more inaction, a small group of developing countries might choose to engage in “minilateral” discussions over whether to “go it alone” with a sunshade scheme that would, if it worked, both cool the planet and provide a proof of principle that might persuade other countries to back the idea.

The fastest way to do this would be to build a fleet of specialised planes. An analysis published in 2018 by Wake Smith, at Yale University, and Gernot Wagner, at New York University, maps out how to do it. The planes need to fly at altitudes of 20km (66,000ft) or higher, ruling out the possibility of using existing commercial aircraft for the purpose. Instead, a custom fleet of several dozen aircraft would be needed, with four jet engines mounted on two huge, glider-like wings, which would allow them to stay aloft in the thin air of the stratosphere. In the first year, eight aircraft could carry out 4,000 five-hour flights (four spent in ascent and descent and one in the stratosphere). By year five, this would be ramped up to 34 aircraft making 20,000 flights a year; by year ten, 71 aircraft would be making 44,000 flights year. After 15 years the fleet would be 100 strong.

Throwing shade

This first-generation sunshade would probably be made from dispersed sulphur dioxide (SO₂), which is one of the chemicals produced during volcanic eruptions. Dr Wagner suggests that the most efficient way to deliver it would be for geoengineering aircraft to be loaded with solid sulphur, which they would burn at altitude in their engines to produce SO₂. All this would cost around \$3.5bn a year (at today's prices) to deploy. A parallel research programme would also be needed to monitor the dispersal of the particles, determine their interaction with other molecules in the atmosphere and model the climate impacts. This would cost about the same again. According to Janos Pasztor, executive director of the Carnegie Climate Governance Initiative, the only existing monitoring network capable of carrying this out at the required level of detail is the World Meteorological Organisation's satellite ▶▶



▶ and ground-based global atmosphere monitoring system.

Bangladesh on its own seems unlikely to foot that bill. As well as financial help, it would almost certainly want safety in numbers, which is why a coalition of developing countries seems more likely. Such a coalition might also want the security provided by the support of a larger power, such as India or China, both of which have large populations at risk from considerable climate impacts. Handily, China is also a big producer and exporter of sulphur.

It would be both smart and efficient to start such a programme slowly. Drs Smith and Wagner calculate that the fleet could scatter 200,000 tonnes of SO₂ in the stratosphere in the first year, causing an unremarkable 0.02°C of cooling. By the fifth year, those figures would rise to 1 megatonne of SO₂ and 0.1°C. The cooling would reach 0.2°C in year ten and 0.3°C in year 15. At these levels, there should be a real impact on the rate of warming.

But there is a catch. Regional geoengineering is impractical (stratospheric winds disperse particles across whatever hemisphere they are deposited in) so a solar sunshade would have to be either hemispheric or global. The former could be catastrophic, because models suggest it could shift the balance of energy in the upper atmosphere in a way that causes large-scale disruptions to tropical monsoons.

To avoid the disastrous geopolitical fallout of such a scenario, the coalition would therefore seek to deploy a global sunshade that would offer equal or comparable cooling to all regions. Some studies suggest that this may be possible, though research is still very much in its early days. Simone Tilmes at the US National Centre for Atmospheric Research calculates that injections of SO₂ at 15° and 30° north and south of the equator would produce a reasonably uniform global cooling.

Even so, a coalition of states acting unilaterally to cool the whole planet would still risk military reprisals. To avoid conflict,

**July 2030:
a few developing
countries start to discuss
building a sunshade**



flights would have to remain within participating countries' own airspace, so a coalition would need to span those latitudes. China, India and Bangladesh could take care of the northern latitudes, but the southern hemisphere would require collaborators with the right capabilities in Africa, South America or Australasia.

There is another possibility. America has the money to build a fleet, the research capacity to track its impact and military bases around the world from which to launch planes. As for motives, look no further than hurricanes. Modelling published earlier this year suggested that sunshades might reduce the intensity of hurricanes compared with a warmer world. And it is possible, if hard, to support solar geoengineering without taking a position on the causes of global warming. A sceptical American administration could still insist that climate change was not man-made; it need only concede that temperatures are rising.

It is difficult to predict what the international response to a unilateral American sunshade programme would be. It would, of course, depend on how the sunshade was deployed and how the climate responded. America, the Soviet Union, Britain, France and China were all rebuked for carrying out atmospheric nuclear testing in the 20th century, but suffered little actual diplomatic cost. Unilateral geoengineering might provoke condemnation, but not war.

Countries opposed to the idea might respond by developing counter-geoengineering programmes. They could either shoot down geoengineering planes or, more tactfully, build a second fleet to deliver a separate stratospheric payload to neutralise the sunshade (either by reacting with the SO₂ to break it down, or by making the sulphate particles clump together and rain out faster). The development of counter-geoengineering tools might provide a deterrent against the unilateral deployment of a sunshade.

With or without counter-geoengineering, the global climate blame-game would undoubtedly become even more heated if a sunshade were deployed. One problem would be distinguishing its cooling effect amid natural variability. The cooling would take effect gradually, and global average temperatures would continue to rise in the early years of its deployment. Eventually, a slowdown in the rate of warming would become apparent in global data sets. But because temperatures vary naturally from one year to the next, reliably identifying a sunshade signal within the data would be tricky. And even before its effect became apparent, the sunshade would start to influence the weather, and the frequency of droughts, floods and tropical cyclones. Teasing apart the relative influences of global warming and natural variability on an extreme weather event is devilishly complicated today. Add a sunshade into the mix and fingers will be pointing in all directions, which will make international climate talks even more difficult.

But if a sulphate-based sunshade was successfully deployed and was shown to work, it might then be time for phase two. David Keith, who runs Harvard University's solar-geoengineering research programme, has suggested that it might be possible, perhaps even preferable, to design synthetic particles that are more efficient at reflecting the sun's radiation, or can stay suspended in the stratosphere for longer than sulphate particles can. And perhaps, having failed to reach international agreement on geoengineering in the 2020s, the United Nations might try again, with a new treaty being signed in Kyoto in 2047, 50 years after the original Kyoto Protocol. Kyoto 2 would concede that efforts to tackle climate change had fallen short, and would endorse the use of a sunshade as a way to give countries more time to reduce their emissions. In the worst case, the unilateral deployment of a sunshade could lead to conflict. But in the best case, it might provide a pathway to a lasting solution to the climate problem. ■





→ If the Allies had been more generous in 1919

Versailles revisited

In 1919 the world spent six months talking about peace. Did the resulting treaty really make another war inevitable?

THE TREATY signed in the Palace of Versailles exactly a century ago, on June 28th 1919, was a catastrophic failure. It set out to create peace, but within just 14 years Adolf Hitler had become German chancellor and was dragging the world back towards war. The blame, it is often said, lay with the leaders of America, Britain and France, who imposed a vengeful “Carthaginian” peace on Germany, visiting a punishment that crushed the fragile Weimar Republic. If only Versailles had been more generous, the second world war might never have taken place.

The peacemakers included 70 delegates from 27 countries, who met for six months in Paris, starting on January 18th 1919. Although they certainly made mistakes, they deserve a sympathetic hearing. At the end of the first world war the Allies were not too harsh on Germany. If anything, they were not harsh enough.

Critics of Versailles got their attack in early. Just six months after the treaty was signed John Maynard Keynes published “The Economic Consequences of the Peace”, the book that made his name. Keynes combines intricate tabulations of German coal consumption with vicious portraits of Woodrow Wilson, Georges Clemenceau and David Lloyd George, the American president and prime ministers of France and Britain, who ran the negotiations. The tabulations purport to show that Germany could not afford large reparations; the portraits that weakness, vanity and vindic-

tiveness blinded the Allies to German suffering and to how reparations would poison European relations. Hadn’t Sir Eric Campbell Geddes, First Lord of the Admiralty, vowed that Germany should “be squeezed until the pips squeak”?

Yet Keynes was protesting too much—and too soon. He was writing in 1919, two years before the size of the reparations was actually determined. The sums being talked of at Versailles were as much as 16 times bigger than the final bill. The reparations imposed in 1921, in what Germans called the “London ultimatum”, were large, but not impossibly so. Germany was asked to pay 132bn German marks, but this included 82bn marks in bonds that were never likely to become payable. The remaining 50bn marks—worth about \$12.5bn then, or \$185bn today—was less than what Germany itself had earlier offered to pay. It was about 160% of the country’s GDP, similar to British national debt at the time and only slightly larger than the \$10bn that the recipients of the reparations owed the United States. Moreover, Versailles also gave Germany a “peace dividend” by limiting its military spending, which was by some calculations worth about as much as the reparations cost.

Neither did reparations cripple Germany’s economy. Despite the hyperinflation in 1921-23 and allowing for changes in the map of Europe, Germany produced 30% more iron and 38% more steel in 1927 than it had in 1913, the previous record. By 1930 the tonnage of German merchant navy was about 4m tonnes, only a little less than the 5m of 1913. And yet Germany appeared to struggle. It repeatedly failed to pay its reparations bills on time—its failure to make coal shipments in January 1923, for instance, was its 34th in 36 months. So badly did it fall behind that the payments schedule from 1921 was relaxed twice, in 1924 and again in 1930. Overall, Weimar Germany ended up paying a total of just 20bn marks.

Do the defaults and rescheduled debts prove that Germany had been asked to pay too much in 1921? In fact, Germany’s behaviour had less to do with its capacity to pay than its incentives. Article 234 of the Versailles treaty said that the reparations should be adjusted if Germany could show that it could not afford them.

The German government tried to do this in two ways. First, rather than strive for sound public finances, it sought to demonstrate that it was broke. For instance, Karl Joseph Wirth, chancellor in 1921-22, argued against raising revenues through a property tax, which would have helped slow the collapse of the mark. “The goal of our entire policy must be the dismantling of the London ultimatum,” he declared, and thought it would be a mistake to suggest, by stabilising the currency, that payments were “80% possible”.

Second, the Weimar government spread the idea that Versailles was fundamentally unjust. Its diplomats insisted the war had been defensive, a response to the threat from imperial Russia and its ally, France. Troops returning from the front in 1918 had been told by their president, Friedrich Ebert, that “no enemy has defeated you”. Many believed that they had lost the war only because, in 1918, a cabal of Jews and Socialists had “stabbed them in the back”. The Allies inadvertently played into this punishment narrative. Lloyd George and Clemenceau needed the reparations bill to appear large because public opinion demanded that Germany suffer.

Versailles failed chiefly because it was being asked to finish the job that the exhausted Allied armies had left unfinished. Unlike France and Belgium, Germany ended the war with its factories and mines intact. Germans felt undefeated. Upended by the Depression and goaded by Hitler, they were ready to take up arms again.

In her memoirs Elizabeth Wiskemann, a correspondent for *The Economist*, describes how she met Keynes in London in 1936:

“I do wish you had not written that book,” I found myself saying (meaning “The Economic Consequences”, which the Germans never ceased to quote) and then longed for the ground to swallow me up. But he said simply and gently, “So do I.” ■



→ Also in this section

- 40 The UAE pulls out of Yemen
- 40 Tunisian politics
- 41 Kenyan prisons
- 42 Sudan's stalemate

Libya

Siege on the Mediterranean

TRIPOLI

As foreigners pile into the battle for Libya's capital, its misery deepens

IN TRIPOLI, the capital of Libya, children play on the beach, cafés buzz late into the night and the manager of a beauty parlour reports that laser treatments, hair-removals and nose-jobs are on the rise. “War hasn’t put off custom,” says Kherea Dughman. About 15km (9 miles) away a rebel army is fighting to take the capital. But after eight years of civil war, Libyans have become inured to the rumble of artillery.

There have been several attempts to stabilise Libya since the overthrow in 2011 of Muammar Qaddafi, its former dictator. In 2016 the UN installed a “government of national accord” (GNA) in Tripoli. But it is beholden to the militias in the west that back it. Khalifa Haftar, the head of the self-styled Libyan National Army (LNA), controls the east and much of the south, including Libya’s largest oilfields.

Talks arranged by the UN to broker a peace between them in April were upended by Mr Haftar, who launched a surprise attack on the capital just after the UN secretary-general had arrived. Mr Haftar has little interest in negotiating a settlement. The 75-year-old former general thinks Libya is not yet ready for democracy and that it needs a strongman—himself.

Mr Haftar returned from exile in America after Qaddafi’s fall and raised a force of perhaps 20,000 fighters. They would, his supporters repeatedly promised, clear the capital of the chaos of “terrorist militia” rule. His sneak-attack was intended to snatch Tripoli swiftly. But three months on

his forces are being pushed back.

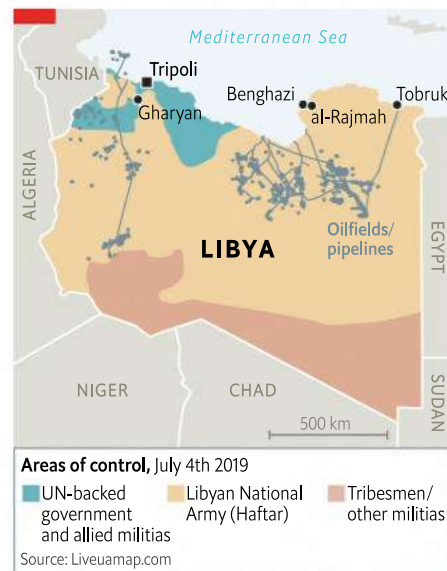
Militias that had previously fought each other have rallied against Mr Haftar. On June 26th they captured Gharyan, cutting his supply line to the south (see map). That leaves his troops over 1,000km from their main base at al-Rajmah. Whereas the defenders of Tripoli can go home and shower at the end of a day of fighting, Mr Haftar’s troops are in the desert. The tribes backing him are reluctant to send more men.

Mr Haftar, though, has powerful friends. Saudi Arabia, Egypt and the United Arab Emirates (UAE) provide arms, fighter jets and money to pay recruits. They see Mr Haftar as an ally in their counter-revolution against the popular, and often Islamist, uprisings the Arab spring unleashed in 2011. And they view Libya’s oil, territory and ports as strategic assets that they want to keep out of the hands of their regional foes, Turkey and Qatar. With their support, Mr Haftar hopes to battle on just as he did in Benghazi, Libya’s second city. He took it in 2017 after three years of fighting, but only by destroying and depopulating it.

Turkey and Qatar, meanwhile, have sent weapons and armoured trucks to reinforce Tripoli. Both say they are buttressing the forces of democratic and popular change. They have also supported armed groups who share their Islamist ideology.

Foreign intervention risks turning a civil war into a regional one. In June Mr Haftar’s men threatened to strike all Turkish vessels in Libyan waters. It detained six Turkish sailors and released them only after Turkey threatened military action.

The UN Security Council is too divided ►►



▶ to restrain the parties. Libya's former colonial rulers, France and Italy, have backed opposing sides, fuelled by their oil interests. (Total, a French company, has most of its fields in the east; Italy's oil giant, Eni, is concentrated in the west.) Russia, which favours autocrats across the region, has thrown its support behind Mr Haftar.

America, which could be an umpire, acts like a bystander. Since Barack Obama's presidency, it has opted to "lead from behind". Donald Trump phoned to congratulate Mr Haftar—a naturalised American citizen—when it seemed his offensive would be successful. America, which had supported calls for a ceasefire in the UN, abruptly threatened to veto them. Since Mr

Haftar's offensive has failed Mr Trump's interest seems to have waned in another of what he once called the Middle East's "stupid wars".

Despite the conflict, the dinar has stabilised. Oil production is near its post-2011 peak of 1.1m barrels a day and at current prices could earn Libya \$27bn this year. In the current fighting both camps are avoiding anything that might damage the oil fields because revenue from them pays the salaries of armed groups on each side.

As Mr Haftar tries to regain the initiative, however, that could change. Although he controls most of the fields, a UN embargo on non-government sales prevents him from boosting his own coffers while

shrinking those of the government. Previous efforts to sell oil independently were thwarted by America, but Mr Haftar is thought to be mulling trying again.

He may also become more destructive. Since losing Gharyan he has stepped up his bombardment of Tripoli. Fighting has already destroyed one airport and threatens a second. On July 3rd an attack killed 44 African migrants in a detention centre on the edge of Tripoli. Power lines and the pipes bringing water are also vulnerable to attack. Electricity is down to nine hours a day. Schoolchildren complain it is too hot to prepare for exams. More than 100,000 people have left the capital's outlying suburbs for the city centre.

Most people in Tripoli want a government able to collect the rubbish and put an end to the militias' extortion and turf wars. ("It's like taming wildcats in a circus," is how a government official describes governing Tripoli.) Some may have once welcomed the order that Mr Haftar promised to restore. But his bombardment has punctured such hopes. His flamboyant uniforms, his nepotistic promotion of his sons and backing from the former regime's henchmen stir fears of a second Qaddafi.

Meanwhile, the horror goes on. Field hospitals and ambulances ferrying the wounded have come under attack. A nurse camped in a school with her children, after the shelling destroyed her home, begs for relief. "Why don't they both just go away," she sobs. ■

Slinking to the exits

The UAE begins pulling out of Yemen

DUBAI

It wants its troops close to home amid tensions in the Gulf

AFTER FOUR years of fierce fighting and international outrage, the United Arab Emirates (UAE) is quietly slipping out the back door. Over the past few weeks it has begun to withdraw men and materiel from Yemen, where it is part of a Saudi-led coalition fighting against the Houthis, an Iranian-backed Shia militia that controls large parts of the country. The UAE has not commented on the drawdown. But foreign diplomats and eyewitnesses confirm it is happening.

The proximate cause is growing fear of conflict with Iran. Tensions have climbed steadily since America withdrew last year from the agreement struck in 2015 that imposed limits on Iran's nuclear programme. In May four oil tankers were sabotaged near the UAE port

of Fujairah. America blamed Iran. The Emirati foreign minister, in a sign of his country's nervousness, says it is too early to assign blame. "The UAE are playing it very cool because they understand how vulnerable they are," says a Western defence official.

But the Emiratis wanted out even before this crisis. They worry about the reputational costs of a war that has killed tens of thousands of civilians and caused famine and cholera outbreaks. Last month America's Senate voted to block an \$8bn arms deal with Saudi Arabia and the UAE. The war has also caused fissures within the UAE, a confederation of seven emirates. Dubai, the glitzy business hub, is unhappy with the steep financial cost.

Many Emiratis feel the fighting has run its course. They are the most important partner in the coalition. Though the UAE's army is much smaller than Saudi Arabia's, it is a more capable fighting force. Emirati troops did most of the heavy fighting on the ground in South Yemen, while Saudi jets provided often ineffectual air support.

The Houthis are not popular in the south, where locals grate at northern control (South Yemen was a separate state until 1990). It would be much harder to oust the Houthis from the capital, Sana'a, and the northern highlands where their movement originated. The coalition's offensive has also stalled around the western port of Hodeida, where the UN brokered a tense ceasefire. Unable to advance, the Saudis have of late been looking for a negotiated peace deal, though with little success. Without the support of the UAE, the prospects of a Saudi victory look remote.



Leaving, on a jet plane

Tunisian politics

Crisis delayed, for now

CAIRO

A health scare for the elderly president highlights troubled elections to come

FOR A MOMENT, a looming political crunch in Tunisia looked like it would arrive earlier than expected. On June 27th the president, Beji Caid Essebsi, was rushed to hospital after an unspecified "health crisis". The news capped a chaotic week in the only country to emerge from the Arab spring with a democracy. There was already talk of delaying presidential elections scheduled for November because of a row over the electoral law. Then, before Mr Essebsi fell ill, a pair of suicide bombings in central Tunis killed a police officer and wounded several other people.

The president's office gave no details about his condition, which led to false rumours that Mr Essebsi, aged 92, had died. That would have made the 85-year-old speaker of parliament the interim leader. But he was also ill, having been admitted to ▶▶

► hospital days before Mr Essebsi. In the end it was a moot point. The president was discharged on July 1st and plans to return to work only for a few months, since he is not running for a second term.

Tunisia's fragile democracy still faces a test. Mr Essebsi took power in 2014 as the leader of Nidaa Tounes, a secular coalition formed to unseat Ennahda, the Islamists who had won Tunisia's first free election. He succeeded, only to watch his coalition fall apart. About half of its MPs sit with other factions. Over the past year he has also fallen out with the prime minister, Youssef Chahed, who will lead his own secular faction in parliamentary elections in October.

For a time Mr Chahed looked like a rising star in Tunisian politics. His popularity has ebbed, too, largely owing to a struggling economy. Since 2013 annual GDP growth has been less than 3%. Unemployment is 15%. Tourism is one of the few bright spots. Visitors are at last flocking back to the country after being scared off in 2015 by attacks at the national museum and a beach resort. The recent bombings, as well as one last year, are a reminder that security remains delicate.

The elections present an opportunity for political outsiders. A recent survey by Sigma Conseil, a pollster, was grim reading for established politicians. Leading the pack in presidential and parliamentary elections was Nabil Karoui, a media mogul, even though he has not formed a party. The survey had Ennahda winning just 17% of the vote in parliamentary elections, down from the 28% it won in 2014. Mr Chahed and his party polled in single digits.

Rather than face up to fresh competition, lawmakers have tried to block newcomers. In June they amended the electoral law to bar candidates who are philanthropists or receive foreign funding. Mr Karoui believes the changes target him personally. He runs a large charitable foundation. Its activities are widely covered on a television channel, which also happens to belong to him and is critical of the government. Another provision of the law bars candidates who criticise the revolution of 2011 or back the old regime. That would impinge on Abir Moussi, a lawyer who thinks the revolt was a foreign conspiracy and wants to exclude Islamists from politics.

None of this ought to pass muster with Tunisia's new constitutional court. There is one problem, though: the court has no judges and thus cannot rule on anything. Indeed, if Mr Essebsi had died, Tunisia might have been unable to install an interim president, as that too requires the court's assent. Parliament has repeatedly failed to agree on the names of the 12 judges needed to fill the bench. That political neophytes like Mr Karoui are soaring in the polls is a sign that voters are getting tired of the squabbling. ■



Kenyan prisons

Learn the law, hope for freedom

NAIROBI

Education gives Kenyan prisoners hope of redemption and release

A SENIOR POLICEMAN in Kenya was recently sentenced to death for torturing and killing a prisoner who had been brought into a police station near Nairobi, Kenya's capital, after drunkenly brawling with his wife. The policeman had thrashed him with a metal pipe, dunked his head in a drum of water and then, after the man had died, claimed he had been beaten by another prisoner, who was initially charged with the murder. Bribes were offered to prisoners to incriminate their fellow inmate. But the judge rejected the story and sentenced the cop to death.

The police usually enjoy impunity, especially when they kill suspected crimi-

nals, which they often do after nabbing them. More striking in this case was that, a mere four days after he was sentenced, the errant policeman was sitting in the front row of a class of 15 prisoners in Kamiti maximum-security jail outside Nairobi. Clad in the blue and white pyjamas worn by convicts, he had started a course in law under the auspices of London University.

Through the African Prisons Project (APP), a British-backed NGO, about 65 Kenyan prisoners, almost all of them lifers or on death row, are taking classes in law, their papers sent back and forth between London and Nairobi. The scheme was started by a British lawyer, Alexander McLean, in neighbouring Uganda 12 years ago. In Kamiti prisoners and warders often attend class together, sometimes helping each other with homework or jointly solving legal conundrums. "We've had so many success stories," says George Dianga, the officer in charge of Kamiti. "APP has greatly improved the inmates' capacity to make appeals. Now judges really do listen."

The APP has helped change the law itself. One of its star students, Wilson Kinyua, who was set free in February after 19 years behind bars, had argued before the Supreme Court that the death penalty violated the constitution, which forbids cruel or inhuman punishment. In fact, no death sentence has been carried out in Kenya since 1987. Thousands have had their sentences commuted to life imprisonment under presidential decrees. But the death penalty is still on the statute book. Thanks, however, to the constitutional challenge lodged by Mr Kinyua and his friends, the Supreme Court now accepts that death sentences should no longer be mandatory for murder (the recent case of the policeman was considered exceptionally heinous).

The law in Kenya is still heavily tilted against the poor, who are afforded no legal aid in their defence, except for capital crimes, unless a lawyer can be found who acts *pro bono*. Travesties of justice are frequent. Until the recent Supreme Court ruling, judges had little leeway for leniency, since various crimes carried mandatory sentences. Robbery with violence, for instance, used to carry a mandatory death sentence, albeit often commuted to life. But life usually meant life.

Most of the women prisoners serving life or facing a death sentence in the maximum-security jail in Langata, on the other side of Nairobi, murdered their husbands or partners. Claims that they suffered violent domestic abuse carried little extenuating weight when judges sentenced them.

So a vital facet of the APP has been to teach prisoners how to launch appeals and to argue for them in court. The prisoners pursuing London University courses stress that their aim is to help fellow inmates who were unable, for lack of education or mon-



► ey, to defend themselves effectively.

While the APP is sensitive to the charge of paternalistic interference in Kenya's judicial system, the Kenyan government and especially its prison service have been happy to co-operate with it. The organisation has sought to improve both prison conditions and the justice system. One effect has been to enhance relations between prisoners and guards. Another has been to reduce

reoffending: according to the APP, none of its graduates, once freed, has slipped up.

Above all, it has given prisoners hope. "APP has inspired us," says William, a death-row prisoner who, after ten years inside, has both a poetic and lawyerly turn of phrase. "It has turned people from being unreasonable into being reasonable. Inasmuch as our bodies are in prison, our minds are free." ■

Sudan

Stalemate

KHARTOUM AND ADDIS ABABA

A light flickers at the end of the tunnel, but only dimly

THEY MARCHED, like a train rolling into a station, across a bridge over the Nile and into Khartoum. Tens of thousands of protesters arrived in the Sudanese capital on June 30th, singing and chanting, to mark 30 years since the coup that brought to power the military dictatorship they are now struggling to overthrow.

This was the first mass demonstration since a massacre on June 3rd, when security forces killed more than 100 people, including at least 19 children. And it was a reminder that the peaceful protest movement—which in April prompted the army to oust Sudan's former dictator, Omar al-Bashir—remains a force to be reckoned with. "It was rejuvenating," says Lena Eshikh, an activist. "We walked for hours."

The protest organisers had hoped to bring a million people onto the streets across the country. Despite fears of another

massacre, the crowds were still large. Muhammad Hamdan Dagalo (widely known as Hemedti), whose men have been blamed for the massacre in June, said that he would not tolerate "vandals". Although only the deputy head of the Transitional Military Council that took over after Mr Bashir's fall, Mr Dagalo controls the Rapid Support Forces (RSF), a paramilitary group of perhaps 30,000 men that is now terrorising the capital. This makes him the most powerful man in Sudan.

When demonstrations resumed, Mr Dagalo's men tried to disperse them with tear-gas and live bullets. At least 11 people died, according to protest leaders, and hundreds more were injured. At the El Gederaf Teaching Hospital in eastern Sudan, security forces chased and beat marchers. "Some of the demonstrators were hit inside the hospital," says Sami Salah, a surgeon.

But it was not a repeat of June 3rd, which suggests that outside pressure may be restraining the junta. International mediators including Abiy Ahmed, Ethiopia's prime minister, have been trying to end the stand-off between the generals and leaders of the protest movement. The junta's main backers—Egypt, Saudi Arabia and the United Arab Emirates—have also begun voicing their support for a transition to civilian rule. "They are at least saying the right things now," says Alan Boswell of the International Crisis Group, an NGO. One foreign diplomat says the junta's backers were embarrassed by reports that they had encouraged it to send in troops to clear the streets in early June.

The protesters, meanwhile, have shown they are not cowed and that they can organise without the internet, which the junta shut off a month ago. Some bought international SIM cards to send live broadcasts on social media of atrocities committed by government forces. The march was "an overwhelming success", says Amjed Farid, one of the organisers. On July 1st they announced plans for further action, including two days of civil disobedience later this month.

The generals appear to be on the defensive. They recently acknowledged that there have been several coup attempts. There is also a deepening of divisions within the transitional council, particularly between the army and the RSF, which was formed out of the *janjaweed*, a militia that terrorised Darfur. Mr Dagalo, who wants to be president and recently signed a \$6m contract with a Canadian lobbying firm to clean up his image, also faces opposition from within Sudan's intelligence service. One spy whispers that Mr Dagalo should not be president because he is uneducated.

The junta still seems a long way from handing power to civilians. On June 29th the generals appeared to accept a power-sharing agreement proposed by the African Union (AU) and Ethiopia in time for an AU deadline of June 30th, only to announce two days later that they would not allow civilians to head the transition.

The generals are also trying to re-open talks on issues around the transition that mediators thought had already been settled, such as an agreement to hold democratic elections in three years. "There are growing doubts among many that the military council actually wants an agreement," sighs a Western diplomat.

So the protesters see no option but to take to the streets again. "It's just up to us to keep pushing," says Ms Eshikh. "Until something gives." ■



The people on the streets, the generals still in charge

Journalist wanted: We are looking for a new writer, based in Africa, to strengthen our coverage of the continent. For further details please go to: www.economist.com/africawriter



 → Also in this section

- 44 The European Central Bank
 - 45 A political murder in Germany
 - 45 Trouble in Georgia
 - 46 France's heatwave
 - 47 Charlemagne: Family trouble
-

EU top jobs

The Leyen's share

BRUSSELS AND STRASBOURG

Leaders nominate Germany's defence minister to head the European Commission

EMMANUEL MACRON is a lucky man. His rivals and opponents have a habit of doing themselves harm. In the French presidential election in 2017 his main centre-right rival was consumed by a corruption scandal. Earlier this year anti-government *gilets jaunes* protesters surged then faded in part because disorganisation and public-relations mistakes took their toll. And this week Mr Macron obtained something close to a dream outcome in the allocation of big European jobs. Once again this was largely thanks to others' mistakes.

After three days of talks the EU's leaders (minus Theresa May of Brexiting Britain) agreed to nominate Ursula von der Leyen, Germany's defence minister, to the presidency of the European Commission, the EU's executive. A moderate Christian Democrat close to Angela Merkel, Mrs von der Leyen shares some of Mr Macron's federalist inclinations. Also, she did not run in the recent European election campaign as a *Spitzenkandidat* or "lead candidate" for the commission job—a convention that the

French president wants to kill off. The presidency of the European Central Bank (ECB) goes to Christine Lagarde, the French head of the IMF who, like Mr Macron, is on the doveish side of Europe's economic debates. The presidency of the European Council, the group of EU heads of government, goes to Charles Michel, Belgium's liberal prime minister and a Macron ally. The final appointment sees Josep Borrell, a veteran Spanish social democrat, as the EU's high representative for foreign affairs and security policy.

"Macron is delighted with the outcome," observes Mujtaba Rahman of the Eurasia Group, a consultancy. He points out that the result was less Mr Macron's design than the product of others' errors.

The first was made last November, when the European People's Party (EPP), the group of centre-right parties, picked Manfred Weber, a Bavarian member of the European Parliament, as its lead candidate. The EPP came first in the European Parliament elections that took place from May

23rd to 26th, which under the *Spitzenkandidat* convention would have made Mr Weber the prime candidate for the commission. But he has no executive experience, little profile outside Brussels and his native Germany and a reputation for making excuses for Hungary's authoritarian government. Moreover, the EPP lost seats, along with its traditional partners in the centre-left Socialists and Democrats (s&d) group. Mr Weber was too contentious a figure for the newly fragmented parliament to settle on his candidacy, or on a single alternative. Although Mrs Merkel, the EPP's most powerful leader, backed her compatriot, other leaders objected to him at a summit on June 20th. Unable to reach a deal, the leaders postponed their talks to June 30th.

It was Mrs Merkel who made the second mistake. In discussions with Mr Macron and the prime ministers of Spain and the Netherlands, the German chancellor agreed to a compromise whereby Frans Timmermans, the s&d's lead candidate and a Dutch vice-president of the commission, would take the commission presidency, with Mr Weber becoming president of the parliament and a liberal running the council. Mrs Merkel's colleagues in the EPP, such as Leo Varadkar of Ireland, objected that the parliament job was too puny a prize for coming first. The leaders of eastern states and Italy, too, dislike Mr Timmermans for his record of tough action against illiberal abuses. ►►

▶ The summit on June 30th dragged on into July 1st. By breakfast it was clear that neither Mr Timmermans nor Mr Weber could command the necessary support. Leaders suspended the talks until the following morning, when Mr Macron floated the idea of Mrs von der Leyen. Acceptable to Mrs Merkel, the rest of the EPP, the easterners and to left-of-centre governments, she was the tolerable candidate exhausted leaders could accept. With a German heading for the commission, Mr Macron could press for a Frenchwoman at the ECB.

Yet the package did not inspire universal approval. Some, especially in the EPP and S&D, complain that Mrs von der Leyen lacks a democratic mandate, having not campaigned as a *Spitzenkandidat*. Her struggles to modernise the armed forces cause some to question her competence: “Germany’s weakest minister”, sneered Martin Schulz, a German former president of the European Parliament. Other objections have also bubbled up. All four of the big jobs settled at the summit go to western Europeans at a time of heightened tensions between easterners and westerners.

All of which makes support for the package in the parliament uncertain. In votes on the parliament’s own presidency on July 3rd MEPs from the “grand coalition” of moderate pro-EU parties—the EPP, S&D and liberals—splintered as some social democrats backed the Green candidate and easterners in the EPP backed a Czech from a more right-wing group. David Sassoli, an Italian social democrat supposedly supported by the grand coalition, won with only 345 of its 442 votes, and no others, meaning that he does not enjoy a majority among the parliament’s 751 members.

That may suggest that Mrs von der Leyen is also not guaranteed the majority she needs to secure the commission presidency. That vote is due to take place between July 15th and 18th. If she fails, leaders will have to return to the drawing board. They might then turn to Margrethe Vestager, the liberal competition commissioner who was a *Spitzenkandidat* in all but name and fairly widely acceptable. Otherwise the options are few.

But if she does succeed, what sort of a commission president will Mrs von der Leyen make? It is true that after five years of her as defence minister, the German armed forces are still plagued by equipment shortages and technical faults. German opposition parties are holding an investigation into her extensive and expensive use of consultancies. Yet her job is known as a graveyard of careers for good reason—the problems long predate her tenure—and Mrs von der Leyen has done well to survive in it. Multilingual and instinctively Atlanticist, she is respected by NATO colleagues for having fought for budget increases for Germany’s armed forces and presiding

over expanding German military missions in places like Mali and Lithuania. She has recently warned against European complacency about China’s rise and intentions. Addressing MEPs in Strasbourg on July 3rd she struck a conciliatory tone in comments in German, French and English.

There may have been better candidates for the commission job—for example, Ms Vestager—but there were certainly far inferior ones. Likewise, Ms Lagarde (see next story), Mr Michel and Mr Borrell are all competent figures. The Spaniard will be the most heavyweight person to hold the foreign-policy role since its creation in 2009. Europe runs on compromises like this one. It could do worse. ■



The European Central Bank

Sticking to the plan

A change of direction under Christine Lagarde is unlikely

WHEN CHRISTINE LAGARDE was asked last year whether she was interested in a job in Europe, the head of the IMF made an emphatic denial. “No, no, no, no, no,” she told the *Financial Times*. “I have a very important job here that I want to do and I’m not going to leave that beautiful vessel when there might be rough waters out there.” But the vagaries of European politicking are such that on July 2nd she was anointed successor to Mario Draghi at the European Central Bank (ECB), as part of the package for top EU jobs.

The decision comes as a surprise to bank-watchers. Ms Lagarde’s name had been floated as a possible candidate but,

her denial aside, she had been thought an unlikely choice because of her lack of an economics pedigree. Like Jerome Powell, the head of America’s Federal Reserve, Ms Lagarde is a lawyer by training. Unlike Mr Powell when he was appointed chairman, she has no central-banking experience, though she held various ministerial positions in France—including the finance portfolio—before she moved to the fund.

Her experience means that the well-respected Ms Lagarde brings solid political and communication skills to the bank. But when combined with other recent changes at the top, her nomination means that the bank loses technical expertise even as threats to the economy loom.

Unusually, the selection of the new boss—Mr Draghi’s eight-year term ends in October—coincided with five-yearly parliamentary elections, when the EU’s other top jobs fall vacant. Leaders had initially paid lip service to a “3+1” approach, feeling that the more technocratic ECB position needed to be treated separately from the more political roles. In the end, though, the job was part of the horse-trading.

Ms Lagarde is right to worry about choppy waters. The euro area’s economy has been hammered by a slowdown in global trade and the lingering threat of a trade war. Mr Draghi has more or less committed himself to providing more stimulus should the economic situation fail to improve. But interest rates are already negative, and quantitative easing is near the bank’s self-imposed limits. So boosting demand significantly means either expanding the monetary toolkit or persuading governments—particularly frugal northerners—to enact fiscal stimulus. Some central bankers, such as Olli Rehn, the head of the Finnish central bank and a member of the ECB’s decision-making body, think the circumstances call for a wholesale review of the ECB’s monetary-policy framework.

Fortunately, Ms Lagarde is admired for her willingness to listen to a variety of opinions, and her ability to build consensus among the fund’s shareholders. Perhaps her two biggest challenges in her eight years at the IMF were the sovereign-debt crisis in Greece and, more recently, a big loan to Argentina. It is too soon to tell how well the Argentine bail-out has gone. The fund’s initial approach to Greece, formed before Ms Lagarde took over in 2011, came under fire for being swayed by European creditors. But by 2015 it had changed course, resisting pressure from Germany to participate in yet another bail-out, and calling for less stringent budget-surplus targets. That might suggest a degree of the political independence that a central banker will need.

Ms Lagarde’s comments over the years suggest that she will steer broadly the same course as Mr Draghi. She supported his ▶▶

pledge to do “whatever it takes” to preserve the euro and was an early advocate of quantitative easing, says Andrew Benito of Goldman Sachs, an investment bank.

But can she make the weather, rather than be shaped by it? Whereas Ms Lagarde's role at the fund is broad—she would opine on matters ranging from global inequality to sexual harassment—her new job is narrower, and more technical. Mr Draghi may have been able to make bold policy calls because he understood markets and economics so well.

All this makes the team at the bank more important. But Ms Lagarde joins its six-strong executive board just as it sheds expertise. When she starts in November, the board will have as many lawyers as economists. Like her, Luis de Guindos, the vice-president who joined last year, is a former minister with no prior monetary experience. Benoît Cœuré, the Frenchman in charge of market operations, leaves in December. Philip Lane, the chief economist and a former academic, may find himself deploying a powerful hand on the tiller. ■

Germany

Ghosts of the past

BERLIN

Germany is in shock after a politician who championed refugees is murdered

FOR THE first time since the days of the Weimar Republic a German politician has been murdered by a xenophobic extremist. In June 1922 a group of anti-Semitic right-wingers appalled the German establishment by assassinating Walther Rathenau, the foreign minister, in his car on the streets of Berlin. This year, on June 2nd, Stephan Ernst, a neo-Nazi from Kassel with a history of violence against immigrants, allegedly shot Walter Lübcke, the Kassel district president, in the head outside his house in Wolfhagen, in central Germany. Mr Ernst confessed in detail at the end of June. On July 2nd he is said to have retracted his confession.

The crime has shocked Germany more than any of the 195 murders by right-wing extremists since reunification because the victim was a representative of the state. “Never in our republic's 70 years has democracy been challenged from the right as it is nowadays,” said Armin Laschet, the state premier of North Rhine-Westphalia, who, like Mr Lübcke, is a member of Chancellor Angela Merkel's Christian Democratic Union (CDU) and supports her refugee policies. On Thursday June 27th more than 10,000 people took to the streets of Kassel to march against right-wing violence.

Seventy-four years after Hitler's death, many Germans are haunted by the spectre of resurgent neo-Nazi violence and wonder whether enough is being done to fight it. Thomas Haldenwang, head of the federal office for the protection of the constitution, responsible for Germany's domestic security, admitted that his agency has yet to expunge the threat of right-wing extremism. Frank-Walter Steinmeier, the president, said it was shameful that Germany could not protect Mr Lübcke.

Not enough is done to try to deradicalise neo-Nazis, says Dierk Bostel of Dortmund University, an expert on the extreme right. The police, the federal prosecutor's office and Mr Haldenwang's agency are being urged to work more closely together. More, it is said, must be done to monitor neo-Nazi networks and hate speech on the web. Mr Ernst, an aficionado of online Nazi propaganda, should have been closely watched ever since he nearly killed an immigrant in a train-station toilet in 1992.

Far-right extremism surged during the refugee crisis in 2015 and has not come down. One manifestation is the rising popularity of the Alternative for Germany (AfD), which started as a Eurosceptic protest party in 2013 but has turned into a hard-right outfit akin to Austria's Freedom Party. “The AfD are enablers of right-wing terror,” says Hajo Funke, a specialist in xenophobic extremism at the Free University of Berlin. The party's radical wing has got the upper hand. Even though the AfD talks about expelling extremists such as Björn Höcke or Andreas Kalbitz, its ultranationalist leaders in Thuringia and Brandenburg, it has never actually kicked anyone out.

The AfD's reaction to the Lübcke tragedy seemed to confirm the party's reputation. In Bavaria's parliament, an AfD politician

refused to stand for a minute's silence in Mr Lübcke's honour. Wolfgang Gedeon, an AfD deputy in Baden-Württemberg's state parliament, belittled far-right terrorism as “birdshit” compared with the threat posed by the far left and radical Islamists.

This was too much for Annegret Kramp-Karrenbauer, the CDU party leader, who said any politician hoping that her party might join a coalition government with the AfD in the future “should close their eyes and think of Walter Lübcke”. Her resolve will be tested in the autumn, when Saxony, Brandenburg and Thuringia vote in state elections. Polls show the AfD tied for first place in the first two and being supported by around 20% in Thuringia. ■

Trouble in Georgia

Back in the bear pit

An unwelcome Russian visitor has helped to revive an old antagonism

SEVEN YEARS ago an oligarch's dream came true. Bidzina Ivanishvili, a shadowy Georgian tycoon who made his money in Russia, staged a takeover of his native country. Mikheil Saakashvili, a pro-Western moderniser who had once enjoyed Mr Ivanishvili's support, was forced out of power and from the country. Mr Ivanishvili's winning coalition, known as Georgian Dream, claimed that democracy had prevailed over Mr Saakashvili, who was denounced as authoritarian at home and reckless abroad. Many Georgians breathed a sigh of relief as Mr Ivanishvili demonised his predecessor, whose methods often struck fear into the populace, and promised to normalise relations with Russia, which Mr Saakashvili had infuriated.

Vladimir Putin, Russia's president, seemed pleased. In 2008 he had attacked Georgia to stop it integrating with the West and promised to hang Mr Saakashvili “by the balls” for responding militarily to Russia's provocations. Though Mr Ivanishvili publicly reaffirmed Georgia's Euro-Atlantic aspirations, his actions signalled a tilt back towards Russia. Recently he has tried to undermine a plan to build a deepwater port at Anaklia, on Georgia's Black Sea coast, a strategic project backed by America and the EU. The Kremlin has rewarded him by toning down its propaganda and reopening its market to Georgian produce.

But in the past fortnight the Georgian Dream has turned into a nightmare. Russia's smile has been replaced by its more familiar scowl. This happened after Sergei Gavrilov, a Communist member of Russia's parliament close to the Kremlin and to the ►►



Still with us



► Orthodox Church, paid a visit to Georgia's parliament on June 20th. The sight of Mr Gavrillov pontificating in Russian from the parliamentary speaker's chair was more than many Georgians could bear, seeing that Russia occupies a fifth of the country's land and props up the breakaway regions of Abkhazia and South Ossetia, which it recognises as sovereign states.

Thousands of young Georgians took to the streets. Though their protest was provoked by Mr Gavrillov's visit, it was aimed at their own government, now run from behind the scenes by Mr Ivanishvili, who stepped down as prime minister in 2013 but continues to call the shots and has become chairman of Georgian Dream. Their anger was fed by the rise of anti-liberalism, the lack of an independent judiciary, a surge in crime and a return of corruption and nepotism. Violence broke out, the riot police overreacted, and the government lost its fading legitimacy. Mr Ivanishvili, who portrays himself as a saviour from Mr Saakashvili's tyranny, is now widely despised. The government has had to apologise and offer concessions, such as changing the electoral rules in ways that will make it harder for Georgian Dream to stay in power after next year's election.

Whereas Mr Ivanishvili backed off, Mr Putin, allergic to civil activism in any former Soviet land, hit back. Citing a need to protect Russian tourists in Georgia (though none had been hurt), he has banned direct flights to the country and put an informal embargo on Georgian wine. His propaganda machine spouts nationalist insults and gloats over Georgia's impending loss of business from Russian tourists.

Mr Putin has two other constituencies in mind. One is Russia's own liberals, who see Georgia as a country that has successfully reformed. The other is America, which Russia's foreign minister, Sergei Lavrov, accuses of "geopolitical engineering" in the region. The Kremlin does not deem Georgia truly independent, regarding it as a card in a game for dominance in the Caucasus and around the Black Sea.

Russia's rulers dislike the Anaklia port project, which is close to Abkhazia and only 320km (200 miles) down the Black Sea

IT WAS THE day the temperature reached a French all-time record of 45.9°C (114.6°F). At the station in the sleepy Provençal town of Orange, a high-speed TGV train was being held indefinitely due to forest fires farther down the track, and passengers were wilting in the stifling heat. So the station master mobilised a human chain to shift boxes of bottled water from his store room to the train. The scene captured many of the contradictions France faces, as the land of plastic bottled water tries both to go green and stay cool.

Ever since Emmanuel Macron vowed in 2017 to "make our planet great again", France has sought to take the lead in greenery. The president uses respect for the Paris climate deal of 2015 as a tool of



coast from Mr Putin's residence in Sochi. The port is vital for Georgia's independence as well as for European security. It could open the bottleneck in the land corridor through the Caucasus from China to Europe. It could also harbour American submarines. Earlier this year Mr Lavrov's deputy, Grigory Karasin, issued a menacing ultimatum. "Tbilisi has to decide either to choose an atmosphere of regional welfare or the Euro-Atlantic agenda." If Georgia chose the latter, it could, he warned, be faced with "unpleasant surprises" similar to those faced by Ukraine in 2014, when Russia annexed Crimea and invaded East-

France's weather dilemma

Green on blue

ORANGE

Heat, water and plastic in France

foreign policy. In Brune Poirson he has an energetic junior environment minister who seems to be off every week fishing plastic bags out of the sea or sifting through recycled waste. The government has just banned all disposable plastic in government offices from next January. A French commitment to be carbon-neutral by 2050 is going through parliament.

Yet the country is not quite as green as it would like to think. France's environmental council, set up by Mr Macron, recently declared that the reduction of carbon-dioxide emissions between 2015 and 2018 failed to meet government targets. Mr Macron himself cancelled a rise in the carbon tax on motor fuel after mass *gilets jaunes* protests. Ms Poirson, who implores her fellow citizens to embrace *le recyclage*, concedes that "France is behind in terms of recycling waste." The country recycles plenty of glass bottles and paper, but only 26% of plastic packaging, below the EU average.

Part of the problem is the sheer volume of water consumed. No French supermarket trolley reaches the till without a six-pack of litre bottles, wrapped in yet more plastic film. After the Italians and Germans, the French are Europe's biggest consumers of bottled water. Danone, a French firm, is the world's second-biggest supplier of bottled water, selling a dozen brands.

Under pressure, Danone now promises to make 100% of its packaging reusable, recyclable or compostable by 2025. This would help, as long as consumers carry out *le recyclage*. By the end of the hottest day in French history, rubbish bins on streets and station platforms overflowed with empty plastic bottles—awaiting their probable fate as landfill.

ern Ukraine.

Mr Ivanishvili has tried to reassure Russia over the Anaklia plan by arguing for Chinese involvement in the project and attacking its American-backed Georgian financiers. But this in turn has agitated the Americans. Last month Mike Pompeo, the American secretary of state, told Georgia's prime minister that the port at Anaklia "will enhance Georgia's relationship with free economies and prevent Georgia from falling prey to Russian or Chinese economic influence. These pretended friends do not have Georgia's best interests at heart." Mr Putin may prove him right. ■

Charlemagne | Family trouble

Greece's probable next prime minister will have to take on the establishment from which he hails



TUCKED INTO a fold in the hills an hour north of Thessaloniki, Serres is old Greece: settled, traditionalist, patriotic. The town is a stronghold of the conservative New Democracy (ND) party, whose founder, Konstantinos Karamanlis, was born nearby. So it was a natural place for Kyriakos Mitsotakis, the party's leader and Greece's probable next prime minister, to gin up his base in the final weekend of campaigning ahead of an election on July 7th. In sweltering heat he stood straight-backed and sombre-featured at a ceremony in the old Byzantine cathedral, at a wreath-laying at a statue of Emmanouel Pappas, a leader of the Greek war of independence, and at a parade of soldiers and schoolchildren on the town's main drag. The other dignitaries were a roll-call of conservative Greece: army generals, police officers, priests, municipal administrators and traditional military brigades.

Mr Mitsotakis is loved here. Applause followed him around Serres and he was mobbed with requests for selfies. One man ran out of a café to grasp his hand: "My prime minister!" Here, close to Greece's northern borders, he is particularly popular for attempting to block a deal, agreed to by Alexis Tsipras, Greece's leftist prime minister, whereby the Former Yugoslav Republic of Macedonia was renamed "Northern Macedonia" to settle a long-running dispute. The change, argued Mr Mitsotakis and his supporters, undermines the identity and integrity of the Greek region of Macedonia; the deal, however, has now gone through. At the wreath-laying the crowd burst into a spontaneous rendition of "Famous Macedonia", a military song associated with Greek claims to the name.

This was Charlemagne's second outing with the ND leader. The first, a rally at the Zappeion palace in Athens in May, was a who's who of the Greek establishment, from industrialists to media stars and leading figures from previous Greek governments of the right. Both events epitomised Mr Mitsotakis's deep roots in that world. He comes from a doughty political dynasty. His father was prime minister in the 1990s. He is one of them. He is family.

Unfortunately, the old Greek establishment has not led the country well. ND governed from 2004 to 2009, ahead of Greece's crisis and again, around its peak, from 2012 to 2015. The party was long tangled in the web of cronyism, corruption and vested inter-

ests (ranging from oligarchs to the coddled armed forces) that left Greece uncompetitive, administratively dysfunctional and, ultimately, bankrupt. Since his earthquake re-election win in 2015, Mr Tsipras has proved a far more flexible figure than expected, reforming Greece's labour market and its pensions system and helping the country return to normal after the crisis. But much remains to be done. Debt is 181% of GDP. Red tape still stifles the private sector. The banking system needs an overhaul. Greek-Turkish tensions are rising again and nationalists on both sides are spoiling for confrontation.

Is Mr Mitsotakis up to the task? Greece's recovery belies its vulnerability to an economic downturn and a new European debt crisis; perhaps one caused by Italy's fiscal theatrics. Set against that backdrop, a return to the indulgence and patronage of the pre-Tsipras era would be calamitous.

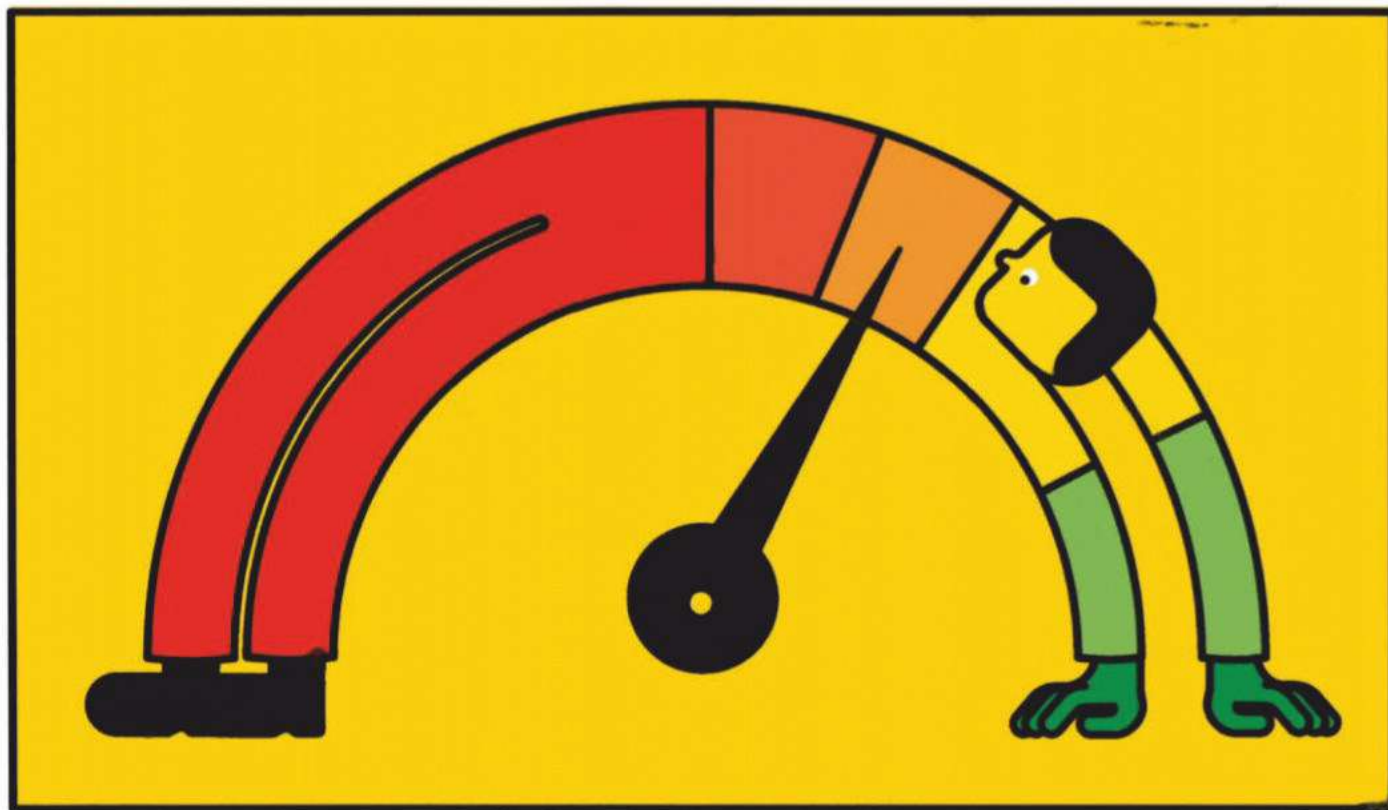
His background is the case for the prosecution. The case for the defence comes in his personal style and agenda. Despite his pedigree, Mr Mitsotakis was an outsider when he ran for his party's leadership in 2015. He won it not with the backing of its grandees but by touring small-town Greece and encouraging non-members to pay €2 (\$2.25) to vote in the open primary. He eschews the pompous style of past leaders: in place of mega-rallies and podium speeches he prefers walkabouts and gatherings in cafés. In Kilkis, near Serres, he wanders around talking to voters ("They are ruining me with taxes!" one farmer complains) before explaining his programme to a crowd of shoppers in the town square. He styles his promises as modest and achievable.

In the car ride back to Thessaloniki, Mr Mitsotakis acknowledges in almost accentless English that he is the embodiment of the Greek establishment. But he insists that the image is inaccurate. "I worked for years abroad," he says of his consultancy career in London, and argues that as a minister in the last ND government he cut spending in sensitive areas and was an internal critic of the slow pace of reform. "Under me, ND has attracted different sorts of voters, including younger ones," he adds. He plans to move fast as prime minister to harness the momentum of an election win: with tax cuts by the start of 2020 and a drive to digitise Greece's public sector on Estonian lines. Streamlining judicial procedures, cutting bureaucracy and performance appraisals for civil servants are also on the cards, all in the hope of attracting new investment and pushing the slowing growth rate from under 2% to above 3%.

Smash a few plates

His success or otherwise will depend on his willingness to take on parts of the old Greece and its vested interests; to take on, in other words, elements of his own political family. He declined to do so in the battle over the Macedonian name change. Likewise, he has opposed extending adoption rights to gay couples or recognising gay marriage. His backers claim this was necessary to prevent support from drifting to the far-right. Such excuses are self-serving and in any case no grounds for coddling ND's base as prime minister. Mr Mitsotakis may well win a majority this weekend. His party already controls 12 of Greece's 13 regional governments. He will have lots of political capital, and he should use it.

Family fights can be an ugly business. The Greek god Cronus castrated his own father and, fearing a similar fate would befall him, gobbled up five of his own children before vomiting them back out. But at times they are also necessary. Mr Mitsotakis will need to pick some if he is to move Greece forward. Whether he has the courage to persist still remains to be seen. ■



Lending and data

Numbers game

TBILISI

Credit scores can transform an economy. But they are only as robust as the data underlying them

EVERY WEEKDAY Lika Koplatadze, who sells consumer loans for TBC Bank, one of Georgia's largest, calls between 170 and 250 of her compatriots. She does not choose her targets. An algorithm crunches the credit scores (a number between 0 and 400 indicating the likelihood of repaying a loan) of millions of Georgians, selects the best prospects and auto-dials them.

Something like this has been happening in rich countries for decades, but in Georgia it is a recent development. In 2005 a handful of Georgian banks joined with Creditinfo, an Icelandic group, to set up the country's first credit bureau. Within two years the bureau had records on 232,000 people. Now it covers 2.6m Georgians, in a country with about 3m adults.

The impact has been profound. Loan officers used to make around ten decisions a day, says Vasil Verulashvili, who runs credit-risk management for Bank of Georgia, the country's largest bank by assets. In the past if someone applied for a mortgage, "you have to check, is it the real purpose of the loan? You have to go to the flat: is it real

or not?" he says. "Today we need less than one second to make ten decisions." The value of loans has jumped from under 10% of GDP in 2004 to 56% in 2016. Average interest rates declined from 20.2% to 12.6%. "Everything starts from this," says Mr Verulashvili, referring to the growth of Georgia's credit records.

Hey, big lender

Georgia is following a well-trodden path, albeit at an accelerated pace. About half the world's economies have private-credit bureaus, of varying degrees of sophistication. Their rise not only greased the wheels of economic development but also presaged the arrival of the data-driven, algorithm-mediated economy of the 21st century. Now entrepreneurial companies are taking that blend of finance and technology to the developing world, drawing on new types of digital data to make credit decisions. As with many data-driven businesses, the companies are also inserting themselves into the most intimate spaces inhabited by their customers.

Well into the 20th century, systematic data on potential borrowers barely existed. The early American credit bureaus were local operations that scoured newspapers for information: notices of arrests, marriages, promotions and more. They included all sorts of dubious stuff, including information about people's marital troubles, sex lives and political activities. Little science was involved.

That began to change in 1956, when William Fair and Earl Isaac hit upon the idea of using data to predict the probability that a borrower would default. "Good" loans, it turned out, were correlated with telephone-ownership, longer time at the same address, longer employment in the same job and the applicant's age. They set up a consultancy, Fair, Isaac and Company, whose product was a literal scorecard, made of cardboard, provided to banking and retail customers. Loan officers filled them in with applicants' information and totted up the results to see if they exceeded an acceptable level of risk.

The spread of the company's scorecards attracted regulators' attention. So did the growth of credit bureaus such as Retail Credit Company (now Equifax), which held records on millions of Americans and cheerfully shared them with any buyer. Amid a debate that presaged today's fights over data privacy, Congress held hearings into the matter.

This culminated, in 1970, in the passage of the Fair Credit Reporting Act (FCRA), ►►

which required credit bureaus to report information only to those with a legitimate purpose, obliged them to ensure accuracy, and gave consumers the right to see and correct their files. The Equal Credit Opportunity Act (ECOA) of 1974 made it unlawful for lenders to discriminate on the basis of sex or marital status. In 1976 it was amended to outlaw the consideration of race, religion and several other characteristics.

Although the FCRA restricted the activities of the credit bureaus, regulation turbocharged Fair Isaac's business. Credit-scoring provided an apparently scientific as well as non-discriminatory system for determining who should borrow, and the need to comply with the ECOA transformed it from a luxury for lenders to another line item in the cost of doing business.

The biggest revolution in credit-scoring came 15 years later. Working with Equifax, Experian and TransUnion, three credit bureaus that had come to dominate the market, in 1989 Fair Isaac unveiled the first consumer-credit score: a number between 300 and 850, where higher scores indicate a better credit rating. Known as the FICO (for Fair Isaac Corporation) score, it rapidly became the standard for American lenders.

Whereas FICO had previously created custom algorithms for lenders by mapping their past customers' attributes onto future ones, its new score used the troves of data held by the three bureaus to assign a three-digit number to every individual in the system. A FICO score considers five core bits of financial information, assigning each a different weight. The exact formula is a secret, but broadly it is made up of payment history (35%), the total already owed (30%), length of credit history (15%) and two scores for the mix of credit: cards, shop accounts and mortgages (10%), and applications for new credit (10%). The resulting number plays a big role in whether someone is offered credit, and at what rate. FICO scores are now used in 90% of consumer-lending decisions in America.

Credit scoring is spreading fast through developing countries. In just a few years China's Ant Financial, an affiliate of Alibaba Group, has built up an extensive scoring system, called Zhima Credit (or Sesame Credit), covering 325m people. The benefits of a good score go beyond borrowing, in part because it is embedded within Alipay, Alibaba's payment app: they include easier visa applications, lower rental deposits and even better placement on dating sites. Yet it is best thought of as a rewards scheme for Alipay users, in that the best way to get a good rating appears to be to use Alipay a lot. The Chinese government is now in the process of building, through its national bank, a system to extend financial credit scores to all its citizens—one aspect of a broader "social credit" system.

But in smaller, poorer countries with

Happy as lari

Number of borrowers from commercial banks
Per 1,000 adults



little financial infrastructure, credit-scorers have limited data to work with. They can look at payment records for services that are provided first and paid for later, such as utilities, cable-television or internet. Such proven payment data, says Michael Turner of PERC, an American think-tank focused on financial inclusion, are a good guide to risk in the absence of a credit history. FICO uses some of these data in a specialised score aimed at American "consumers that were previously unscorable based on their traditional credit data alone". Creditinfo is working on including these sources in west Africa.

But poor people are more likely to use pay-as-you-go phone services, especially outside the West. And utilities are registered to households, not individuals (when they are registered at all). So a new breed of company has spied an opportunity. Tala, a California-based startup that operates in India, Mexico, the Philippines and east Africa, says it uses over 10,000 data points gleaned from a customer's smartphone to determine whether to grant a loan. It has lent more than \$500m since 2014.

Though it operates only outside Ameri-



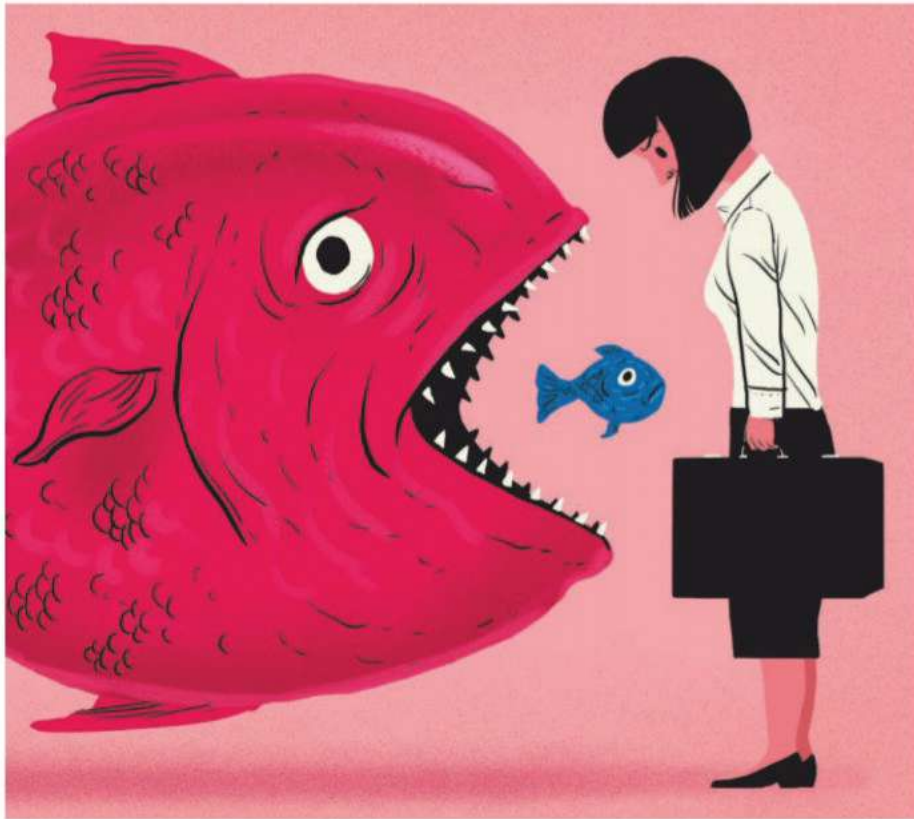
ca, Tala does not take into account many of the attributes—such as race, gender, religion—prohibited there and publishes a "data ethics" statement. Yet the data it does consider would set a Western data-protection regulator's blood pressure soaring. Good borrowers include those who put both first and last names in their contacts, those whose travel and location follow predictable patterns, and those who communicate regularly with a few contacts.

Someone who uses taxi apps is a lower risk, says Paul Randall of Creditinfo, which also operates in several poor markets, because it suggests they have a smartphone with a payment method that they use regularly, rather than one set up for the purposes of applying for a loan. People with betting apps are higher-risk. People with friends who have bad debts may be bad borrowers themselves.

Psychometrics, or psychological quizzes that measure character, consistency and commitment, are commonly used, too. Such methods have benefits, but also come with risks. Though a useful supplement, psychometrics are no substitute for traditional scoring methods and financial data, says Mr Turner. And too much data can be as bad as too few. He cites the cases of antipodean partners who used 26 variables for their generic scorecard. "In the United States if you have over ten you're either laughed out of the risk group or fired... With 26 you can't distinguish the signal from the noise," he says.

Miguel Llenas, who helped set up a credit bureau in the Dominican Republic starting in 1999, says his country has long used "all kinds of information": electricity bills, water, mobile, judicial information, criminal records. But he draws the line at mining social-media accounts for signals, which some startups promote as a new source of data. A picture of you playing poker years ago reveals little, he argues, adding, "I am worried about these things because I value privacy."

In some ways the rush of startups claiming to be able to determine an individual's creditworthiness from non-financial data resembles the situation in 1950s America, when divorces and promotions were routinely considered. Yet the difference between robust credit-scoring in the rich world and the novel methods now used in emerging markets is likely to be temporary. Exotic correlations are a passable proxy for creditworthiness, but they are no match for the predictive power of actual financial records. Today a farmer in the Philippines may have to share his internet browsing history for a tiny loan. In just a few years he, like his Georgian counterparts, could have the good fortune to be harassed by cold calls from a bank that knows little more about his habits than that he regularly pays off his debts. ■



→ Also in this section

- 51 Bartleby: Microsoft's cultural change
- 52 A respite for Huawei
- 52 Startup stakes
- 53 Obituary: Lee Iacocca
- 54 Saudi Aramco's IPO—part 2
- 54 Books prices in France
- 55 Schumpeter: Ben van Beurden's balancing act

Mergers and acquisitions in America

Breaking the wave

American firms still love doing colossal takeovers. But investors are getting queasy and antitrust police are waiting in the wings

NO ONE ON Wall Street puts it quite like Carl Icahn. "There are far too many boards", the veteran activist investor opined on June 24th, that "believe...that stockholders are the peasants who represent a necessary evil that must be tolerated, possibly patronised, but certainly ignored." Mr Icahn's target was Occidental, an oil firm whose directors are pursuing an unpopular \$55bn takeover of Anadarko, a rival. But his outburst reflects a broader change in mood on mergers and acquisitions (M&A). Dealmaking always reflects a power struggle between empire-building executives and bankers, and more cautious investors and regulators. After years of waving through deals, shareholders and trustbusters are now getting testier again.

Since 2000 a big trend in American business has been domestic consolidation. Firms have sought to grow at home in order to reap economies of scale and to dampen competition. Some industries, for example telecoms and airlines, have become far more concentrated. The result has been higher corporate profits, which is why in-

vestors have cheered the dealmaking on. A long-standing rule of thumb is that takeovers usually destroy value for the acquiring company, which overpays. But over the past decade that has not held true in North America. Since 2008 the share prices of acquirers have outperformed the stockmarket by a median of 1.1% in the quarter when

The tide turns

North America, acquirer returns* to M&A
Percentage points



Sources: Willis Towers Watson; Cass Business School

*Share-price performance during quarter in which deal announced, relative to MSCI regional index

the deal was announced, according to Willis Towers Watson, a financial firm.

At first glance it has been business as usual this year. About \$1.8trn of deals have been announced globally and 53% of them by value have been in North America, according to Mergermarket, an analysis firm. Rather than expanding abroad in an unstable geopolitical environment, American firms have focused on growing at home. Consider some of the biggest deals. United Technologies' (UTC) \$90bn merger with Raytheon will create a new defence giant. AbbVie is spending \$84bn on Allergan, another big drugs firm. Occidental's purchase of Anadarko will create an energy behemoth. And by buying Caesars, Eldorado Resorts will become a huge player in Las Vegas. Together these firms generate 71% of their revenues within America's borders.

Rather than cheering activity on, however, investors are in revolt. As Tara Lachapelle, a commentator at Bloomberg, put it, deals are being "panned instantly". On the two days after their acquisitions were announced, UTC's shares fell by 7%, AbbVie's by 13%, Occidental's by 9% and Eldorado's by 14%. This fits a broader pattern of underperformance. Over the past 12 months North American buyers have had a median share-price drop of 4.2 percentage points relative to the stockmarket, Willis Towers Watson reckons.

What has changed? Part of the explanation is that the fashion among investors has shifted away from giant but stodgy ►►

► firms intent on raising their margins through cost-cutting, towards smaller, loss-making ones with fast revenue growth—hence the current boom in initial public offerings by tech firms. Some big deals have already soured: AT&T's share price has dropped by 12% since it announced the takeover of Time Warner in 2016. There is also a sense that after years of consolidation the deals that are left may be scraping the bottom of the barrel. Occidental is paying top dollar for Anadarko after winning a bidding war with Chevron. AbbVie and Allergan are both mature compa-

nies with poor drug pipelines. Eldorado is taking on more debt to buy Caesars.

As the economics of mega-deals have got worse, shareholders have got more unhappy. UTC faces attack from two activist investors: Daniel Loeb, who called the deal “baffling”, and William Ackman, who says it “makes no sense”. Some firms seem to have structured their deals to avoid having to get shareholder approval, which is normally required when new shares issued exceed 20% of the number outstanding. AbbVie is issuing 19.2% of its shares to buy Allergan. Occidental issued \$10bn of pref-

erence stock to Warren Buffett in order to avoid having to issue so much common stock that it would need to have a shareholder vote. Even so, activist investors can find other ways to cause problems. Mr Icahn has said that he will launch a proxy fight to oust four of Occidental's directors in order to block the takeover. On July 2nd Occidental urged its shareholders to spurn Mr Icahn's advances.

If investors are one impediment to big deals, antitrust regulators are the other. Over the past two decades they have been a walkover, but there are signs this is chang- ►►

Bartleby Send in the clouds

Microsoft's transformation required a change of culture

LIKE AN NFL changing room, the technology industry is littered with the bodies of fallen champions, from AOL to Yahoo to Blackberry, in urgent need of rehabilitation. Ten years ago many might have expected Microsoft to end up in the same state. But the software giant has made a startling comeback, frequently vying for the title of the most valuable company on global stockmarkets, with a market capitalisation above \$1trn.

The story of this revival is the subject of a new case study by Herminia Ibarra and Adam Jones of London Business School (LBS). In large part the success has resulted from a shift away from a focus on the Windows operating system and towards Azure, Microsoft's cloud-based services offering. It involved a willingness to let programs run on Apple and Android smartphones, something the company had previously avoided.

However, the turnaround also required a change to the company's culture and that is the main subject of the LBS study. The shift to cloud-based services meant that revenues would be generated in a different way. Under the old system, clients bought software under a fixed-term contract; once the sale was made, the revenue was guaranteed. Cloud services are paid for on a metered basis; revenue comes in only when customers use them. That required a new approach by the company's sales team, led by Jean-Philippe Courtois.

The shift was enormous. Around 40,000 people had to change how they did their jobs. Three elements were important. First, staff had to understand how customers were using cloud-based services, so that they could be encouraged to use them more. This required 5,000 specialist hires.

Second, to permit existing sales staff

to concentrate on attracting and retaining customers, they had to be relieved of some duties, such as preparing sales forecasts. Internal review meetings were reduced, including an intimidating ordeal known as the mid-year review in which senior executives grilled employees—and for which workers spent lots of time cramming like students for a test.

Lastly, salespeople needed an incentive to put in the work to flog the new products, which were potentially less lucrative for them than the old fixed-term contracts. This involved a greater use of performance bonuses.

Technology chivvied the process along. A new tool helped workers analyse how much time they spent in meetings or writing emails and whether they were interacting with fellow employees or with clients. It also allowed the usefulness of meetings to be gauged. If staff were fiddling with their smartphones, they were not listening to their colleagues. (The test could be usefully applied at a lot more places than Microsoft.)

Managers have had to change, too.



Microsoft is introducing a programme called “Reimagine Managers” which aims to foster an approach of coaching and caring for the staff. Technology has made some routine management tasks (like organising rotas) easier, leaving more time for talking to employees.

Changing a corporate culture is an enormous task, and Mr Courtois admits that it is a work in progress. Microsoft, he says, has shifted from a “fixed mindset” to a “growth mindset”.

But what is interesting about the Microsoft case study (which is mostly free of such management jargon) is that it highlights the practical changes needed to transform a company. Microsoft could have been a classic victim of “creative disruption”, so dependent on an existing technology (personal computers) that it failed to manage the shift to a world dominated by mobile devices. But the shift has only been successful (so far) because it has involved not just strategic insight, but a change in approach across the workforce.

Microsoft can still trip up. Tech companies are like the Red Queen in Lewis Carroll's “Through the Looking Glass”—constantly running to stay in the same place. IBM successfully shifted from hardware to services in the 1990s, but has struggled to get its revenues to grow or to lift its share price in recent years.

In the long run Microsoft's fortunes may depend on whether acquisitions like LinkedIn, a career site, or GitHub, a software-development startup, prove to be wiser than its failed bet on Nokia's mobile-phone business earlier in the decade. But Microsoft has already shown that, even in a big organisation, culture change is possible.

ing. The merger of Sprint and T-Mobile, two mobile-network operators, still awaits approval after a long delay. Even if the Department of Justice gives it the green light, a coalition of state attorneys-general has pledged to fight the deal, which they say will reduce choice for consumers.

The mood has also shifted against big tech firms. An emerging consensus among antitrust types is that these should be blocked from scooping up smaller firms because of the worry that it would eliminate potential rivals. Past deals that sailed through, such as Facebook's \$18bn takeover of WhatsApp in 2014, or Microsoft's \$24bn purchase of LinkedIn in 2016, would probably face a rougher ride from the antitrust police now. A de facto ban on tech firms doing big takeovers could depress deal activity for years, given that they are now the biggest firms in America by market value and are blessed with cash-rich balance-sheets.

Mergers and acquisitions have come in waves ever since the first frenzy of consolidation in the late 19th century. The past two decades have seen one of the greatest waves ever as executives have sought to build corporate giants with market power over consumers, applauded by investors and enabled by trustbusters. The dealmaking in 2019 suggests that this long swell is finally subsiding. ■

Technology and geopolitics

Huawei OK to sell?

BEIJING

Donald Trump eases off Huawei as firms discover holes in his export ban

ON JUNE 29TH, as world leaders were leaving the G20 summit in Japan, President Donald Trump announced that American companies could once again start selling equipment to Huawei, China's beleaguered tech giant. Fresh from a meeting with China's leader, Xi Jinping, Mr Trump said that sales could proceed as long as they did not pose a "great, national emergency problem".

Mr Trump's word is not law, but Huawei will welcome the indication of respite. It has had a rough six weeks since the Trump administration placed limits on the export of American technology to the firm, undermining its business and creating turmoil across the tech world.

At first Huawei put on a tough act, insisting that it could handle curtailed supply of American technology. But after a month its chief executive, Ren Zhengfei, admitted that its 2019 revenues would in fact be about \$30bn lower as a result of the export ban—a 30% drop since 2018. Huawei



Its bosses can rest easier

has labelled Mr Trump's announcement a U-turn. Republicans in America's Congress, who view Huawei as a national-security threat, called it a catastrophe.

Things are not so black and white. Before Mr Trump's announcement and the accompanying flurry of headlines, American chip companies had already restarted at least some of their sales to Huawei. They did so quietly. Two reports, one from Bloomberg and the other in the *New York Times*, cited anonymous sources saying that Intel and Micron, two large American chipmakers, had begun to supply Huawei again in June.

It has taken lawyers at such companies a few weeks to get to grips with the details of the American law that now applies to their sales to Huawei, the Export Administration Regulations (EAR), and to realise that they can keep supplying the firm in some circumstances. The days after the ban was announced were chaotic, as tech-company lawyers scrambled to understand an area of law that did not normally apply to their operations. Many firms shut down shipments to Huawei en masse, without waiting for their legal teams to come back with a detailed opinion.

That complete cessation of supply now appears to have been a precautionary over-reaction. Under the EAR, firms may continue to sell products to Huawei as long as they are not made in the United States, and as long as those products do not contain American components whose value makes up more than 25% of their value.

Notwithstanding this leakiness in the export ban, Mr Trump's G20 concession is a sign that America's commitment to containing Huawei is not ironclad. Dan Wang of Gavekal Dragonomics, a Hong Kong-based research firm, says that many Japanese, South Korean and Taiwanese tech firms had been wavering on whether to

supply Huawei. "They will take Trump's statement as a signal that they should support the company," he says.

The survival of Huawei, in its current form at least, has looked shaky in recent weeks. America's president appears to have thrown the company a lifeline. As with all Trumpian pronouncements, it may yet prove illusory. ■

Startup stakes

Whose unicorn is this?

Ask an equity manager

SOME HOT startups in Silicon Valley, including some "unicorns" worth \$1bn or more, have a problem: they are not sure who owns them. As fast-talking founders pitch to deep-pocketed investors, junior staff back at the co-working space maintain simple spreadsheets with investors' names and the number and type of shares they hold. They often get things wrong. This may lead to disputes when a company lists, is acquired—or goes bust.

Enter "equity managers", which offer to help keep track of stakes. Carta, a seven-year-old pioneer of the industry, hosts data for 11,000 companies. Ledger, a Swiss rival founded in 2017, caters to around 300. In Britain Capdesk's 400-odd clients include Nutmeg, a hit fintech startup.

Capitalisation tables, as the spreadsheets of shareholdings are known, were fine in the early 2000s. Back then firms had few investors, few funding rounds and plenty of enthusiasm to go public, says Ilya Strebulaev of Stanford University's busi- ▶▶

ness school. In a study of 135 American unicorns, Mr Strebulaev found that the average unicorn raised money seven times, often issuing different share classes each time. These promise different shareholders different things in terms of who gets what returns when.

Misunderstandings between investors, who believed they were guaranteed a certain return, and founders, who remembered things differently, occur more regularly than either group cares to admit. Employees are promised shares that may not exist. Founders forget that when their firms issue convertible debt it may one day need to be converted to equity.

Add in errors, which can be introduced into spreadsheets through forgetfulness or fat fingers, and you have a recipe for lawsuits. Mr Strebulaev, who has served as an expert witness in startup litigation, has

seen many mistakes over the years. In 2014 shareholders in TIBCO, a software firm, were shortchanged by around \$100m on its sale to Vista Equity Partners, a private-equity firm, after some shares were accidentally miscounted. Two years or so later TIBCO, Vista and Goldman Sachs—the deal’s advisory bank—agreed to pay some \$30m to settle with the investors.

In the wake of such snafus ever more investors encourage startups to employ equity managers. This in turn is attracting investments into firms offering such services. Ledgy has received backing from European venture capitalists. In May Carta secured \$300m in a funding round led by Andreessen Horowitz, a storied venture-capital firm. This values the company at \$1.7bn, itself in unicorn territory. Every cent of that is no doubt properly attributed to all of Carta’s 650 or so shareholders. ■

yond—his autobiography, published in 1984, sold 6.5m copies worldwide—may have come through his turnaround of Chrysler, which he joined as boss in 1980, but it would not have been possible without his remarkable ability throughout his career to sell himself as much as he sold cars. The son of a hot-dog vendor from Italy, he joined Ford in 1946 and grappled his way to the top using a flair for marketing ruses and a recognition that flogging Fords relied on flashy design, as much as the reliability and safety that the firm believed were its main assets.

He made his name at Ford when he was in charge of the Mustang, unveiled in 1964. Sports-car looks coupled with a relatively modest price tag, backed up by a clever promotional campaign, made the “pony car” an instant bestseller and an enduring classic. It also helped to propel Mr Iacocca to the top job at Ford in 1970. But the salesman’s pushiness and a bluntness that bordered on insubordination were distasteful to the patrician Henry Ford II, chairman and grandson of the firm’s founder. “Sometimes you just don’t like somebody,” he gave as his reason for firing Mr Iacocca, despite a successful eight-year stint at the firm’s helm.

Mr Iacocca skipped across Detroit to revive a dying Chrysler. Once there he used his powers of persuasion and an ad campaign that asked “Would America be better off without Chrysler?” to wrest a \$1.5bn loan guarantee from the government to ensure the firm’s survival. Savage cost-cutting and a nose for the next big thing, in this case smaller cars and minivans, fore-runners of the craze for suvs, returned Chrysler to bumper profits.

Mr Iacocca’s newfound taste for lobbying the government and the American public’s shifting taste towards smaller, better-equipped and fuel-efficient vehicles together laid the ground for the downsizing of Detroit. The import restrictions on foreign cars that Mr Iacocca argued for ended up encouraging Japanese and later European carmakers to set up shop in America and win a bigger share of its domestic market. By the early 1990s Chrysler was losing money again. No amount of ads featuring Mr Iacocca badmouthing foreign brands could burnish the firm’s ageing line-up. In 1992 he was shown the door.

His involvement in an attempted hostile takeover of his former firm by Kirk Kerckorian, a corporate raider, thrust him briefly back into the limelight in 1995. But his salesman’s touch was deserting him and the bid failed. Aside from cars and cigars Mr Iacocca flirted with politics. He considered running in the presidential election in 1988, but eventually got cold feet, perhaps concluding that America wasn’t ready for a businessman in the Oval Office, no matter how hard he sold the idea. ■

Obituary: Lee Iacocca

King of Detroit

America’s car salesman-in-chief died on July 2nd

THE WORLD’S carmakers can be roughly divided by specialisation. Europe’s are regarded as the best at sophisticated engineering. Japan’s are the masters of mass-production techniques. What American car firms do best is marketing their products. That reputation was acquired largely thanks to the efforts of an American business legend, Lee Iacocca, who died on July 2nd at the age of 94.

Brash, tireless and in the seclusion of the boardroom wreathed in a cloud of cigar

smoke and profanities, Mr Iacocca presented a public image when boss of Chrysler as the patriotic car guy urging his countrymen to buy American. His rescue of the perennial weakling among Detroit’s “Big Three” from the brink of bankruptcy, and his regular appearance in the firm’s television adverts—once challenging customers that “if you can find a better car, buy it”—made him a celebrity boss long before such an idea became commonplace.

Public recognition in America and be-



Lee on a sales drive

Saudi Aramco's IPO

Back on the horizon

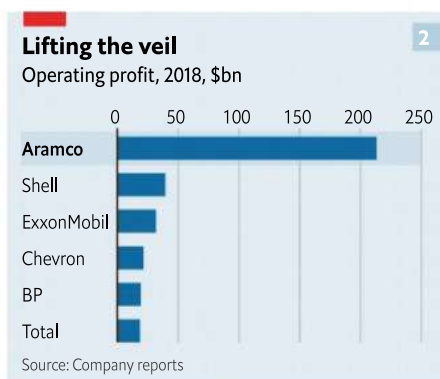
Investment bankers are buzzing with excitement again

BETWEEN THE end of Ramadan in early June and the start of the scorching summer holidays, a window for dealmaking has opened in Saudi Arabia. Swarming through it are some big-hitting investment bankers. They are hoping for a second chance to play a role in a potentially historic initial public offering (IPO): that of Saudi Aramco, the world's biggest oil company.

So far, the Aramco IPO has been more mirage than money-spinner. Muhammad bin Salman, the crown prince, announced it with fanfare (and scant forethought) in 2016, hoping for a \$2trn valuation that would dwarf any other public company on the planet. Last year the process ran into the ground, amid differences between Prince Muhammad, Aramco and its legal advisers about whether the main listing should be in New York, London or elsewhere, and whether the \$2trn was remotely achievable. The killing of Jamal Khashoggi, a Saudi journalist, in the kingdom's consulate in Istanbul in October cast an even darker cloud over its prospects.

Yet recently three things have changed the mood, and momentum to list Aramco as early as next year is picking up, say advisers. The first is Aramco's so far successful \$70bn acquisition of 70% of Sabic, the kingdom's biggest petrochemical company. This needs to be approved by global antitrust regulators before a listing can take place, but that is considered a fairly safe bet. The acquisition is set to make Aramco the world's biggest downstream producer of refined products and chemicals, as well as the biggest upstream firm.

Second, Aramco's first international



bond offering in April attracted orders of \$100bn for a \$12bn issue, a staggering vote of confidence despite Khashoggi's murder. Yields trade roughly in tandem with international oil majors (see chart 1), auguring well for further exposure to the capital markets. The offering was accompanied by Aramco's first disclosures of drilling costs and profits that put the company in a league of its own (see chart 2). The experi-

ence is said to have reassured sceptics in the kingdom that it is safe to open the crown jewel to outsiders.

Third, Aramco is building on that openness by promising to hold its first earnings call in August. This could be good preparation for the interaction with investors that would be required of a listed company.

High hurdles remain. Aramco's lawyers are against listing it in New York for fear district attorneys will hound it over allegations that the kingdom provided support to the perpetrators of the September 11th 2001 terrorist attacks. Though the London Stock Exchange has courted Aramco assiduously, the City is becoming more ambivalent about oil and gas investments for environmental reasons. Saudi Arabia's Tadawul exchange is too small to handle potential stock trades of trillions of dollars. Ultimately the whereabouts of the listing may be a geopolitical call. If President Donald Trump cajoles Prince Muhammad into listing in New York, he may oblige. But the valuation remains in the lap of the gods. ■

Publishing in France

Book value

PARIS

New ways of selling books clash with old ways of protecting bookshops

A BOOK IS so much more than mere ink and paper. So insist French booksellers, who for nearly four decades have successfully lobbied to keep the forces of the free market at bay. A law passed in 1981 bans the sale of any book at anything other than the price decreed by its publisher. Authorities are cracking down on those trying to flog the latest Thomas Piketty or J.K. Rowling at a discount.

The fixed-price rule is meant to keep customers loyal to their local bookshop and out of the clutches of supermarkets and *hypercapitaliste* American corporations. But the advent of e-commerce and e-readers has prompted questions worthy of their own tomes. Can you fix the price of a book if it is part of an all-you-can-read subscription service? Are audiobooks books at all? And what of authors who self-publish?

Tweaks have been made to preserve the principle of one book, one price. In 2011 the rule began to apply to digital tomes. Free delivery by online sellers was prohibited on the grounds it implied a subsidy on the delivered books (prompting websites to charge all of €0.01 for postage). But a new challenge to the policy is proving thornier.

Used books are exempt from the pricing rule. Third-party sellers on Amazon are accused of using this as a way to apply forbidden discounts: selling

brand-new books as "second-hand" to make them cheaper. So fans of bleak fiction can purchase a copy of the latest Michel Houellebecq novel, "Sérotonine", for €11.71 (\$13.21) on Amazon, roughly half its mandated price. Its seller claims it is in "perfectly new" condition.

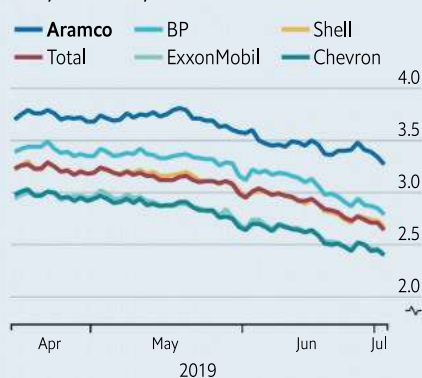
Amazon claims its practices are legal. But booksellers are fuming, and their political allies with them. "This is a major preoccupation," complained Franck Riester, the culture minister, at a booksellers' shindig this week. He says new legislation may be needed.

Defenders of the fixed-price principle (which has spread to other parts of Europe) say it helps keep independent bookshops viable. Over 100,000 new and reissued titles were released in France last year, in part because bookshops make a decent margin on bestsellers and can take a punt on edgier fare.

Others are not so sure. Even with a plethora of subsidies, bookshops are among the least profitable retail businesses. Books are expensive in France—an odd way to encourage people to buy more. For now, constraining the market in the name of *l'exception culturelle* remains an article of faith for French policymakers. "On the internet you find what you look for," Mr Riester told his literary allies. "But only in a bookshop do you find what you were not looking for."

Credit to the kingdom

Ten-year* bond yields, %



Schumpeter | Ben van Beurden's balancing act

Royal Dutch Shell's boss serves up some hard truths on oil and climate change



WHEN BEN VAN BEURDEN was a boy in the Netherlands, one of his chores was to fill the coal scuttle. It was a hateful task—especially in the cold weather when he had to traipse out to a shed in the back garden. “I can still feel the wet, freezing cold creeping up my legs,” he told a Dutch audience last year. He hated the coal furnace because he had to wash himself next to it. He hated the washcloth because it did not stay hot for long enough. But it gave him a cold, hard lesson in the importance of energy.

Mr van Beurden, boss of Royal Dutch Shell, the world's second-biggest publicly traded oil company, is not the first well-paid executive to dwell on the hardships of his youth. But his story is poignant because of what came next. In the 1960s the vast Groningen field in the Netherlands brought natural gas to the country for the first time. The coal scuttle and cold washcloth gave way to a hot shower—and progress for his whole family.

In these days of worry about global warming, another energy transition is under way: from fossil fuels to clean energy. Of all the oil majors, Shell's attempts to navigate it under Mr van Beurden are the most intriguing. In 2016 it splurged \$52bn on BG Group, becoming the biggest listed gas producer. The importance of oil in its business has diminished; measured in years of production, its reserves are lower than those of its Western peers—ExxonMobil, BP, Total, and Chevron. Shell is bolder than its rivals in forecasting huge global demand for clean power over the next 30 years. And it is the only firm to link its executive's pay to progress in reducing emissions across its operations, including sales of products such as petrol—the source of most of the industry's emissions.

In other words, for all the cynicism that oil firms are “green-washing” their way through the energy transition, Shell's efforts should be taken seriously. But how seriously? Despite the urgency to tackle climate change, Mr van Beurden has no intention of going all in on a post-carbon future, and warns against Shell sticking its neck out too far. To explain why, he sets out a few hard truths.

The first is about business itself. Shell may justifiably fear being on the wrong side of history when it comes to climate change. But it needs shareholders' support to move in the right direction. Though some investors put global warming as their highest priority, most still relish the juicy 10%-plus returns that Shell generates

on capital employed in big, risky projects such as oil wells and refineries. They are wary of cleaner-energy ventures such as electricity, where Shell has taken its first steps; returns are steadier, but puny (say 4%). New-energy businesses such as hydrogen and bio-fuels are seen as financial black holes. So Shell has to coax investors along with a mix of hard cash and prudent investments.

The cash comes from Shell's legacy businesses, upstream oil and gas, and downstream chemicals and oil products. Last month it laid out a plan to return \$125bn—a whopping half of its current market value—to investors, through dividends and share buy-backs from 2021 to 2025. Some analysts worry that it might be planning to drain its hydrocarbon reserves to keep the cash machine running. Shell insists that is not the case; it has sought to reassure critics by earmarking most of its \$30bn annual capital-expenditure budget over the five-year period for fossil-fuel related projects. As for the prudence, it will only ramp up spending on its nascent power business if it can show that returns come close to those of oil and gas. Investors wanting more ambitious climate strategies can put their cash into clean-tech companies instead.

The next tough subject is the market for energy. Demand for coal and oil may have peaked in the West. But, like the young Mr van Beurden, many poor countries still lack readily available fuel supplies, and hanker for the modernisation energy brings. Shell sees plenty of scope to substitute biomass and coal with gas and cleaner energy sources in the developing world. Thanks to rising populations and incomes there, global energy demand is likely to stay high for decades to come. Less reassuringly, this also explains why Shell sets itself unit, rather than aggregate, targets for reducing its carbon footprint: it aims to halve the emissions per unit of energy it produces by 2050, rather than slashing emissions outright. So if energy demand continues to soar, the commitment will constrain Shell's business much less than it appears—with less benefit to the planet.

Mr van Beurden justifies this with a third hard lesson: the world has a shared responsibility to tackle climate change. Even if all the Western oil majors decided to stop pumping oil and gas to reduce carbon emissions, global production would shrink by only 10%; state-owned oil companies from China, Russia, the Gulf and elsewhere could pick up the slack. There are overlapping sources of carbon emissions, too. Shell, for instance, sells far more oil products through its 44,000 petrol stations than it refines. Who bears responsibility for reducing the carbon footprint of those products? Shell, the companies that pumped the oil, the carmakers whose engines burn the fuel, or the people who drive the vehicles? The answer is probably a combination of all of them.

Cold shower, anyone?

To heap the blame for global warming on the oil industry alone would be to oversimplify the emissions problem. True, companies like Shell could have been more open about evidence of the risks from climate change, and they sometimes lobby against steps to reduce emissions. But everyone bears responsibility. That includes other fuel-guzzling industries; governments for failing to explain the need for carbon taxes, and find ways to capture and store carbon; and society at large for its utter dependence on fossil fuels. Mr van Beurden's plain speaking will earn him little credit from those determined to paint the firm as a pantomime villain. But everyone should take a long, hard look in the mirror to appreciate how much they too need to change their habits to reduce demand for fossil fuels. A cold, wet washcloth may come in handy. ■



 → Also in this section

57 An unorthodox pick for the Fed

57 Art-secured lending

58 Buttonwood: Private capital

59 American shale squeezes OPEC

59 The EU bullies Switzerland

60 Japan's sumo-sized pensions problem

61 Mercosur and the EU strike a deal

62 Free exchange: Yellen's unlikeliest student

China's financial opening

Panda express

SHANGHAI

Foreign financiers look past the trade war and ramp up in China

AS CHINA WAS preparing to join the World Trade Organisation in 2001, the phrase “the wolves are coming” kept cropping up in state media. The country was about to open up to foreign banks and the fear was that Wall Street’s finest would devour their Chinese rivals. But regulators managed to defang the wolves, never giving them a chance. Today, foreign firms account for less than 2% of assets in China’s banking sector.

It is instructive to keep this in mind as China again talks of opening its financial system. On July 2nd the prime minister, Li Keqiang, said that foreign investors would be allowed to take full ownership of investment banks and insurers in China from 2020, a year earlier than previously promised. Over the past two decades they have been limited to minority shares, and only last year were they permitted 51% stakes.

For foreign financiers the initial reaction is naturally one of scepticism. China still has plenty of ways to slow them down. One investment banker says that rather than rejecting his firm’s application for a

majority stake, which might have sparked criticism, regulators simply refused to acknowledge receipt.

Nevertheless, there are grounds for cautious optimism. For starters China is under closer scrutiny than in the past. Its rule changes are partly a response to the trade war with America. The government wants to win more support from foreign businesses, which it hopes can rein in America’s tariff-loving president, Donald Trump.

Internationally minded officials also crave more competition in the financial system for China’s own good. As growth slows, they want to improve productivity, which requires better allocation of capital. The government’s recent takeover of Baoshang Bank, an insolvent regional lender, was a reminder of the deep rot in certain corners of the economy.

The long-stymied foreign banks are still minnows compared with China’s state-owned giants, but their assets in the country have increased by 40% in the past two years to almost \$650bn, a third more than the total in Japan. The investment-banking

industry is also starting to be reshaped. HSBC, JPMorgan Chase, Nomura and UBS are all now either operating or setting up majority-controlled investment banks. “The opening appears to us to be more substantial than before,” says Eugene Qian, the head of UBS’s China business. “We have more skin in the game.”

Fund managers are also being drawn into China, often following overseas clients as they invest more money in its markets. According to the Institute of International Finance, a global industry association, since the start of 2018 non-residents have put \$75bn into Chinese stocks, while withdrawing \$8bn from other big emerging markets. Foreign ownership of Chinese bonds has more than doubled, to \$265bn, over the past two years, and analysts expect it to grow roughly five-fold over the coming decade.

One obvious cause for these inflows is index inclusion. Last year China’s A-shares (yuan-denominated shares in the mainland) entered the MSCI emerging-markets index, a popular benchmark. This year Chinese bonds entered their first major index, the Bloomberg Barclays gauge. Taken together, these inclusions compel investors who track indices to allocate billions of dollars to China, even if some are wary of it.

But China is also working harder to attract them. Until recently the only feasible way into its stock and bond markets was through special quotas assigned to large institutions. Now all investors need is a ▶▶

► brokerage account in Hong Kong. “Among the emerging markets China does not stand out as being particularly difficult,” says Nicholas Borst of Seafarer Capital Partners, a fund manager in San Francisco.

Still, firms trying to establish themselves in China face a long road. Sectors that require lots of capital and a large physical presence will be tough to crack. No foreign firm can fight for mass-market business in banking when Agricultural Bank of China has more than 20,000 branches, or in insurance when China Life has 1.7m salespeople. But there are lucrative niches such as serving wealthy clients or handling cross-border deals.

Fund managers and investment banks stand more chance because success is determined less by size than by expertise, says Victor Wang of China International Capital Corp, a big domestic brokerage. When it comes to structuring derivatives or offering research, foreigners have more experience. Yet they will also run up against local rivals with bigger names and more clients. “There is no magic way to become competitive in this market,” Mr Wang says.

Meanwhile the trade war looms over all. Some hawks in America want to sever financial ties with China. Marco Rubio, a Republican senator, has challenged MSCI over its inclusion of Chinese shares, accusing it of helping authoritarians. A headhunter in Hong Kong reports that American fund managers slowed their hiring after trade talks between China and America broke down in May. With talks set to resume, they can breathe a sigh of relief—for now. The worry is that, just as China clears away some of the obstacles in their path, America will replace them with new ones. ■

Monetary policy

Help wanted

An unorthodox nomination to the Federal Reserve

HIRING FOR the Federal Reserve has been difficult for President Donald Trump. He clearly regrets his pick for chairman, frequently railing against Jerome Powell for keeping interest rates too high. His last two nominees could have fought his corner, but both withdrew after it became clear that neither would be confirmed by the Senate. On July 2nd he had another shot, announcing candidates to fill two vacant spots: Judy Shelton of the European Bank for Reconstruction and Development, and Chris Waller of the Federal Reserve Bank of St Louis.

Mr Trump’s reasoning seems obvious:

both look doveish. In a recent interview Mr Waller expressed scepticism about the Phillips curve—the idea that low unemployment necessarily leads to inflation. His boss at the St Louis Fed, James Bullard, voted to lower interest rates at the most recent Fed meeting. Ms Shelton has called for interest-rate cuts, saying that companies benefiting from Mr Trump’s pro-growth agenda need better access to capital.

But there the similarities end. Mr Waller is a conventional choice. Though he has questioned the Fed’s decisions on interest rates, he has also defended its balance of independence and accountability before Congress. Ms Shelton, meanwhile, who acted as an adviser to Mr Trump’s election campaign, has shown distinctly more eccentric—and fluid—views.

For years she was one of the most hawkish voices around. As America’s economy was crashing in 2009 she warned of “run-away government spending” and predicted that inflation was about to make the dollar useless as a unit of account. She advocated a return to the gold standard, which would place monetary policy, inflation and the labour market at the mercy of the supply of and demand for the metal. She claimed the move would claw back power from unaccountable monetary policymakers, whom she accused of undermining property rights, and of favouring wealthy investors and corporate borrowers over savers and pensioners by allowing inflation of 2% rather than none at all.

All this is a million miles from the modern mainstream. It is also at odds with what Mr Trump wants. Whereas Ms Shelton has called for a strong dollar, Mr Trump gets irate when other countries seek to depreciate against it. Fears of inflation and a debased dollar imply a leaning towards tighter monetary policy—and Mr Trump has made his distaste for that very clear.

But Ms Shelton’s more recent statements in favour of looser policy seem to suggest a thoroughgoing conversion. That would be reassuring—if only it was not so conveniently timed to fit with a possible Fed nomination. If she is willing to flip her views to fit better with Mr Trump’s agenda, might she be pliant while he is in power, only for her own eccentric views to re-emerge under a future president? She could stick around for a while. Of the two posts Mr Trump is trying to fill, one expires in 2024 and the other in 2030.

Regardless of their unequal merits, neither candidate is a shoo-in. Sarah Binder of George Washington University notes the long line of political appointees waiting for Senate confirmation. Candidates for the Fed are jostling with candidates for open-ended judicial appointments, which the Republicans who control the Senate will want to confirm quickly. Ms Shelton will be waiting a while to hear, “you’re hired”. ■

Art-secured lending

Cash in on your Picasso

Behind the world’s most beautiful paintings lies a borrowing binge

FEW ART collectors are as liquid as Patrick Drahi, a French telecoms magnate, who purchased Sotheby’s, an auction house, for \$3.7bn in cash last month. Selling art can take months, even years. The only way to unlock its value quickly is to borrow against it. And indeed the number of owners doing so is rising. Deloitte, an accounting firm, estimates that the outstanding value of loans against art in America reached \$17bn-20bn in 2017, up 13% from the previous year. Industry insiders say such lending has continued to grow at double-digit rates since then.

“Ten or 20 years ago it never crossed your mind to leverage your art collection. But the word is out now,” says Evan Beard of Bank of America Private Bank, the institution with the highest outstanding value of art-secured loans. As interest rates have fallen, borrowing has become more attractive. Open public registers make it easy to check if art is encumbered. Price estimates and auction results available online since the early 2000s have made underwriting easier. In America collectors can even keep encumbered art on their wall.

Large banks’ private-banking arms have been lending against art since the 1970s. Now the strong market is attracting specialist lenders. For a private bank, though a loan may be secured against a piece of art, it ►►



Would you like a loan with that?

will almost always be backed in the last resort by a client's entire balance-sheet. Boutique lenders, by contrast, will accept a piece of art as sole collateral.

Athena, America's largest boutique lender, requires art worth about \$2m to secure its minimum loan of \$1m. At Bank of America and other private banks, the minimum loan is closer to \$5m. Both accept only works by well-known artists as collateral, since they are the only ones with reliable longevity. Thus art-secured loans are less risky than many believe, says Arturo Cifuentes of Columbia Business School.

"We can lend millions of dollars in three or four weeks," says Cynthia Sachs, chief investment officer at Athena. But boutiques' greater speed and flexibility come at a price: interest rates that outstrip those at private banks by several percentage points. That may hobble their growth. Rachel Pownall, a professor of art finance at Maastricht University, thinks the market for specialist lenders may be limited, since most art by famous names belongs to super-rich clients of private banks. Among dealers and gallerists, only the smaller ones have to turn to boutique lenders.

The best prospect for growth in the sector may be Europe. None of the continent's banks has an art-lending programme on the scale of those in America, where 90% of art-secured lending takes place. Art financiers such as the Fine Art Group in London and WestendArtBank in Berlin have moved in. Lenders say inquiries from wealthy clients about leveraging their art collection are rising. Though Europeans are in general reluctant to borrow against their possessions, those who buy art for reasons beyond the aesthetic may prove willing to make an exception. ■

Buttonwood The new public

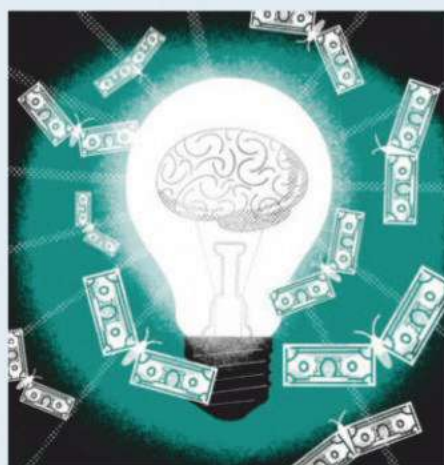
The rise and rise of private capital

THE BIGGEST event on Wall Street in 1956 was the IPO of a company that had stayed private for more than half a century. Investors queued to secure shares in the Ford Motor Company. Their price jumped \$5 on the first day's trading. Yet by the time the company listed, it had no real need for capital. Henry Ford, its founder, had long been hostile to the idea of going public. It was almost a decade after his death in 1947 when the family foundation at last decided to sell some of its Ford shares to the public.

This year's wave of high-profile flotations has some similarities. Uber, Lyft, Slack and the rest are not old as Ford was when it listed. But nor are they in the first flush of youth. New firms are staying private for longer. The number of public firms in America has declined by more than a third since the 1990s.

One explanation is that today's tech firms have less need of public capital. More of the value of startups is tied up in ideas than in fixed assets such as factories. Tech moguls like the opportunities a public listing brings. But, like Henry Ford, they are less keen on the loss of control—and the scrutiny (business secrecy matters a great deal for ideas-led firms). Yet the crucial shift has been not a fall in demand for capital, but a rise in its supply. Sums that could once be raised only on public markets can now be readily tapped from private sources.

To grasp the rise of private capital, go back to Ford's day, when finance was simpler. Private capital was a bank loan, a contract between a borrower and lender, or a grubstake raised from family members, friends or business associates. If larger sums were needed a firm might issue securities in the public markets—equity shares or (for the well-established) high-grade bonds.



Around the time that Ford Motors went public, venture-capital firms emerged to provide seed capital to startups. Later on, in the 1980s, Drexel Burnham Lambert, an upstart investment bank, had the idea of issuing low-grade "junk" bonds to buy public companies (so called "leveraged buy-outs", or LBOs).

Today's big private-equity firms, such as KKR and Blackstone, cut their teeth during the buy-out boom of the 1980s. Rival firms, such as Apollo and Ares, were founded by Drexel alumni. Changes to capital-markets regulation in the 1990s and 2000s set the scene for the recent growth of private markets. The pooling of private capital was made easier. Listing on public markets was made harder.

Deeper forces were at work, too, which strengthened after the financial crisis. The secular decline in long-term interest rates, caused in part by abundant savings, was given an extra push by the easy-money policies of central banks. Yields on stocks and corporate bonds also declined. The venturesome looked to private markets for higher returns. By their nature, such mar-

kets are illiquid and more lightly regulated. The intrepid hope to be rewarded for tying up their money for longer and for doing their homework.

A gap in the supply of credit was left by capital-constrained banks. One manifestation is the popularity of leveraged loans—bond-like securities sold to syndicates of private investors. Easier than bank finance, and more flexible than junk bonds, they are the preferred fuel for LBOs. Other forms of private credit look a lot like bank credit. A syndicate may consist of just a handful of lenders. The loan is tailored. It might be for an office building, or to buy breathing space for a company to get back on track.

The growing supply of private forms of equity capital is even more remarkable. Young tech firms are almost spoilt for choice. Sovereign-wealth funds, family offices and even staid old pension funds now compete for stakes in newish, unlisted firms. Private-equity firms have \$2.4trn waiting to be put to work, according to Preqin, a data-provider. A scarcity of buy-out targets means funds are increasingly reluctant to let go of good firms. The lifespan of some funds is being extended beyond ten years.

Even Henry Ford would applaud such patient capital. It is now received wisdom that ideas-rich firms are better suited to private capital than to public markets, with their endless disclosures and distracting spotlight. But that wisdom tends to play down the supply-side of capital markets. In fact "public markets are not inherently antithetical to tech," says Ajay Royan of Mithril, a venture-capital firm based in Austin, Texas. Steve Jobs did fine in them. So did Bill Gates. What Silicon Valley takes today as a lasting norm might simply be the outgrowth of unusually low interest rates.

Oil markets

Making the cut

OPEC's predictable deal cannot conceal its long-term problems

THE MEETING of the Organisation of Petroleum Exporting Countries (OPEC) in Vienna on July 1st and 2nd was, in some respects, a snooze. The deal announced by OPEC and its allies was the continuation of one struck late last year. For at least another nine months, daily production will remain 1.2m barrels below last October's level. But behind the predictability giant problems loom, for the oil market and for OPEC itself.

America and Iran, an OPEC member, are flirting with war. The decline in Venezuela's production has steepened since January, when America announced sanctions against PDVSA, its national oil company. Escalating conflict in Libya could cause production there to plummet as well.

Nevertheless, oil producers are more concerned about weakening demand than tight supply. The price of Brent crude climbed to \$74 a barrel in late April, after President Donald Trump said he would not extend waivers to sanctions on Iranian exports. It then plunged in May as inventories built up, investors fretted about the trade war and government-bond yields tumbled in America and Europe. The announcement on June 29th that America and China would resume trade talks has helped, but a deal is far from certain. Faced with shaky economic indicators, OPEC is keen to avoid a market awash with oil.

But OPEC's decision to trim output points to further uncertainties within the alliance. The first is how long it will be willing to continue losing market share to America. In 2014, as American oil flowed freely, OPEC declined to curb output, hoping that slumping prices would teach gung-ho American oilmen a lesson. The ensuing crash pained petrostates and wildcatters alike. But shale production has roared back—last year America produced more crude than any other country—and OPEC has become reluctant to let prices dive again. The result is that OPEC's share of global production has dipped, from 42.2% in 2016 to 39.2% in March, and America's has risen, from 10.9% to 14.5% (see chart).

The second question is whether Saudi Arabia and Russia will start to feel the pain of production cuts more acutely. Sinking output in Venezuela and Iran has helped OPEC to keep a lid on supply even as American output has risen. Wood Mackenzie, an energy-research group, estimates that America (excluding Alaska and Hawaii) will pump 1.2m more barrels of crude a day

this year than it did in 2018. Iran will pump 1m fewer.

That helps explain why, despite cutting production somewhat, Saudi Arabia accounts for almost as much of the global market as it did in 2016. Russia has been even more protected. That year it agreed to work with OPEC to stabilise the oil price. Its influence in the Middle East has grown and it has helped shape OPEC's decisions, big and small. On June 29th Vladimir Putin, Russia's president, said that he had agreed with Saudi Arabia to extend OPEC's production cuts, making the imminent meeting in Vienna seem all but redundant.

Russia has given up relatively little in return. In most months its output has exceeded the level it had agreed with OPEC. (May was a rare—and possibly unintended—exception: an important crude pipeline suffered contamination.) In March its share of the global market was higher than in 2016. "By doing only a little, they got quite a lot," says Martijn Rats of Morgan Stanley, a bank.

OPEC and Russia look set to continue cooperating. The meeting in Vienna included a charter to formalise OPEC's partnerships with non-members. But there is a limit to how much further output in Venezuela and Iran can fall. If oil prices remain low, Saudi Arabia and Russia may face an uncomfortable choice: let prices dip or cut production more steeply, thereby losing market share and propping up American shale. This month's meeting was straightforward. Future ones may be less so. ■

Switzerland and the EU

Raising the stakes

As the EU throws its weight around, Swiss stocks are collateral damage

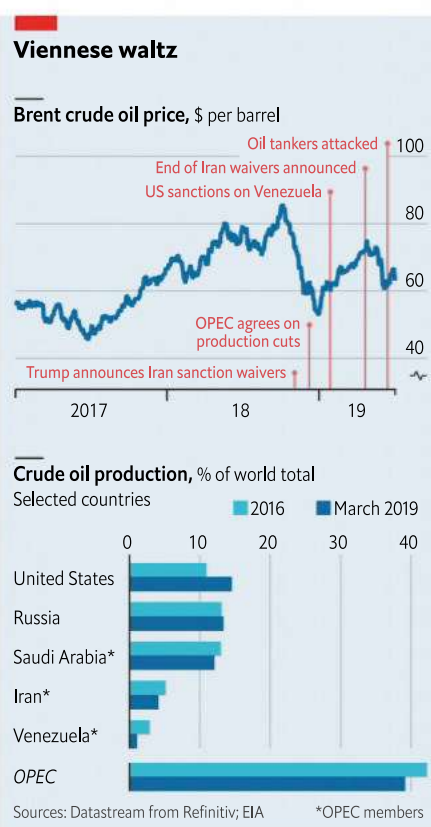
IT IS A country famed for avoiding conflict. Yet on July 1st, in a serious escalation of a trade spat with the European Union, Switzerland barred the trading of Swiss-listed companies' shares on EU platforms. Last December the trade bloc had given Switzerland an ultimatum: sign up to a revamped deal replacing the patchwork of 120 bilateral agreements that governs trade relations between the two by June 30th, or lose stockmarket "equivalence"—a status bestowed by the EU that allows seamless trading of shares across borders. Rather than fold, Switzerland retaliated.

Before the ban traders based in the EU accounted for 60-80% of trading in Swiss shares by volume, some of that on Swiss exchanges and some on multilateral trading platforms in EU countries. Now those platforms have suspended trading in Swiss shares, as have the London Stock Exchange and Deutsche Börse. Swiss shares are available only on Swiss exchanges—and on far-distant ones, such as American and Asian trading hubs.

This does not mean that Swiss giants such as Nestlé, Novartis and Roche have suddenly become untradeable from within the EU. Though the bloc usually requires its traders to trade on its own venues, or those it recognises as equivalent, it makes an exception when too few of a company's shares would be available. So EU traders keen to buy Swiss shares can use Swiss exchanges. But the Swiss retaliation has nonetheless caused uncertainty: there is no formal definition of how few is too few. "It is up to individual trading venues to assess how to adjust their operations," said a spokesman for the European Commission.

Straight after the ban it was business as usual for SIX, Switzerland's biggest stock exchange, and big Swiss firms saw no unusual trading activity. But unless the row is quickly resolved, Swiss shares will become less liquid. The harm to the Swiss stockmarket could be significant, says Charlotte de Montpellier, an economist with ING, a big Dutch bank. Trading costs are likely to rise and, in the long term, some Swiss companies may choose to go public outside Switzerland on exchanges with greater competition and more liquidity.

The row could ripple out into the wider economy. Switzerland is integrated with the EU not only in its trade and capital markets, but also in other areas such as research funding and electricity markets. ►►



► The Swiss federal government wants to close the deal, says André Simonazzi of the Swiss Federal Council. But it has asked the EU for clarification on provisions that have aroused domestic opposition, including on state subsidies and protections for wages and working conditions. Without tweaks the deal would probably be rejected by Swiss citizens in a referendum. Federal elections due in October make a speedy resolution less likely: no party wants to be seen as giving in to the EU.

A no-deal Brexit might break the logjam. Many EU traders and trading platforms are based in London, which could arrange equivalence with Switzerland itself after leaving. But Brexit is also a cause of the impasse. The EU is using Switzerland to signal to Britain's next prime minister that it is no longer willing to tolerate a pick-and-mix relationship like that it has long had with the Swiss—and that it is prepared to follow through on threats. The result, says Ms de Montpellier, is that both Switzerland and the EU are losers. “The EU can survive without Switzerland economically, but it is damaging a relationship with a reliable and stable trading partner.” ■

Pensions in Japan

Sumo-sized challenge

TOKYO

Japanese people need to put more aside for retirement

LAST MONTH Japan's Financial Services Agency (FSA), the financial-industry regulator, lobbed a grenade into a fractious debate on how to support the world's oldest population in retirement. The typical elderly couple, it warned, will need to top up their public pensions by a whopping ¥20m (\$185,000). The furore that followed put Taro Aso, the finance minister, on the back foot. Japan's pension system “will never collapse”, he insisted.

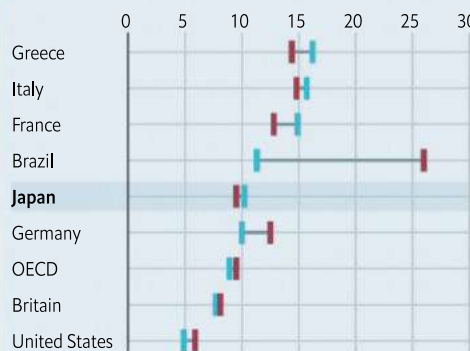
His attempt at reassurance was widely mocked. A cartoon in a weekly magazine depicted him helping a Buddhist deity dispatch souls to financial heaven or hell. The implication was that, aged 78 and one of Japan's richest politicians, he personally did not risk ending up in penury.

And yet the gloomy forecast should have come as no surprise. Government mandarins have fretted over Japan's pension system for years. The *Nikkei Shimbun*, a staid business newspaper, warned last year of “disaster” unless it was reformed. The system was built on the expectation that people would live until their 70s or 80s, says Naoyuki Yoshino of the Asian Development Bank Institute, a think-tank.

A crown upon your lifetime's effort

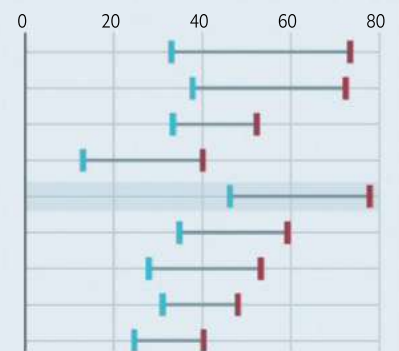
Selected countries

Public pensions spending, % of GDP



Sources: OECD; IMF

Old-age dependency ratio†



*Or latest available †Number of people aged 65 and over per 100 aged 20 to 64

But more than half of Japanese babies today can expect to live to over 100. A quarter of all 60-year-olds will still be alive in 35 years, estimates the government.

All 20- to 59-year-olds in work must pay a flat premium of ¥16,410 into the national pension fund every month. Those who do so for 40 years get a full pension, currently ¥780,100 a year. Corporate and government workers also make payments into supplementary schemes. But the system is imbalanced, with shrinking numbers paying in and growing numbers drawing out. Japan already has more than 35m people aged over 65—28% of the population. The share is projected to reach a third by 2050.

Japan's pensions are comparatively stingy, with several countries spending more despite their younger populations (see chart). A couple in their 60s on the basic state pension would be ¥50,000 short each month compared with average household expenditure, says the FSA. A survey by the welfare ministry published on July 2nd found that half of all retired people had no

income beyond their pension.

The system is due to get even stingier, with spending as a share of GDP planned to stay almost static as the population ages. The FSA's calculation was supposed to prod people into better retirement planning. But that would mean taking greater risks, says Noriyuki Takayama of the Research Institute for Policies on Pension and Ageing, a think-tank—and Japanese people are highly risk-averse. The bulk of Japan's ¥1.83 quadrillion in household financial assets is held in post offices or bank accounts that pay zero interest. Most of it is owned by people who remember the puncturing of Japan's asset bubble a generation ago.

Getting them to diversify is both a challenge and a “business opportunity,” says Toshihide Endo, the FSA's director, given that the net assets of elderly households have been almost flat for 20 years. “This implies that wealth formation is failing to keep pace with increased longevity.”

Mr Yoshino draws an unflattering comparison with America, where major asset classes have increased in value far faster than in Japan. But the fear of losses deters many Japanese investors. Nerves have been jangled by a record loss in the most recent quarter at the Government Pension Investment Fund, the world's largest. Five years ago Shinzo Abe, the prime minister, pressed its managers into shifting about half its assets into equities and slashing its holdings of domestic bonds.

Japan is a harbinger of changes to come elsewhere. The World Bank forecasts a shortfall in retirement savings in big countries of about \$400trn dollars by 2050. More adventurous investment may be part of the solution. Japan's government also wants to raise the retirement age from 65 to 70. “The very easy answer is that everyone should keep working as long as possible,” says Mr Yoshino. But with a general election just weeks away, Mr Abe may not have felt able to point that out. ■



Time for active investing

Trade deals

Missed you

FOMO is the motivation for a trade deal between Mercosur and the EU

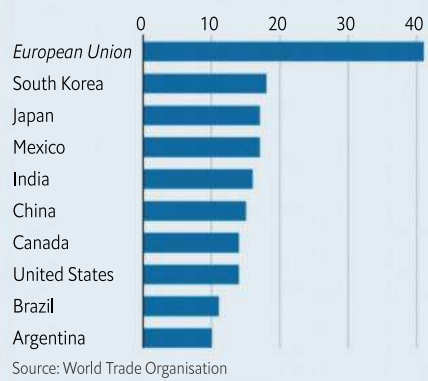
THE MOTIVE force behind trade deals is supposed to be “FOMO”—the fear of missing out. If negotiators fail to grab new markets for their exporters, the theory goes, rivals may snap those markets up first. On June 28th two trading partners seized better access to each other’s markets as Mercosur, a customs union comprising Argentina, Brazil, Paraguay and Uruguay, agreed to a new trade deal with the European Union. An EU press release gloated that European companies would gain an “important head start into a market with an enormous economic potential”.

The details have yet to be published. But the pact should improve market access for French cheese, Brazilian orange juice and Argentine fish, as well as car parts made in Europe, which now attract Mercosur tariffs of 14-18%. European companies will be eligible to compete for government contracts within Mercosur. Customs procedures will be simplified. Based on current trade patterns, the annual bill for tariffs on Mercosur’s imports from the EU should fall by over €4bn (\$4.5bn), more than four times the equivalent sum for the deal the EU recently signed with Japan.

Though 9% of Mercosur’s tariff lines, and 5% of the EU’s, will remain above zero, a “standstill” clause commits the members not to raise any of the tariffs above an agreed rate. In effect the EU has insured itself against the South American countries swinging back towards their habitual protectionism. But there was no talk of back-

The art of the EU deal

Number of regional trade agreements notified to GATT/WTO and in force
Selected countries, June 2019



sliding as the deal was announced. Brazil’s government called it a “bridging agreement”, intended to facilitate further agreements with other countries. Shunko Rojas, until recently one of Argentina’s negotiators, recalled scepticism about Mercosur’s ability to close trade deals. But this one, he said, should send the message that Mercosur is open for business.

Indeed, Mercosur may be thinking of the EU deal as a model for others. Emily Rees of Trade Strategies, a consultancy in Brussels, notes the overlap between Mercosur’s other negotiating partners and countries with which the EU already has trade agreements. Potential Mercosur

deals with Canada, South Korea, Singapore and EFTA (Iceland, Liechtenstein, Norway and Switzerland) could be designed to complement the agreement with the EU, making it easier for components to slip into global supply chains. She interprets the move as Mercosur turning away from “import substitution”, the failed development model under which it kept out foreign products in the hope that local production would thus flourish.

In the two decades that the EU and Mercosur have been talking, the world has changed. When they started the EU was indeed fuelled by FOMO—specifically, the fear of being beaten to the South American bloc by a free-trading United States. But America’s attitude to trade is not what it was back then, and the EU’s motivation has consequently changed too.

FOMO is still involved—but it is no longer the EU that feels it. Instead the trade bloc may be hoping to inspire it in the Trump administration, which has been threatening—or applying tariffs to—almost all its trading counterparts, including the EU. As well as the looming threat of tariffs on cars and car parts unless the EU reaches a deal, on July 1st America said it might impose new tariffs on \$4bn-worth of imports from the EU as part of an ongoing dispute over aircraft subsidies. And even if America does not feel a trickle of fear at the prospect of falling further behind the EU, which leads the world as signatory to the largest number of trade deals (see chart), perhaps other governments might get the message. On June 30th the EU signed a trade deal with Vietnam, days after Mr Trump threatened the country with tariffs.

It would be premature to predict a further flurry of trade agreements. The one between the EU and Mercosur may have been agreed during a rare window of opportunity when the governments of Argentina and Brazil were both in favour of economic liberalisation. That window will close in October if Mauricio Macri is not re-elected as president. Further deals involving Mercosur would become less likely, and the one with the EU might not be ratified. Even now, the Argentine fact sheet accompanying the EU-Mercosur deal boasts about how much more slowly tariffs would be lifted relative to the EU’s other trade deals. Nor is ratification certain at the EU end, since national parliaments may each have a veto.

Hunger for a slice of Europe’s agricultural market drove Mercosur’s negotiators towards agreement. (The beef quota they secured was modest because the EU pleaded the necessity of saving some goodies for counterparts in future deals.) Extra quotas of beef, dairy or pork are also alluring for America, which is negotiating with the EU too. But the EU is insisting that they are off the table. However good it feels to stand up to Mr Trump, free trade is still a hard sell. ■



Write 'em in, cut 'em out

Free exchange | Yellen's unlikeliest student

How a victim of the Cultural Revolution mastered economics

THE STUDENTS embarking on an economics doctorate at the University of California, Berkeley, this autumn face a daunting obstacle: Econ 201A, a course in microeconomic theory inflicted on all new recruits. Over 16 weeks they must acquaint themselves with some of the most formalised parts of economics, including Houthakker's Axiom, the Slutsky matrix and Afriat's Theorem. According to one instructor, between five and seven class members (out of 20 to 25) usually receive a grade of B- or worse.

But anyone losing heart should take inspiration from a past student, Weijian Shan. He tried the course in 1982 after becoming one of America's first PhD students from communist China. As he recounts in "Out of the Gobi", his memoir published earlier this year, he had not taken a mathematics class beyond the age of 12. His faculty adviser, Janet Yellen, who would later chair the Federal Reserve, and George Akerlof, who would later win a Nobel prize, worried that the difficulties of Econ 201A would be "insurmountable".

Mr Shan, however, had already surmounted more than most. After his schooling was cut short in 1966 by the Cultural Revolution, he was "sent down" to the countryside, like millions of other city kids. He joined a Construction Army corps in the Gobi desert, trying to create farms out of salty clay in a "place that birds don't care to shit". They dug ditches, made bricks and harvested wheat, three of the four most tiring things in the world, according to one squad member. (The fourth was sex, which they were spared.)

His march to Berkeley was long. He arrived in the Gobi knowing only a few sayings and slogans in English ("Long live Chairman Mao"). But in 1975 he was chosen by his peers and bosses to study the language in Beijing. He won nomination only after first ingratiating himself with his company by memorising the official rules and referee signals of volleyball, which made him a respected referee of platoon matches. The English he learnt in Beijing helped him win an Asia Foundation scholarship to study in America after it restored formal diplomatic ties with China in 1979. Having earned an MBA in a year at the University of San Francisco, he embarked on his PhD at Berkeley's business school.

In his study of economics Mr Shan had one or two things going for him. Economics is the science of scarcity, a subject with which he had intimate acquaintance. Deep in the Gobi, a day's walk from their settlement, half a box of matches could cost 50kg of potatoes. When Americans dismiss something as "bullshit", Mr Shan recalls the patties of cow dung they used to treasure as fuel.

The construction corps taught him other economic concepts, such as "value-added" and its opposite: their company turned 750,000kg of seeds into just 70,000kg of grain. He experienced the power of the division of labour. Even with the utmost industry his team could make only 200 bricks per person in a day if they each mixed, moulded and moved the materials. But by dividing those tasks between them they could make two-thirds more. He also learnt the value of capital. His platoon could have made 20,000 bricks per day with a simple mixing machine, but no one would provide the 3,000 yuan (about \$1,300 at the official exchange rate) to buy it. Mr Shan wonders if he was the first hard labourer with "such a burning desire to be exploited by capital".

The pigshed academy

Mr Shan's educational resurgence was nonetheless remarkable. Even by 1990 just 0.4% of Chinese born in 1951-55 held a university degree (see chart). The Cultural Revolution was like a mad natural experiment, depriving some people of a university education for reasons unrelated to their ability. Their loss has thus helped economists calculate the worth of a college education, which is otherwise difficult to estimate because college-goers are often more able than other people, even before they get there. According to a study in 2015 by John Giles of the World Bank, Albert Park of the Hong Kong University of Science and Technology, and Meiyang Wang of the Chinese Academy of Social Sciences, about three-quarters of the returns to college in China reflect the skills and credentials that universities confer. But a quarter reflects the intrinsic abilities of the people they admit. Mr Shan's education yielded a rich harvest. But he was also an unusually good seed.

One benefit of university is guidance. Mr Shan's efforts to educate himself in the desert lacked system or direction. He retreated to a pigs' kitchen, where vegetable roots, skins and leaves were boiled, to read whatever he could find: an aviation magazine, Mao's speeches, a pesticide manual. For this reason, he feels his "little house of knowledge is built on sand". (The vastly more privileged students of today can also struggle to study systematically, because of the surfeit of claims on their attention. Their houses can be dangerously top-heavy.)

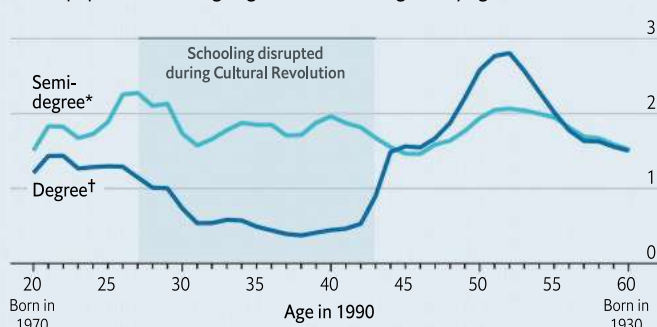
Mr Shan enjoyed Econ 201A, eventually. But he had to abandon his first attempt, returning only after taking the mathematics class that Ms Yellen and Mr Akerlof had recommended. The maths textbook was over 400 pages long. He read it seven times. "I would have enjoyed studying in a more leisurely manner," he writes, but "I had so much ground to make up."

He followed his PhD with a brief stint at the World Bank and a longer one as a professor at Wharton Business School. He founded the *China Economic Review* (which in 1990 published an article by a 32-year-old Yi Gang, now head of China's central bank), then entered finance, becoming a big shot in private equity at Newbridge Capital. During long negotiations in hotel conference rooms he would marvel at the luxury of round-the-clock room service. His colleagues would tell him to shut up and gain some weight.

After the Cultural Revolution ended in 1976 and reforms began, Mr Shan, like his country, had a lot of potential—and a lot of ground to make up. Since then they have both been compelling examples of convergence. When capital, of the human or physical variety, is scarce, the returns to investment can be high. And after the rigours of the past both were accustomed to the deferred gratification that heavy investment requires. The man who eventually mastered Econ 201A is an economics lesson in himself. ■

Lessons in scarcity

China, population holding degrees and semi-degrees by age in 1990, %



Source: "The impact of interrupted education on subsequent educational attainment: a cost of the Chinese Cultural Revolution", Xin Meng and R. G. Gregory, 2002

*Three-year full-time degree or degree by correspondence
†Four-year full-time degree



→ Also in this section

64 Superhydrophobic materials

65 Mosquitoes and smartphones

65 Japan resumes commercial whaling

66 The archaeology of surfaces

Farming insects

Grub's up

Beetles and flies are becoming part of the agricultural food chain

SOME VISIONARIES hope that insects will play a big role in future human diets. Insects are nutritious, being packed with protein. Unlike hot-blooded mammals and birds, which use a lot of energy to keep themselves warm, they are efficient converters of food into body mass. And in some parts of the world they are, indeed, eaten already.

Well, maybe. But it will take some serious marketing to persuade consumers, in the West at least, that fricasseed locusts or termiteburgers are the yummy must-haves of 21st-century cuisine. The visionaries might nevertheless prove correct that insects will contribute to human nutrition—just not in the way they imagine.

What is actually happening is that a band of entrepreneurs are breeding insects as animal fodder—particularly fish food. Grown on cheap inputs, then crushed and formed into meal, they will thus provide all of the nutritional advantages the visionaries talk of, but at one remove from people's dining tables instead of being served up directly for lunch.

The two most promising species are

flour beetles and black soldier flies, specifically the larval stages of these animals. Flour-beetle larvae, better known as mealworms (pictured above), have been used as fish food for a long time—they are excellent bait for anglers and are bred commercially on a small scale for this and other purposes, including as chicken food. Black-soldier-fly larvae are a more recent subject of interest. They are, in the jargon, saprophagous, meaning that they feed on decaying organic matter and will thus eat all sorts of stuff, including manure. This has led to interest in using them as composting agents, so that cultivating them, too, has already been happening on a small scale. What has changed are people's ambitions. Instead of turning such insects out by the kilogram, the plan is to do it by the tonne, by industrialising the process.

Fly fishing

One of the most advanced mealworm-raising enterprises is run by Ynsect, a French firm. It uses an approach called vertical farming, which is also popular with those growing salad vegetables in cities, in the

modern equivalents of market gardens. Vertical farming is an indoor operation in which the produce is held in trays that can be shuffled around robotically.

Ynsect's test facility, in Burgundy, is 20 metres tall and has 10,000 mealworm-laden trays. Nothing is wasted. The insects' droppings are collected for use in fertilisers. When the larvae are about ten weeks old, those not destined to pupate, and thus provide the next generation of mealworms, are sorted, cleaned and steamed to death. They are then, as Antoine Hubert, Ynsect's boss, puts it, treated like olives. They are crushed to extract their oil and the remaining pulp is dried and powdered. These products are sold as pet food. But the company's eventual targets are fish farms raising salmon, trout and sea bass.

The test facility turns out 30 tonnes of protein meal a month. On the back of its success, Ynsect is planning to start construction, later this year, of a full-scale commercial operation, 30 metres tall. This farm, in Amiens, will produce 1,500 tonnes of meal a month. And Ynsect is not alone in its ambitions for mealworms. In Washington state, in America, the home of many fish farms, a firm called Beta Hatch is building a commercial mealworm farm inside an old juice factory. This, Virginia Emery, the firm's boss, hopes, will match the output of Ynsect's farm in Burgundy.

The leading contender in the breeding of black soldier flies, meanwhile, is Agri-Protein. Its factory on the outskirts of Cape Town, South Africa, produces a similar ton-

nage to that of Ynsect's Burgundian facility. Flies being more active than beetles, AgriProtein's farm employs huge cages to hold them by the million. The fertilised females lay their eggs in trays fitted with cavities shaped like honeycomb and slathered in molasses. These trays are removed at regular intervals to ensure that the larvae within hatch simultaneously and are thus the same size—for large larvae often cannibalise small ones.

Once removed from the breeding cages, the eggs are placed in hatching units and the young larvae then transferred for a short time to a nursery before being moved again, to an area where they can grow. After ten days here they are crushed and turned into oils and meal in a manner similar to that employed by Ynsect.

One notable difference between the mealworm and soldier-fly approaches to insect farming is the fodder that the larvae are themselves fed. The companies are tight-lipped about their specific formulas. Mealworms are vegetarians. Ynsect feeds its charges on a diet including wheat bran. AgriProtein's fly larvae were originally pampered with blood from abattoirs mixed with bran, while the adults were fed milk powder, molasses and sugar. Now the firm has formulated proprietary diets for both larvae and adults.

Exactly what farmed insects eat depends as much on local regulations as on what the insects prefer. It was only in 2017 that the EU permitted the feeding of insect protein to farmed fish—and this on condition that the insects themselves tucked into foodstuffs approved as animal fodder. AgriProtein, which intends to expand its reach beyond South Africa, formulates its proprietary mixes to conform to the rules in destination markets.

Regulatory fussiness, though understandable, does get in the way of another possible benefit of fly farming—waste disposal. Jason Drew, AgriProtein's boss, reckons fly farms may one day prove ideal places to manage and recycle excrement, especially in poor countries. To this end, a subsidiary of the company has worked out how to extract birth-control and growth hormones from human and animal faeces respectively, to avoid these getting into the finished product. They hope, regulators permitting, to start adding treated faeces to fly-feed next year or the year after.

At your disposal

Both beetle farmers and fly farmers also aspire to follow the paths of other husbanders of livestock by breeding better versions of their animals. Over the past four years, for example, researchers in Finland, Spain and Serbia have built up a genetic library of black-soldier-fly varieties. Gunilla Ståhls of the University of Helsinki says this library shows how much variety the flies

have to offer—an essential basis for a breeding-improvement programme.

Mr Drew thinks the scope for such improvement is enormous. As he observes by analogy, a few decades ago a laying hen would produce about three eggs a week, and even then only during the summer. Selective breeding means such a hen can now be counted on to turn out double that number, and to do so all year round.

At the moment, the tonnages firms like Ynsect and AgriProtein aim to produce are still trivial compared with the multi-million-tonne market for fish feed. But that leaves plenty of room for growth. This is, moreover, a growth that may bring environmental benefits as well as economic ones. Today, a lot of fish food is itself fish. Insect farming could help relieve the oceans of that burden, and improve the prospect of the adage that "there are plenty more fish in the sea" actually being true. ■

Superhydrophobic materials

A better raincoat

Shedding water more effectively with tiny water bowls

A FEW YEARS ago Kripa Varanasi, a researcher at the Massachusetts Institute of Technology, made the news with a ketchup bottle that could be emptied without leaving any of the ketchup behind. Instead of sticking to the bottle's interior, the sauce was repelled by it.

Superhydrophobicity, as physicists call this effect, involves peppering a surface with microscopic structures that contain pockets of fluid. That reduces the area of contact between the surface and any water

droplets which fall on it. This, in turn, diminishes the surface tension that would otherwise cause the droplet to cling on, so it instead falls off. In nature, using air as the fluid, lotus leaves and insect cuticles are both famously good at superhydrophobicity. In lotuses the air pockets are created by minute lumps of wax. In insects they are the result of tiny hairs. Dr Varanasi's ketchup bottle improved even on these paragons, by replacing the air with an oil.

His latest surface, though, which is even more hydrophobic than the previous ones, goes back to tinkering not with the pockets' contents, but with the surface's geometry. As he and his colleagues Henri-Louis Girard and Dan Soto report in *ACS Nano*, the trick is to carve minuscule structures they call "water bowls" on a surface.

The trio began their research by looking at how the contact area between a surface and a droplet falling onto it influences how effectively that droplet will bounce away again. If it falls on even a standard superhydrophobic surface, a droplet will spread out. That reduces its "bouncability". To limit this spread, the researchers used a laser to etch into an already superhydrophobic surface a series of patterns of small rings. These are the water bowls in question. Their purpose is to constrain the spread of droplets falling on them, thus encouraging the rapid ejection of those droplets back into the air (see picture).

To test the idea's effectiveness, the trio needed a way of measuring the strength of the contact between falling water drops and their new surface. Their solution was to use the heat transferred from surface to water while they were in contact as a proxy for contact strength. They therefore showered the surface, while it was at room temperature (20°C), with water chilled to 3°C. While doing so they monitored the resulting drop in the surface's temperature. This proved to be 40% less than that experienced over the same period by a standard superhydrophobic surface which they used as a control.

The reduced transfer of heat from surface to droplets showed that the water bowls greatly reduced interaction between the two. In other words, the surface's hydrophobicity had been increased. Moreover, further tests showed that even if a droplet landed on the edge of a water bowl, rather than dead centre, it was still repelled more effectively than by a flat surface.

Dr Varanasi and his colleagues believe that, using lasers and other modern manufacturing techniques, it should be possible to carve water bowls into a wide variety of surfaces. Potential applications range from preventing the icing of aircraft wings by freezing rain to reducing the corrosive effects of brine from ocean spray—and even helping people stay snug and dry inside waterproof clothing. ■



Splashing out on water resistance

Mass data collection

Mosquito vetting

Armed with smartphones, Colombians are taking on the local mozzies

IF YOU SEE a pothole, smell gas or step in water from a burst main, you can report the details online immediately. Smartphones mean that any concerned citizen can help keep a city's infrastructure in proper repair—in theory. In practice, a nudge is sometimes required. And in the case of a project organised by Premise, a company in San Francisco that analyses geographical data, that nudge is financial.

Premise, a recently formed firm, plans to make money by recruiting millions of observers. It will pay them each a fee to use their smartphones to gather whatever information is of interest to its customers about whichever country the observer happens to be in. The firm is now testing the idea with the Zika Citizen Network, a project that aims to find and stamp out mosquito-breeding sites in Colombia.

Zika is a viral infection carried from person to person by *Aedes aegypti*, which also transmits dengue, chikungunya and yellow fever. Zika causes fever in adults and may trigger Guillain-Barré syndrome, an autoimmune disease of the nervous system. Infections of pregnant women can also harm the development of their unborn children—particularly by causing microcephaly, a smaller-than-normal head. The first recorded case of Zika was in Africa in the 1950s, but the illness appeared in South America in 2015 and seems to be spreading.

Network theory

Under the aegis of Premise, and paid for from America's foreign-aid budget, the Zika Citizen Network has recruited and deployed 10,000 people in three cities: Cali, Cúcuta and Santa Marta. Observers receive mutually agreed fees to walk along specified routes while inspecting public spaces and taking photographs of bodies of standing water that might act as nurseries for mosquito larvae. So far, these peregrinations have yielded precisely located images of 15,000 such sites—especially sewer openings—a haul that might otherwise have taken years to collect. Observers are also paid to ask questions of local people. For the most enthusiastic, the fees they receive for all this work can add up to several hundred dollars a month.

Questions asked include “Do you regularly inspect your home for breeding sites?”, “Has anyone in this home exhibited symptoms of mosquito-borne diseases?” and “What risks of dengue, Zika or chikun-



Conservation

One down, 226 to go

Japan resumes commercial whaling

ON JULY 1ST, to the fury of conservationists around the world, Japanese whalers landed their first commercial kill for more than 30 years, a minke whale (pictured above). In 1986 the countries of the International Whaling Commission, of which Japan was one, had agreed to a moratorium on whaling. This allowed the animals to recover to sustainable numbers after several species had been driven to the brink of extinction by untrammelled hunting. Exceptions were permitted, though, for indigenous groups of hunters, such as aboriginal Alaskans, who had an established culture of whaling, and for scientists studying whale biology—a loophole Japan has exploited ever since.

Japanese whalers have killed between

200 and 1,200 of the animals every year since the moratorium, under the banner of research. Few outsiders, though, have believed that banner to be anything other than cover for trading in whale meat—a belief fostered by the fact that most of the catch has subsequently been sold for human consumption.

In December 2018 Japan's government lost patience with the moratorium altogether and announced that it was pulling out at the end of the following June. It has set this year's quota at 227, with minke, Bryde's and sei whales as the permitted targets. It is worth noting that of these, only sei whales are listed as endangered on the International Union for Conservation of Nature's Red List—and their numbers are increasing.

gunya are you aware of?” Maury Blackman, Premise's boss, says that much of the project's effort went into refining and testing the questionnaires to make them as simple as possible to administer. Using phones instead of the clipboards and ballpoint pens which are conventionally employed for the process speeds things up enormously. The results are sent immediately by the phone for processing, and Premise's software automatically collates and assembles the results. An artificial intelligence filters out anomalies, bad data and attempts at outright fraud—passing on anything dubious for manual inspection.

As well as gathering data, the Zika Citi-

zen Network's observers put down traps in high-risk spots in order to sample the local mosquitoes. These can then be identified by an appropriate app, to check whether *Aedes* is among them. Once a breeding ground has been found, its existence can then be notified to the authorities—who will, with luck, do something about it.

The current phase of the Zika Citizen Network will conclude in August. After that, the plan is to expand beyond the three pilot cities, as local authorities take over the running costs. If things have gone well, then Premise will take the lessons learned and apply them to the more commercial projects it hopes to undertake. ■

Archaeology

Chemical biography

The surfaces of ancient objects tell intriguing tales of the past

COINS AND other metal artefacts dug from archaeological sites bear witness to their burial in the form of the patinas of chemicals which accumulate on their surfaces—and different circumstances will result in different sorts of patina. This is particularly true of objects recovered from underwater sediments, for water can contain all sorts of dissolved substances that like to react with bare metals. But, as Gabriel Ingo of the Institute for the Study of Nanostructured Materials, in Rome, describes in *ACS Omega* this month, it is now possible to go beyond that general observation. He and his colleagues are using patinas to tell stories about individual finds.

The ancients knew of seven metals: gold, silver, copper, tin, lead, iron and mercury. Of these, gold is noted for its chemical inertness, so forms no patina. And mercury, by its nature, is unsuitable for making things. But objects composed of the others often turn up in excavations—generally coated with a wide array of oxides, nitrates, carbonates and sulphides. As a chemist, Dr Ingo wondered if dissecting the patinas formed by these compounds might yield information about what the relics covered by them had been through.

To simplify matters, he and his team concentrated on objects made of bronze, an alloy of copper and tin. Their approach was to embed a fragment of each object's patina in a block of epoxy resin, in order to preserve its physical structure, and then to slice the block up using a diamond saw. That done, they polished the slices and studied them under a scanning electron microscope. They also applied a series of chemical tests to other samples of patina.

One coin they took a particular interest in had a patina which was bright sky-blue. This had been found in a dredging operation in Rome, near the outlet of the Cloaca Maxima into the Tiber. The Cloaca Maxima, which still drains rainwater from central Rome's streets, was the ancient city's main sewer and in those days disgorged vast amounts of waste into the river.

Analysis showed that the blue was actually turquoise deposited on the coin's surface. Turquoise, a semi-precious mineral, forms in rocks when phosphorous, aluminium and copper sulphide react in the presence of mildly acidic water. Aluminium, an ingredient of clay, is abundant, but phosphorus is rare. Dr Ingo suggests that the coin acquired its turquoise crust

when phosphorous released by animal bones discarded into the ancient sewer mingled with copper sulphides that had already accumulated on the coin's surface.

The source of an equally intriguing tale was discovered beneath the dark-brown patina partly covering a statue of a dancing satyr (pictured) pulled by fishermen from the waters between Sicily and Africa in 1998. Here, the team found a thin layer of vanadium oxide, but struggled to work out how this could have formed, for the statue's bronze shows no trace of vanadium. Looking closer, though, they found markings which suggested that the satyr had once been encrusted with sea squirts. These are sessile invertebrates that make use of vanadium in some of their enzymes, thus concentrating it in their bodies.

Hidden depths

The dark-brown layer covering the vanadium oxide suggested to Dr Ingo that the sea-squirt colony had met a sudden end. Chemical analysis of this outer layer revealed high levels of iron oxide, indicating a rapid change in the statue's environment.

Given its provenance, it seems reasonable to assume that the statue was originally part of the cargo of a shipwrecked vessel. Dr Ingo guesses that, after the vessel sank, the statue remained resting for many years on the planking where it had been stowed,

accumulating sea squirts as it did so. Eventually, though, the planking rotted and gave way, precipitating the satyr deep into a part of the vessel's hold where there was a lot of corroding iron and little circulation of water—a combination of circumstances which killed the sea squirts and led to the brown patina. In support of this theory, when he examined the statue in detail Dr Ingo found the imprints of woody fibres, possibly from decking it had been resting on, in the patina of the satyr's hair.

Suggestive patinas form on dry land, too. One coin that the researchers studied came from a grave dug in what is now Tunisia but was then Carthaginian territory, in the 3rd century BC. Like the imprints on the satyr's hair, the coin's patina has preserved the shapes of some fibres. In this case, Dr Ingo and his colleagues reckon that those fibres were wool. They therefore theorise that the coin had been placed inside a woollen garment worn by the corpse when it was buried. Like the decking of the satyr's ship, the wool then rotted away, leaving a cast of its fibres on the coin.

Whether Dr Ingo's new field of patinology will flourish remains to be seen. By themselves, each of his discoveries, interesting though it is, counts as little more than an anecdote. Each, however, tells a different type of story—of sewerage, of shipping and of funeral practices—that might otherwise remain untold.

It is also possible to imagine patinology telling bigger stories—of changing environments brought about by industrial pollution, perhaps, or of climatic variation. It is a saying in forensic science that every contact leaves a trace. Dr Ingo has shown that contacts between ancient metal objects and their chemical surroundings leave some interesting traces indeed. ■



A dance to the music of time



Culture in the Gulf

The red ink and the black

DUBAI AND KUWAIT CITY

Can literary culture thrive in the absence of free expression?

PERHAPS ONLY in the Middle East do the censors get their own stand at book fairs—as they did at last year’s jamboree in Kuwait. Outside, a frustrated local artist installed a mock cemetery of banned works, with hundreds of titles inscribed on headstones. Over the past five years the information ministry has banned more than 4,000 books, from Dostoevsky to “Children of Gebelawi”, published in 1959 by the Egyptian author Naguib Mahfouz, the only Arab to win the Nobel prize for literature. The cemetery protest, too, was quickly censored. The rumpus encapsulated the trick that several Gulf states are trying to pull off. They want to become literary beacons, even as they restrict freedom of speech.

Arabs have an old saying: “Cairo writes, Beirut publishes, Baghdad reads.” The book fair in Cairo, the Middle East’s oldest, has just celebrated its 50th anniversary. Each year it draws more than 2m people to stalls packed with titles from publishers across the Arab world. But the Gulf states are now establishing themselves as stops on the literary circuit, too. Ten years ago few would have heard of the book fair in Sharjah, one

of the lesser-known parts of the United Arab Emirates (UAE). Today it attracts 2.3m visitors a year, double Sharjah’s population. Abu Dhabi, Doha, Manama, Riyadh—all are transforming from sleepy trade fairs to popular events.

There are strong commercial incentives for publishers to cater to the six members of the Gulf Co-operation Council (GCC). Though they make up just 10% of the Arab world’s population, they have its highest literacy rates. More than 90% of GCC citizens can read, compared with less than 75% in countries such as Egypt and Morocco. Exactly how much they do read is the subject of more speculation than research. A study in 2016, conducted by a government-run foundation in Dubai, suggested that Emiratis read for 51 hours each year and consume 24 books apiece. That would seem to make them either extremely fast readers or dishonest ones.

Still, the book market in the Gulf is certainly big. Saudi Arabia’s alone is thought to be worth 5bn rials (\$1.3bn) a year. Residents of oil- and gas-rich emirates have more to spend on literature than other Ar-

→ Also in this section

68 A life and death in Pakistan

69 Predicting the weather

69 Jackson Brodie returns

70 Johnson: Accents in politics

abs. The market in the UAE is estimated at \$233m, larger than similar-sized European countries like Hungary or Portugal. Egypt has ten times more people than the UAE, but its publishers take in 23% less.

The fairs appeal to governments as well. In a region with a dearth of public space, they are a diversion for residents and a potential draw for tourists, an alternative to the sun-and-shopping model that long defined glitzy cities like Dubai. The tourism industry has “been focused on entertainment, people who don’t attend a concert, don’t open a book”, says Mai al-Khalifa, Bahrain’s culture minister. Authorities also hope to nurture a growing coterie of local novelists. This year Sharjah launched a separate fair to showcase more than 1,000 books by Emirati authors. At its main festival it gives an annual award for the best Arabic-language novel. In 2017 this went to Abdullah al-Busais, a Kuwaiti writer, for his book “The Taste of the Wolf”, a rumination on matters of violence and vengeance that loom large in Arab societies.

And books are only part of the story. Stable and wealthy, the Gulf states are already the centre of political and economic power in the Middle East. They are now spending billions to become cultural powerhouses. Qatar and the UAE host the largest Arabic satellite-news channels. Gulf production houses are making inroads in entertainment programming. The UAE has branches of the Louvre and the Guggenheim; Qatar features a gleaming palace of Islamic art, designed by the late I.M. Pei. ▶▶

► There is a glitch, however: politics. Visitors to the Louvre in Abu Dhabi are given a tour through 8,000 years of human history, with an upbeat message of progress and optimism—but little that is challenging. The same goes for the Riyadh book fair, which is less a festival of intellectual freedom than a showcase for official policy. Last year's event, held six months after the kingdom announced that women would be allowed to drive, had a booth where female visitors could try their hand at a simulated steering wheel. In previous years exhibits extolled mega-projects like Neom, a futuristic \$500bn planned city, and the bravery of Saudi soldiers in Yemen.

Censorship is a problem across the Arab world. But curious readers can find plenty of edgy works in Cairo's Ezbekiya market or the shops on Beirut's Hamra Street. That is less true in the Gulf. Walk through a bookstore in Dubai's Marina Mall and you will find shelves filled with business and self-help guides. An entire display is devoted to books by Dubai's ruler (available in Arabic and five foreign languages). There is almost nothing about current affairs.

A kind of freedom

The fairs are a bit more open—yet they too are circumscribed by inconsistent censorship that drives authors and publishers to distraction. In 2014 Saudi authorities confiscated the works of Mahmoud Darwish, the Palestinian national poet, which it labelled “blasphemous” (Darwish was an ardent secularist). He is no longer forbidden; instead the authorities are on the lookout for anything that might expose citizens to subversive politics. In Riyadh last year they closed a stall that sold books “sympathetic” to the Muslim Brotherhood, an Islamist group banned in Saudi Arabia.

Governments deny any contradiction in all of this. “You have freedom of speech, as long as your speech is moderate,” says an Emirati official. That, of course, is an arbitrary and subjective distinction. Kuwait is the most open of the Gulf states, with a raucous parliament and vibrant print media; all the same, last year Kuwaiti intellectuals started leaking memos from the information ministry, which make for darkly funny reading. Censors do not appear to read all the books they ban—no surprise, since they blacklist about two per day. Instead they just look for keywords. A lone reference to “angels” can merit a crackdown on blasphemy grounds.

So can the word “pee”, which, ironically, is thought to be the reason Mr Busais's award-winning novel is banned in his home country. It is another telling example of a paradox taking hold across the Gulf. From Jeddah to Sharjah, governments have never done more to promote culture—and yet, artists and writers agree, the cultural climate has never been worse. ■

Fame and violence

Fallen idol

The tragic tale of a Pakistani social-media star

A Woman Like Her: The Short Life of Qandeel Baloch. By Sanam Maher. *Bloomsbury; 336 pages; £16.99*

IN EARLY 2017 the *Herald*, a leading English-language news magazine in Pakistan, conducted its annual “person of the year” poll. The result said a lot about the country. The winner was Raheel Sharif, who had just stood down as chief of Pakistan's army, the institution that calls the shots, even when, as now, civilians are notionally in charge. In second place was Qandeel Baloch, a woman born into a poor family in a small town in Punjab province, who had been murdered, aged just 26, by her own brother the previous July.

Sanam Maher, a journalist based in Karachi, has provided the most complete account so far of how Baloch managed to take such a hold on the popular imagination in Pakistan. Ms Maher has done so in an old-fashioned way: with a carefully researched, elegantly written and very readable book. But the territory is already well-trodden in other formats. Previous efforts include a 28-episode Urdu-language soap opera based on Baloch's life. She also has been the subject of a number of documentary films, including two by the BBC. Film-makers are helped by the wealth of archival material she left them. For she lived, and made her name, on social media.

Or at least, she did in the later years of her short life, as she became a star. In telling her story, Ms Maher shows what an un-

likely outcome that was. Like countless Pakistani women, Baloch was married off by her parents, and suffered horrible abuse. She ran away, leaving her husband and son, and taking refuge in a shelter for victims of domestic violence. Her professional life started with a demeaning job as a “hostess” on long-distance bus rides. It then moved into a rather sleazy world of modelling. She changed her name, shed traditional dress for flimsy Western outfits, and started posting online videos of herself. Her big break was to perform (very badly) on “Pakistan Idol”, a television talent show. Her hysterical reaction to rejection—and the lurid pink leggings she wore—“went viral”.

She became adept at drawing attention to herself. She was provocatively sexy, and added stunts such as proposing marriage to Imran Khan, then an opposition leader, now prime minister. She offered to strip online if Pakistan beat India at cricket (it lost). By 2015 she was one of the ten Pakistanis most searched for on the web. That she was “Pakistan's Kim Kardashian” seems to have been both a journalistic cliché and a genuine ambition.

In one sense, Baloch's story is an optimistic one—of how the rapid spread of mobile technology and social media offers an escape for people trapped in a life of miserable obscurity. As recently as 2000 only 133,900 Pakistanis were online. Yet to date her painful “Pakistan Idol” audition has been watched 10.9m times on YouTube.

But her success was also responsible for her death. Two events precipitated it. A newspaper revealed her real name and origins, so her brothers could no longer ignore the stain her online persona was leaving on their “honour”. And she posted flirtatious videos and pictures of herself with a leading Muslim cleric (and head at the time of the religious wing of Mr Khan's party, from which he was later expelled).

The fuss and “disgrace” this caused was too much for a brother to bear, and one drugged and strangled her. Unusually, her parents at first condemned the murderer. The furore helped the passage of a law that makes it harder for perpetrators of “honour” killings—of which there are hundreds every year—to escape justice. But three years on, the parents have changed their tune, not wanting to lose a second child. The case drags on. Social media may have the power to transform lives and society, but traditional attitudes endure—and the resulting clashes can be tragic. ■



How she used to be

Meteorology

Eye of the storm

The Weather Machine. By Andrew Blum. *Ecco*; 224 pages; \$25.99. *Bodley Head*; £16.99

IN 1943 A German U-boat surreptitiously landed on the coast of Labrador, Canada's frigid north-eastern peninsula. Under cover of fog, the crew quickly deposited ten large canisters, each labelled "Canadian Meteor Service", on a nearby hill. Inside were nickel-cadmium batteries and ten-metre antennae—components of a clandestine weather station.

The landing by U-537 was the only known Nazi military operation on North American soil. It was an urgent, if risky, mission. Germany had been cut off from Allied-controlled weather-observation networks, leaving its U-boats vulnerable to eastern-moving storms. The German weather service scrambled to develop new kit that could automatically transmit vital weather reports back to Berlin.

As Andrew Blum explains in "The Weather Machine", his vivid account of the history and evolution of the modern daily forecast, conflict has always spurred innovation in atmospheric science. During the cold war, America raced to launch satellites that could spot a hurricane veering toward the Gulf of Mexico—or spy on Soviet weapons build-ups. Yet much as meteorologists thrive on competition, Mr Blum notes that weather prediction ultimately depends on global teamwork, facilitated by institutions such as the UN's World Meteorological Organisation. Superstorms and cyclones rarely observe national borders.

Like "Tubes", Mr Blum's book about the hidden infrastructure of the internet (published in 2012), "The Weather Machine" traces the "long supply chain of data" that produces the morning weather report. The smartphone weather app is "the handsome face of a complex and sprawling machine", a vast operation encompassing awesome supercomputers, tens of thousands of observation stations and over 100 satellites. The book strips this forecasting engine down to its parts, revealing the people and places that keep the gears turning.

One of them is a lighthouse on top of a worryingly blustery hill on the tiny Norwegian island of Utsira. A weather station has operated there since the 1860s, after the telegraph made it possible to track weather patterns across long distances. A wide-reaching observation network was the first step toward weather prediction; the next was to input the data into a mathematical

model of the atmosphere to produce short-term forecasts. But calculating future atmospheric conditions proved quite a practical challenge in the pre-digital age. Lewis Fry Richardson, an English physicist, estimated in 1922 that a global forecasting office would require 64,000 "computers"—that is, humans working with pencil and paper. "The scheme is complicated because the atmosphere is complicated," Richardson admitted.

The European Centre for Medium-Range Weather Forecasts has developed a more streamlined system. It maintains two supercomputers that together carry out 90trn calculations per second. Visiting the centre's modernist compound in Reading, England, Mr Blum watches one of these machines run a weather model from start to finish, spitting out a ten-day forecast in just over two hours. In 2012 the centre pre-

dicted Hurricane Sandy eight days in advance; by 2025 it aims to forecast such high-impact weather events with as much as two weeks' warning.

Mr Blum runs through the early history of weather prediction before embarking on a grand tour of forecasting institutions across Europe and America. He is a sharp analyst and engaging guide, adept at translating difficult concepts in meteorology and computer science for the uninitiated. He compellingly emphasises the forecast's diplomatic foundations. Weather prediction represents "a last bastion of international co-operation", a global effort to warn of natural disasters that ravage crops and displace communities. As extreme weather events become more common, the weather report—a daily marvel on which lives and livelihoods depend—should not be taken for granted. ■



British fiction

Seaside rock

After a long absence, Jackson Brodie is back

SINCE HER previous book featuring Jackson Brodie was published in 2010, Kate Atkinson's irascible detective has appeared in his own television series, "Case Histories" (starring Jason Isaacs, pictured above); his creator has published a series of acclaimed but unrelated novels. Now, in "Big Sky", the fifth Brodie mystery, Ms Atkinson moves the scene of her crimes from Leeds to the picturesque Yorkshire coast. Cold cases are reopened, and characters from Brodie's past (and the earlier books) reappear, bent either on villainy or on avenging some terrible wrong.

Big Sky. By Kate Atkinson. *Little, Brown*; 400 pages; \$28. *Doubleday*; £20

Ms Atkinson has been on the trail of lost children (particularly girls) since her very first novel, "Behind Scenes at the Museum", published in 1995. "Big Sky" duly features a sex-trafficking and paedophile ring set up by a grim trio who refer to themselves as the Three Musketeers. Posing as a recruitment agency for the British hospitality sector, they lure in young women from eastern Europe to the Philippines ►►

▶ with the promise of lucrative hotel jobs, only to imprison them in Silver Birches, a hideaway from hell, where they are forcibly injected with drugs before being sold on.

In the depiction of this despicable business, as in all Ms Atkinson's fiction, she supplies gruesome discoveries and a strong helping of violence, all nevertheless relayed with a deft and witty touch. Her Brodie novels recall a line from "The Importance of Being Earnest": "The good end happily, the bad unhappily. That is what Fiction means." A literary champion of justice, she lines up a colourful cast of unlike-

ly good guys: glamorous Crystal, the kind-hearted, secretly traumatised second wife of a shady millionaire businessman; Vince, the down-on-his-luck golfing partner of the Three Musketeers, whose life declines from bad to worse; Reggie, a returnee from previous yarns who has grown up into a literature-quoting copper; and Bunny Hopps, an elderly drag artist ensconced for the summer season at a local theatre.

Last, there is Brodie himself, who is now to be found working uninspiring cases as a private detective, while awkwardly spending time with his adolescent son. For their

part, the bad guys run a gamut from hapless to pure evil. They include Barclay Jack, an ageing stand-up comedian, and whoever it was who bludgeoned Vince's highly dislikeable estranged wife.

"Big Sky" has all the sizzle of a British fry-up; Ms Atkinson's evocation of the beauty and desolation of faded seaside resorts is unerring. As in the other Brodie novels, several stories are woven into a seamless plot, with the help of credible-seeming twists of fate. And there is just enough unfinished business to leave readers impatient for his next outing. ■

Johnson Voice of a nation

Power in Britain has never sounded like the country at large

IN "YEARS AND YEARS", a new television drama co-produced by the BBC and HBO, Emma Thompson plays a politician whose abrasive ideas, such as barring those with low IQs from voting, rocket her to power. To British viewers, her policies might seem more plausible than another of her character's distinctive qualities: an unapologetically Mancunian accent.

Although the range of voices at the peak of politics in Britain has broadened, it is still narrow. The United Kingdom has a huge variety of accents. Each of the four constituent nations is diverse, and England (just the size of Alabama) is the most diverse of all. Yet later this month a new prime minister will be installed who—whether it be Jeremy Hunt or Boris Johnson—will sound much the same as every modern holder of that office: like a polished South-Easterner.

True, there have been nuances. James Callaghan had traces of the West Country in his vowels, and Harold Wilson slightly more Yorkshire. John Major was not the poshest of speakers. Tony Blair, who broke a string of five state-school-educated prime ministers, thought fit to try on a bit of "Estuary", the demotic South-Eastern accent that contrasts somewhat with the cut-glass tones prevalent higher up the class scale.

Yet a tourist driving the length of Britain would find these are merely hints of the country's spectrum. Wilson had nothing like the full Huddersfield (where he was born). Mr Major campaigned as a "working-class boy from Brixton", but he hardly talked like a pipe-fitter. That is because, from the 19th century onwards, people who aspire to govern Britain have imitated the upper-class pronunciation of the South-East, often known as Received Pronunciation (RP) and associat-

ed with pukka schools. Scottish, Welsh and Irish accents remained just about acceptable, but pole-climbers from the English regions have had to "lose their accent" and "learn to speak properly".

Both of these goals are, in linguistic terms, meaningless to impossible. Everyone has an accent. Oxford's vowels are not inherently superior to Sunderland's; foreign speakers of English rate RP no more positively than other varieties. Rather than losing an accent, strivers from the working classes and regions have mastered a new one that is associated with prestige. Geography and class overlap. The full version of regional English accents is typically heard among the working classes. Those hoping for advancement in London tend to minimise them (or lose them entirely).

America is different. Though a "General American" accent predominates, the past four presidents have all deviated from it. Donald Trump's New York origins are obvious in his voice, Barack Obama (a General American speaker) could turn on African-American where appropriate, George Bush's Texan was key to his identi-

ty, as was Bill Clinton's Arkansan. Southern accents, in particular, are prominent. During the Trump years alone, a secretary of state (Rex Tillerson), attorney-general (Jeff Sessions), White House press secretary (Sarah Sanders), secretary of energy (Rick Perry) and Senate majority leader (Mitch McConnell) have all had strong southern accents. Such a concentration of northern tones in a British cabinet is, for now, improbable.

Two reasons stand out. American politicians must live in the places they represent, and ideally come from there as well. The local accent proves you are not "carpet-bagging", or swanning into a winnable seat. In England in 2015, less than half of MPs were born in the regions they represented; still less in the actual constituency. Some who have the same strong regional accents as their voters say they meet constituents who can hardly believe they are talking to an MP.

The second reason is the dominance of London in Britain's politics, economy and culture. Paris similarly dominates France, and politicians are mostly expected to minimise regional accents in politics there, too. Germany is like America, a newer and federal state, with local power bases and an economy spread more evenly across the country. For a Bavarian politician to sound anything other than Bavarian would be a betrayal; to adopt the distinctive accent of a native Berliner would be downright bizarre.

Other parts of British life, notably the BBC, have opened up to different accents. Parliament has more of them than it did in recent decades. But Downing Street lags behind. In an age of disdain for distant elites, opening up room for leaders to sound like their voters might just help a loathed political establishment survive a populist age.





LSE Department of Health Policy

THE UNIVERSITY OF CHICAGO Harris Public Policy

Double Executive Masters in Health Policy

Two cities, two years, one program.

Program begins in November.
Apply now to secure your place for 2019.

lse.ac.uk/demhp




Course Dates:
24th–26th Sept 2019
4th–6th Feb 2020

PROGRAM ON NEGOTIATION
HARVARD LAW SCHOOL
EXECUTIVE EDUCATION

World leading negotiation training comes to London...

PON Global
Harvard Law School, Program on Negotiation Global
COUNTY HALL, WESTMINSTER BRIDGE, LONDON

An intensive three-day course, brought to you by the Program on Negotiation at Harvard Law School. A rare opportunity to learn from Harvard's world-class faculty in the theory and practice of negotiation.

For course information and registration:
www.ivosolutions.com/pon-global | ponglobal@ivosolutions.com | +44 (0) 203 507 0036

Tenders



भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
www.rbi.org.in
Department of Currency Management, Mumbai

Expression of Interest - Extension of Last Date of Submission

"Please refer to the Notice inviting Expression of Interest (EOI) on "Selection of Entity for Comprehensive Consultancy Services for establishment of Automated Banknote Processing Centre (ABPC), Mumbai" issued on May 20, 2019. The last date of submission of EOI has been extended to July 9, 2019 till 1500 hrs. The EOI will be opened on July 9, 2019 at 1600 hrs. The above information is already available on the Bank's website. The other terms and conditions of the EOI remain unchanged."


The Economist

To advertise within the classified section, contact:

UK/Europe Olivia Power - Tel: +44 20 7576 8539 oliviapower@economist.com	United States Richard Dexter - Tel: +1 212 554 0662 richarddexter@economist.com
Asia Connie Tsui - Tel: +852 2585 3211 connietsui@economist.com	Middle East & Africa Philip Wrigley - Tel: +44 20 7576 8091 philipwrigley@economist.com


Readers are recommended
to make appropriate enquiries and take appropriate advice before sending money, incurring any expense or entering into a binding commitment in relation to an advertisement.
The Economist Newspaper Limited shall not be liable to any person for loss or damage incurred or suffered as a result of his/her accepting or offering to accept an invitation contained in any advertisement published in *The Economist*.

Property



BARCELONA, SPAIN

BID 26-31 JULY



AUCTION
NO RESERVE

Previously Offered for €12.5M.
SELLING TO THE HIGHEST BIDDER, REGARDLESS OF PRICE.

ConciergeAuctions.com | +34 671 144 937

Concierge Auctions, LLC is a marketing service provider for auctions and is not a licensed Real Estate broker - 800 Bronze Street, Suite 200, Austin, TX 78705 - 512-222-2940. The services referred to herein are not available to residents of any jurisdiction where prohibited by applicable law. Concierge Auctions, LLC, its agents and affiliates, broker partners, auctioneers, and sellers do not warrant or guarantee the accuracy or completeness of any information and shall have no liability for errors or omissions or inaccuracies under the circumstances in this or any other property listings or advertising, promotional or publicity statements and materials. This is not meant as a solicitation for bids. Bids are protected and encouraged to participate. See Auction Terms and Conditions for full details.

Economic data

	Gross domestic product				Consumer prices		Unemployment rate		Current-account balance		Budget balance		Interest rates		Currency units	
	% change on year ago				% change on year ago		%		% of GDP, 2019†		% of GDP, 2019†		10-yr gov't bonds		per \$	
	latest	quarter*	2019†	latest	2019†	latest	2019†	latest	2019†	latest	2019†	latest	change on year ago, bp	Jul 3rd	% change on year ago	
United States	3.2	Q1	3.1	2.2	1.8	May	2.0	3.6	May	-2.4	-4.7	2.0	-82.0	-	-	
China	6.4	Q1	5.7	6.2	2.7	May	2.9	3.7	Q1 [§]	0.2	-4.5	3.0	\$\$	6.88	-3.0	
Japan	0.9	Q1	2.2	1.0	0.8	May	1.1	2.4	May	3.8	-2.9	-0.2	-18.0	108	2.6	
Britain	1.8	Q1	2.0	1.3	2.0	May	1.8	3.8	Mar ^{††}	-4.1	-1.6	0.9	-51.0	0.80	-5.0	
Canada	1.3	Q1	0.4	1.6	2.4	May	1.8	5.4	May	-2.7	-1.0	1.5	-68.0	1.31	0.8	
Euro area	1.2	Q1	1.6	1.2	1.2	Jun	1.4	7.5	May	3.5	-1.2	-0.4	-68.0	0.89	-3.4	
Austria	1.4	Q1	3.8	1.3	1.7	May	1.8	4.7	May	2.1	0.1	-0.1	-72.0	0.89	-3.4	
Belgium	1.2	Q1	1.1	1.2	1.7	Jun	2.2	5.5	May	0.1	-0.9	nil	-71.0	0.89	-3.4	
France	1.2	Q1	1.4	1.2	1.2	Jun	1.2	8.6	May	-0.6	-3.3	-0.1	-72.0	0.89	-3.4	
Germany	0.7	Q1	1.7	0.8	1.6	Jun	1.4	3.1	May	8.1	0.7	-0.4	-68.0	0.89	-3.4	
Greece	0.9	Q1	0.9	1.8	0.2	May	1.3	18.1	Mar	-2.7	nil	2.0	-190	0.89	-3.4	
Italy	-0.1	Q1	0.5	0.1	0.8	Jun	0.9	9.9	May	2.0	-2.9	1.6	-105	0.89	-3.4	
Netherlands	1.7	Q1	1.9	1.6	2.4	May	2.6	4.1	May	10.2	0.7	-0.2	-66.0	0.89	-3.4	
Spain	2.4	Q1	2.7	2.2	0.4	Jun	1.2	13.6	May	0.5	-2.2	0.3	-100	0.89	-3.4	
Czech Republic	2.8	Q1	2.6	2.6	2.9	May	2.5	2.2	May [‡]	0.2	0.2	1.5	-73.0	22.6	-0.6	
Denmark	2.4	Q1	0.5	1.9	0.7	May	1.1	3.7	May	6.8	1.0	-0.3	-62.0	6.62	-3.3	
Norway	2.5	Q1	-0.3	1.7	2.5	May	2.6	3.2	Apr ^{††}	8.1	6.5	1.5	-29.0	8.55	-4.8	
Poland	4.7	Q1	6.1	4.0	2.6	Jun	2.0	5.4	May [§]	-0.6	-2.0	2.3	-99.0	3.76	0.3	
Russia	0.5	Q1	na	1.2	5.1	May	4.9	4.5	May [§]	6.9	2.1	7.5	-38.0	63.5	-0.3	
Sweden	2.0	Q1	2.4	1.9	2.2	May	1.9	6.8	May [§]	5.0	0.5	-0.1	-59.0	9.31	-5.0	
Switzerland	1.7	Q1	2.3	1.6	0.6	May	0.5	2.4	May	9.6	0.5	-0.6	-54.0	0.99	nil	
Turkey	-2.6	Q1	na	-1.7	15.7	Jun	16.1	14.1	Mar [§]	-0.7	-2.3	16.1	-106	5.64	-17.0	
Australia	1.8	Q1	1.6	2.2	1.3	Q1	1.7	5.2	May	-1.5	0.1	1.3	-127	1.42	-4.2	
Hong Kong	0.6	Q1	5.4	1.8	2.8	May	2.3	2.8	May ^{††}	4.5	0.5	1.6	-61.0	7.80	0.6	
India	5.8	Q1	4.1	6.7	3.0	May	3.6	7.9	Jun	-1.8	-3.5	6.8	-105	68.9	-0.4	
Indonesia	5.1	Q1	na	5.1	3.3	Jun	3.1	5.0	Q1 [§]	-2.6	-1.9	7.2	-50.0	14,118	1.9	
Malaysia	4.5	Q1	na	4.5	0.2	May	0.6	3.4	Apr [§]	2.0	-3.5	3.6	-58.0	4.14	-2.2	
Pakistan	3.3	2019**	na	3.1	8.9	Jun	8.4	5.8	2018	-3.8	-7.1	13.9	†††	495	158	-22.9
Philippines	5.6	Q1	4.1	5.7	3.2	May	3.6	5.1	Q2 [§]	-2.0	-2.5	5.0	-129	51.2	4.3	
Singapore	1.2	Q1	3.8	1.6	0.9	May	0.5	2.2	Q1	17.0	-0.6	1.9	-56.0	1.36	0.7	
South Korea	1.6	Q1	-1.5	2.1	0.7	Jun	0.9	4.0	May [§]	4.2	0.8	1.5	-105	1,171	-4.5	
Taiwan	1.7	Q1	2.3	1.8	0.9	May	0.3	3.8	May	13.1	-1.2	0.7	-27.0	31.1	-1.7	
Thailand	2.8	Q1	4.1	3.5	0.9	Jun	0.9	1.1	May [§]	8.3	-2.9	1.7	-82.0	30.6	8.6	
Argentina	-5.8	Q1	-0.9	-1.2	57.3	May [‡]	48.6	10.1	Q1 [§]	-2.3	-3.4	11.3	562	42.2	-33.8	
Brazil	0.5	Q1	-0.6	0.8	4.7	May	4.0	12.3	May [§]	-1.0	-5.8	5.8	-352	3.84	1.3	
Chile	1.6	Q1	-0.1	3.0	2.3	May	2.4	7.1	May ^{§††}	-2.6	-1.3	3.3	-128	681	-4.0	
Colombia	2.3	Q1	nil	3.1	3.3	May	3.4	10.5	May ^{§††}	-4.2	-2.5	5.7	-82.0	3,213	-9.3	
Mexico	1.2	Q1	-0.7	0.8	4.3	May	3.9	3.5	May	-1.7	-2.4	7.3	-31.0	19.1	3.1	
Peru	2.3	Q1	-5.3	3.7	2.3	Jun	2.2	7.1	May [§]	-1.7	-2.0	5.6	64.0	3.30	-0.3	
Egypt	5.6	Q1	na	5.4	14.1	May	13.0	8.1	Q1 [§]	-0.9	-7.7	na	nil	16.6	7.8	
Israel	3.2	Q1	4.8	3.3	1.5	May	1.0	3.6	May	2.9	-4.1	1.5	-56.0	3.57	2.2	
Saudi Arabia	2.4	2018	na	1.9	-1.5	May	-1.1	5.7	Q1	3.3	-5.6	na	nil	3.75	nil	
South Africa	nil	Q1	-3.2	1.0	4.4	May	5.1	27.6	Q1 [§]	-3.4	-4.2	8.1	-74.0	14.1	-2.6	

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. ‡Not seasonally adjusted. §New series. **Year ending June. ††Latest 3 months. †††3-month moving average. §§5-year yield. ††††Dollar-denominated bonds.

Markets

In local currency	% change on:			index Jul 3rd	% change on:		
	Index Jul 3rd	one week	Dec 31st 2018		index Jul 3rd	one week	Dec 31st 2018
United States S&P 500	2,995.8	2.8	19.5				
United States NASComp	8,170.2	3.3	23.1				
China Shanghai Comp	3,015.3	1.3	20.9				
China Shenzhen Comp	1,600.0	2.5	26.2				
Japan Nikkei 225	21,638.2	2.6	8.1				
Japan Topix	1,579.5	2.9	5.7				
Britain FTSE 100	7,609.3	2.6	13.1				
Canada S&P TSX	16,576.2	1.6	15.7				
Euro area EURO STOXX 50	3,540.6	2.8	18.0				
France CAC 40	5,618.8	2.1	18.8				
Germany DAX*	12,616.2	3.0	19.5				
Italy FTSE/MIB	21,905.3	4.0	19.5				
Netherlands AEX	572.9	2.6	17.4				
Spain IBEX 35	9,394.4	2.6	10.0				
Poland WIG	60,671.8	1.4	5.2				
Russia RTS, \$ terms	1,401.5	1.1	31.5				
Switzerland SMI	10,066.5	2.3	19.4				
Turkey BIST	99,363.3	4.8	8.9				
Australia All Ord.	6,770.1	0.8	18.6				
Hong Kong Hang Seng	28,855.1	2.2	11.6				
India BSE	39,839.3	0.6	10.5				
Indonesia IDX	6,362.6	0.8	2.7				
Malaysia KLSE	1,690.1	0.9	nil				
Pakistan KSE	34,896.6	2.4	-5.9				
Singapore STI	3,367.8	2.0	9.7				
South Korea KOSPI	2,096.0	-1.2	2.7				
Taiwan TWI	10,743.8	0.9	10.4				
Thailand SET	1,738.5	0.9	11.2				
Argentina MERV	41,304.3	3.5	36.4				
Brazil BVSP	102,043.1	1.3	16.1				
Mexico IPC	43,483.2	-0.7	4.4				
Egypt EGX 30	14,137.2	0.9	8.4				
Israel TA-125	1,487.5	1.7	11.6				
Saudi Arabia Tadawul	8,853.5	1.9	13.1				
South Africa JSE AS	58,012.2	-0.7	10.0				
World, dev'd MSCI	2,213.3	2.5	17.5				
Emerging markets MSCI	1,059.6	1.1	9.7				

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2018
Investment grade	160	190
High-yield	481	571

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

Commodities

The Economist commodity-price index

2005=100	Jun 25th	Jul 2nd*	% change on	
Dollar Index	month	year		
All Items	139.6	136.4	-0.3	-6.5
Food	152.0	147.3	-0.7	1.4
Industrials				
All	126.7	125.1	0.1	-14.7
Non-food agriculturals	119.1	118.1	-0.3	-16.0
Metals	129.9	128.2	0.3	-14.2
Sterling Index				
All items	199.6	197.0	0.3	-2.2
Euro Index				
All items	152.5	150.2	-0.9	-3.6
Gold				
\$ per oz	1,432.4	1,397.0	5.7	11.3
West Texas Intermediate				
\$ per barrel	57.8	56.3	5.2	-24.1

Sources: CME Group; Cotlook; Darmann & Curl; Datastream from Refinitiv; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

For more countries and additional data, visit Economist.com/indicators

The silent near-majority

Republicans owe much of their success to liberals who don't vote

CLOSE OBSERVERS of America know that the rules of its democracy often favour Republicans. But the party's biggest advantage may be one that is rarely discussed: turnout is just 60%, low for a rich country. Polls show that non-voters—both people uninterested in voting and those blocked by legal or economic hurdles—mainly belong to groups that tend to back Democrats.

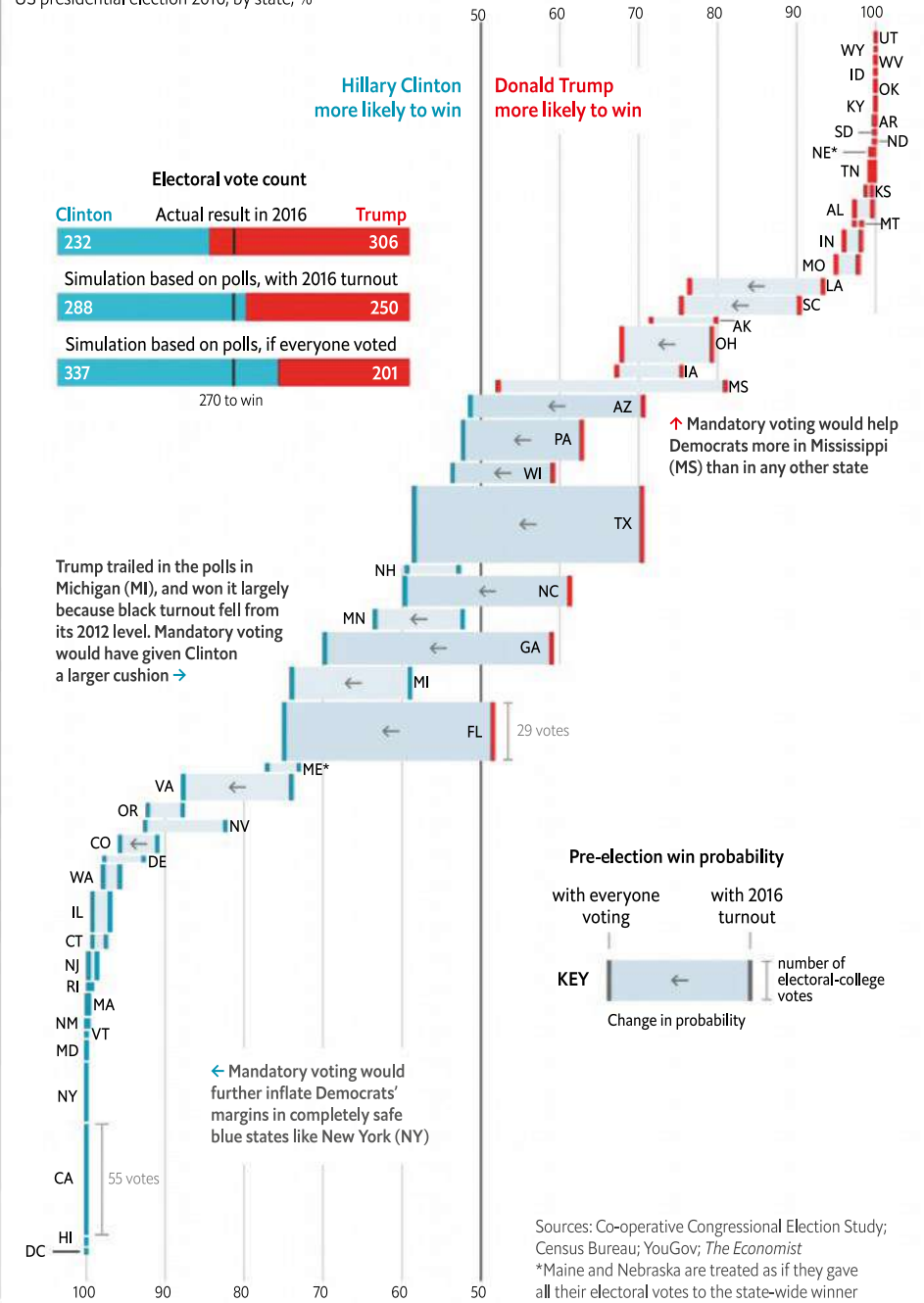
What would change if America became the 22nd country to make voting mandatory? To estimate non-voters' views, *The Economist* used the Co-operative Congressional Election Study (CCES), a 64,600-person poll led by Harvard University. The survey includes demographic data such as race and age, as well as participants' recollections of whom they voted for and verified records of whether they voted. In general, voters and non-voters from similar backgrounds had similar opinions. Using a method called "multilevel regression and post-stratification", the relationships between demography and vote choices can be used to project state-level election results—and to estimate what might have happened in the past under different rules.

Non-voters are relatively uneducated, young and non-white. The first of these traits predicts conservatism, but the others point to liberalism. If everyone voted, 30% of voters in the 21 most competitive states would not be white, up from the actual figure of 25%. As a result, in a typical cycle Democrats would add 50 electoral-college votes—enough to reverse the result in 2016.

If voting were universal, parties would not benefit from whipping their bases into a frenzy. Instead, they would need to court swing voters, pushing policies towards the centre. That centre, however, would sit to the left of its current position, putting the brunt of the adjustment on Republicans. ■

If everyone in America had voted in 2016, Hillary Clinton would probably be president

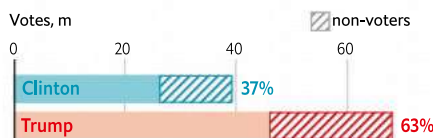
Change in pre-election win probability if everyone voted
US presidential election 2016, by state, %



If America made voting mandatory, Republicans would have to adapt their message

Whites without a college degree

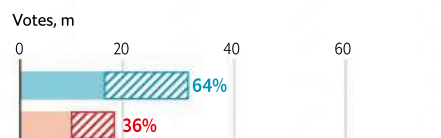
52% of 2016 voters → 48% if everyone voted



Universal turnout would make working-class whites less electorally important, but they would still make up 48% of voters. By focusing on culture-war issues like immigration, Republicans might expand their margin in this group—at the cost of alienating others.

Young people (under 30)

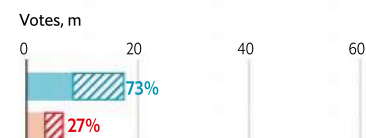
18% of 2016 voters → 22% if everyone voted



Adults under 30 turn out at low rates, but tend to lean left. If voting were universal, Democrats would win nearly twice as many new supporters as their rivals would. Republicans could try to shrink this gap by moderating their stance on, say, climate change.

Hispanics

8% of 2016 voters → 11% if everyone voted



Under universal voting, Hispanics' share of the electorate would rise sharply. Surprisingly, they do not list immigration among their ten most important issues. Republicans could court them most effectively by ending the campaign against Obamacare.



Woman of substance

Judith Krantz, queen of the bonkbuster novel, died on June 22nd, aged 91

DISSECT ALMOST any novel by Judith Krantz (“Scruples” and “Princess Daisy” were the most popular) and you will find a tall leggy young woman with gorgeous hair, at least six steamy sex scenes—the raunchier the better—myriad words for colours (one sentence has “melting taupe, fawn, biscuit and greige” and that’s just for office furnishings) and a diminutive sidekick. Just as she herself measured only five-foot-two in her pantyhose, the sidekick is always a short-waisted, quick-witted, eternally loyal friend (Valentine O’Neill in “Scruples” and Kiki Kavanaugh in “Princess Daisy”) whose abiding passion is for beautiful, well-made clothes. When she is young and poor, she has to make them herself. Later, when she is rich—and she always makes a lot of money because she’s brilliant at business—she buys famous international brands or has her clothes made for her so they fit perfectly and make her look taller.

As a writer, friends came in many forms. Adjectives and adverbs were as precious to her as cashmere and silk. So were her loyal readers, who ignored the griping reviews (Angela Carter once described reading one of her novels as like being “sealed inside a luxury shopping mall whilst being softly pelted with scented sex-technique manuals”). Her fans disagreed. They bought 85m copies of her ten novels in more than 50 languages because they loved how her heroines were survivors, not only of incest or sexual abuse, but of being fat, looked down upon, left out. Hyperbole was another close friend. Faced with a sex scene she knew she had a

choice: plough in or veer to one side. Plough in won every time, whether on a velvet chaise longue or a pile of horse blankets. If it seemed voyeuristic, that was the whole point.

It was the same with clothes. By the time she was 73, she told American *Vogue*, she had sported bare legs with heels, the cinched waist mid-calf skirt, the trapeze, the chemise, the chiffon blouse without a bra, the Mary Quant miniskirt, the ysl Smoking, the total Courrèges white-boot look, the bell-bottom trousers with the po’boy sweater, the power suit and tie-dyed Zandra Rhodes evening pyjamas. If she’d had to dress in something she had never worn before, she’d be limited to a pair of stilettos with fishnet stockings, a Pucci bikini and a cocktail hat. No wonder she was sometimes called “Schmatte Hari”.

She was 49, after her two sons had left home, when her husband suggested fiction as an outlet for her energy and over-the-top imagination. In truth, she had been training for decades. She grew up on Manhattan’s Upper West Side in an apartment filled with paintings by Renoir, Degas and Soutine. Both her parents were children of immigrants; her father’s parents came from Russia, her mother from Lithuania (Billy Orsini in “Scruples” is advised that Jewish men make the best lovers). Her father dropped out of high school and later became a successful advertising executive. Her mother went to law school, but before that had become so good at book-keeping that in 1924 she was earning \$40 a week.

The Krantzses sent their daughter to a private school on the Upper East Side, but they disapproved of showing off and insisted she wore her dowdiest dresses, which did not help make her popular. She learned about beautiful clothes only when she went to Paris for a year after college, and discovered an inexpensive little dressmaker, who copied couture with great skill, she told *Vogue*. Having tried copywriting (about lipstick) at her father’s firm, which she did not take to, she worked as a fashion publicist, *Good Housekeeping’s* accessories editor and as a freelance magazine columnist, dispensing thoughts on, among other things, women’s sexual fantasies. Her husband became a Hollywood producer and the couple moved to Bel Air, the setting for “Scruples”, her first book, which came out in 1978.

Based broadly on Giorgio’s, a boutique that opened in Beverly Hills in 1961 and changed the experience of shopping on the West Coast, it tells the story of Billy, a wealthy young widow whose own shop, *Scruples*, is saved from collapse by a talented young French-Irish designer, Valentine, and Spider Elliott, a charming lothario who sleeps with as many customers as he can just as soon as he has measured them up. A retailing case study with added steam, it was read by millions by the poolside. Over the next two decades she delivered a new book every second year, including a “Scruples 2”, with her husband turning them into successful television series.

She liked flats

Being successful took discipline. So did keeping in shape. Three times a week, she did Pilates with a trainer, which helped her maintain her weight at a steady 104 pounds for nearly 50 years. She wore a size 6 above the waist, size 8 below. She bought her clothes in a size 8 and had them altered. Her walk-in closets held what she liked to call her many-hued bouquet of Chanel jackets, which she wore to promote her books, and trousers that, like those of her fictional characters, she had tailor-made as soon as she could afford it. Skirts were for serious lunches, board meetings and public speaking. Unlike her heroines, who stride forward on killer heels, she preferred flats—Prada or Miu Miu.

Krantz’s novels came after the drug-filled “Valley of the Dolls” and before the servility and handcuffs of “Fifty Shades of Grey”. Unlike those two books, hers were suffused with warmth, which is the real reason they were so popular. No amount of money or sex could take the place of friendship, loyalty and a girlie heart-to-heart. “Sex [you] could, and did, get everywhere,” she once wrote. “Warmth was rare.” ■

LUXE LIVING

W Residences Algarve

Home, with added perks.
Hotel-inspired Residences,
styled with oceanic allure.



walgarveresidences.com

sales@walgarveresidences.com

+ 44 (0) 20 7205 4307



©2019 Nozul Algarve and Marriott International, Inc. All Rights Reserved. W Algarve Hotel and W Algarve Residences are not owned, developed or sold by Marriott International, Inc. or its affiliates ("Marriott"). Nozul Algarve S.A. uses the W marks under a license from Marriott. Nozul Algarve S.A. is solely responsible to comply with all securities laws, including the Collective Investment Scheme under UK law (and selling through a licensed agent to UK residents if required by UK laws) and the US securities laws as regards the marketing and sale of the W Algarve Residences.



THE SAVILLS PORTFOLIO
VOLUME 3 / 2019

**OPEN YOURSELF UP
TO THE WORLD'S MOST
OUTSTANDING HOMES**

View and request your exclusive copy today
www.savills.com/tsp



TURKISH AIRLINES



HOSPITALITY MORE THAN JUST A WORD

True hospitality comes from the heart.
From a genuine desire to make sure our guests always feel totally at home.

A STAR ALLIANCE MEMBER 