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The world this week Politics



A third Saturday of anti-fuel-tax demonstrations, infiltrated by violent provocateurs from the hard left and the extreme right, saw windows smashed, cars ablaze and monuments defiled in Paris. In response, the **French government** cancelled a second planned fuel-tax rise, but protesters said this was not enough.

An hour proved to be a long time in British politics, as Theresa May's government suffered three rapid defeats in the House of Commons over **Brexit**. The government was held in contempt of Parliament, a first in modern times, for not publishing the full legal advice from the attorney-general concerning the withdrawal agreement. MPs also voted to have a direct say in what comes next if the prime minister's proposed deal is voted down on December 11th. In his advice to the prime minister, the attorney-general stated that the Northern Ireland "backstop" would "endure indefinitely" if no new arrangement was agreed.

An advocate general of the European Court of Justice advised, at the request of some Scottish MPs, that Britain could unilaterally revoke the **Article 50** notification to leave the European Union. While not a final ruling by the ECJ, it could provide an avenue of escape if Mrs May's deal fails to win over Parliament.

A small anti-immigrant party, Vox, did well in elections in Andalusia in **Spain**, entering the regional parliament there. It is the first time that a far-right party has taken seats in a Spanish parliament for more than 30 years.

The state's verdict

China's ministry of science described the creation of the world's first **gene-edited babies**, a feat claimed by a Chinese scientist, He Jiankui, as "shocking" and illegal. Mr He's whereabouts are unclear.

A Buddhist, Xuecheng, resigned from an advisory body to **China's** parliament, in which he had held senior positions. The monk stepped down as chairman of the official Buddhist Association in August following accusations of sexual harassment.

Gunmen in **Indonesia's** Papua province killed some 30 construction workers from outside the region who were building a road. Separatist guerrillas claimed responsibility.

An Indian mining firm decided to dig up less of a big coal deposit in Australia than originally planned. Greens have campaigned against the project, calling it a spur to global warming and a threat to the **Great Barrier Reef**.

Authorities in **Pakistan** charged Khadim Hussain Rizvi, the leader of an Islamist protest movement, with sedition. Mr Rizvi had led demonstrations demanding that Asia Bibi, a Christian woman acquitted of blasphemy, be hanged anyway. His supporters also urged the army to mutiny.

Sore losers

The Republican legislature in **Wisconsin** passed a bill that would limit the powers of the new Democratic governor when he takes office in January. Scott Walker, the incumbent Republican governor, who was narrowly defeated in last month's election, has indicated that he might sign it.

George H.W. Bush died at the age of 94. America's 41st president received a state funeral. His long career included being shot down over the Pacific during the second world war, sitting in Congress, running

the CIA and serving as Ronald Reagan's vice-president. As president, he oversaw the end of the cold war, encouraged the reunification of Germany, expelled Saddam Hussein from Kuwait and was unfailingly polite and understated.

Lawyers working on Robert Mueller's investigation into **Russian meddling** in American elections recommended that Michael Flynn be spared a prison sentence for having helped with their inquiries. Mr Flynn, Donald Trump's first national security adviser, has pleaded guilty to lying to the FBI. The investigation gained a new witness in **Michael Cohen**. Mr Trump's former personal lawyer pleaded guilty to lying to Congress about the extent of his Russian contacts.

A chink of light in a dark war

The Saudi-led coalition backing the **Yemeni** government allowed the Houthi rebels to evacuate wounded members to Oman. The Houthis and the government also agreed to exchange hundreds of prisoners. Those moves paved the way for peace talks in Geneva.

After a briefing by the head of the CIA, senators in America said they were certain that Muhammad bin Salman, the crown prince of **Saudi Arabia**, ordered the killing of Jamal Khashoggi, a Saudi journalist, in a consulate in Istanbul in October. A Turkish court approved arrest warrants for two former aides to the prince over the killing.

Qatar announced that it would withdraw from OPEC. It was another reminder of the oil cartel's disunity. Saudi Arabia, OPEC's most important member, has been trying to strangle Qatar with a trade embargo.

Police in **Israel** recommended that Binyamin Netanyahu be indicted for bribery and fraud. The prime minister and his associates have been the subjects of several criminal probes. Police have recommended indictments in three.

America reopened its embassy in Mogadishu, the capital of **Somalia**. Fighting between rebels and the government forced America to close the embassy and airlift out its ambassador in 1991. The move reflects Somalia's progress, said the State Department.

Lawmakers in **Sudan** expressed support for a constitutional amendment that would allow President Omar al-Bashir to run for a third term in 2020, despite a two-term limit introduced in 2005.

South Africa's parliament approved a report endorsing a constitutional amendment that would allow the expropriation of land without compensation. It can now start the process of making the change. Land grabs in neighbouring Zimbabwe caused an economic collapse.

Turning left



Andrés Manuel López Obrador was sworn in as president of **Mexico**. He used his inaugural address to criticise the liberal orthodoxy to which Mexican governments have intermittently adhered for three decades. He vowed to "end the corruption and impunity that impede Mexico's rebirth". He later suspended the auction of oil contracts for three years.

Cuba announced that people would be allowed to buy internet subscriptions on their mobile phones. Cubans have so far been restricted to using public hotspots or cybercafés to get online. The state-owned mobile-network operator will offer data packages up to 4GB for \$30, about the same as the average monthly state wage.



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The Chinese government expressed confidence that it could reach a trade agreement with America by March 1st, following Donald Trump's undertaking to postpone by 90 days the imposition of new tariffs on Chinese goods that were due to come into effect on January 1st. Mr Trump offered his olive branch in the **trade war** after a meeting with Xi Jinping at the G20 summit. However, there was some confusion about the details, as American officials contradicted Mr Trump's assertions about Chinese concessions. That spooked stockmarkets. The Dow Jones Industrial Average, NASDAQ and S&P 500 indices fell by more than 3% in a day.

Piling the pressure on

Meng Wanzhou, the chief financial officer of **Huawei** and daughter of the Chinese company's founder, was arrested in Canada at the behest of America for alleged violations of sanctions. It comes as Western countries have warned against using Huawei's products in mobile-phone networks, citing fears over espionage. BT, a telecoms provider in Britain, has reportedly banned core equipment made by the firm. The head of Britain's MI6 warned this week that Chinese technology embedded in communications infrastructure is a threat to national security.

Prosecutors in Frankfurt said that **Deutsche Bank** was co-operating with their inquiry into suspected money-laundering. The German bank's offices were raided by 170 police officers and tax officials hunting for documents related to the investigation, which is based on a deep delve into the Panama Papers, a set of leaked documents into offshore financial transactions. Deutsche's share price swooned below €8 (\$9), a record low.

The government in the Canadian province of **Alberta** announced a cut in oil production of 8.7% for the first three months of 2019. It will maintain a curb on output for the

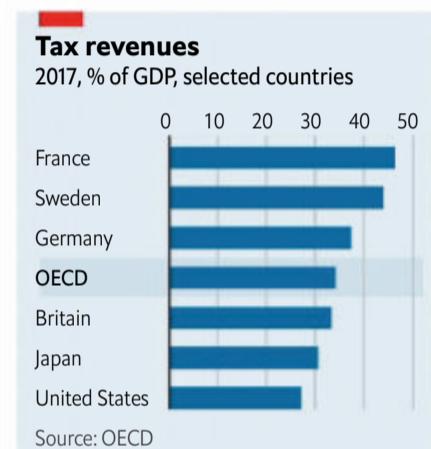
rest of the year. The government wants to boost the price of Alberta's oil, the price of which has fallen sharply this year because of a glut caused by bottlenecks in the pipelines that transport the commodity for export. With **oil prices** dropping generally, OPEC and Russia met in Vienna to discuss cuts to production.

Another week, another scandal for **Facebook**. A British parliamentary committee investigating fake news released documents which, it said, showed that Facebook had given some companies full access to user data despite a change to its platform that limited what developers could see. The documents were seized from a developer that is suing the social network. Facebook says they are "misleading" and insists it has "never sold people's data".

Takeda, a Japanese drugs company, won approval from its shareholders for a deal to buy **Shire**, a rival based in Ireland. The £46bn (\$59bn) transaction is Japan's biggest foreign takeover to date. For months a campaign led by descendants of the founder of Takeda, which traces its history to 1781, had tried to derail the bid, believing it to be too risky.

In its biggest acquisition since 2011, **Unilever** agreed to buy GlaxoSmithKline's (GSK) consumer-health division in India for €3.3bn (\$3.7bn). The business gets most of its revenue from **Horlicks**, a malted milk drink that is marketed as a children's nutritional supplement for building muscle and bone. It is one of India's most popular packaged beverages.

GSK, meanwhile, struck a \$5.1bn deal to take over **Tesaro**, an American biotech company that specialises in new types of drugs called PARP inhibitors used in the treatment of ovarian cancer.



In a week when rioting worsened in Paris over fuel taxes, the OECD published a report showing that France collects the most **tax as a percentage of GDP** among rich countries. The tax-to-GDP ratio in France

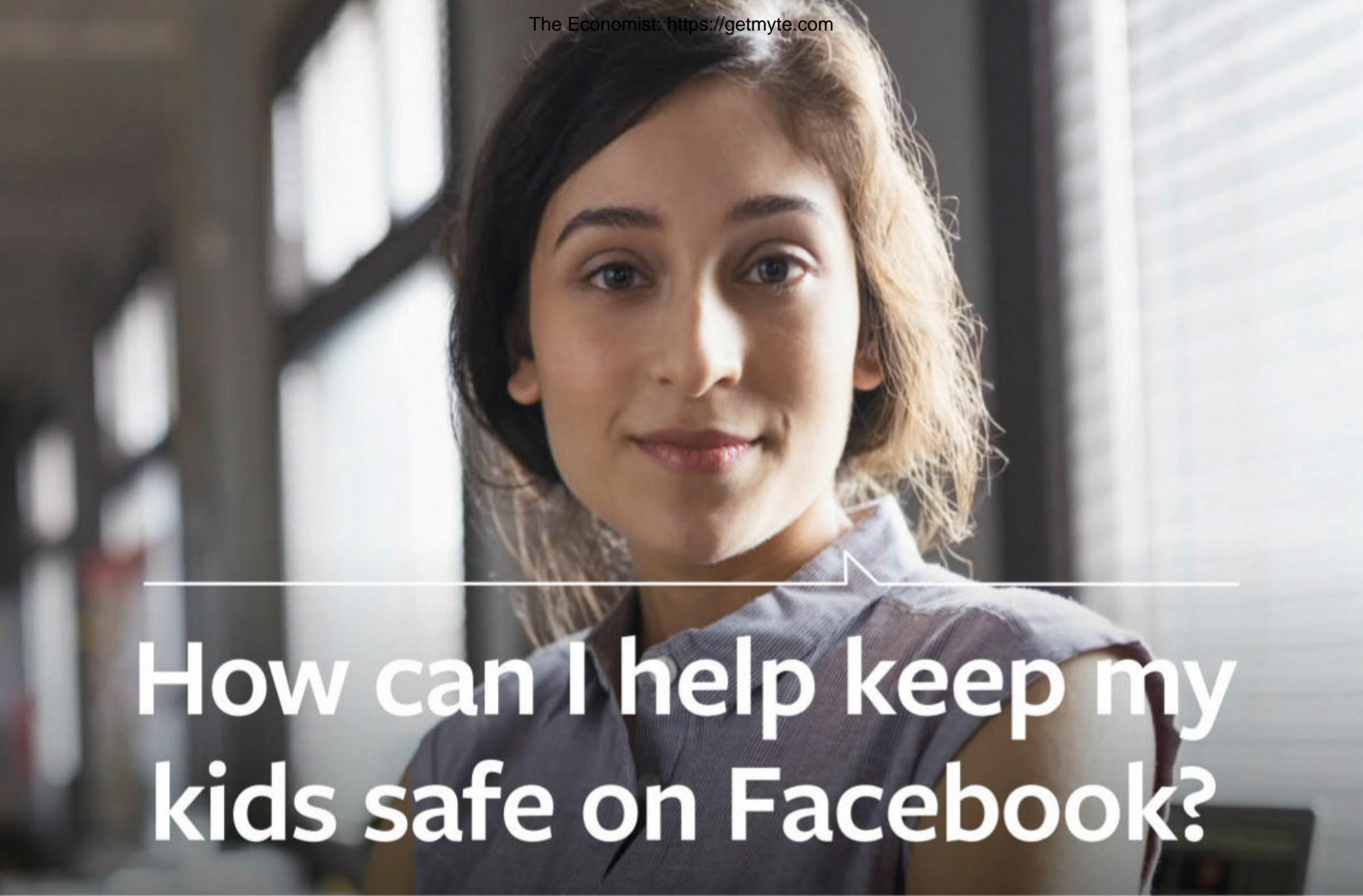
last year was 46.2%, slightly ahead of Denmark, which had topped the survey each year since 2002. The OECD average of 34.2% was the highest since records began in 1965. However, just 19% of total tax revenue in France comes from taxes on individual income; in Denmark it is 54%.

New York's taxi commission imposed a pay formula on **ride-hailing services** such as Uber that will set a minimum wage for their drivers at \$17.22 an hour (after expenses). That is more than the city's new \$15 minimum wage for other workers and takes into account the drivers' status as contractors who do not receive benefits such as paid leave. Uber said the price passengers pay will probably rise as a result.

Nipping it in the bud

Tumblr decided to block adult content, just weeks after its mobile app was banned from the iPhone. Some consider Tumblr's move to be brave, as it is thought that a fifth of the blogging site's users access porn material. Tasteful nudity will be allowed, as will erotic text. But Tumblr's bottom line is that there are lots of internet sites featuring adult content: "we will leave it to them".





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The best way out of the Brexit mess

Parliament cannot agree on what kind of Brexit the people want. It should ask them

IT TOOK THERESA MAY a year and a half to reach a deal with the European Union. It looks as if it will take Britain's own Parliament less than a month to throw it out. An imminent vote on whether to approve the prime minister's Brexit agreement seems almost certain to be lost by a wide margin (see Britain section).

The government's struggle to get the deal through Parliament exposes a crack that Brexit has created at the heart of Britain's democracy. Most MPs believe, with reason, that Mrs May's imperfect compromise is worse than the status quo. As the people's elected representatives, they have every right to block it. On the other hand, the referendum of 2016 gave them a clear instruction to leave. Although that vote carries no legal weight, it has taken on a moral force like little else. Today's paralysis is the result of Britain's inability to reconcile its tradition of representative democracy with its more recent experiments in the direct sort.

Many argue that MPs should shut their eyes and vote for what they believe to be a damaging plan, out of respect for the referendum. They are wrong. Their argument rests on a flawed assumption: that the majority for Leave in 2016 means any resulting deal reflects the will of the people. It is far from clear that Mrs May's plan does. It breaks many of her own negotiating red lines, never mind the promises made by campaigners in the run-up to the vote. The government has largely given up arguing that its deal will be good for the country, instead insisting that it is what democracy demands. Yet no one can claim to intuit what the people want. The only way to know is to ask them.

Mrs May's deal is not the turkey that hardline Leavers and Remainiacs claim. The notion that a Brexiteer could simply hop on a train to Brussels and negotiate a better one is fatuous. The prime minister has made it her priority to bring the free movement of people to an end—a bad idea in our view, but hardly an unpopular one. That entails leaving the single market, a big loss. But she has otherwise kept about as close an economic relationship with the EU as possible, partly to avoid introducing new border checks in Northern Ireland.

Nonetheless, it is clear that Mrs May's deal is in almost every respect worse than the carefully constructed one Britain already has, which gives it the benefits of being in the EU, while allowing it to opt out of the single currency, maintain its own passport checks and receive a large budget rebate. New barriers to trade will sever its dynamic services industry from its largest market and could damage Britain's manufacturing supply chains. Under the Irish arrangement, Britain will until further notice have to follow EU rules that it has no say in writing, suggesting subservience, not the reclamation of sovereignty. The fallout could lead to further constitutional and territorial damage, including the rupture of the union with Northern Ireland and Scotland.

Does the 4% margin that voted to leave two years ago translate into a majority for passing this unappealing compromise? It is not impossible. Some Remainers foolishly assume that grim economic forecasts are clinching arguments, as though no one ever knowingly voted for a policy that would make them poorer. Still, even on the most generous assumptions, it is reasonable to

question whether the will of the people is on the side of this pale shadow of the prospectus touted in 2016.

Mrs May has spent the past fortnight on a virtual referendum campaign, trying to persuade the public of the deal's merits, and in turn to persuade MPs that the deal has the public's backing. There has even been talk of a televised debate on her plan. It is a worthy exercise to sell her hard-won agreement. But the prime minister's progress through the country is a pantomime of democracy. It has every element bar the ballot itself. Mrs May is right that MPs should take into account what the public think. So should she: not by guessing, but by calling on them to vote.

Neverendum

The path to a second referendum is treacherous. Parliament will struggle to agree on its form. Heavy defeat for Mrs May could lead to a general election, in which all parties would put forward brilliant-sounding but impossible Brexit plans, adding to the muddle. The rejection of Mrs May's deal would raise the risk of leaving with no deal at all, a disaster for Britain and bad news for its neighbours. Fortunately, such an accidental no-deal Brexit became less likely this week—because MPs, most of whom rightly see it as a catastrophe, will now have a greater say.

Even if those obstacles were overcome, there would remain the most powerful objection to a second referendum: that it would cheat those who voted in the first. The EU has an ignoble tradition of getting people to vote again when they choose the "wrong" answer. If the vote to leave was a rebellion against the establishment, a second referendum would be seen as a counter-revolution.

The risk is real. A second referendum would cause lasting resentment and would fuel populist parties peddling the stab-in-the-back theory. Yet to rule it out on this basis ignores how any softish Brexit deal would also be denounced as a betrayal and a sell-out. Hardline Leavers describe Mrs May's plan as "vassalage", a "national humiliation" and a "cheating" of those who voted to leave. Likewise, the belief that approving the deal will get the whole divisive episode over and done with ignores the fact that, after Brexit day, Britain faces perhaps a decade of trade negotiations with the EU, involving more of the painful trade-offs between prosperity and control that the public have grown so sick of. All the while, the country will be falling further behind its potential. It is true that a second referendum would cause lasting anger and undermine faith in politics. But so would pushing through a deal in the name of the people amid evidence that the people were unconvinced.

Brexit is often likened to a divorce. In fact the two years since the referendum have been more like a rocky engagement. Voters were swept off their feet by the promises of the Leave campaign, only to discover that the future relationship was not going to be as they had imagined. Calling it off would be mortifying. Yet seeing it through could be a serious, permanent mistake. If the British are determined to plough on, that is their right. But now that they know what Brexit really means, they deserve the chance to say whether they still want it. ■



French politics

Macron's nightmare

The French president's problems are more to do with presentation than policy

IT IS A long way down from Mount Olympus. Last year Emmanuel Macron strode into power with a mandate to reform France. This week France looked unreformable. The streets of Paris have been littered with burned-out cars and glass from smashed shop windows. Parts of the countryside are paralysed, as protesters in high-visibility yellow jackets obstruct roads and blockade fuel depots. Policy u-turns are making Mr Macron look as weak as all his recent predecessors who tried to change this most stubborn of nations. The man who once promised a "Jupiterian" presidency is looking decidedly mortal.

Mr Macron's election in May 2017 seemed to herald new optimism about France, Europe and the world. Young, intelligent and bubbling with ideas to make France more open, dynamic and fiscally sober, he gave an eloquent rebuttal to the drawbridge-up nostalgia of Brexit Britain, Donald Trump's America and the autocracies of eastern Europe. The hope for a broad renewal of the radical centre came to rest on his shoulders.

When this new party, a band of political newcomers powered by social media, won a thumping parliamentary majority, the Macron revolution seemed unstoppable. He swiftly passed long-needed reforms to make the labour market more flexible, working with moderate unions and facing down obstreperous ones. His education reforms offered smaller classes in poor areas and greater citizens' control over training. The budget was knocked into shape, meeting the Maastricht deficit limit of 3% of GDP for the first time since 2007.

Yet along the way, Mr Macron forgot that a French president is neither a god nor a monarch but merely a politician in a democracy that requires the constant forging of consent. His hauteur has led to a series of individually small but cumulatively destructive missteps—scolding a teenager for calling him "Manu" instead of "Monsieur le Président", summoning parliament to be lectured at the palace of Versailles, talking of "people who are nothing".

Mr Macron also seems to have forgotten that, in the first round of last year's election, 48% of voters were so unhappy that they backed extremists: Marine Le Pen on the nationalist right, Jean-Luc Mélenchon on the left and half-a-dozen less charismatic radicals. Those voters have not gone away. So it was unwise of the new president to antagonise the left-behind carelessly. One of his first moves was to slash taxes on wealth. The old wealth tax was inefficient, incentive-sapping and often avoided. But its removal should have gone side-by-side with more help for the hard-up. Likewise, his tax rises on diesel are a sound green policy, but he should have paid more attention to the people they hurt most—struggling rural folk who need to drive to work. The most damaging label that has stuck to the former banker is that he is "the president of the rich".

Many French people believe this, which is perhaps why around 75% say they support the *gilets jaunes* protesters. Like Mr Macron's election campaign, the protesters are organised via social media. Unlike it, they are leaderless and lack a coherent agenda, so they are almost impossible to negotiate with. The

clashes already look to be the worst since *les évènements* of 1968.

Mr Macron will now be banking that his decision, on December 5th, to cancel the diesel tax rises "for the year of 2019", will take the heat out of the conflict. This seems unlikely; for a start, the protests have in part now been hijacked by thuggish extremists with an interest in the violent overthrow of capitalism. Many of even the moderate *gilets jaunes* are demanding Mr Macron's resignation, or a new parliament. And an earlier diesel tax rise which went into effect last January, has not (yet) been reversed.

Only human after all

The government's reaction could backfire horribly. It may not be enough to draw the sting from the protests. But, by giving ground at all, it may show that Mr Macron can be pushed around by mobs on the streets, thus encouraging more mobs to form. There is pressure on Mr Macron to bring back the wealth tax; and further reform now looks much less likely than it did. Yet there is plenty of hard work still to do; the next overdue project that Mr Macron plans to tackle is France's unaffordable pension system.

Does all this mean that have-your-cake-and-eat-it populism must triumph, and that reformers will always be thwarted? It is depressingly easy to conclude so. Mr Trump has won the support of his base by offering Americans tax cuts that are not affordable

in the long term. In Italy the all-populist ruling coalition promises to lower the pension age that a more prudent predecessor raised, while also offering deep tax cuts. Even Vladimir Putin did not have the courage to face down Russian pensioners this year.

All is not lost for Mr Macron. He could help himself in several ways. First, he should demonstrate where his priorities lie. It will be expensive, but some form of earned-income tax credit is needed: a proper wage subsidy for the low-paid that enhances their incentive to work, rather than draw the dole. (One exists already, but it is too small. Mr Macron has promised to beef it up, but only slowly.) That should have gone hand in hand with scrapping the wealth tax. Second, he and his government need to do more to promote and explain the good things they have already done but which are underappreciated—such as the investment in apprenticeships, or the moves that will make it more likely that businesses will hire young people on long-term contracts. The unemployment rate is down by half a percentage point, though still much too high at 9.1%.

And third, Mr Macron himself needs to change. His notion that the French want their president to be aloof and Jupiterian is misguided. As our chart (see Europe section) shows, the most popular French president of recent times was the least remote—Jacques Chirac, a beer-swilling, heavy-smoking *mec* with a twinkle in his eye. In an age where populists will do and say anything, a politician who cannot persuade ordinary people that he or she understands them, likes them and wants to help them will struggle to get anything done. It will not take superhuman powers to reform France—just the very human ones of patience, persuasion and humility. ■





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TURKISH AIRLINES

WIDEN YOUR WORLD

Ethiopia

Liberty and disintegration

A new prime minister promises freedom. Ethnic separatists could wreck his plans

ETHIOPIANS ARE calling it their third revolution. The first was the fall of Emperor Haile Selassie in 1974. The second was in 1991, when Ethiopians kicked out the Derg, a Marxist junta that had forced peasants onto collective farms at gunpoint, causing mass starvation. Now, after 27 years of less homicidal but still authoritarian rule by the Ethiopian People's Revolutionary Democratic Front (EPRDF), Ethiopians are getting their first real taste of freedom (see Middle East & Africa section).

The seeds of revolution were sown at a phoney election in 2015, when the EPRDF and its allies won an implausible 95% of the vote and every seat in parliament. Furious protesters took to the streets. The government shot dozens and arrested thousands, sparking riots. Young men burned foreign-owned factories and blocked roads. In April, desperate to end the mayhem, the EPRDF named Abiy Ahmed, a 42-year-old reformist, as prime minister.

He has acted quickly, lifting a state of emergency, freeing thousands of political prisoners and vowing to hold fair elections in 2020. He has signed a peace deal with Eritrea, re-opening the long-closed border with what was once a mortal enemy. The atmosphere of amity is spreading. Eritrea has signed a peace accord with Djibouti, and restored diplomatic ties with Somalia. The UN secretary-general talks of a "wind of hope" blowing across the Horn of Africa.

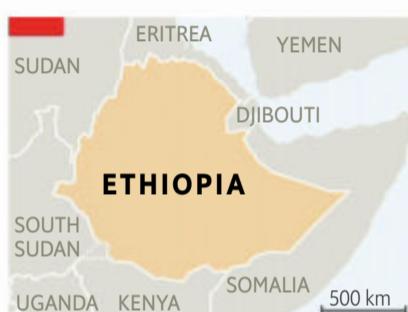
Ethiopia is central to this. With 105m people, it is the second-most populous country in Africa. Also, since the demise of the Derg, it has been seen by many as evidence that the "China model" of an authoritarian but businesslike state could work in Africa. For the past 15 years Ethiopia's GDP has expanded at 10% a year from a low base, the government says. Even if its numbers are overstated, millions of Ethiopians have lifted themselves out of poverty. But much of this growth was fuelled by unsustainable public borrowing. The "Ethiopian miracle" has run out of steam. The country's foreign debt is now equivalent to three years' ex-

port earnings. The government is struggling to service it. Annual inflation has risen to 14%. Sclerotic monopolies such as Ethio Telecom desperately need to be broken up and sold.

Not only must Abiy cope with an economic crisis. He must also stop the country from falling apart. Ethiopia is home to more than 80 ethnic groups. Under the EPRDF, group rights were foolishly written into the constitution. Each "nation, nationality and people" was given the right to secede. For a long time this meant little—anyone who asked to break away risked being shot by a regime dominated by one group, the Tigrayans. However, under the new, gentler dispensation, ethnic chauvinists spy an opportunity. Four groups, some consisting of barely 1m people, have demanded plebiscites on self-rule. Larger groups are conducting pogroms to drive smaller ones from their territory, or what they hope will become their territory. Ethnic cleansing is all the easier because identity papers record ethnicity. In the first half of this year a horrifying 1.4m Ethiopians were forced to flee their homes.

Some are urging Abiy to slow his democratic reforms and bring back the iron fist. This would be a mistake. In the short term he will need the army and police to stop ethnic violence, but under orders to show restraint. In the long run the only peaceful way to hold Ethiopia together is to persuade all its people that they have a voice. Mr Abiy should hold a credible election in 2020, which he will probably win. He should then start a process of constitutional reform to reduce the power of ethnicity in politics.

This means abolishing ethnic-identity cards entirely. It also means reforming the winner-takes-all voting system to allow more representation for minority parties and to encourage them to campaign on issues rather than identity. The details matter. Elections in other African countries have often sparked ethnic violence. For now, Abiy has the popularity and political capital to avert disaster. He should use it. ■



Pollution in India

Dirty work

Even by the standards of poor countries, India is alarmingly—and unnecessarily—filthy. It needs to clean up

INDIA STINKS. If at this misty time of year its capital, Delhi, smells as if something is burning, that is because many things are: the carcinogenic diesel that supplies three-quarters of the city's motor fuel, the dirty coal that supplies most of its power, the rice stalks that nearby farmers want to clear after the harvest, the rubbish dumps that perpetually smoulder, the 400,000 trees that feed the city's crematoria each year and so on. All this combustion makes Delhi's air the most noxious of any big city (see Asia section). It chokes on roughly twice as much PM 2.5, fine dust that penetrates deep into lungs, as Beijing.

Delhi's deadly air is part of a wider crisis. Seventy percent of

surface water is tainted. In the World Health Organisation's rankings of air pollution, Indian cities claim 14 of the top 15 spots. In an index of countries' environmental health from Yale and Columbia universities, India ranks a dismal 177th out of 180.

This does not just make life unpleasant for a lot of Indians. It kills them. Recent estimates put the annual death toll from breathing PM 2.5 alone at 1.2m-2.2m a year. The lifespan of Delhi-dwellers is shortened by more than ten years, says the University of Chicago. Consumption of dirty water directly causes 200,000 deaths a year, a government think-tank reckons, without measuring its contribution to slower killers such as kidney disease. ►

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► Some 600m Indians, nearly half the country, live in areas where water is in short supply. As pollutants taint groundwater, and global warming makes the vital monsoon rains more erratic, the country is poisoning its own future.

Indian pollution is a danger to the rest of the world, too. Widespread dumping of antibiotics in rivers has made the country a hotspot for anti-microbial resistance. Emissions of carbon dioxide, the most common greenhouse gas, grew by 6% a year between 2000 and 2016, compared with 1.3% a year for the world as a whole (and 3.2% for China). India now belches out as much as the whole of Africa and South America combined.

In the past India has explained its failure to clean up its act by pleading poverty, noting that richer countries were once just as dirty and that its output of filth per person still lags far behind theirs. But India is notably grubby not just in absolute terms, but also relative to its level of development. And it is becoming grubbier. If electricity demand doubles by 2030, as expected, coal consumption stands to rise by 50%.

It is true that some ways of cutting pollution are expensive. But there are also cheap solutions, such as undoing mistakes

that Indian bureaucrats have themselves made. By subsidising rice farmers, for instance, the government has in effect cheered on the guzzling of groundwater and the torching of stubble. Rules that encourage the use of coal have not made India more self-reliant, as intended, but instead have led to big imports of foreign coal while blackening India's skies. Much cleaner gas-fired power plants, meanwhile, sit idle.

Reliant on big business for funding and on the poor for votes, politicians have long ignored middle-class complaints about pollution, failing to give officials the backing to enforce rules, or to co-ordinate across jurisdictions. That is a pity, because when India does apply itself to ambitious goals, it often achieves them. Next year it will send its second rocket to the Moon.

Narendra Modi, the prime minister, promised with admirable frankness when he took over to rid the country of open defecation. Four and a half years and some \$9bn later, his Clean India campaign claims to have sponsored the building of an astonishing 90m toilets. This is impressive, but India is still not clean. Its skies, its streets, its rivers and coasts will remain dangerously dirty until they receive similar attention. ■

Low-Earth-orbit satellites

Round and round they go

The launch of thousands of new satellites will boost the space economy

SPACE IS BECOMING more crowded. On December 3rd a Falcon 9 rocket made by SpaceX thundered into the sky. On board were 64 small satellites, more than any American company had launched before in one go. They have an array of uses, from space-based radar to the monitoring of radio-frequency emissions. One, designed by Trevor Paglen, an artist, will soon unfurl a 30-metre reflective structure that will shine down on Earth like an artificial star, visible to the naked eye.

These objects are part of the latest breed of low-Earth-orbit (LEO) satellites, which are designed to whizz around the planet only a few hundred kilometres above its surface. This week's launch is just a taste of what is planned. SpaceX and OneWeb, a communications firm, plan to launch satellites in their thousands, not hundreds (see Briefing). The pair are set to double the total number of satellites in orbit by 2027.

That promises to change things dramatically on Earth. LEO satellites can bring internet connectivity to places where it is still unavailable or unaffordable. This will also be an enduring source of new demand for the space economy.

Morgan Stanley, a bank, projects that the space industry will grow from \$350bn in 2016 to more than \$1.1trn by 2040. New internet satellites will account for half this increase.

For that to happen, however, three worries must be overcome. Debris is the most familiar concern. As long ago as 1978, Donald Kessler, a scientist at NASA, proposed a scenario in which, when enough satellites were packed into low-Earth orbits, any collision could cause a chain reaction which would eventually destroy all space craft in its orbital plane. The syndrome which bears Mr Kessler's name weighs heavily on the minds of executives at the new satellite firms. Debris could conceivably render entire tracts of space unusable for decades. (Collisions have al-

ready happened. In 2009 an American satellite and a Russian one crashed into each other above Siberia, sending over a tonne of metal fragments swirling around the planet at thousands of kilometres per hour.)

Solutions exist. One is to grab malfunctioning satellites and pull them down into Earth's atmosphere. Another is to monitor space more intensively for debris; a US Air Force programme called Space Fence is due to start in 2019. But technology is only part of the answer. Rules are needed to govern the safe disposal of old satellites from low-Earth orbit. The United States' Federal Communications Commission is revising its regulations with this in mind. Other countries should follow suit.

Cyber-security is a second, long-standing worry. Hackers could take control of a satellite and steal intellectual property, redirect data flows or cause a collision. The satellite industry has been slow to respond to such concerns. But as more of the world's population comes to rely on the infrastructure of space for access to the internet, the need for action intensifies.

The third issue follows from the first two. If a simple mistake or a cyber-attack can cause a chain reaction which wipes out hundreds of billions of dollars of investment, who is liable? Underwriters are studying the plans of firms that wish to operate large numbers of satellites. But there is a long way to go before the risks are well understood, let alone priced.

As space becomes more commercialised, mind-bending prospects open up: packages shuttled across the planet in minutes by rocket rather than by plane, mining equipment sent to asteroids, a stream of paying passengers launched to orbit and beyond. All that and more may come, one day. But such activities would raise the same questions as LEO satellites do. They must be answered before the space economy can truly blossom. ■



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Investment managers

No to no deal

With a Brexit deal at last on the table, those calling for a no-deal solution should heed official guidance from both sides of the Channel on the potential effect this would have ("The truth about no deal", November 24th). Without an agreement, British driving licences will no longer be recognised in the EU, British food and animal exports could be temporarily banned from the EU market, and hauliers will be forced to compete for permits which cover only 5% of the country's international transport needs in order to keep trade flowing.

Critics will try to dismiss industry warnings as scare-mongering. But we cannot ignore the consequences of border controls in creating delays, the additional red tape for companies and the contingency measures companies will be forced to take to ensure a continuity of supply. Critics may also choose to ignore economic logic, and claim that all this complexity, uncertainty and cost will result in cheaper prices for customers. It is time for the truth.

The deal that Britain has on the table might not be perfect, but it has the merit of offering business more time to avoid the dreaded Brexit cliff edge while a comprehensive agreement with the EU can be negotiated. Ultimately, any deal must ensure customers are able to access essential commodities and a wide range of products at a reasonable price, a situation the logistics industry is committed to achieving. No one voted for the chaos which a no deal would bring.

PAULINE BASTIDON
Head of European policy
Freight Transport Association
Tunbridge Wells, Kent

As events unfold, I have the slight fear that in the end Britain won't find itself in a situation resembling the "Canada" or the "Norway" but rather the "South Sudan" option to Brexit.

TORSTEN SELCK
Oldenburg, Germany

Describing the Brexit negotiations as a "three-dimensional game of chess" is a flattering analysis ("Into the endgame", November 17th). High-level chess usually results in a draw, and a well-played game reflects well on both players. This process is more like a tipsy game of Jenga.

BRIAN O'BRIEN
Kinsale, Ireland

Let the people vote for one of three options: stay in, out now, or out in 2030. The last option comes with a big if... "If the EU's politicians don't drastically shrink their administration and bureaucracy during the coming decade." Half the EU's member states would also vote for this alternative.

DAVID GEE
Uppsala, Sweden

Teacher training

Your article on the promise of education technology asserted that in low-income countries, "the big problem is teachers" ("Teacher's little helper", November 17th). But all the examples you provided of effective technology require teachers to get on board. In the account of Kenya's Tusome programme the teacher is delighted to receive better feedback from a coach. In South Africa a programme using technology to provide coaching to teachers from a distance was effective because the teachers engaged with it.

Moreover, why is it that teacher absenteeism is high? Teachers are not morally different from their peers in other professions. Indeed, many professionals would also register high rates of absenteeism if, for example, they were asked by their supervisors to canvass for political campaigns, or simply if no one cared about their absence. And the answer to why teachers often lack crucial knowledge and pedagogical abilities is that education systems often use criteria other than merit to hire them and neglect to train teachers with serious practical skills. The big problem is not teachers, but rather education

systems that fail to select, prepare and support them.

DAVID EVANS
Lead economist
World Bank
Washington, DC

Regulating glyphosate

Contrary to the thrust of your article, "Hazard signs", (November 17th), regulators continue to support the safe use of glyphosate. In evaluations spanning 40 years, the overwhelming consensus in America, Europe, Japan and elsewhere has been that glyphosate-based herbicides are safe for use and glyphosate is not carcinogenic. This extensive body of research includes more than 800 rigorous studies submitted to the Environmental Protection Agency and other regulators in connection with the registration process that confirms that these products are safe when used as directed. Confusion about glyphosate and cancer stems from one opinion by the International Agency for Research on Cancer, which is not a regulator, did no independent studies, and omitted from its consideration the most comprehensive epidemiology study of pesticides and cancer, which found no association between glyphosate and cancer.

Glyphosate is too important to low carbon and affordable food production to leave this context out of the conversation.

JESUS MADRAZO
Head of agricultural affairs and sustainability
Bayer Crop Science
Monheim, Germany

A lost opportunity

"Building blocs" (November 3rd) recounted the persistence of housing segregation in Northern Ireland. This year marks, astonishingly, the 190th anniversary of a report from a committee in the House of Commons that proposed a single, non-denominational school system for the whole island of Ireland (religious instruction was to be kept rigidly separate). This was 40

years before the government created a national school system for England.

The Catholic church agreed to the proposal, but the established Anglican church and the Presbyterian church had theological and other objections which they felt prevented them from participating in a single system. This was done with good intent; each saw itself as the one true church. But lives would have been saved, and politics rendered less fractious, if the churches had been willing to co-operate in 1828.

That dream of integrated schools did not come about for another 153 years, when frustrated Catholic and Protestant parents created Lagan College in 1981. From that one shared scout hall with 28 pupils, parents have gone on to create 65 integrated schools.

COLM CAVANAGH
Derry

Greek history lesson

We learn that Greece never suffered a civil war (Charlemagne, December 1st). What exactly then was the bloody struggle that took place in Greece between 1946-49?

IOANNIS GRAMMATIKOS
London

Small is beautiful

You lamented congressional gridlock because it makes us less confident in government ("Where next?", November 10th). I cannot imagine a better consequence than losing faith in an overactive government. As John O'Sullivan said 181 years ago, "The best government is that which governs least." Government's just role is to ensure we follow every good mother's advice: don't hurt anyone else or take their stuff.

DAN RIFF
*Manchester-by-the-Sea,
Massachusetts*

Executive focus



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Executive Director Secretariat of the Green Climate Fund (GCF) (Songdo, South Korea)

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A worldwide web in space

TOULOUSE

Using satellites to connect the entire world to the internet

ACLEAR PLASTIC box the size of a sofa sits in an underground factory in the suburbs of Toulouse in southern France. Inside it, a nozzle fixed to a robot arm carefully drips translucent gloop onto bits of circuitry. This is to help get rid of excess heat when the electronics start to operate. The slab that is created is then loaded onto a trolley and taken away as the next piece of electronics arrives for the same treatment.

This is what the mass production of satellites looks like. Making them in quantity is a necessity for OneWeb. The company was founded in 2012, and it has yet to launch a single satellite. Yet it plans to have 900 in orbit by 2027. That seems a tall order. Intelsat, the firm which currently operates more communications satellites than any other, has been around for 54 years and has launched just 59.

OneWeb, which is part-owned by Airbus, a European aerospace giant, and SoftBank, a Japanese tech investor, needs such a large quantity of satellites because it wants to provide cheap and easy internet connectivity everywhere in the world. Bringing access to the internet to places

where it is scarce or non-existent could be a huge business. Around 470m households and 3.5bn people lack such access, reckons Northern Sky Research, a consultancy. OneWeb is one of a handful of firms that want to do so. They think the best way to widen connectivity is to break with the model of using big satellites in distant orbits and instead deploy lots of small ones that sit closer to the ground.

The rate at which an object orbits depends on how far away it is. At a distance of 380,000km, the Moon takes a month to travel around the Earth. The International Space Station, around 400km up, buzzes round in an hour and a half. In between, at an altitude of about 36,000km, there is a sweet spot where satellites make an orbit once a day. A satellite in this orbit is thus “geostationary”—it seems to sit still over a specific spot. Almost all today’s satellite communications traffic, both data and broadcasts, goes through such satellites.

The advantage of a geostationary orbit is that the antennae that send data to the satellite and those that receive data coming down from it do not need to move. The dis-

advantage is that sending a signal that far requires a hefty antenna and a lot of power. And even at the speed of light, the trip to geostationary orbit and back adds a half-second delay to signals. That does not matter for broadcasts, but it does a little for voice, where the delay can prove tiresome, and a lot for some sorts of data. Many online services work poorly or not at all over such a connection. And it always requires a dish that looks up at the sky.

Head in the clouds

Ships, planes and remote businesses rely for internet connections on signals sent from geostationary orbit, but this method is too pricey for widespread adoption. Beaming the internet via satellites orbiting closer to the planet has been tried before. The idea was popular at the height of the tech boom of the late 1990s. Three companies—Teledesic, Iridium and Globalstar—poured tens of billions of dollars into the low-Earth orbit (LEO) satellite internet. It culminated in the collapse of Teledesic. Although the technology of the time worked, it was very costly and so the services offered had to be hugely expensive, too. Iridium survived, but as a niche provider of satellite telephony, not a purveyor of cheap and fast internet access.

OneWeb is among several firms that are trying LEO satellites again. SpaceX, a rocket company founded by Elon Musk, a tech entrepreneur, is guarded about its proposed system, Starlink, but on November 15th American regulators approved an applica-



tion for 7,518 satellites at an altitude of 340km (bringing the total for which the firm has approval to nearly 12,000). Telesat, a Canadian firm, has plans for a 512-satellite constellation. LeoSat, a startup with Japanese and Latin American backers, aims to build a 108-satellite network aimed at providing super-fast connections to businesses. Iridium, still in the game, will launch the final ten satellites in its new constellation of 66 by the end of the year. Not to be outdone, a Chinese state-owned firm recently announced the construction of a 300-satellite constellation. In ten years' time, if all goes to plan, these new firms will have put more satellites into orbit by themselves than the total launched to date (see chart on next page).

These companies want to avoid the technical issues of geostationary satellites by putting theirs into a low orbit, where the data will take only a few milliseconds to travel to space and back. And because signals need not be sent so far the satellites can be smaller and cheaper. OneWeb claims they might weigh 150kg and cost a few hundred thousand dollars, compared with a tonne or more, and tens or even hundreds of millions of dollars, for the geostationary sort.

Floating in a most peculiar way

At 1,200km up, where OneWeb intends its first satellites to operate, they do not sit still in the sky. A satellite overhead will sink below the horizon seven minutes later. That has two consequences. First, to ensure that a satellite is always available to any user, a great many are required. Second, to talk to such a satellite you need an antenna that can track it across the sky.

One way to understand this is as a cellular-phone network turned inside out. On Earth, cell-phone towers are fixed; a user's phone talks to the closest or least busy one, which may change as the user moves or traffic alters. In OneWeb's system each sat-

ellite is a moving cell tower, circling the Earth from pole to pole in one of 18 orbital planes that look like lines of longitude (see diagram). The 900 cells, each one covering an area of a bit more than 1m kilometres, skim across the Earth at 26,000km an hour. Clever software hands transmission from one satellite to the next as they move into and out of range.

There are three ways to connect to such a network. One is to place an antenna on a terrestrial cell tower, which can use the satellites to get data to and from a mobile-phone network, in place of the fibre optic, microwave or cable links that are normally used. The second is for homes and businesses to have their own ground terminals, smaller and cheaper antenna that can talk to the satellite. The third is for vehicles to have ground terminals. This might be important for driverless cars, which will need to transmit and receive large volumes of data over an area which may be broader than that covered by appropriate terrestrial cellular networks.

In all cases data will make their way to the wider internet through large ground-based dishes, called gateways. An email sent from a house connected to one of the new satellite network, for example, would travel up to a passing satellite, down to a gateway then onward to its destination.

The firms involved today hope to overcome the obstacles confronting the previous generation of LEO satellite firms because building and launching hundreds of satellites is now much cheaper. The cost of launch in particular has tumbled in the past decade with the arrival of better rockets and more competition. OneWeb has a contract, reportedly valued at over €1bn (\$1.1bn), for 21 launches with Arianespace, a European consortium. Russian-built Soyuz craft will also take 34 to 36 satellites up at a time from either French Guiana or Kazakhstan. OneWeb may later use Blue Origin, a rocket firm owned by Amazon's

founder, Jeff Bezos; it also has a contract for launching single satellites to replace ones that break down with Virgin Orbit. Virgin Group, like Airbus and SoftBank, is an investor in the company. SpaceX intends to launch its satellites on its own rockets.

Space to grow

The bigger challenge is making satellites quickly and cheaply enough to fill up these rockets. It typically takes existing satellite-makers two years to build one after contracts are signed. They are not up to the challenge, says Jonny Dyer, who worked on a Google project that first brought the OneWeb team together (but stayed with Google when the two parted ways). "The supply chain does not scale," he says. "They're not used to working at those volumes, and they're not used to the unit cost."

OneWeb and SpaceX thus not only have to make new satellites, they have to build a system for building satellites. OneWeb has been doing so in Toulouse for the past two years. Its first satellite was completed in April and ten more will be ready in time for the company's first launch, some time before February 2019. To step up manufacture, OneWeb is building two copies of its production line in a new factory in Florida. It hopes to have the first satellite from this facility ready before March 2019 and to raise output to ten a week not long after.

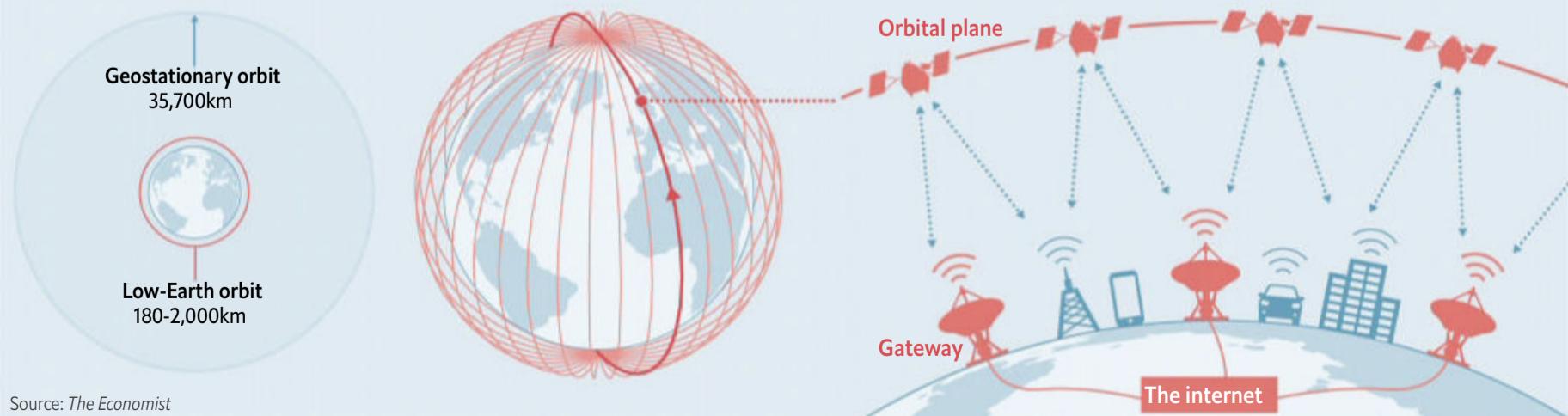
The factory floor in Toulouse has separate workstations for propulsion systems, communications payload, solar panels and so on. Satellites in the making move on robot carts from one station to the next. Cameras track the components and look out for errors—misalignments and the like. The finished cube is about the size of a beach ball bedecked with antennae and solar panels. After testing, it is shipped out. The system has had teething problems. The first launch will be more than a year behind schedule. But Greg Wyler, OneWeb's boss, says he still hopes to offer connectivity in ►

Sky net

Satellites orbit at different rates depending on their distance from Earth. They travel faster when lower

OneWeb's system has each satellite as a moving "cell tower", circling the Earth from pole to pole in one of 18 orbital planes

Each satellite will cover an area of around 1m km and move across the Earth at 26,000kph. Data flow through the satellites using gateways to connect to the wider internet



► places in higher northern latitudes, such as Alaska and Britain, by the end of 2019.

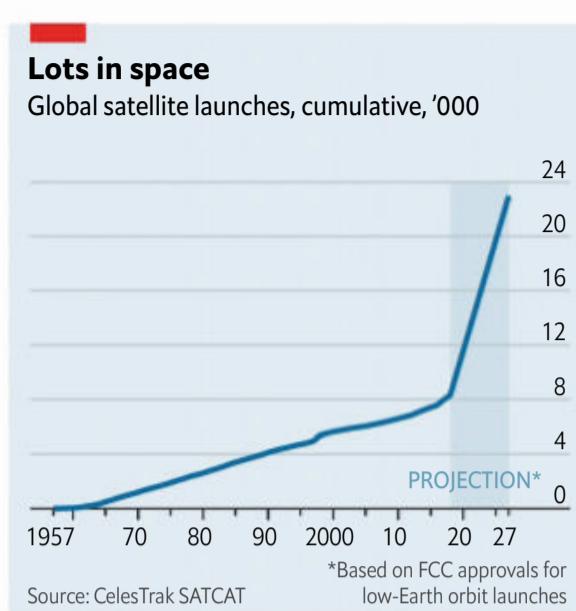
Putting satellites in place is only part of the problem. How useful they will prove to be depends on designing and building antennae to get data to homes or vehicles that are not close to terrestrial cell towers. "The elephant in the room...has always been the ground terminal," says Nathan Kundtz, the former boss of Kymeta, which makes antennae. Mr Kundtz says that tracking satellites across the sky mechanically is untenable if the antennae are to be affordable and widely used. His firm does tracking electronically. No moving parts, he says. Teledesic failed in part because no such ground terminal existed in the late 1990s. Fortunately, the necessary electronics have shrunk in size and cost.

Aerial combat

Firms such as Kymeta, along with at least two other companies, Phasor and Isotropic Systems, are producing flat, electronically "steerable" antennae with no moving parts that can send and receive signals from LEO satellites. Kymeta's antenna is the least orthodox. It relies upon the same kind of LCD display found in laptops and flat-screen televisions. Instead of using the 30,000 pixels in its screen to display images, it uses them to filter and interpret the satellite signal by allowing it to pass through at some pixels and blocking it at others. Different patterns of pixels act like a lens, focusing the signal onto a receiver beneath them; the pattern shifts up to 240 times a second, changing the shape of the "lens" and thus keeping track of the satellites overhead. Phasor's system works similarly, but uses an electronically controlled array of microchips to perform the same task. Isotropic Systems, which has said that it is developing an antenna that will be able to receive signal from OneWeb's satellites, uses an optical system more like Kymeta's.

Kymeta and Phasor have both said that they do not want to sell antennae directly to consumers, but will focus on businesses, cellular networks, maritime and aviation customers instead. Isotropic Systems has announced that it will use its technology to produce a "consumer broadband terminal" in time for OneWeb's launch. Once available, consumers are most likely to get the new pizza-size antennae through their internet service providers. But if it is too expensive for people to receive signals on the ground—most of the world's unconnected are poor—those ventures selling direct to consumers will struggle. Mr Wyler says his firm needs antennae that cost \$200 at most for the consumer business to thrive.

Telesat, the next biggest firm in terms of constellation size, is taking a different approach. It does not plan to offer services to consumers directly, but instead is focusing on filling in gaps for cellular networks, as



well as businesses, ships and planes. Specialised telecoms companies would buy bandwidth and resell it. In contrast to Messrs Wyler and Musk, and their aspirations for global coverage, Telesat has divided the surface of the planet into thousands of polygons, and modelled exactly in which ones it makes financial sense to offer strong connectivity. This means its constellation needs fewer expensive gateways.

Mr Wyler, in contrast, is known as something of a connectivity evangelist. His first satellite internet firm, o3b (Other 3 Billion), placed large satellites in a higher orbit, providing a connection only slightly slower than a LEO satellite. Now owned by SES, a larger satellite company, o3b specialises in providing connectivity to islands that are otherwise cut off. OneWeb's goal of connecting consumers is largely in the hands of SoftBank, its main investor, which owns the exclusive rights to sell the new bandwidth.

Even if the new satellites bring the internet to people and parts of the planet that have been ill-served up until now, putting



ever more objects in space brings another set of difficulties. Satellites in densely packed constellations may crash into each other or other spacecraft. "If there are thousands [of satellites] then they'll have much higher probability of colliding," says Mr Dyer. "If there is a collision in these orbits it will be a monumental disaster. At 1,000km, if there's an incident it will be up there for hundreds of years." Geostationary satellites, because they do not move relative to each other, are unlikely to collide.

Managing constellations is particularly difficult, says Mr Wyler, because each satellite has only a tiny amount of power to work with (equipping small ones with bigger thrusters would be hugely expensive). So even if a crash were imminent, there would be little that could be done about it other than watch. "What are you gonna do? Nothing. Get popcorn. There's nothing to do," says Mr Wyler. OneWeb has designed its constellation so that faulty satellites fall out of orbit immediately to avoid this risk.

Access all areas

The new constellations will also raise tricky questions of national jurisdiction. Countries generally have control of the routers which connect them to the wider terrestrial internet. Satellites threaten that control. The national regulators that OneWeb has talked to are uneasy, says Mr Wyler, because it would create a route to the internet that countries could not monitor. OneWeb's intention is to build 39 "gateways" on the ground around the world that will beam up and receive traffic from its satellites.

The first is under construction in Svalbard, a remote Norwegian island chain. These access points, and those planned by other firms, present another difficulty. Some countries are willing to share gateways with other countries. Others want their own because they are concerned that third parties will be able to monitor internet traffic, potentially using it to hack data flows of national importance.

Questions remain about whether the businesses involved can do all they promise cheaply enough. But if these companies succeed, their impact will go beyond helping to bring 3.5bn people online. Mr Musk has hazy plans to use Starlink as the foundation for a deep-space network that will keep spacecraft connected en route to Mars and the Moon.

With a network of satellites encircling the planet, humans will soon never be offline. High-quality internet connections will become more widespread than basic sanitation and running water. The LEO broadband firms are trying to reinvent the satellite industry. But the infrastructure they are planning will provide a platform for other industries to reinvent themselves, too. ■



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Brexit and Parliament

The consequences of saying no

If Parliament rejects Theresa May's Brexit deal with the European Union next week, the result could be anything from no deal to no Brexit

TO PUT IT mildly, Theresa May's government is not fully in control of Britain's separation from the EU. On December 4th MPs voted, for the first time ever, to hold the government in contempt of Parliament for refusing to publish legal advice about the withdrawal agreement from the attorney-general. Then they voted themselves a larger say in the whole process. On December 11th (unless the vote is postponed, which is unlikely), MPs seem sure to reject the deal that Mrs May has spent the past year and a half crafting. What then?

Defeat is likely because a group of hard-line Eurosceptics in the Tory party loathe the deal—as does the Northern Irish Democratic Unionist Party (DUP) that props up the government. They fear that the “Irish backstop” (an arrangement crafted to avoid any risk of a hard border between Ireland and Northern Ireland) could keep Britain locked in a customs union with the EU indefinitely, robbing them of their dreamed-of clean Brexit. It looks as though almost every Labour MP will vote against the deal as well. So will a small band of Tory Remainers.

What happens next will depend partly on the margin of defeat. Thanks to some

careful expectations management this week, a loss by 50 votes or less might almost resemble a victory for the government, allowing it to fight on. If the government is defeated by close to 100 votes, though, it would be a shattering blow. The result would be political chaos, perhaps leading to Mrs May's ousting, a snap election or a second referendum.

In the more benign of the two vote outcomes, Mrs May would go back to Brussels to seek some modest changes to the deal. This has, after all, happened before for governments having trouble ratifying treaties such as those of Maastricht, Nice and Lisbon. Conveniently enough, the next EU summit meets just two days after the vote. Although Brexit is not on its agenda, leaders would surely discuss what they might be able to do to help Mrs May.

Yet little substantive change to her deal will be possible, says Charles Grant of the Centre for European Reform, a think-tank. The withdrawal agreement, a legally binding treaty that includes the Irish backstop, will not be rewritten. Any suggestion that Parliament should have a veto over entering the backstop will surely be rejected. It would be simpler to add material to the ac-

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companying political declaration on the future relationship between the EU and Britain. This could include more promises about a future trade deal. But because the declaration has no legal force, such cosmetic changes may not count for much back home.

So Mrs May will have to find other ways to win over votes in Westminster. One possibility would be to point to rattled markets, which in 2009 persuaded legislators in America to back the TARP financial-rescue plan. Yet markets have priced in the likelihood of a defeat next week. Many analysts still think Mrs May's deal will eventually go through (Malcolm Barr of J.P. Morgan puts the chances at 50%), and the risk of Britain leaving without a deal has been largely discounted.

Mrs May will first try to convince enough Brexiteers that all alternatives to her deal are worse. For months she has insisted that the options are her deal or no deal. That does not frighten the hardliners in her party, who would welcome the latter. So she has taken to adding a third option. If her deal is rejected, she says, Britain might not leave the EU at all. That prospect, combined with fears that chaos when the deal fails could mean a Labour government, might tip a few Brexiteers back into her lobby, if only to ensure that Brexit in some form still happens next March.

Yet, especially if her defeat next week is large, none of this is likely to work. So what then? A first answer is more political turmoil. Mr Corbyn will probably table a motion of no confidence in the government. This would fail unless the DUP supported ►

► it, which seems unlikely. Rebellious Tory MPs could, however, amass the 48 letters that are required to trigger a leadership contest. Mrs May could win any race. But she could also be forced out, or she might choose to resign. Whatever happens, the threat of another election would also loom. The Tories and the DUP would resist one, but public pressure for a poll could rise.

Meanwhile, the Brexit clock would keep ticking. In the absence of legislation that states otherwise, Britain will leave the EU next March. That means the risk of a no-deal Brexit is still there. MPs have made clear that they do not want this—one of the amendments passed on December 4th gives Parliament more control in the event that Mrs May's deal fails. MPs could also refuse to pass laws to soften the impact of a no-deal Brexit. But none of this is enough on its own. Unless the government itself proposes legislation to stop a no-deal Brexit, it could still happen.

Other options appear more attractive. One is to switch horses to a different deal. The most talked-about is the "Norway option" of joining the European Economic Area. This has the advantage of being an existing model. But it would take many months to negotiate, it would mean accepting free movement of people and it too would require an Irish backstop. As Mrs May has been at pains to point out, this is true in spades for any other deal, especially for the looser Canadian-style free-trade deal favoured by many Brexiteers. If this were to avoid both an Irish border and hiving off Northern Ireland under separate governance, it would need a backstop even more intrusive than her deal.

Such problems point to other choices if the deal cannot pass muster. The one likely to be demanded by Mr Corbyn is a general election that might be fought on the principle of accepting or rejecting Mrs May's deal. But no election is fought on just one issue, so it would be hard for voters to send a clear signal about Brexit. Hence the appeal of an alternative: a second referendum. Labour is moving slowly towards endorsing this idea if it cannot have an election. Yet it too has problems, notably over the terms of the question and the timing (see box).

All alternatives to Mrs May's deal have one thing in common: the need for more time than is available before Brexit takes place on March 29th 2019. There has long been debate about whether and how to extend the two-year time limit set by Article 50 of the EU treaty. Mrs May insists it will not happen. The treaty allows it, subject to the unanimous approval of other EU governments. In Brussels it is assumed this would be forthcoming for an election, a referendum or a longer period of ratification—but maybe not for continuing debate about what Britain wants. A complication is the European Parliament elections in

A People's Vote

Second time lucky

When it comes to a second referendum, the medium shapes the message

IT BEGAN AS a demand from a handful of Liberal Democrat MPs and a hard core of fervent Remainers. Now it seems to have the support of half the country. As the government's Brexit plans fall apart, a second referendum has come to look ever more likely. But how would it work in practical terms?

The main dilemma is what to put on the ballot. Some supporters of a "People's Vote", such as the Conservative MP Justine Greening, back a three-way poll. Voters would rank their preferences, with a choice of remaining in the EU, backing the government's deal or leaving with no deal at all. Others, including the "People's Vote" campaign, would prefer a binary choice between staying and leaving. A third option is a two-stage referendum. Voters could be asked first whether they want to leave the EU, and only if they still do by what method.

Each option has problems, point out academics at University College London, as well as taking time to organise. A binary choice might bring accusations of

unfairness. Remainers would not wish to choose only between the government's deal and no deal, for example. A straight choice between three options, with the most popular declared the winner, would also be tricky. One option could win with just 34% of the vote, which might not seem a decisive answer. If two options involved leaving the EU, Brexiteers might argue that the Leave vote was split.

Britain could use an alternative vote (AV) system that considers people's second choices. But though some places use preferential voting for local elections, a three-way choice with AV is unfamiliar to most voters, requiring a public-information campaign. Two rounds of voting are also unfamiliar.

Crucially, the mechanism used can shape the response from voters. Theresa May's deal, no deal or staying in the EU could all win, depending on the precise question put in a second referendum (see chart). A referendum usually asks a simple question, but the answer can be rather more complex.

Noughts and crosses

Britain

If there were a referendum, with these options*, which would be your first and second choices?, %



If there were a referendum, with the following two options, which would you support?, %



Source: Survation, fieldwork November 27th 2018

*Excludes don't know

late May. If Britain were still a member of the club, it might have to hold elections that would be embarrassing and deprive other countries of British seats that are being reallocated.

A new factor entered the calculations this week from Luxembourg. In a case originating from Scotland, an advocate-general of the European Court of Justice advised that Britain has the unilateral right to revoke its Article 50 letter, subject only to a requirement not to do so abusively (eg, revoking the letter only to resubmit it). His opinion is usually followed by the full court. This would mean that, if up against

the deadline, any British government could avert a no-deal Brexit by seeking parliamentary approval to withdraw the letter. But the consequence would be that Britain would remain in the EU.

Mrs May is failing to persuade MPs that hers is the only Brexit possible. But there is no sign of an accord around another plan, even the Norway option. That is why talk is increasing of finding a way to stop Brexit altogether, however politically awkward that might be. Only one thing seems certain amid all the headlines about weak and unsteady government: the Brexit debate is far from over. ■

The markets

Not your bully

Financial markets will probably not bring politicians round

JAMES CARVILLE is surely to blame. As political adviser to Bill Clinton, he joked that he would like to be reincarnated as the bond market, because “you can intimidate everyone”. The idea is that pressure from the markets tends to curb reckless economic policy. Carvillists think that the prospect of a hard Brexit will prompt panic-selling of bonds, shares and the pound, a rout that would bring politicians to their senses. This seems a forlorn hope. It is far more likely that the markets will be cowed by politics than the other way around.

If the House of Commons on December 11th votes down the Brexit deal agreed with the EU, the pound will probably fall. The price of gilts, as British government bonds are known, would rally as investors seek a safe haven. The share prices of firms most heavily exposed to the domestic economy would fare badly. But a cheaper pound might push the overall index of leading shares up, because many of the largest firms get much of their profits outside Britain. A weaker pound would make it cheaper to buy a stream of global earnings.

Yet it seems likely that prices would move only modestly. Really big moves would require investors to believe on December 12th that a no-deal Brexit was now a certainty. Why should they think so? Many things could happen before March 29th to mitigate, forestall or postpone such an outcome. Few hedge funds would be willing to short sterling—borrow pounds so as to sell them in the hope of buying them back more cheaply later. If the political winds suddenly changed, the pound might surge, leaving them out of pocket.

Say, for the sake of argument, that investors came to the conclusion that a no-deal Brexit was now more likely. Sterling might then conceivably fall by 10% or so. But what would put a floor under it is that the pound has already fallen a long way since the Brexit referendum in June 2016. Before the vote was in, sterling was trading at \$1.48. It now buys \$1.27. There is already a fair bit of Brexit bad news priced into sterling. The same goes for British stocks.

Carvillists draw a parallel between the parliamentary vote on the Brexit deal and passage through Congress in 2008 of the Troubled Asset Relief Programme, or TARP, a bail-out for America’s banks. The TARP was at first voted down. The stockmarket promptly fell sharply. Then, four days later, Congress voted in favour of it. It is not a

perfect parallel. When the TARP vote was taken, many feared that banks would fail and the financial system would break down within days. In Britain, by contrast, Brexit is still months away. And in the otherwise gloomy picture of a no-deal Brexit recently drawn by the Bank of England, it was made clear that banks would still function, even in the worst-case scenario.

Investors know that most of the electorate, and the bulk of MPs, do not favour a no-deal Brexit. So they are unlikely to panic prematurely. If, as March 29th approaches, there is still no deal in place, investors will grow nervous. Things are likely to be messy. But the markets are more likely to be the bullied than the bullies. ■

Northern Irish politics

Please surrender

BELFAST

Ulster Unionists are at loggerheads over Theresa May's Brexit plan

IN WESTMINSTER THE Democratic Unionist Party is hot for Brexit and implacably opposed to Theresa May’s deal, contributing to the stormy atmosphere. At home, however, Northern Ireland’s largest party faces trouble of its own. Brexit has opened up a new division in a place that has no shortage of them. This one pits the DUP against many of its erstwhile supporters in business and farming.

Since last year’s general election, Mrs May’s government has been propped up by a “confidence and supply” agreement with the DUP, under which the party backs her in crucial votes. Now, however, the party accuses her of betraying Unionist interests in Northern Ireland. It is particularly outraged by the part of the EU withdrawal



agreement known as the backstop, which could lead to the province retaining different regulatory arrangements from the rest of the UK—and thus, in Unionist eyes, becoming less British. The DUP argues that Mrs May’s deal is worse than no deal, and warns that she can no longer rely on them for support in the House of Commons.

Fretful businesspeople in Northern Ireland are urging the DUP to change course. The strength of feeling was illustrated by Bill Wolsey, a prominent Belfast hotelier, who received thunderous applause at a business event when he declared: “We’re represented by politicians, some of whom have the vision of Blind Bart and some who are weighted down heavily by prejudice from the past.” Calling on the party to support Mrs May’s approach, he added: “We in the business community, and the voters of the future, should never forgive them if they don’t take this opportunity.”

It is easy to see why businesses worry about crashing out of the EU without a deal. Fully 27% of Northern Ireland’s exports go south to Ireland and 23% of the province’s imports come from there. The restoration of any sort of border, with consequent customs checks and delays, would hit farmers particularly badly. A third of those exports to the Irish Republic are of food and live animals. The powerful Ulster Farmers’ Union has given its backing to Mrs May’s deal, even though many of its members are likely to be DUP supporters.

In the 2016 referendum, 56% of voters in Northern Ireland plumped for Remain, 44% for Leave. The general belief is that a large majority of Nationalists were for Remain, while Unionist voters were split. There are no signs of Nationalist recruits to the Brexit cause since the referendum, while on the Unionist side there is an almost eerie silence. There have been none of the big rallies or demonstrations so often held by the DUP.

Many ordinary Unionists remain keen on Brexit. Echoing arguments often heard in mainland Britain, one community leader in a County Antrim town explains: “Round here the one big issue is immigration. Working-class Protestants and Unionists just don’t like immigration.” The DUP seems unlikely to back down. It has dismissed the likes of Mr Wolsey as puppets “dancing to the government’s tune”.

The forced publication on December 5th of the legal advice on Mrs May’s withdrawal agreement only made the DUP even more determined to oppose it. The attorney-general advised that Britain could stay trapped in the backstop if negotiations with the EU broke down. Nigel Dodds, the deputy leader, said that the party was vindicated in its hostility to the backstop, which he called “totally unacceptable and economically mad”. Clearly, the party is not for surrendering. ■



Islam in Britain

Taking on the old guard

BLACKBURN

Young Muslims demand change at Britain's mosques

AT ONE O'CLOCK in the afternoon, a handful of young Muslims gather for prayers in Blackburn, Lancashire. They are not meeting in a purpose-built mosque, however, but in a couple of sparsely furnished rooms above a chemist's shop—a kind of startup prayer room. Everyone is welcome, says Mohammed Lorgat, a congregant, for "a chat and a brew". There are "no questions at the door", he says; the gathering is non-denominational and non-sectarian.

Haroon Sidat, the 32-year-old imam who leads the prayers, clubbed together with his friends' families to buy the premises. They wanted a place to practise their faith in a way that reflected the cultural and linguistic norms of their generation, rather than those of their parents and grandparents. They are demanding a new way of following Islam, and a different type of imam. The consequences for British Islam could be profound.

Many British Muslims are young. Their median age is 25, compared with 40 for all Britons. British-born Muslims do not see a trade-off between their nationality and their religion, says Shelina Janmohamed, vice-president of Ogilvy Noor, an advertising agency specialising in Muslim consumers, and author of "Generation M", a study of young Muslims. Many are more pious than their elders. But they want a religious experience that reflects their daily

Britain's newest families

Their boat comes in

The fate of six refugee families hints at a shift in tone on immigration

SQUADDIES USED to boast that their military bases on Cyprus, which were kept when the island won independence in 1960, were as British as Somerset. Then, in 1998, a leaky fishing boat carrying 75-odd migrants washed up on their patch. At that point, a spokesman clarified that the bases were not, in fact, entirely British. The British government refused to resettle the new arrivals, hoping that the government of Cyprus would do so. Cyprus said responsibility lay with Britain. And so the migrants were stuck in limbo on the base. But on December 3rd, some announced that they had at last won the right to settle in Britain. Somerset is theirs.

The migrants left Iraq, Syria and Africa for Lebanon, where they each paid a smuggler \$2,000. They say they were making for Italy. But the engine failed and British troops towed in the boat, which one called a "floating coffin". For most of the past 20 years, the migrants have lived in prefabricated bungalows built for squaddies in the 1950s. Their "village" is called Richmond, though it is nothing like its London namesake. Homes are riddled with asbestos and exposed wires. Over the years, children were born. Tsedale Araya gave birth to Emmanuel in 2000. She thought she would soon fly to Britain with him. At last she will, but her baby is now a man.

Although many of the migrants were granted refugee status in 2000, they were not given the right to settle in Britain. In 2014 Theresa May, then home secretary and now prime minister, also refused it. The government appealed against rulings in both the high court and the appeal court finding its decision unlawful. It argued that the UN Refugee Convention, which binds countries to house refugees, did not apply to the bases. Ministers did not want to open a back door to Britain.

The Supreme Court was due to con-

sider the issue when the government backed down. In a letter, it offered permanent residence to six families of refugees. The letter surprised them and their lawyers. Sajid Javid, the home secretary, made the "exceptional decision" because of the "unique" circumstances of the case, says a spokesman. The reversal has encouraged proponents of immigration who think it marks a shift in tone from Mrs May's hostile approach. Mr Javid is keen to sweep up after the Windrush fiasco, in which several Britons with Caribbean roots were unfairly evicted.

For the families, politics are irrelevant. Their bags are already packed. Emmanuel Tajeldin Bashir is watching videos of British landmarks on YouTube. He has just left high school and wants to go to university. His mother, now 44, says she hopes to train as a pharmacist, encouraged by her ambitious son. "I think I can get my dream."

Wrap up warm, now

lives, delivered in a language that they understand.

Whereas the governments of other European countries exert strict control over mosques, Britain generally allows them to manage themselves. Mosque committees, which are often dominated by old men, tend to import imams from South Asia. The majority are poorly paid Urdu-speakers, says Riyaz Timol of Cardiff University's Centre for the Study of Islam in the

UK. Mr Lorgat, aged 34, complains that the imam in the mosque he attended as a child came to Blackburn from India and just lived in the mosque, enjoying little exposure to British society.

Younger Muslims tend to prefer younger, British-born imams such as Mr Sidat. Mr Timol says that many of Britain's 1,700-odd mosques have already been forced to bring in second, English-speaking imams, if only to stop their youthful congregants ►



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SINGAPORE

▶ leaching away. These younger imams are more likely to have been to university, and to have had other jobs before becoming imams. Mr Sidat worked at EY as an accountant. Another wanted to be a sports coach. This gives them a worldliness that aspirational young Muslims appreciate.

Mr Sidat argues that his generation is also more accepting of gay or alcoholic Muslims. He gives advice to both. In his sermons he urges Muslims to understand local English culture better, particularly their neighbours' obsessive attachments to dogs, pubs and gardening.

In a recent survey, the Muslim Council

of Britain (MCB), an umbrella group, found that the biggest complaint among mosque-goers was the lack of facilities for women and young people. About a quarter of Britain's mosques do not accommodate women at all, and they are often excluded from the management of mosques. The MCB has conceded that this is unacceptable. It has just launched its first six-month programme to train a cohort of 20 women to take leadership roles. The MCB sees this as part of a campaign to improve the running of mosques, utilising the professional skills of young Muslims, male and female. Thus disruption comes to British Islam. ■

approval last year, the budget had risen to £56bn, an increase of 70% from the initial estimate in 2010. A leaked document prepared for the Infrastructure and Projects Authority warned shortly beforehand that the scheme could overshoot its budget by a further 60%. The evidence is growing that "there was never a proper budget", says Michael Byng, an infrastructure consultant. The £56bn figure is not based on a detailed survey of the route but on international standards which assume that the line runs through empty French or Spanish countryside. Using Network Rail's methods of costing rail projects, Mr Byng calculates that the cost of Phase One from London to Birmingham will be twice as much as is currently budgeted. It might be completed in 2031, instead of 2026 as planned.

Evidence that HS2 is struggling to control costs is building up. Last year the finance director stepped down after an NAO audit exposed an attempted cover-up relating to nearly £2m in unauthorised redundancy payments. CH2M, an engineering firm, was forced to hand back a contract worth £170m over conflicts of interest; former employees were on the board of HS2. Two former HS2 executives claim they were fired after trying to highlight that land purchases for the railway could exceed the set budget by billions of pounds.

If costs surge, HS2 could be cancelled at next year's spending review. Many cabinet ministers think that diverting HS2's funding to areas such as health will win more votes. But the biggest cost of ploughing on could be the loss of Britain's reputation for carrying out projects on time and to budget—which would sap public support for future infrastructure spending. "We'll have to hope this isn't a reversion to global mean", Mr Flyvbjerg says. ■

Transport megaprojects

Going off track

Briefly, Britain proved capable of large, expensive projects. No longer

ARCHITECTS JOKE about three certainties in life: death, taxes and big building projects coming in late and over budget. It should not be surprising that both are true of Crossrail, a railway across London that was once expected to open on December 9th, and HS2, a new high-speed line between the capital and the north of England. On December 5th Sir Terry Morgan, chairman of both Crossrail and HS2, resigned. Meanwhile worries about the soaring cost of HS2 have been growing ever since the National Audit Office (NAO) revealed in September that the cost of buying land for the project has tripled over the past six years.

Cost overruns on megaprojects are common around the world. McKinsey, a consultancy, has estimated that more than 98% of construction projects worth over \$1bn are late or over budget. The average delay is nearly two years. The average cost overrun is fully 80%. Britain used to furnish many such examples. London's Jubilee Line extension, which was finished in 1999, exceeded its budget by 63% and opened nearly two years late. But over the past decade a run of British projects have come in on time and to budget, including Heathrow Airport's Terminal 5 and the London Olympics in 2012. Crossrail once looked set to join that esteemable club. Now that it is not, the worry is that Britain is returning to bad old habits.

Crossrail's problems are particularly embarrassing for Sadiq Khan, the mayor of London. In August he was forced to delay the system's opening date to autumn next year. Delays to fitting out stations and an electrical explosion at Pudding Mill Lane meant there was not enough time to test

the system before it was due to open on schedule. Missing the original date has also increased the cost. Last month Mr Khan told the NAO that the project needs more money before it can open, although it received a cash injection of £590m (\$750m) in July and a further £350m loan in October. The scheme's budget has already risen from £14.8bn to £15.8bn. That rise, of 7%, is not bad going by international standards, says Bent Flyvbjerg of Oxford University, an authority on megaprojects. He has calculated that the average cost overrun for rail projects globally is around 45%.

HS2's problems are more serious. By the time the project received parliamentary



The budget is even scarier

ANOTHER CHRISTMAS TALE FROM OCTOPUS



AH! said Scrooge,
HUMBUG!

Poor Bob Cratchit. He'd been a faithful servant to Mr Scrooge for years, and every Christmas was the same – long hours, low pay and no joy.

But this year things would be different. Bob had decided to begin a new adventure, by becoming an entrepreneur and starting his own business.

Like all entrepreneurs, Bob's ambition was to make the world a better place. And unlike Scrooge, he knew how to look after his customers. Now he was ready to build a business to be truly proud of, he couldn't wait to tell Tiny Tim.

Your Christmas story can be whatever you want it to be. This year, make it one to remember.

Think like an entrepreneur.



octopus

A brighter way

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ANOTHER CHRIST



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Bagehot | Prize idiots

We present end-of-year awards appropriate to the current state of British politics



ONE OF THE highlights of any political journalist's year is the *Spectator* dinner. Politicians and hacks drink fine champagne, eat good food and exchange juicy gossip, while the magazine's editor hands out awards to Members of Parliament. But this year's dinner, held on November 28th, had a surreal air. It was as if the Russian political class was toasting its brilliance in 1917 or the German one celebrating its triumphs in 1932.

The awards are supposed to recognise the best of the British parliamentary system. That system is convulsed by its worst crisis in the democratic era, as politicians fall over each other to make fools of themselves and ancient traditions crumble. Everywhere you look you can see politics at its worst: conspiracy, back-stabbing, grandstanding and chaos. So, in tune with the spirit of the times, we present an alternative set of awards.

Starting with the minor gongs, let's honour the seat-blocker of the year. The one thing that the Conservative Party has going for it is a rising generation of talented MPs, but their progress into government is being stymied by ministers who should never have been promoted. Liam Fox, the trade secretary, and Andrea Leadsom, Leader of the House of Commons, are strong candidates for this award, but nobody can hold a candle to the transport secretary, Chris "Failing" Grayling, whose combination of incompetence and unpopularity put him several lengths ahead of the rest. Not only did Mr Grayling mess up the introduction of a new train timetable so badly that whole sections of the railway system seized up, but he tried to palm the blame off on everybody but himself. This week a parliamentary committee produced a report on his performance so withering that, in normal times, he would have had to resign. But Mr Grayling had taken the precaution of being the first cabinet minister in David Cameron's government to back Brexit, thus making himself unsackable.

Next, the failed comeback of the year. The comeback is one of the great political arts. Winston Churchill performed it after a decade in the wilderness in the 1930s and Bill Clinton brilliantly christened himself "the comeback kid". Several candidates for this award deserve a mention. David Miliband, a former Labour foreign secretary who legged it to New York, has repeatedly signalled that he is "interested in Britain" only to be told that Britain is not inter-

ested in him. Sir Vince Cable, leader of the Liberal Democrats, has failed to revive his party even though it is the only one keen to remain in the EU. David Cameron floated the idea of returning to politics as foreign secretary only to be shoved back into the shed in which he has been writing his uneagerly awaited memoirs. Since they all come from the same tendency, we decided to hand the award to the whole of the political centre, which, though it dominated politics for two decades, has failed to produce a leader who could save the country from disaster.

Our next award goes to the most deluded politician of the year. There's a lot of competition for this one, but that's not surprising: Parliament is full of Labour numpkins who think that they are Nye Bevan and Tory nonentities who see themselves as Churchill. Jacob Rees-Mogg, leader of the hard-Brexiters, who boasted that he would engineer a vote of no confidence in Theresa May only to discover that he had barely half the support he needed, is a powerful contender. But David Davis runs away with it. He was a disaster as Brexit secretary, which he blames on the civil service and everybody else blames on his laziness. He nonetheless swaggers around Parliament like a Roman general returning from conquering the Gauls, demanding a "clean Brexit" and waiting for the Tory faithful to put the garland of supreme power on his brow.

On to a specialised category: own-goal scorer of the year. Lord Adonis, a former Labour minister leading the charge for another referendum, is a strong candidate. He claims to stand for the reasonable centre but presents his arguments in such unreasonable terms that he alienates potential allies. He has repeatedly accused the BBC of supporting Brexit, and has called for journalists he doesn't agree with to be sacked. But lately he has been outshone by Arlene Foster, leader of the Democratic Unionist Party. The DUP's twin passions are taking Britain out of the EU and keeping Jeremy Corbyn, Labour's leader, out of Downing Street. Ms Foster's strident opposition to Mrs May's deal makes it far likelier that Britain will have a second referendum, which might keep Britain in the EU, or a general election, which Mr Corbyn might well win, or both.

Man of the moment

And now for our highest and most coveted award, which goes to the politician who has done most to let down his party and country. Some of our judges argued for Mrs May, but the panel swiftly dismissed the idea. Even if, as seems likely, her career ends in abject failure, she has doggedly tried to hold her party together and produce a Brexit that does not impoverish the country.

Mr Corbyn got more support. There has never been a better opportunity for a profound realignment of politics: the centre has crumbled and the Tory party is tearing itself to pieces. But Mr Corbyn has repeatedly followed the line of least resistance. He dithered on the most important issue facing the country, waffling about a "people's Brexit". His sloganising exposes his failure to produce a coherent left-wing philosophy. The only serious thinker in the Labour Party is John McDonnell, the shadow chancellor, who is increasingly at odds with his leader.

But Mr Corbyn has merely exploited Brexit, and we felt that our award should go to one of the architects of this catastrophe. In a big field, there was one outstanding candidate. He failed miserably as foreign secretary. He sniped at Mrs May while in Cabinet. He has agitated against her deal from the backbenches and in his lucrative newspaper column without presenting a real alternative. A demagogue not a statesman, he is the most irresponsible politician the country has seen for many years. Step forward, Boris Johnson! ■



France

La République en Flammes

PARIS

Emmanuel Macron faces the first real test of his presidency

“I AM NOT made to lead in calm weather,” Emmanuel Macron told a French novelist a year ago. “I’m made for storms...If you want to take a country somewhere, you have to advance at all costs. You can’t give in, you can’t fall into a routine. But at the same time, you have to be willing to listen. Listening to people means recognising their share of anger and suffering.”

The popular revolt that has gripped the country renders the French president’s words prescient, but also reflects advice to himself that went strangely unheeded. If anybody understood the value of listening, it was Mr Macron. He founded a party, En Marche, (“On the Move”), since then renamed La République en Marche (LREM), based on grassroots consultation. He and it swept into office 13 months later on the back of a political insurgency against the established party system. Today he stands accused of indifference to ordinary people, and the latest rebellion is directed at him.

On December 4th the leader who vowed not to yield to the street, and has used this resolve to push through reforms over the

past 18 months, backed down over a planned increase to the green tax on fuel. An initial decision to “suspend” the tax increase, due in January, was announced by Edouard Philippe, the prime minister, after crisis meetings at the Elysée palace. This was then changed to an outright cancellation. A broad fiscal consultation will be held. “No tax”, Mr Philippe said, “is worth endangering the unity of the country.”

The government argues that it had no alternative, given the scale and violence of the *gilets jaunes* (yellow vests, which motorists are obliged to carry) movement. What began as a protest against higher taxes on diesel has turned into a revolt against the president.

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On December 1st rioting broke out on the tree-lined boulevards of central Paris, including Avenue Kléber and the Place de l’Etoile. Cars were torched and overturned. “Macron resign” was sprayed on the Arc de Triomphe. The police struggled, despite their tear-gas and water cannons, to control a mob. Over 400 people were arrested, and 249 cases of arson were recorded. The Paris region had seen nothing like it since the riots of 2005, which touched the city’s outer *banlieues* and ended with the imposition of a state of emergency.

France is no stranger to street rebellion. The building of barricades, and the digging up and hurling of cobblestones, are part of the country’s iconography, celebrated in black-and-white photos of the uprising of May 1968 on display in Paris this year, half a century on. When in doubt, analysts evoke *les évènements* of 1968, or the revolution of 1789, or even the Jacquerie peasant revolt of 1358. Union-led street protests are part of the theatre of French life. Jacques Chirac, a previous president, shelved pension reform in 1995 when strikes paralysed the roads and railways.

This time, however, is different. The *gilets jaunes* emerged from nowhere via social media. They are not the product of organised unions or political parties. Their structureless and leaderless nature makes them potent, volatile, and difficult for the police and government to handle. They do not follow the codified rules of protest. Their diverse demands range from an end ➤

► to the eco-tax to the resignation of Mr Macron—and even his replacement with a military general. And the government cannot find leaders willing to attend meetings. “The movement can’t have representatives,” said Eric Drouet, one founder. “It’s the whole movement that has to speak.”

Some 75% of the French back the *gilets jaunes*. And this support has held up despite the violence. *Casseurs* (troublemakers), from both the ultra-left and the far right, infiltrated the weekend protests. But a minority of the (mostly peaceful) *gilets jaunes* themselves also took part in the destruction. The strength of public support seems to stem from sympathy for those manning the roundabouts, struggling to make ends meet, and feeling that the president does not care.

The highest concentration of *gilets jaunes* as a share of the population, according to Hervé Le Bras, a geographer, falls in a *diagonale du vide* (empty diagonal), running from the Ardennes in the north-east to the remoter parts of Nouvelle-Aquitaine in the south-west. These areas share not so much a vote for political extremes as depopulation, and a remoteness from public services. This is “in-between France”, in the words of Raymond Depardon, a photographer whose stills depict derelict high streets and empty roundabouts—the very places now occupied by *gilets jaunes*.

This is also France’s squeezed middle: those on average incomes, who drive to work, live on tight budgets and did not vote for Mr Macron at the first round in 2017. They are enraged by his tax policy, and not only on fuel. The decision last year to abolish the wealth tax, along with tax cuts for companies and on investment income, was designed to show that France was no longer hostile to wealth creation, though a new property tax partially offset the wealth tax elimination. A cut in payroll charges was delayed until this autumn, and the tag of “president of the rich” has stuck. The top 1% of households have indeed gained much more, percentage-wise, in overall disposable income than the broad middle

Spanish politics

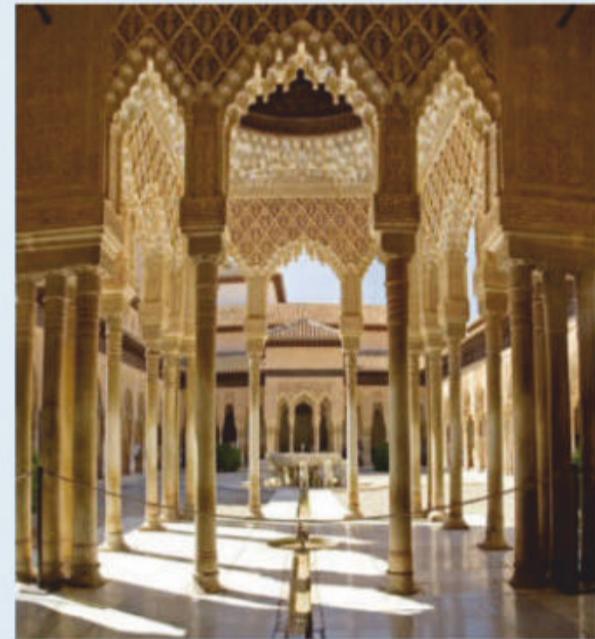
Exceptional no more

MADRID
Populism of the right finds its voice

MANY SPANIARDS once assumed that their country was immune to the right-wing populism that has swept across Europe. The dictatorship of Francisco Franco, which ended in 1975, inoculated them, they thought. When voters were angry, they backed populists of the left, such as Podemos, a Leninist-Pernonist outfit. Yet that immunity, if it ever existed, is over. At a regional election in Andalusia on December 2nd Vox, a newish populist party of the right, won 11% of the vote. Spaniards are shocked.

Founded in 2013, Vox opposes immigration and feminism, and is Eurosceptic. It wants to abolish regional governments and parliaments (including the one in Andalusia in which it now has 12 out of 109 seats) and make Spain a centralised unitary state, as it was under Franco. Its success, which was hailed by Marine Le Pen of France’s National Rally, means the far right is represented in a Spanish parliament for the first time since 1982.

Rather than a *franquista* throwback, Vox is mainly a breakaway from the mainstream conservative Peoples’ Party (PP). Until September 2017 it had fewer than 3,500 members. Two things have propelled its growth. First was the attempt last autumn by Catalan separatists to declare independence, threatening the



Built by immigrants

unity of Spain. The second is a rise in illegal immigration. Some 50,000 mainly African migrants have arrived so far this year, most in Andalusia.

The Socialists, who form the minority government in Madrid, did poorly in Andalusia, normally their stronghold, making it less likely that the new prime minister will now risk early general elections. As for Vox, it will now expect to do well in the European elections in May. In that, as in other respects, Spain is now a normal European country.

(see chart).

“He lost his battle on the fairness of tax reform and didn’t make a strong enough case for his social-empowerment agenda,” says Jean Pisani-Ferry, an economist and formerly the director of the team that wrote Mr Macron’s election manifesto. The government has invested heavily in individual

training accounts, apprenticeships and early schooling. Yet the core ambition of the campaign—unlocking France to build opportunities for all—has somehow seemed to get lost. “He wanted to prove to outsiders that the system could still help them,” says Guillaume Liegey of Liegey Muller Pons, a tech firm involved in the launch of En Marche. “But the fact that people still talk about him as an investment banker reflects his failure to establish that other narrative.”

France’s Fifth Republic vests huge powers in its president, who embodies both excessive hopes and disappointments. Like his two immediate predecessors at this point, Mr Macron’s poll ratings have collapsed (see chart). But he has helped to accelerate this decline with an imperious style and unfortunate ability to cause offence. Mr Macron once spoke of railway stations as places where you find “people who are nothing”. A sense of wounded pride runs deep. “Macron has a rapport with the people that is contemptuous and disdainful,” said one *gilet jaune*, stationed ►

Macronism

France

Presidents’ approval ratings,

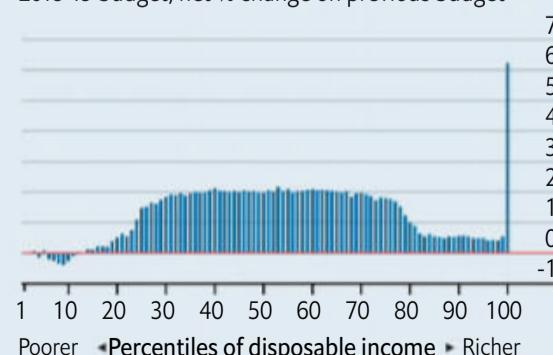
Opinion-poll average, %



Sources: Mathieu Gallard at Ipsos; Institut des Politiques Publiques

Disposable income of economically-active population

2018-19 budget, net % change on previous budget



► on a rural roundabout.

By blasting open the party system, and imposing LREM in the vacuum he created, Mr Macron also crushed many of the links between Paris and the regions. LREM has almost no mayors in the country's 35,000 communes to defend his policies or let the boss know about grassroots anger. His movement thrived on declining trust in old-style politics. But this has continued to erode on his watch, undermining faith in institutions themselves. "Parliament does not represent the people," is a common *gilets jaunes* complaint. Even the political extremes—Jean-Luc Mélenchon (on the far left) and Marine Le Pen (on the nationalist right)—have struggled to piggyback on the protest movement. Those populists are felt to be part of the system.

The *gilets jaunes* plan to return to the streets of Paris on December 8th, a date the government awaits with horror. Mr Philippe's measures have been broadly dis-

missed as too little, too late. Some fuel depots remain blocked. High-school pupils and ambulance drivers have launched their own protests. If Mr Macron is to regain political control, his promised consultation will need to be seen as more than a token affair, and involve a thorough review of both public spending and tax policy. Olivier Blanchard, former chief economist at the IMF, says it was right to halt the fuel-tax rise. "But if tax reform stops there, that won't be enough."

Mr Macron founded En Marche precisely because he understood the disillusion with established politics. Now that disenchantment has turned against him. Those close to the president argue it is not too late to restore his credibility and recover control of his reform agenda. But in order to do so he will need to heed his own advice, as expressed a year ago. This is Mr Macron's first real political crisis. How he handles it will decide the rest of his presidency. ■

from Lviv, in western Ukraine, he ran a student disco called Strawberry Fields and started a window-washing enterprise. He bred laboratory mice ("we were not very successful"). Then he began importing Western goods and exporting oil, and founded his bank—classic oligarch gambits, though unlike others who earned that label, he did not take part in the loans-for-shares scheme of 1995–96, in which huge state assets were privatised for a song (though he tried to).

His fortune and reputation were cemented by his dealings with BP, which in 2003 formed TNK-BP with his consortium (including Mr Vekselberg). At a time when assorted Russian oilmen were courting foreign majors, says a Western businessman, Mr Fridman "was the only one able to sit down and negotiate a deal". He was known as worldly, curious and courteous, as well as hard-nosed. "If he said he was going to screw you, get ready to be screwed." However, "When he said it was done, it was." By linking with BP, "he gave away half the upside" of his oil assets, says the Western businessman, but "secured the other half" from state predation.

The venture proved lucrative, but rancorous. Amid a dispute over strategy, Bob Dudley—then TNK-BP's chief executive, now boss of BP—complained of "sustained harassment" and left Russia. Mr Fridman says the idea of a physical threat against Mr Dudley was "baseless", as are allegations that his side enlisted the FSB, Russia's security service. Yet "especially in a country like Russia", he says, "where the rules of the game are not always very clear", in general you "should be prepared for a fight".

The first rule is that businessmen must stay out of politics. His property would be jeopardised, Mr Fridman says, if he became ►

A profile of Mikhail Fridman

The tribulations of an oligarch

The global ambitions of Russian tycoons have run up against sanctions triggered because of the country's president

ONE QUESTION, with two meanings, has bookended Vladimir Putin's reign: who's next? As he tamed Russia's tycoons in the early 2000s, Moscow's power-brokers wondered whom he would next dispatch to exile or prison. After the dismemberment of Ukraine, the question took on a new connotation: who will be next to suffer Western sanctions? In both cases, a name in the frame has been Mikhail Fridman.

According to a Russian proverb, notes Mr Fridman, you can never be sure you won't go to prison or be a beggar. Still, he says, he never had an objective reason to fear jail—or to fret over sanctions, which America imposed on Viktor Vekselberg, a fellow billionaire and his former partner, earlier this year. He describes as a "hoax" recent reports of surreptitious messaging, in 2016, between Donald Trump's campaign and Alfa-Bank, which he controls. Likewise he denies the suggestion, in a leaked dossier prepared by a British ex-spook, Christopher Steele, that he gives foreign-policy advice to Mr Putin: "100% fake information", he says.

But some in America's Congress are keen to sanction more Russians; the Treasury has a classified list of potential targets which Mr Fridman might or might not be on. Robert Mueller's probe into election meddling may prompt new moves. Mr Fridman's predicament offers an insight

into the relationship between business and power in Russia. And he poses a quandary for the West: how tightly to draw the circle of punishment around Mr Putin, and how to treat those in his orbit who might nevertheless be agents of progress.

Mr Fridman went into business as the Soviet Union crumbled. Moving to Moscow



Steering a tricky path

► an “enemy of the state”. Equally, intimacy with the Kremlin can itself be risky; look at Boris Berezovsky, a consigliere who sought refuge in Britain. (He later died in odd circumstances.) “It’s the inevitable destiny of people who are too close to power,” Mr Fridman says. “We do not want to repeat this history at all.” He says he has “never ever seen [Mr Putin] one on one”. Anders Aslund, a Russia-watcher at the Atlantic Council, a think-tank, reckons Mr Fridman is now “as far from Putin as you can be and still be a multi-billionaire in Russia.”

Thus far, perhaps, but no farther. Mikhail Khodorkovsky—a mogul who fell out with Mr Putin and spent a decade behind bars—thinks “you can’t have a big business in Russia and not be obliged to provide services to the Kremlin at any moment.” Mr Fridman, he observes, “has never had a particularly warm relationship with Putin personally, but sustained one through his partner, Peter Aven.” Mr Aven was a minister in the 1990s, when Mr Putin worked on economic policy in St Petersburg.

As Mr Fridman puts it, his rule is to remain in “the second row”, a position that still affords “crucially important” access to the Kremlin. Sometimes he makes donations to state projects—for the winter Olympics or a school in Sochi—though never more than a few million dollars, he says. And he refuses to comment publicly on the diplomatic bust-ups that have led to sanctions (such as over the annexation of Crimea in 2014, election-hacking and the poisoning of Sergei Skripal in Britain). Since he is active in the countries involved, Mr Fridman says, somewhat self-servingly, weighing in would be irresponsible.

Russia’s interference in Ukraine is a particularly sensitive issue for Mr Fridman. A jazz festival sponsored by Alfa Bank in Lviv, his home town, was renamed after the bank’s role caused anger in both countries, though Mr Fridman suspects a protest at his Moscow office was organised by a disgruntled debtor.

Until now, Mr Fridman has skilfully negotiated the hazardous terrain between dissident and henchman. Of the cadre of Russian businessmen who scrambled to dizzying wealth in the bare-knuckle 1990s, then rode the rollercoaster of Mr Putin’s long rule, some have died and others have fled. Mr Fridman is still standing. And prospering: when Rosneft bought TNK-BP in 2012, his outfit’s share was \$14bn.

Mr Fridman says that these days he spends only around 30% of his time in Moscow. He is less litigious than when he was “young and naive” (though he is suing several parties over the Steele dossier). But in an era of strained relations and suspicion, the equidistance is hard to maintain: just close enough to power looks too close to some. In the West, Mr Fridman knows, people assume that tycoons like him are

“agents of influence”.

Meanwhile, the tricky balancing act has incurred another, more personal cost. In 2015 Boris Nemtsov, an opposition leader, was assassinated outside the Kremlin. Mr Fridman counted Nemtsov among his “closest friends”; but “any contact with him could be interpreted as a kind of support,” which would “not [be] very useful for doing business”. So Mr Fridman stopped speaking to him. “I regret that heavily,” he says now. “I did not know there was no future for our relationship.” In Mr Putin’s Russia, some things cannot be put right. ■



Euro-zone reforms

Gang of eight

HELSINKI

Small, northern members of the EU are making their flinty views known

IN THE LATE Middle Ages the Hanseatic League, a confederation of merchant guilds in northern Europe, dominated maritime trade in the Baltic and North seas. Now finance ministers from the northern states, characterised by their fiscally hawkish and free-market views, are hoping to set the course for reforms to the European Union. Composed of Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, the Netherlands and Sweden, the group, dubbed the New Hanseatic League, is starting to have some influence.

The immediate impulse for the alliance, which first assembled over dinner in Brussels about a year ago, is Brexit. The group had considered its interests well enough represented as long as Britain’s free-market stance and Germany’s fiscal prudence tempered the French enthusiasm for “solidarity” (ie, redistribution) and protectionism. But Britain’s withdrawal means that they have lost a champion of openness.

At the same time, the French and the Germans have an irksome habit of cooking up reforms to the single-currency area between them. The latest example of that was

in June, when Emmanuel Macron and Angela Merkel agreed a common position. Their declaration formed the basis for the package of reforms that EU finance ministers thrashed out on December 4th, and which will be formally agreed on by heads of state in Brussels on December 14th.

Some proposals—such as those to strengthen the euro zone’s bank-resolution and sovereign-rescue funds—have broad support. The league’s abhorrence of fiscal transfers, though, has put it on a collision course with the French. Mr Macron has pushed for a common budget to help stabilise unlucky countries struck down by economic problems. But a joint paper by the league’s finance ministers in March stresses that “first and foremost” countries must be in “full compliance” with the EU’s fiscal rules. If each member acted responsibly and whipped its public finances into shape, then it would be able to deal with economic shocks without other states’ taxpayers having to bail it out. The hawks argue, with an obvious eye on Italy, that a stabilisation scheme that shares risks across countries would also encourage profligacy. The league would rather concentrate on unleashing market forces within the EU—for instance, accelerating reforms to the capital market, or striking more trade deals with third countries.

The eight Hanseatic countries, which together constitute barely a tenth of the EU’s population, cannot block decisions by Europe’s Council of Ministers. (Most formal votes require a “qualified” majority; for a proposal to be rejected, at least four countries representing 35% of the bloc’s population must vote against.) But proposals for reform tend to be based on political consensus rather than formal votes, so the league still has influence. It has recruited other members to its cause. Slovakia also signed its paper on the sovereign bail-out fund in November, for instance. It might also hope to toughen Germany—whose cities helped found the medieval Hanseatic League, and which is seen as a silent partner of its modern namesake—in its talks with France.

On December 4th EU finance ministers approved further work on a version of Mr Macron’s budget plan. But, in a victory for the hawks, it is much watered down. It will focus on enhancing competitiveness and convergence, not stabilisation, and will sit within the existing EU budget rather than getting substantial new funds. Perhaps the clearest sign of the league’s success is that it has needled the French. In November Bruno Le Maire, the French finance minister, attacked it as “dangerous for Europe”. Its members reject the accusation that it represents a hardening of the divide between the north and south, saying it wants to be constructive. Agreeing on reforms was never going to be plain sailing. ■

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European governments are melting down over an inoffensive migration agreement



IT WAS LIKE watching paint dry, or other people's children play baseball. Last month Gert Raudsep, an Estonian actor, spent two hours on prime-time television reading out the text of a UN migration agreement. Estonia's government was tottering over whether to pull out of the Global Compact for Safe, Orderly and Regular Migration, to give it its full name. So Mr Raudsep was invited to present the source of the discord to worried viewers. Thoughts of weary migrants from Africa and Latin America kept him going, he said. "But my eyes got a bit tired."

Mr Raudsep's recital made for dull viewing because the compact is a dull document. Its 23 "objectives" are peppered with vague declarations, platitudes and split differences. Partly in the spirit of other global agreements like the Paris climate deal, it encourages states to co-operate on tricky cross-border matters without forcing them to do anything. It urges governments to treat migrants properly, but also to work together on sending them home when necessary. At best it helps build the trust between "sending" and "receiving" countries that is the foundation of any meaningful international migration policy.

None of this has prevented European governments from melting down over it. In the end Estonia resolved its row; it will join more than 180 other countries in Marrakesh on December 10th-11th to adopt the compact. But so far at least ten others, including seven from Europe, have followed the lead of Donald Trump and pulled out of a deal that they helped negotiate. The agreement is agitating parliaments, sparking protests and splintering coalitions; Belgium's is on the verge of collapse. More withdrawals may follow.

Why the fuss? The text explicitly states that governments retain the sovereign right to make immigration policy. But critics say that cannot be trusted. Although the compact is not legally binding, they argue it is "soft law" that might one day be used to press governments into hard commitments, such as acknowledging a "human right" to migration or expanding the grounds for asylum.

This is, largely, codswallop. The compact is hardly perfect; the drafters should have refrained from urging governments to "educate" journalists on migration, for example, or to hold "culinary festivals" to celebrate multiculturalism. Yet until cynical politicians started paying attention, the main charge the compact faced

was toothlessness. Most of the political arguments against it emerged after governments had already approved the draft in July.

That suggests other forces are at work. In Slovakia, the compact stirred passions only after the speaker of parliament, embroiled in a plagiarism scandal, sought a way to change the subject. The government has since withdrawn from the compact, which led the foreign minister, a former president of the UN General Assembly, to offer his resignation. In Germany a row over the compact, triggered by the right-wing Alternative for Germany (AfD), has forced the candidates running to succeed Angela Merkel as leader of the Christian Democratic Union to declare themselves: for or against? (The party chooses her successor on December 7th.) Now the AfD boasts, correctly, that its ideas have infiltrated the mainstream.

As has become depressingly routine in Europe, the row over the UN compact has little to do with its ostensible target and everything to do with the smouldering embers of a culture war that the drastic reduction in illegal immigration since the surge of 2015 has failed to extinguish. (A pointless spat over border controls nearly destroyed Mrs Merkel's coalition earlier this year.) Immigration remains a potent topic for the right; the trouble in Belgium started when the country's largest party, the nationalist New Flemish Alliance, began a social-media campaign against the compact, replete with imagery of women in niqabs and the like (it later apologised). But in the absence of a genuine crisis to mobilise support, fake problems must be concocted. The UN compact is a sitting duck. There is no downside to hammering a multilateral agreement on a controversial subject negotiated by obscure officials in air-conditioned rooms abroad. That it was agreed by governments in plain sight, with parliamentarians invited to participate, is by-the-by.

Displacement activity

In Berlin, where outrage over the compact took the establishment by surprise, some say the government should have forcefully made the case for it as soon as it was agreed. Instead, caught on the back foot, Mrs Merkel and other defenders of the deal are locked into an awkward argument: that fears about the compact are overblown because it is not legally binding, but that it is also an important tool for managing migration. Yet aside from Mrs Merkel's perennial reluctance to lead rather than react to debates, arguing for the deal earlier would simply have given opponents a bigger target and more time to shoot at it. A more sobering conclusion is that, for now, it has become impossible to have a level-headed conversation about managing migration in Europe.

UN insiders profess themselves frustrated but unbowed by the string of withdrawals. (Many blame Sebastian Kurz, the Austrian chancellor, whose decision in October to pull out inspired several others to follow.) Although the idea for the compact was drawn up just after Europe's refugee crisis of 2015-16—indeed, partly at the request of panicked European leaders—its provisions are global. Europe's navel-gazing arguments have little bearing on the lot of Bangladeshi workers in the Gulf or Zimbabweans in South Africa.

True enough. But Europe's rejectionist governments are shooting themselves in the foot nonetheless. Even a hard-headed policy of tough border controls, swift return of illegal immigrants and encouraging would-be migrants to stay home obliges governments to work with others, if only to strike grubby repatriation deals. Building trust by sticking to international commitments lays the foundations for that. That so many governments are choosing to do precisely the opposite does not inspire hope that Europe is groping towards a more sensible migration policy. ■



The Russia investigation

Mueller, she wrote

WASHINGTON, DC

Much of the Mueller report is already public. What does it say?

THE MUELLER investigation has been running for 81 weeks and counting. For much of that time it has offered those yet to get over the 2016 election a chance to fantasise about an alternative ending to the Trump presidency, one in which the good guys get the bad guys and justice is served. The market for this is so strong that there is even a podcast dedicated to investigation speculation, called "Mueller, she wrote". Lawfare, a wonky legal blog, has become so popular that it has a merchandise section selling Lawfare-branded babygrows.

Yet the investigation is widely misunderstood. Many Americans seem to be waiting for a final report from Robert Mueller's team, at which point something will happen. Both those assumptions are wrong. The report, when it eventually comes, will probably not be made public. And the judgment on what that report means for the president will be political, rather than legal. It will rest on the views of Republicans in Congress. And many of them would rather not think about it.

Interviews with Republican congressmen, staffers and strategists in the wake of

the most recent guilty plea from Michael Cohen, the president's former lawyer and fixer, suggest few have paid it much attention. "I don't think our members of Congress give a shit about Don Junior, the president's family, people around the president," says one. Another likens the party's situation to the fable of the frog: the water is hotter, but colleagues have adjusted to it. Some quietly calculate that their political futures depend on publicly supporting a president whom they deplore.

Yet the widespread indifference in one party does not mean the special counsel's investigation is inconsequential. Its seven

guilty pleas or convictions are real enough. What has already been revealed, in the hundreds of pages of documents published by the special counsel's office and the report by the House intelligence committee, is startling. These documents contain a cast of characters that seem drawn from a novel by Eric Ambler or John le Carré: the Maltese professor who vanished, the Azerbaijani would-be pop star and his billionaire father, the financier who smashed a glass in another man's face in a bar fight, the shady Brits. Though parts are redacted, it is usually possible to infer who is who. "███████████ has a unique and colourful background, and described for the committee his path from Wall Street banker to white-collar criminal to government informant." Hello, Felix Sater.

In other words, much, perhaps even most, of the Mueller report has already been published. What does it say?

The Department of Justice asked Mr Mueller to investigate "any links and/or co-ordination" between the Russian government and individuals associated with the Trump campaign. Start with the links.

One set ran through the Trump Organisation, which was attempting to build a tower in Moscow, a project that continued throughout the Republican primaries of 2016. A second set ran through Michael Flynn, a former national security adviser, who took it upon himself to establish a private line of communication with the Russian ambassador in Washington, after Mr Trump won the election.

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► There are three more links, which look more like Russian intelligence operations. One went via an enthusiastic Russian member of the National Rifle Association (NRA), Maria Butina, and her sponsor, Alexander Torshin, then the deputy governor of Russia's central bank. Emails from May 2016 provided to the House Intelligence Committee show that Mr Torshin contacted the campaign, offering an "overture from President Putin." Both Russians exchanged emails with the president's eldest son. But the hoped-for meeting, at an NRA gathering in Kentucky, never happened, partly because Jared Kushner counselled against it. Ms Butina has since been indicted as a spy.

Then there is the link that ran through New York, where Donald Trump junior, Mr Kushner and Paul Manafort, then Mr Trump's campaign chairman, met a Russian lawyer claiming to have embarrassing information about Hillary Clinton. That meeting apparently proved disappointing. Still, Don junior made misleading statements about it and his father dictated a statement about what had been discussed, which was issued in the son's name and was later found to be false, too.

The final known set of links runs through London, and involves a fifth-rate foreign-policy adviser to Mr Trump, George Papadopoulos, and an equally distinguished Maltese academic and grifter, Joseph Mifsud. Mr Mifsud ran an institute called the London Academy of Diplomacy, which did not exist, and boasted of his links to the Russian government. The pair met in Rome in March 2016 and then twice in London. In April Mr Mifsud told Mr Papadopoulos that the Russian government had "dirt" on Mrs Clinton.

That leaves one last channel, about which there has been much speculation but little proof. Russia's military intelligence arm, the GRU, which was responsible for hacking into the Democratic National Committee's email server, used WikiLeaks to publish its material. For the past two years investigative journalists have been trying to find out whether anyone from the Trump campaign co-ordinated with WikiLeaks over the release of the stolen material. Don junior did send a message to WikiLeaks on Twitter, asking for advance notice of a future release of material, but apparently received no reply. The special counsel's indictments have not yet shed any light on this last channel, either.

Grifters and fixers

So much for the links. How about the co-ordination? As so often, Mr Trump said the thing out loud that others would only whisper: "Russia, if you're listening, I hope you are able to find the 30,000 emails that are missing," he told a rally in July 2016. Other expressions of a desire to work to-

gether were more private. Offered dope on Mrs Clinton from the Russian government before the New York meeting, Don junior wrote, "If it's what you say I love it."

What the special counsel has not yet found is a clear example of successful coordination. At times the published documents read less like a spy thriller and more like a Coen Brothers screenplay, in which a cast of confidence men attempt to use a presidential campaign to make themselves money and become the sort of people who get invited to speak at Davos. "Buddy," writes Mr Sater to Michael Cohen, the president's lawyer and fixer, in November 2015, "our boy can become President of the USA and we can engineer it." If "Putin gets on a stage with Donald for a ribbon cutting for Trump Moscow...Donald owns the Republican nomination."

This exchange, though laughable, relates to a long-standing allegation, namely that the candidate's policy towards Russia, which on the campaign trail involved praising Vladimir Putin and opposing further sanctions, was influenced by his business interests. In the absence of documentary evidence, this is, in an epistemological sense, unknowable. If somebody acts in a way that is consistent with their financial interest, did they act because it was in their interest to do so, or because they wanted to do so anyway?

In a political sense, though, the answer is already in. The candidate repeatedly said that he had no dealings in Russia. Donald Junior testified to Congress that the Trump Tower Moscow project was on hold by early June 2016. Mr Cohen gave testimony to the same effect. The House intelligence committee concluded that the project was dormant in January 2016. The special counsel obtained Mr Cohen's emails and proved



that the Trump Organisation was in fact still working on the Trump Moscow project throughout the Republican primaries.

The timing matters. In the weeks after Mr Trump sewed up the Republican presidential nomination in Indiana, in May 2016, conservative media outlets were buzzing with rumours of an intra-party coup to deny him the crown. One of Mr Trump's vanquished opponents, Senator Lindsey Graham of South Carolina, said he could not "in good conscience" support Mr Trump or attend the Republican convention in Cleveland at which he was due to accept the Republican ticket. There was speculation over whether nominees to the convention might award it to someone else. Had the party's most recent presidential candidate, Mitt Romney, who had criticised Mr Trump as a "a phoney, a fraud", stepped forward at that point, perhaps they might have done. Imagine how much shakier Mr Trump's prospects would have seemed if it had been known that his advisers were simultaneously negotiating with the Kremlin to obtain land and finance for a Trump Tower in Moscow.

Yet behaviour that would have seemed unconscionable two years ago does not now seem to trouble Mr Trump's party colleagues too much. Given that the president could not be removed by articles of impeachment unless around 20 Republican senators broke with him, almost no matter what Mr Mueller may find, this is great news for Mr Trump.

From the top down

A few remaining chapters in the report have yet to be written. The most important ones relate to the nature of the link between the GRU, WikiLeaks and the campaign. Roger Stone, a longtime adviser to Mr Trump, has been subpoenaed by Democrats in the Senate, and has invoked his Fifth Amendment right against self-incrimination. The special counsel will not be brushed off so easily.

Finally, the president himself has already answered written questions from Mr Mueller's office. There is a real possibility that some of the president's answers contradict what Mr Mueller now knows. One theme from the hundreds of pages of indictments is that the people around the president lied frequently and easily, even under oath. It is a management cliché that culture is set at the top. That was true of the Trump campaign, too.

Yet even if the president has lied under oath, the Department of Justice's guidelines caution against indicting a sitting president. Such an offence might not be deemed grave enough to overrule that. There will be no final scene where the detective explains how all the loose ends fit together. The only denouement available is political, and therefore contested. ■

Conservative media

Lowering the Standard

NEW YORK

A rare bastion of conservative criticism of Donald Trump appears to be closing

IN THE FINAL issue of November Stephen F. Hayes, the editor-in-chief of the *Weekly Standard*, published an article titled, "How Trump's Lies About Russia Were Exposed". President Donald Trump "lies all the time", Mr Hayes wrote bluntly, before concluding that the truth about Russia may come to light: "The sooner, the better."

If so, Mr Hayes's magazine probably will not be around to cover it. On December 4th Mr Hayes informed staffers that the future of the publication is in doubt. Philip Anschutz, the magazine's owner, and his top publishing executive have grown weary of the criticism of Mr Trump, according to sources. The magazine looks likely to be a casualty of Donald Trump's takeover of conservatism.

The *Weekly Standard*, started by William Kristol and Fred Barnes in 1995 as part of Rupert Murdoch's News Corporation, was an influential and neoconservative voice throughout the presidencies of Bill Clinton, George W. Bush and Barack Obama. But Mr Kristol was an early critic of Mr Trump, whom he viewed as betraying conservative principles. He and a few colleagues like Mr Hayes did not waver as Mr Trump won the nomination and election.

Since then Trumpism has co-opted much of the conservative media. Outlets like *Breitbart News*, the *Daily Caller* and Fox News aligned themselves with Mr Trump early on. The *Wall Street Journal*'s editorial page has come around. The *National Review*, which in January 2016 eviscerated the candidate with an issue titled "Against Trump", has since taken a more accommodating line, while still continuing to employ and publish some Trump antagonists.

This change in tone reflects a shift among Republicans. But it also reflects the will of the owners and financiers of media outlets. Mr Murdoch, a confidant of Mr Trump, runs Fox News, and his News Corp owns the *Wall Street Journal* (he sold the *Weekly Standard* to Mr Anschutz in 2009). *Breitbart* is backed by Robert Mercer and his daughter Rebekah Mercer, who support Mr Trump. The *National Review* and *Daily Caller* also rely on donations from wealthy conservatives who, whether or not they like Mr Trump (and some do), have no interest in upsetting him.

"You have a lot of incentives not to be at war with the Trump administration," Mr Kristol says. "If you're a Republican donor and maybe you don't want to be ambassa-



How to lose friends and influence people

dor to the Court of St James, but maybe your friend does, you're not going to start a fight with Trump."

The *Weekly Standard*'s consistent approach to the 45th president has found an audience online—the website drew 2.6m readers in October according to ComScore, a research firm. But the printed version has struggled under its unenthusiastic owner, who also owns another conservative publication more friendly to Mr Trump, the *Washington Examiner*. The *Weekly Standard* has always depended on cash infusions from its owner to survive. Mr Kristol and Mr Hayes are now said to be interested in starting a publication to succeed it. They will need patrons who do not mind being snubbed at Mar-a-Lago. ■

Work

Shifting shifts

The tight labour market is making unskilled work more predictable

SHASHAUNA PHILLIPS, a 43-year-old single mother in Charleston, South Carolina, loves her job at Walmart. There is just one problem. As a customer-service manager, responsible for supervising cashiers and keeping customers happy among other things, she is rarely given consistent working hours. "One week I might have four days on the schedule and the following week I might have two," Ms Phillips says. "It makes my life a struggle." Things may be getting better. Walmart has launched a new scheduling system that will give its 1.5m domestic workers more predictable shifts. As the labour market tightens, and state

and local lawmakers clamp down on unpopular scheduling practices, more firms are likely to follow.

Over the past decade, American big-box retailers, supermarkets and fast-food chains have relied on workforce-management software to match worker supply and demand. Such systems boost profitability by scheduling only the minimum number of employees needed to keep lines moving and cash registers ringing. But they also encourage practices like keeping workers on-call for shifts that may never materialise, or sending them home early when business is slow. This kind of just-in-time scheduling is widely disliked by workers. A study published in 2017 found that the average worker is willing to give up 20% of wages to avoid an irregular schedule set by an employer on short notice.

Lawmakers in Congress have left the question for companies to resolve. The Schedules That Work Act, which would force retailers to set schedules two weeks in advance and pay employees extra for any last-minute changes, has languished. States and city governments have done more. In 2014, San Francisco became the first big city to regulate scheduling practices. "To be honest, it's been fairly smooth from what I can tell," says Jim Lazarus of the San Francisco Chamber of Commerce. Seattle passed similar "fair work-week" legislation in 2016, followed by New York City and the state of Oregon in 2017. Chicago and Philadelphia are considering similar bills.

Some companies have also implemented reforms in response to public pressure. In 2014, after an unflattering report by the *New York Times*, Starbucks announced an end to "closings", the practice of scheduling an employee to close a shop late in the evening and return hours later to open it the next morning. The next year, more than a half a dozen retailers including Abercrombie & Fitch, J.Crew and Victoria's Secret agreed to end on-call scheduling after New York's attorney-general began investigating the legality of the practice.

Economic pressure may prove yet more powerful. Saravanan Kesavan, of the University of North Carolina, says retailers are "scheduling people like widgets in a factory". This cuts costs in the short term, but may also lead to higher employee turnover, absenteeism and poor service. A recent paper by Mr Kesavan and others found that employee-friendly scheduling—keeping shifts more consistent and allowing workers to swap shifts via a mobile app—boosted sales at a group of Gap stores by an average of 7%. As wages rise, and workers become more scarce, more employers are likely to learn this lesson. "When there are no jobs around, workers have to put up with unpredictable schedules," Mr Kesavan says. Now, "they can walk across the street to another retailer." ■

Voting patterns

The mid-term autopsy

WASHINGTON, DC

Democrats did much better in rural America than you think

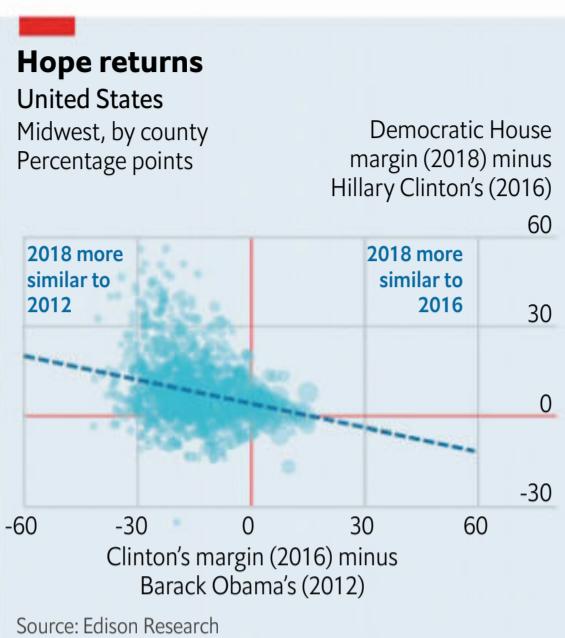
THE MID-TERMS happened a month ago, but are still not over. When the dust settles at last, the Democrats will pick up between 39 and 41 of the House of Representatives' 435 seats, a net gain larger than any of their "wave" elections since 1974, the cycle after Watergate forced Richard Nixon from office. In the Senate, Democrats held on to seats in six states that Donald Trump won in 2016 and gained one in Arizona, though lost out in Florida, Indiana, Missouri and North Dakota. The morning after the election it appeared that the result reflected a revolt in the suburbs, and by college-educated women, against the president's party. That was true, but with a bit more distance and number-crunching it is clear that this is not the whole story.

Democrats did far better in rural America, particularly in the rural Midwest, than is commonly understood. If the baseline is how Hillary Clinton performed in 2016, Democrats actually saw their largest increase in vote share in rural constituencies, especially those in the Midwest (see chart). Compared with Mrs Clinton's performance in 2016, the average rural House district was eight points more Democratic this year, compared with a five-point Democratic outperformance in suburban districts and three points in urban seats.

According to an analysis by Catalist, a political-data firm, working-class white voters in rural areas across the country shifted their votes towards Democrats by seven points. For blue-collar suburbanites, the difference was just two. Yet Democrats managed only 11 upsets in rural congressional districts, compared with 28 in the suburbs, because the party's candidates start so far behind in sparsely populated places.

Why did the vote tallies in rural America look so different this time round? One answer is turnout, rather than shifting loyalties. Numbers from the Democracy Fund Voter Study Group, a group of public-opinion researchers, suggest that only 1.5% of voters went for Mr Obama in 2012, Mr Trump in 2016 and a Democrat in 2018. Not many voters change their minds.

That is not the only answer, though. Some political scientists argue that Mr Trump's 2016 presidential candidacy saw a political realignment. The divisions between whites and non-whites (especially blacks and Muslims) were more important to a candidate's success than at any time in the past century, according to political sci-



entists John Sides, Michael Tesler and Lynn Vavreck, who write about the power of white identity in their new book, "Identity Crisis: The 2016 Presidential Campaign and the Battle for the Meaning of America". Whiter, less educated areas of the country swung hard towards the insurgent Mr Trump in 2016. In 2018 the issue of race was not on their minds to the same extent.

According to *The Economist*'s analysis of survey data from the Voter Study Group, feelings of racial resentment and anti-immigrant sentiment were less predictive of white Democrats' vote choices this year than in 2016. With Mr Trump not on the ballot, white members of the Obama coalition in the Midwest who deserted Mrs Clinton returned to their past allegiances. They were also freer to think of issues like health care. A study from Morning Consult, a public pollster, found voters who identified health care as the nation's most important issue were 28 percentage points more likely to vote for Democrats than Republicans.

It could be that this year's Democratic House candidates were simply more appealing than Mrs Clinton. Democratic Senators such as Sherrod Brown, Jon Tester and Joe Manchin enjoyed success even as their states of Ohio, Montana and West Virginia have drifted further and further towards Republicans, suggesting that individuals can still sometimes trump partisan allegiance. It may also be that racially conservative, ancestrally Democratic rural whites were just allergic to Mrs Clinton.

The fact that the Democratic Party is not yet dead to rural whites matters for its future. The past few elections have suggested that an electoral coalition of college-educated whites and non-white voters does not have enough bodies to propel the party to political power on its own. If the next presidential election is like the one in 2016, when working-class whites fled from the Democrats at astonishing speed, the party's candidate will struggle. If it is like 2018's, when more stuck around, the nominee's prospects will be much better. ■

Election fraud

Scale, meet thumb

WASHINGTON, DC

Winning the old-fashioned way

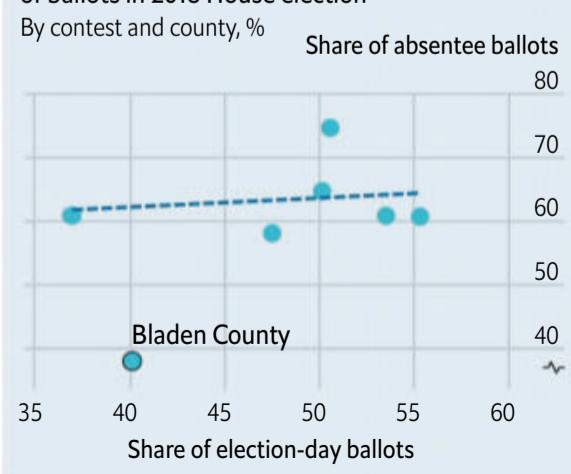
RPUBLICANS HAVE long insisted that elections are plagued by fraud. Evidence for that view is pleasingly sparse. But there is some. Take North Carolina's Bladen County, which is home to a large chunk of the ninth district's rural voters. The results from Bladen in the recent race between Democrat Dan McCready and Republican Mark Harris look strange. The county saw a disproportionately high number of voters requesting absentee ballots. A surprising number of these ballots were cast for the Republican candidate (see chart).

Just over a fifth of the county's requested mail-in ballots came from Republicans, meaning Mr Harris would have also received almost all the registered unaffiliated voters and some Democratic-registered voters to make it to the 62% of the vote he supposedly won, according to Michael Bitzer of Catawba College.

The district is no stranger to absentee-ballot fraud. In 2016 the Republican primary candidate Todd Johnson won 98% of the absentee vote. In 2018 Mr Harris, then a primary candidate, won 96% of that vote. The common thread is Leslie McCrae Dowless, a consultant hired by both the Johnson and Harris campaigns. Mr Dowless's services had previously been declined by Congressman Robert Pittenger for "personal concerns regarding his proposal." Sworn affidavits and witness testimonies indicate that Mr Dowless collected vote-by-mail ballots from residents across Bladen County, collecting "stacks of them" on his desk; how many made it to the ballot box is unclear.

Spot the outlier

United States, North Carolina, Democratic share of ballots in 2018 House election
By contest and county, %



Political thinking

The partisan brain

What psychology experiments tell you about why people deny facts

IN 2015, AFTER the Supreme Court had affirmed the constitutionality of same-sex marriage, Jeremy Frimer of the University of Winnipeg asked 200 randomly selected Americans to take part in a simple experiment. Having established who was for and who was against gay marriage, he told them they had been entered into a lottery to win \$10. He then asked those in favour to read and respond to eight arguments against their view. They were allowed instead to read and reply to eight arguments in favour, but in that case, the value of their lottery prize would be reduced to \$7. Those against same-sex marriage were offered the same trade-off: they could keep their \$10 ticket if they read eight arguments in favour, but the prize was lower if they chose to read arguments against. Almost two-thirds (on both sides) gave up the chance of winning a little extra to avoid being exposed to the other point of view. People look for, remember and in this case are willing to forgo money for information that confirms their pre-existing beliefs.

On November 27th President Trump dismissed a 1,650-page National Climate Assessment in which 13 federal agencies gave warning about the costs and dangers of global warming. "People like myself, we have very high levels of intelligence," he told the *Washington Post*, modestly, "but we're not necessarily such believers." The president is speaking for his core supporters, too. According to the Pew Research Centre, only 15% of conservative Republicans trust scientists to give full and accurate information about the causes of climate change, compared with 70% of liberal Democrats. Most explanations for the extent of climate denial in America focus on the political influence and campaign contributions of energy companies. But as Mr Frimer's experiment suggests, psychological explanations also suggest that people are willing to dismiss or deny facts and opinions that run counter to their beliefs.

Such behaviour might seem shortsighted and self-defeating. But in a book of 2017, "The Enigma of Reason", two cognitive scientists, Hugo Mercier and Dan Sperber, argue that reasoning did not evolve "to help individuals achieve greater knowledge and make better decisions". Rather, they say, it evolved to improve the ability of ancestral hunter-gatherers to co-operate in small groups. As they put it: "What reason does...is help us justify our beliefs and ac-



Facts change, opinions never alter

tions to others...and evaluate the justifications and arguments that others address to us." In other words, a lot of reasoning is devoted to affirming your group's identity and your position within it.

Several recent studies suggest that what was useful on the plains of Africa is common in contemporary America. A study in 2013 by Dan Kahan of Yale University asked 1,110 people a question about how effective a skin cream was in reducing a rash. The question required some simple mathematics to solve. Unsurprisingly, the most numerate were most likely to solve the problem correctly. Then Mr Kahan gave the group the question in a politicised form, asking how effective banning handguns was in reducing crime (the underlying mathematics was the same). This time, the most numerate people did not necessarily get the right answer. Rather, Republicans who were good at maths were more likely to conclude that banning guns was ineffective, whereas Democrats said the opposite.

Such thinking informs attitudes to climate change especially. In an earlier study, Mr Kahan asked people to rate their scientific knowledge, partisan affiliation and other characteristics, along with their level of climate concern. You might have expected those with greatest scientific knowledge to be most concerned about climate risks; but the most reliable predictor of concern

was people's worldview. Those who favoured less regimented forms of social organisation were most concerned about it, regardless of scientific knowledge. For those whose basic views were more hierarchical, greater scientific knowledge made them less concerned about the climate, not more. People were using their skills to reinforce the opinions of their group, rather than to establish facts.

They are not necessarily doing this out of bloody-mindedness. It seems that giving consideration to the other sides' point of view hurts—literally. In another study Mr Frimer asked people who had voted in the 2012 presidential election whether they were interested in hearing why voters had backed the other side. Over a third of Obama voters and more than half of Romney voters compared the experience of listening to the other side's voters to having a tooth pulled. (Mr Frimer did a related study in Canada before the 2015 election, with similar results, suggesting the findings are not unique to the United States.)

A study in 2016 by Jonas Kaplan of the University of Southern California suggested that such responses are hard-wired in the brain. Mr Kaplan asked 40 liberal voters to get into fMRI scanners while they read various statements, including those that supported liberal political orthodoxy (abortion should be legal) and those that challenged it (ten times more people are murdered with kitchen knives each year than are killed by guns). The opinions that challenged liberal positions prompted a greater flow of blood to a part of the brain which is associated with basic beliefs and a sense of personal identity. If this is true, it is not surprising that, when challenged, people are reluctant to admit the other side might have a point.

Sometimes people refuse point-blank to admit awkward facts, as with climate change. And sometimes they may concede and dismiss them. Brendan Nyhan of the University of Michigan and Ethan Porter of George Washington University ran an online study during America's presidential debates in 2016, asking 1,500 people to rate the candidates' statements for accuracy. In some cases, when Mr Trump made a misleading claim, they sent out corrections to it, but only to half the group. Those who got the correction lowered their opinion of Mr Trump's accuracy, compared with those who did not. But this made no difference to their opinions overall. Mr Trump had the same favourability ratings among those who got the corrections as among those who did not. Alas, dear *Economist* readers, accurate information does not always seem to have much of an effect (but we will keep trying anyway). ■

Lexington | Trump and Pakistan

A president who does not like America's best allies was never going to smile on Pakistan



DONALD TRUMP'S tendency to judge others by his own standards often leads his diplomacy astray. Witness his dire relationship with Angela Merkel. Yet in his appraisal of Pakistan's "lies & deceit", the president was spot-on. "The United States has foolishly given Pakistan more than 33 billion dollars in aid...They give safe haven to the terrorists we hunt in Afghanistan...!" he fulminated, in his first tweet of 2018.

America has been played for a fool by the generals who call the shots in Pakistan, either overtly or from behind a pliant civilian—such as the incumbent prime minister, Imran Khan. Forced by the events of 9/11 to stop supporting the Taliban openly, and to provide America with a land route to Afghanistan, the generals have since bagged billions in American aid. They have meanwhile given at best limited help in rooting out the Taliban and other jihadist leaders who fled across their border. They protest that they have rival security concerns. Over 30,000 Pakistanis have been killed in violence unleashed by extremists in response to the army's sporadic efforts against them. Nonetheless, the fact that a lavishly rewarded "major non-NATO ally"—a status Pakistan shares with Australia, Israel and Japan—has consistently undermined America in its longest-ever war is outrageous. Mr Trump's decision to suspend \$2bn in military aid to Pakistan, among other punitive measures, could not have been more richly deserved. Yet it has achieved nothing.

The Pakistanis have not been moved to restrain the Taliban, whose leaders are directing an insurgency from Karachi and Quetta that has overrun half of Afghanistan. Nor have they responded to the administration's other demands, which include releasing a Pakistani doctor, Shakil Afridi, imprisoned for helping America trace Osama bin Laden. Not even after the Trump administration hit the generals where it really hurts—by cutting back on the training junkets to America that Pakistani army officers and their wives adore—have they moved an inch. Wearily then, and as inevitably in the course of America-Pakistan relations as night follows day, the administration switched this week to a more conciliatory tack.

Mr Trump sent a friendly letter to Mr Khan to accompany a visit to Islamabad by Zalmay Khalilzad, an American diplomat charged with starting negotiations to end the war in Afghanistan. According to the Pakistanis, it suggested the countries find a way to "re-

new [their] partnership". Mr Trump wants Mr Khan to persuade the Taliban, whose representatives Mr Khalilzad has already met in Doha, to come to the peace table. Given that the president is itching to withdraw the remaining 14,000 us troops from Afghanistan, and wants a deal with the Taliban to cover that retreat, nothing America has hitherto demanded of Pakistan may matter more.

The administration's move is well-timed. To avert a balance-of-payments crisis, Pakistan has asked the IMF for its umpteenth bailout, which gives Mr Trump leverage. Mike Pompeo, the secretary of state, has suggested America could block the bail-out. Mr Khan, in a way, looks like another opportunity. The generals have long warned America not to squeeze them hard for fear of inciting an anti-American blowback and the rise of a Taliban-style leader. Yet Mr Khan, a former star cricketer who has embraced Islam and every conspiracy theory that comes his way, is as extremist and anti-American a leader as Pakistan is likely to get. Over lunch with him, Lexington once listened as Mr Khan tried to convince another cricketing legend (the Antiguan genius Sir Vivian Richards) that America was "destroying" Pakistan and the 9/11 attacks were some sort of a put-up job. He is not an ally Mr Trump need cosset. He is also, despite his image as a man of principle, an opportunist. If Mr Khalilzad can persuade him it would be in his interest to order the Taliban to negotiate, he will do so.

But he and the generals probably do not think it is in their interest. A peace settlement would strengthen the government in Kabul, which is backed by India. Alternatively, a hasty American withdrawal and victory for the Taliban would probably lead to the break-up of Afghanistan and more trouble along Pakistan's north-west frontier. The current stalemate suits Pakistan better. Moreover, if Mr Khan did summon the Taliban leaders to negotiate, they might refuse, which would be embarrassing.

A more expansive view of Pakistan reveals the insanity of this. Servitude to its generals and their strategic obsessions has produced a weak democracy, abysmal governance and an economic performance that makes Bangladesh—once one of Pakistan's poorest parts—look like an Asian Tiger. The post-9/11 catastrophe Pakistan's leaders should be grappling with is not a pro-India government in Kabul, but their inability to address the basic needs of a population that has grown by 50m in that time. But they do not think this way. And the tragedy for the Trump administration, because it reflects a broader collision with global reality that is fast approaching, is there may bot be much it can do about that.

Over and out

On Pakistan, as on Afghanistan, China, Iran and North Korea, Mr Trump saw a big foreign-policy problem that was not moving America's way. His error was to assume this was mainly due to a lack of American will. Despite a lot of heated rhetoric, his foreign policy has been more realistic. On Pakistan and otherwise, he has been more belligerent than Barack Obama was, but perhaps no more than Hillary Clinton would have been. Only Mr Trump's trade policies have been far outside normal bounds. Yet the hot rhetoric persists, and so long as the world resists Mr Trump's injunctions, the question is whether rhetoric will turn into action.

On Pakistan, that would mean not war, but disengagement. America has already tried that, in the 1990s, after the cold war ended. The result was nuclear-arms proliferation, a threatened Indo-Pakistan nuclear war, and the rise of the Taliban. Pakistan, as Mr Trump has observed, is just about the worst American ally imaginable. That is why America has little choice but to persist with it. ■



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Violence in Central America

Calm like a bomb

SAN SALVADOR AND TEGUCIGALPA

The “Northern Triangle” of Honduras, El Salvador and Guatemala is becoming less murderous

FOR THE young man from Baracoa, in the north of Honduras, it was the sister he lost—kidnapped and never heard from again. For a family from Tegucigalpa, the capital, it was the neighbours: two young brothers, killed for refusing to join a local gang. Speak to enough migrants from Central America’s “Northern Triangle” of Honduras, El Salvador and Guatemala and it quickly becomes apparent that everyone has a story. There is always someone. And anyone could be next.

Even by the dismal standards of Latin America, violence in the Northern Triangle is both horrific and endemic. Médecins Sans Frontières, a charity, last year described the experience of people living in its three countries as “not unlike that of individuals living through war”. More than 7,000 lives were lost to violence in Honduras in 2011, about the same number as in Syria, which had more than twice as many people and was stumbling into civil war. That year Honduras had the highest homicide rate of any country not at war, at 86 per 100,000 people. The number in Mexico, itself extremely violent, was 20.

It was not always this bad. Street gangs

arrived in El Salvador in the mid-1990s, after the United States deported hundreds of Salvadorans from Californian prisons. The returnees created extortion networks and started turf wars. Another 120,000 were sent back between 2001 and 2010. Meanwhile, cocaine traffickers began to favour a route through the Northern Triangle. In 2012, 80% of cocaine destined for the United States passed through the region,

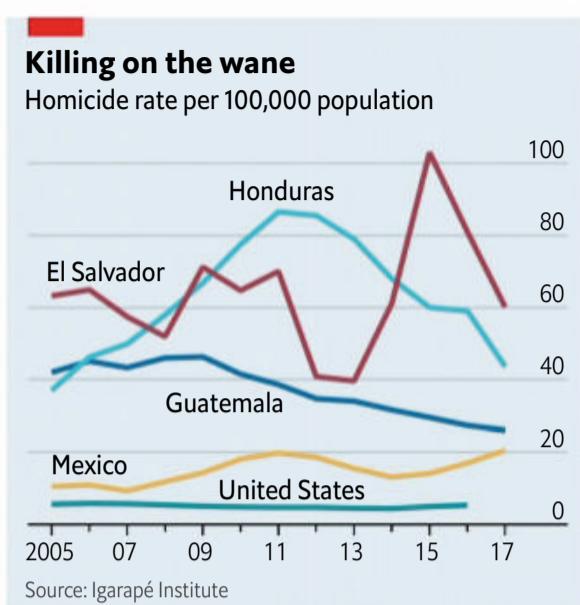


doubling its share from 2009. Much of it arrived on the Mosquito Coast of Honduras, going up the northern coast and through San Pedro Sula, which became the world’s most violent city.

There are signs that the bloody tide is receding. Homicides are down from their peak in all three countries. This year the murder rate in Honduras will fall to 40 per 100,000 people, according to Migdania Ayestas, who runs an independent violence observatory at the National University of Honduras. El Salvador’s will have fallen by half from 2015, to about 51 per 100,000. And in Guatemala, which has tended to have a lower murder rate than its neighbours, homicides are down by half since 2009, to 26 per 100,000.

The last time violence declined in El Salvador, in 2012, it was the result of a truce between Mara Salvatrucha 13 (better known as MS-13) and Barrio 18, two gangs. It later emerged that the government had secretly brokered it, trading fewer deaths for privileges like strippers and KFC delivered to gang leaders’ prison cells. The pact soon fell apart and the violence escalated again. Cynics muse that something similar may be behind the recent decline in violence—an election is due in February. In Honduras some doubt any numbers coming from a government accused of fiddling economic figures. Others suggest that murders have dropped because those most at risk have been fleeing in greater numbers.

Scepticism is understandable. But accounting tricks or emigration would not fully explain such a dramatic drop in mur-



ders. Policies have mattered more—many of them controversial.

Juan Orlando Hernández, the president of Honduras, has sent the army to fight crime in violent areas. Guatemala also deploys soldiers to patrol rough neighbourhoods. And Óscar Ortiz, El Salvador's vice-president, told the police in 2015 that they could shoot gang members "without any fear of suffering consequences". Cops duly obliged and shot some 600 people the following year. Gangsters have become fearful of attracting the attention of trigger-happy cops.

Other policies are less violent. El Salvador and Honduras have levied a security tax on the rich to pay for more law enforcement. Both have created "safe houses" or "outreach centres" in the bloodiest barrios. They have tried to make prisons more effective. Mr Hernández has built new maximum-security jails that keep phones away from gang leaders, who are used to running their "cliques" from their cells.

El Salvador also puts gang leaders in solitary confinement. But it is kinder to lowlier criminals. With newly digitised prison records, petty crooks should no longer share cells with violent gangsters. "Yo Cambio" ("I change"), a prison programme, offers low-risk offenders two days off their sentences for every day spent volunteering or learning practical skills. Last month the fourth "Yo Cambio" festival in San Salvador exhibited inmates' hammocks, ceramics, cakes and other wares. That could lead to better rehabilitation and less recidivism.

Law enforcement is also improving, if slowly. In 2016 Honduras, where fewer people trusted the police than anywhere else in Latin America, purged a third of its force. It has built a new training academy and doubled training time for new cops to 12 months, enough to teach recruits newfangled concepts such as ethics and human rights, says Hugo Velásquez, who runs the academy in La Paz, in central Honduras. GPS technology for cops' cars and phones helps bosses assign the nearest suitable officers to each emergency—and alerts them

if one fails to show up. Guatemala too has been reforming its police force.

Honduras has also made progress in tackling trans-national drug trafficking. More soldiers have been posted to the Mosquito Coast. A new task force has improved co-ordination between agencies. And a recent willingness to extradite criminals to the United States has put the fear of Uncle Sam into captured goons, who become talkative to avoid American jails. Many big fish have been locked up. The president's brother, Antonio, was arrested last month in Miami on trafficking charges.

Even with the recent drops, the murder rate in all three countries is well above the Latin American average of 22 per 100,000. Extortion remains common, and threats of violence can be enough to frighten people into complying—or fleeing. Police enter violent neighbourhoods for brief raids, but fail to wrestle control back from gangs for good. Reasserting the authority of the state means open conflict with the gangs, says José Miguel Cruz, a political scientist at Florida International University. So progress could actually boost the murder rate that the three countries have tried so hard to bring down. ■

Cuba

Private, owned

HAVANA

New rules to stop capitalist outrages such as bookshops that serve coffee

EIGHT YEARS ago Cuba's government laid off a tenth of the country's workforce—some half a million people—and encouraged them to start their own businesses. They did, with gusto. Nearly 600,000 Cubans have become *cuentapropistas*, or self-employed, opening restaurants, boutiques, repair shops, beauty parlours, bakeries and bars. They have renovated and rented out spare bedrooms in their homes, turned family cars into taxis and poured their savings into design studios, creating an additional 400,000 jobs and a much-needed, if still tiny, tax base. Many now earn much more. The average state wage is 848 Cuban pesos (\$33) a month; a taxi driver with a decent ride can make more than ten times that. But new regulations, which run to 129 pages and take effect on December 7th, look likely to damage the country's nascent private sector. They come at a particularly bad time for Cuba's economy, which is already suffering from stagnant exports, broke allies and disappointing tourist numbers.

The most devastating new rule is one that makes it illegal for individuals to hold

more than one licence to engage in private business. Cuba issues licences in only 123 categories—and if a licence for a job does not exist, neither does that job, at least officially. There is little logic to the system. A single licence does the trick for any computer-related business, allowing a *cuentapropista* to provide everything from software to online marketing services. Separate licences for massages, manicures and braiding have been consolidated into one, to the delight of salon owners. But other categories are narrower: selling hardbacks and brewing coffee require two separate licences, effectively making bookshops with cafés illegal. Restaurants that double up as bars face the same fate.

Officials at the Ministry of Labour and Social Security say that the new regulations are meant to discourage black-market trading and tax evasion, while also reducing inequality. The expansion of private businesses over the past few years has indeed contributed to these problems. But the government's proposed solutions will either have no real effect—business-owners will acquire licences in the names of friends or family—or exacerbate them.

Take wholesale markets. There is only one on the island. Most businesses must rely on state-run shops, which offer a limited range of goods, or acquire products on the black market. The government's answer is to require *cuentapropistas* to open bank accounts so that it can track where they spend their money. Drivers of *almen-drones*—ride-shares that substitute for a functioning public transport system in Havana—will be given magnetic cards with which they are expected to buy a set quantity of "subsidised" petrol every month. But since subsidised fuel costs more than the black-market stuff, many drivers are simply handing in their licences.

Cubans who rent out rooms or run other small businesses, such as restaurants or re-



A profit has no honour in my country

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► pair shops, must deposit 80% of their income in a designated bank account. They are understandably loth to do so in a cash-based economy where simple transactions at the bank can take hours. They can withdraw money from this account to cover business expenses and will be given a card that entitles them to small discounts when they buy items for business. But few stores accept cards.

The state has also found a novel way to tackle the concentration of wealth: restaurants are now limited to seating only 50 patrons at a time, ostensibly to keep owners

from consuming too many resources. And under a new tax scheme, any *cuentapropista* who wants to hire more than 20 workers must pay onerous wages for each additional employee. The government is happy for people to start businesses, so long as they do not make too much money.

A few helpful new rules have snuck in among the enterprise-throttling ones. Employers will be required to have formal contracts with their workers. They face the suspension of their licence if they are found to be discriminating on the basis of race, sexuality or disability. And business-owners

no longer need to close up shop if they fall sick or have a family emergency; they can appoint an interim manager and take some time off.

Yet the overall effect of the new regulations will be to slow the budding private economy. "Being a *cuentapropista* is the only opportunity we have at a better life without leaving the country," says the owner of a modest craft shop in central Havana. Her monthly taxes will triple this week; the new rules impose higher taxes on certain businesses in central Havana. "If they take that away from us, what's left?" ■

Bello Once more, with feeling

Sebastián Piñera tries to put Chile back on track

IN HIS FIRST term in the Moneda palace between 2010 and 2014, Sebastián Piñera, a billionaire businessman of the centre-right, oversaw rapid economic growth but failed to inspire popular affection. After an interlude in which Chile swung left under Michelle Bachelet, Mr Piñera has been back as president since March. Second terms often disappoint—Ms Bachelet's did—but Mr Piñera says he has learned from experience. "There's no better school for being a good president than La Moneda," he says. "The second time you know better what you have to do and how to do it."

What he has to do, he says, is to restore economic growth, improve the quality of Chile's democracy and promote equality of opportunity "so that nobody is left out". This agenda is similar to that of the Concertación, the centre-left alliance that ruled Chile for 20 years after General Pinochet's dictatorship, the last four of them under Ms Bachelet in her first term, from 2006 to 2010.

In her second term, between 2014 and 2018, she juked the Concertación, allied with the Communist Party and declared that reducing inequality was her priority. She pushed through reforms, many poorly designed, of education, tax, the electoral system and labour relations. Businesses took fright; partly as a result, economic growth averaged just 1.7% in 2013–17, compared with 5% in Mr Piñera's first term.

The president has taken advantage of the opposition's leftward tilt to seize the centre ground. Voters seem to support the "Chilean model" of market democracy that his programme embodies. In a recent poll almost 70% said they were much better off than their parents, but 52% said they favoured more equality. Rather than "what to do", the trickier



thing for Mr Piñera will be "how to do it". He must govern with a congress in which he lacks a majority and in which the far-left Broad Front has a significant presence for the first time. Money will be fairly tight. Government debt, while still low at 24% of GDP, has doubled in each of the past two governments. Felipe Larraín, the finance minister, says that his aim is to "stabilise" the country's debt and cut its fiscal deficit from 2.8% of GDP in 2017 to 1.6% next year.

The government is proposing a tax reform that partially undoes Ms Bachelet's by making investment tax-deductible. It is relying mainly on faster growth to make up any shortfall in revenues and to finance an ambitious pension reform which will add a more generous top-up of public money to a pioneering but widely disliked private-pension system.

Mr Larraín says he expects the tax reform to be approved by mid-2019. Pension reform will be harder. Much depends on the government's skill in negotiating with moderates in the opposition. In his first term Mr Piñera struck many Chileans

as arrogant. Now he seems more astute and decisive. "The general approach is good but the devil will be in the detail," says a former Concertación minister. "Part of the right is still inclined to listen only to business. He has to convince the opposition that he sees beyond special interests."

Two things could yet derail Mr Piñera. The first is that he risks having raised expectations that he cannot meet. Economic growth has picked up this year. Investment is up by 6%, says the president. But the context is less favourable than in his first term. "They say that Bachelet used the world economy as an excuse, and now they are using it," says Heraldo Muñoz, who leads the opposition Party for Democracy.

The second trap is social conflicts, such as those with students which bedevilled his first term. Last month police tried to cover up their murder of a member of the Mapuche, an indigenous people. That followed a string of scandals—ranging from planting evidence to corruption—in the Carabineros, the once-revered police force. The army is no better. Some officers have been found to have stolen public money; others have sold arms to drug-traffickers. "They have had too much autonomy," Mr Piñera concedes. He may be better placed than his opponents to turn these scandals, which are a legacy of the dictatorship, into an opportunity for reform. He has sent a bill to modernise the police to congress, and plans another for the army.

With the opposition fragmented, and populists to his left and right, many Chileans wish Mr Piñera well. If his government is successful, he may usher in a long period of dominance by the centre-right. If so, it will be because he has stolen the Concertación's clothes.





Democracy in Africa

A colourful revolution

ADDIS ABABA AND HAWASSA

Ethiopia's new prime minister tries to allow liberty, but not anarchy

IF ANY SINGLE event sums up the confusion, danger and enormous opportunity posed by the change sweeping across Ethiopia it was when dozens of armed soldiers marched on the office of Abiy Ahmed, the new prime minister, in October. As the troops moved closer, the government shut down the internet, leaving the capital awash with rumours but little information. It looked to many Ethiopians like a coup.

But when the soldiers arrived, Abiy approached them and listened to their complaints. Within a day videos were circulating showing the 42-year-old former army officer doing press-ups with the grinning troops. Abiy later said the protest had been part of a plot to kill him by opponents of his reforms. Yet with boldness and charm he turned a possible military coup into a public-relations one.

Across Ethiopia, Africa's second-most-populous country, scenes that were unimaginable a year ago are now common-

place. On a recent Friday morning in Hawassa, a regional capital, crowds of young men draped themselves in the white, red and blue flags of the Sidama Liberation Movement, a rebel group. Chanting and singing, they gathered to welcome its leaders home from exile.

Farther along the highway to the capital, as the road crosses an invisible ethnic border, the colours of the flag change to yellow, green and red—those of the Oromo Liberation Front, another rebel group that has been allowed to return and contest elections, scheduled for 2020.

If the democratic uprisings that swept across the states of the former Soviet Union in the early 2000s were "colour revolu-

tions", then Ethiopia's counts as a multicoloured one, with flags of many hues representing its more than 80 ethnic groups.

There is no mistaking the excitement that has gripped the country since April, when Abiy took office and embarked on the most radical liberalisation in Ethiopia's history. He has made peace with neighbouring Eritrea, freed thousands of political prisoners, welcomed back armed opposition groups and promised to open up the state-dominated economy.

But he faces big challenges. As he lifts the heavy hand of the state, ethnic nationalism and violence are spreading. The economy is slowing. Much will depend on whether Abiy can use his enormous popularity to unite the country and shepherd it towards fair elections.

No dirge for the Derg

Ethiopia has had two previous revolutions. Neither worked out well. In 1974 students and soldiers toppled the feudal empire of Haile Selassie and replaced it with the Derg, a Marxist junta that forced peasants onto collective farms, where they starved. Seventeen years later the Ethiopian People's Revolutionary Democratic Front (EPRDF), a coalition of ethnic liberation movements, overthrew the Derg.

Although professing to be democratic and representing all of Ethiopia's ethnic

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55 Delivering goats in Angola

► groups, the EPRDF ruled harshly and was dominated by Tigrayans, who are 6% of the population. It adopted a constitution that promised to protect human rights, then ran roughshod over it, shooting or arresting protesters and installing party loyalists at even the most local levels of government. The former strongman, Meles Zenawi, who died in 2012, boasted that the EPRDF's "writ runs in every village".

Because Ethiopia's economy expanded rapidly, many came to see it as a model of authoritarian development, similar to China's. GDP grew by an average of 10% a year over the past 15, the government says. That figure is probably overstated, but the growth, from a low base, was certainly swift. In recent years, however, questions have been raised about whether the Ethiopian model is sustainable. Much of its economic growth came from state spending on roads, industrial parks, giant dams and Africa's biggest airline. This was financed largely through borrowing abroad. The binge has pushed foreign-currency debt to the equivalent of 350% of annual export earnings. The IMF says it is at high risk of "debt distress". Foreign exchange is scarce. Inflation is 14%.

The authoritarian regime also proved fragile. Oromos, who are about a third of the population, long resented the Tigrayans' control of the government. Protests, which began in late 2014 in Oromia, gathered pace a year later after elections in which the EPRDF so thoroughly suppressed opposition parties that it won 95% of the vote and all the seats in parliament. A ten-month-long state of emergency was imposed in October 2016 after protesters burned foreign-owned factories and blocked roads.

The crisis sparked a coup within the EPRDF. Oromos aligned with Amharas, who are about a quarter of the population (and ruled the roost under Haile Selassie and the Derg), and shunted aside the Tigrayan elite. Abiy was named chairman of the party and the country's first Oromo prime minister.

Since taking charge, he has ordered the release of thousands of political prisoners. For the first time in 13 years there are no journalists in jail. Censorship of the media has ceased. The army and police, who shot scores of people in 2015-16, now rarely use lethal force to contain unrest. Confrontations between them and protesters have declined by more than 80% since April.

The shift away from authoritarianism has been accompanied by a push towards democracy. Abiy has promised a free and fair election. He nominated a respected opposition figure to head the electoral board and a renowned human-rights lawyer as chief justice of the supreme court. Experts are rewriting the statutes that all but criminalised peaceful opposition.

But the revolution risks spinning out of



Abiy the reformer

control. The wave of protests that brought Abiy to power also exposed the degree to which many Ethiopians do not regard their government as legitimate. District officials across Oromia and Amhara were often the first targets of violent unrest before Abiy took office. Tens of thousands have been replaced, but many are powerless in the face of young protesters. "The lower administrative structure has almost completely collapsed," says Jawar Mohammed, an Oromo activist with vast clout.

In the vacuum young men have taken to vigilantism. "Every citizen should be a policeman," says Abdi Abkulkadar, a leader of an Oromo youth organisation in Shashamene, a town near Hawassa. In August a mob there lynched a man wrongly suspected of carrying a bomb.

If they go, there will be trouble

A greater threat to Ethiopia's stability comes from ethnic tension. Since 1995, when the current constitution came into force, ethnicity has been a central feature of politics. The constitution created nine ethnically based, semi-autonomous regions, but also gave each of Ethiopia's more than 80 recognised groups the right to form its own region or to secede. In practice the EPRDF kept the federation together by shooting anyone who tried to break away. Now separatists are trying again.

In recent weeks four ethnic groups have demanded plebiscites on self-rule. There have also been attacks on minority groups and ethnic cleansing, which is made easier by the fact that in most regions ethnicity is recorded on identity cards. "They had a list, they called my name," says a middle-aged Welayta man, whose house was destroyed by a Sidama mob in June. Several Welayta men were burned alive and 2,500 were

forced from their homes in Hawassa, a cosmopolitan city in the heart of what the Sidama claim is their homeland.

Almost 1m mostly ethnic Gedeos, a small group living south of Hawassa, have been homeless since April. In recent weeks hundreds of thousands have been displaced along the border between Oromia and Benishangul-Gumuz. More than 1.2m Ethiopians were forced from their homes in the first half of this year.

Some are stockpiling weapons. "The people in this region are buying machine-guns like crazy," says a young man in Bahir Dar, the capital of Amhara. Young Tigrayans have also been calling for weapons and training. "The risk of chaos, anarchy and state collapse are within the realm of possibility," says an official.

Abiy may see no choice but to use the police and army to separate the factions and restore order. A more lasting solution is likely to involve strengthening state institutions. That would mean curbing the powers of his own office and ensuring that the state itself is bound by the law. At times, though, Abiy has acted as if he is above it. In August he deposed the tyrannical president of Ethiopia's troubled Somali region. This was welcomed, but unconstitutional. In September the police in Addis Ababa arbitrarily arrested thousands of young men suspected of being involved in violence. Abiy later apologised.

He also needs to revive the economy so as to create jobs for millions of young school-leavers. Many now have nothing better to do than join ethnic youth groups, such as the Oromo "Qeerroo" or Sidama "Ejejetto", which look like militias-in-waiting. A good place to start economic reform would be to allow competitors to Ethio Telecom, a state-owned monopoly that is responsible for one of Africa's lowest rates of phone and internet penetration. He should also lift restrictions on banks that force them to give cheap loans to the government while starving private firms of credit.

Most of all Abiy must show Ethiopians that democracy need not mean anarchy. "Historically we are not used to reforms," he has said. "All we know is revolutions." ■



Conflict in the Gulf

NOPEC

MUSCAT

Qatar quits the global oil cartel, as tensions rise elsewhere in its region

QATAR WAS the first Arab state to join OPEC after its founding in 1960. Now it will be the first to leave. On December 3rd the emirate's energy minister, Saad al-Kaabi, said his country was quitting the oil cartel to focus on gas production. The decision takes effect on January 1st. A tiny country of just 2.7m, Qatar is the world's largest exporter of liquefied natural gas. It is a minor producer of oil, pumping about 600,000 barrels per day. Of the 15 OPEC members it ranks 11th and generates less than 2% of the cartel's output. Qatar has little use for OPEC, and vice versa.

Its departure is not really about economics, though. It was a political move aimed at Saudi Arabia, the most influential member of both OPEC and the Gulf Co-operation Council (GCC). The latter, which meets in Saudi Arabia on December 9th, was the Middle East's most effective multi-lateral body. Unlike the Arab League, a toothless talking-shop, the GCC created an economic and customs union. But last year three members—Saudi Arabia, Bahrain and the United Arab Emirates (UAE)—imposed a trade-and-travel embargo on Qatar, another member. The dispute paralysed the GCC and left its two non-aligned members, Oman and Kuwait, increasingly nervous. Officials in those countries wonder if they could be added to the embargo, or punished in other ways.

In September the powerful Saudi crown prince, Muhammad bin Salman, made his first formal visit to Kuwait. Billboards in Kuwait City extolled close relations. But his visit was anything but warm. Kuwait has tried to play mediator in the Qatar dispute. Prince Muhammad is unhappy with this and pressed the Kuwaitis to join the embargo. They refused. Kuwait also rebuffed his request to restart oil production in the "neutral zone", a strip of border territory where they share extraction rights. The trip was meant to last two days. The prince returned home within hours.

Around the same time, Kuwait signed a military co-operation agreement with Turkey. Kuwait downplayed the deal as a procedural matter. But Turkey has become an important actor in the Gulf, an antagonist to the Saudi-led camp. It has troops deployed in Qatar to guard against a possible invasion. Turkey's relations with Saudi Arabia have deteriorated since October, when Saudi hitmen killed Jamal Khashoggi, a Saudi journalist, inside the king-

The gig economy Goats to go

LUANDA

An Angolan app for delivering live animals to your door

AFRICAN CITIES are tasty markets for food-delivery apps. The continent has 21 of the world's 30 fastest-growing urban areas, where an expanding middle class boasts smartphones and spare cash. These cities also have hideous traffic, so it's a chore to drive a car to a restaurant. But delivery scooters can slalom through jams.

These were the ingredients that made possible the rise of several food-delivery startups in Africa. Jumia Food delivers meals to urban dwellers in 11 countries. In South Africa Mr D Food competes with Uber Eats, an offshoot of the American ride-hailing app. Tupuca has been bringing meals to residents of Angola's capital, Luanda, since 2016.

Like its peers Tupuca began by connecting hungry users with restaurants.



They get my goat

dom's consulate in Istanbul.

No one expects Oman to join the embargo. "We have a tradition of staying neutral in everything," says an adviser in the royal court. It has benefited from the situation, with cargo destined for Qatar moving through its Sohar port instead of Dubai's Jebel Ali. The UAE worries that Duqm, a new port under construction on Oman's barren central coast, will steal more business. The two have long had a troubled relationship, with border disputes and allegations of espionage. The Saudis, meanwhile, are trying to convince the Trump administration that Oman is too close to Iran.

Delivering prepared food still accounts for most of its revenue. The firm's 140 drivers make 17,000 deliveries a month for consumers who spend an average of \$40 per order. Since October, however, users of the Tupuca app have begun to see other options alongside pizzas, burgers and sushi. They can buy coal, petrol, fruit and vegetables. Or they can purchase live animals, such as chickens (\$7 for a big clucker, \$5 for a middling one), pigs (\$124 and \$103) or goats (\$82 and \$64).

To offer these animals, Tupuca has teamed up with Roque Online, a startup named after Mercado Roque Santeiro, a huge, open-air informal market in Luanda that was closed by the nanny state in 2011. Roque Online employs an army of runners who track down the best produce. They buy the goat, say, take it to a driver and, before too long, the animal is on its way to a party (where it will be slaughtered amid great jollity).

Erickson Mvezi, Tupuca's CEO, says the new feature is "breaking down barriers between informal and formal markets". Luanda has a sizeable middle class, plus plenty of expats and a rich elite. But it also has millions of poor people living in slums wedged between skyscrapers. More than a third of households have at least one person living by informal vending. Through Tupuca and Roque Online they can sell to more people.

In the West many people fret that the gig economy encourages insecure work. But in sub-Saharan Africa, where the informal economy is equivalent to more than a third of GDP, about twice that in rich countries, it may do the opposite. By opening bigger markets for vendors, technology may help them grow richer, one goat at a time. No kidding.

In September more than 5,000 British troops landed in Oman for a big military exercise. Oman wants its neighbours to know that it has a powerful friend, says a Western diplomat in Muscat. It is also making new allies. Although none of the Gulf states has diplomatic relations with Israel, several are racing to establish ties. Oman has moved fastest. It welcomed Benjamin Netanyahu, the Israeli prime minister, to Muscat in October. His trip allowed Sultan Qaboos to cast ties with Iran in a positive light. Oman could be an intermediary between Iran and Israel. That has quieted critics in Washington and Gulf capitals—for now. ■

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The environment in India

Poison all around

BHOPAL

Successive governments have tolerated rampant pollution, with tragic results

EVERYONE IN NAWAB COLONY can point to victims. Twenty-year-old Annisa, for instance, has the face of a Bollywood starlet, but limbs so withered she cannot walk. Raj, 13, shrunken and largely paralysed, is carried by his father like a large doll. Another teenage boy, Shyamlal, sits alone on a doorstep. He suffers milder palsy; at least he can speak and does not drool. A few steps away across some railroad tracks, what looks like a baby slumped on her mother's shoulder turns out to be a patchily bald, terribly stunted three-year-old, who cannot hold her head up.

All are among some 961 cases taken up by the Chingari Trust, a local charity working with child victims of the worst industrial accident in history. Yet none of them was even born when some 40 tonnes of methyl isocyanate gas spewed out of the Union Carbide pesticide plant here, killing between 4,000 and 16,000 people. That was in 1984. The likely cause of their disabilities is not the gas, or its effect on their parents, but water from local wells soaking up the toxins that the factory began dumping in

1969. Abandoned abruptly, the plant has been awaiting clean-up ever since, leaching poisons into the ground. Only in 2014, on a judge's orders, did Nawab Colony get piped water. But supply is often cut, so many still rely on the old hand pumps.

Official indifference to the 100,000 mostly poor people who live in this part of Bhopal says much about India's wider failure to tackle pollution. The national government resides in a metropolis, Delhi, where residents inhale the equivalent of half a pack of cigarettes on an ordinary day, and two packs on a bad one. Suburban lakes and waterways in Bangalore, India's high-tech hub, alternately foam with toxic suds (pictured above) or burst aflame: in January 5,000 soldiers took seven hours to

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douse Bellandur Lake, which drains the south-eastern part of the city. In Hyderabad, India's pharmaceuticals capital, antibiotics are leaking into rivers, accelerating the development of drug-resistant microbes. Across India, more than two-thirds of urban wastewater goes untreated.

Nor is pollution just an urban blight. Skies across the vast, intensively farmed Gangetic plain are dimmed by the same mix of diesel and coal fumes as Delhi. The sacred River Ganges itself is unfit for bathing or drinking along its whole 2,500km length. Intensive coal mining has ripped out forests and spewed black dust across a swathe of central India. And in the long run farmers will pay even more dearly: global warming already affects the vital annual monsoon, generating local extremes of flash floods and sudden droughts.

Little and late

The Indian state has not been entirely asleep. It launched a plan to clean up the Ganges way back in 1986. Almost 20 years ago Delhi pioneered a switch by public transport to natural gas. The current government has accelerated the tightening of national emissions standards, boosted investment in renewable energy and increased incentives to stop farmers clearing fields with fire. At a meeting in Poland this month to monitor progress towards slowing climate change, India claimed it would meet the goals it set in the 2015 Paris accord ahead of the deadline of 2030.

► Sunita Narain of the Centre for Science and the Environment, a think-tank in Delhi, says the worthy goals adopted by successive governments tend to lack teeth. "We have all the institutions and a lot of the right laws," she says, "but where is the actual capacity, the personnel, the tools?" One example: the giant Sterlite copper smelter at Tuticorin in India's far south, the subject of environmental complaints for decades. In May, outraged by a planned expansion of the plant, local residents mounted a mass protest. Police opened fire, killing 13. The embarrassed state government shut the plant. Had it been capable of properly regulating pollution, rather than winking at it or stopping production altogether, 5,000 workers might still have a job.

Too often, ill-conceived policies produce unintended toxic consequences. In a push for self-sufficiency, the government has encouraged farmers to grow rice. Water tables have duly plunged, prompting several states to oblige farmers to plant the thirsty crop later in the year, after the start of monsoon rains. This has pushed back harvests near Delhi to late October, when the wind drops. At the same time, new mechanical reapers leave more stubble. With only a short window to plant winter wheat, farmers resort to the quickest means of clearing their fields: burning. The smoke, which would disperse quickly in windier months, hangs and drifts.

Again wooing the farm vote, governments have subsidised diesel, on which most tractors and pumps run. So carmakers switched massively to diesel engines, which account for three-quarters of the motor fuel burned in Delhi, as well as for much of the carcinogenic grit that makes its air so dangerous. The government also favours coal for power generation, ostensibly to reduce reliance on imported fuels. But Indian coal has a high ash content, and the transport network struggles to bring it to power plants. The result is that India imports some \$20bn of coal a year. Meanwhile, far cleaner gas-fired power plants are "stranded", either unconnected to pipelines or spurned by electricity distributors.

This is one reason why India's boast of meeting climate commitments is a sham. The goals it set itself are easy. One of them was to shrink the volume of emissions relative to GDP by 35%. But with GDP growing at 7% a year, this formula will allow it to triple emissions. India expects its power plants, already the world's dirtiest, to consume 50% more coal by 2030.

Perhaps the biggest reason India has failed to get serious about pollution is that its politicians have, to date, been able to ignore its middle class. But that, at last, is shifting. "I do see change," says Ms Narain. "The outrage has grown and is finally hitting home. But the action has yet to reach anything like the scale that we need." ■

Free speech in Thailand

A lament for democracy

BANGKOK

A battle of the bands, with political overtones

CHANGE IS COMING. Ahead of a long-awaited election, scheduled for February 24th after years of delays, the military government is expected to relax a few of its repressive rules, including a ban on political gatherings of more than five people. Its response to a musical protest against military rule, *Prathet Ku Mi* ("What my country's got"), suggests it may already be trying to change its tune.

The song, from an alliance of Thai artists called Rap Against Dictatorship, went viral after the release of its gritty black-and-white video in October. To date it has been watched some 44m times. The rappers allude to the impunity of the elite, entrenched corruption and political oppression: "A country where the point of the gun slowly aims at the Adam's apple / A country where they say you have freedom, but there is no right to choose." They also single out members of the government for specific criticism, such as the deputy leader of the junta, who was discovered last year to own more expensive watches than he could have afforded on his modest salary (he says they were a gift from a dead friend): "A country where a minister's watches belong to a ghost."

In keeping with the junta's repressive instincts, the police initially pondered the possibility of charging the artists under the harsh new law the junta pushed through to stifle online dissent.

Then they mysteriously backed down. And in November the government released a ditty of its own.

"Let's get it going, make it more wow, more wow!" the song exhorts. Unfortunately its writers forgot this injunction when choosing the song's title: "Thailand 4.0". The lyrics seem to be borrowed from a motivational poster: "Who says innovating is hard? / Know. Think. Create. Build it up, build it up!" The positive thinking at times shades into outright delusion: "Do good. Be cool, you can do it / Just understand the new world, then you'll be cooler, cooler!"

The public ridicule has been relentless. This is not the first time that Thai officials have used music to woo citizens. The junta leader and prime minister, Prayuth Chan-o-cha, has written five songs urging the nation to unite, with titles such as "Returning happiness to the people" and "Because you're Thailand". Before Valentine's Day this year he released "Diamond Heart" (not to be confused with Lady Gaga's offering of the same name). It likens his relationship with the Thai people to a romance, and worryingly suggests that he will stick with them forever, through "fire and water". The reaction of his sweetheart (six times more dislikes than likes on YouTube) suggests that his devotion is not reciprocated. Thailand 4.0., meanwhile, boasts 14 dislikes for every like.



A smackdown for the generals



Feminism in South Korea

Angry young women

SANNAE

A new generation of activists is challenging misogyny

MY LIFE IS not your porn," read one poster. "We should be able to live, not survive," declared another. The women brandishing them in the centre of Seoul, South Korea's capital, wore red clothes and large sunglasses. They had covered their heads with baseball caps or broad-brimmed hats. The headgear and glasses serve partly to ward off the sun, but mainly to make the protesters unrecognisable to men who might be hostile to their cause: the fight against *molka*, videos which are filmed using cameras hidden in public toilets, school changing rooms or even women's homes, and then posted on the internet. The cameras, disguised as clocks, pens or light bulbs, are bestsellers. Police register thousands of cases every year, but perpetrators are rarely caught and punished. The protesters (pictured) believe that this is because officials do not take women's concerns seriously. "Stop the unfair sexist legal system," runs one of their chants.

The red-clad women, who have turned out in their tens of thousands on several occasions since the spring and are planning their final protest of the year in late December, are the most visible part of a wave of activism against sexism in South Korea, where spycams in toilets are not the only problem vexing women.

Despite its material wealth, South Korea

was ranked 118th out of 144 countries last year in the World Economic Forum's measure of equality between the sexes. The average South Korean woman makes only two-thirds as much as the average man. Several cases have come to light recently in which companies deliberately and systematically discriminated against female job applicants, even though that is illegal. A group of male executives at KB Kookmin Bank, for instance, lowered women's scores and raised men's on a recruitment test, to ensure more men were hired. The case wound up in court, but the executives received only suspended sentences; the bank was fined a mere \$4,500. Although young women are better educated on average than their male peers, many of them are pushed out of the workforce after having children, either for lack of good child care or because companies simply will not take them back.

In terms of appearance and behaviour, women and men are held to wildly different standards. A newsreader caused a scandal earlier in the year when she chose to read the morning news wearing glasses, rather than contact lenses. Many firms, it subsequently emerged, had an informal ban on female employees wearing glasses. A YouTube star who used her make-up tutorial channel to announce that she was

giving up make-up to join the "corset-free" movement, which challenges unrealistic beauty standards, received a torrent of online threats.

Abuse from actual or would-be romantic partners is rife. A survey by the city government in Seoul found that four-fifths of women had experienced controlling behaviour (such as boyfriends telling them what to wear or whom they could meet). More than half had suffered unwanted (physical) sexual advances and nearly two-fifths outright violence. "Misogyny is still common sense in South Korea," says Yun Kim Ji-yeong of Konkuk University in Seoul. "People do not accept that women are worth the same as men."

But women are increasingly challenging this conviction. It is not just the anti-spycam protests. Many are cropping their hair, crushing their eyeshadow and throwing away their lipstick—and posting videos of their rebellion online. Emboldened by the global #MeToo movement, a string of prominent women have spoken out about experiences of abuse. Young South Korean women, long wary of using the term "feminist" in conversations with parents or boyfriends, are starting to make their voices heard. "I definitely spend more time talking to my friends and my parents about these things than I did two years ago," says a 20-something student.

So far, tangible results have been few and far between. In September Lee Yoon-tae, a theatre director, was sentenced to six years in prison for sexual assaults on nine women during acting lessons. In another prominent case, Ahn Hee-jung, a former provincial governor, was cleared of a rape charge in August. The judge cited his accuser's efforts to find his favourite breakfast on the morning after one of the alleged rapes as an indication that the encounter must have been consensual. Criminal complaints about sexual discrimination or assault remain vastly more likely to ruin the reputation and career of the victim rather than the perpetrator. A recent move by Seoul city hall to roll out daily anti-spycam checks of public toilets in the city may reassure some women (as well as keep bureaucrats busy). But it does not get to the root of the problem.

More personal than political

Many activists emphasise the importance of shared personal experience in strengthening the movement. Kim Han Ryeo-il, who set up a feminist café and bookshop in Seoul's Gangnam district last year, says she wanted to create the kind of place she wished had existed when she was a single mother in dire straits after a divorce years ago. Her café hosts weekly meetings for women to talk about feminism.

A feminist co-operative in Sannae, a small village in a socially conservative re-

► gion, has similar aims. The centrepiece is a meeting spot named "Salon de Mago" after a goddess of female creativity, which overlooks the village's main street. Women from the area drop in to talk about conflicts with fathers and husbands and, often, domestic violence. Drawings and cartoons in which they have recorded their experiences are dotted around the room. Some depict rape scenes. "It's a safe space for people to express themselves," says Tali, one of the activists. Besides running the café, the women provide sex education in local schools. They also offer a discussion group

for men, even though most of the male attention they get is hostile. "They say we are dividing men and women," says Eerie, her colleague. A flyer on the table describes the insults and threats the women have received in the course of their work.

Ms Yun Kim believes the individual focus of the movement is its strength. Bottom-up organisation, via social media and word of mouth, makes it unintimidating and easy to join. She thinks the anti-spycam protests have drawn such crowds because they speak directly to women's daily experience. "If you cannot even be safe

from intrusion in the bathroom or in your own home, then where are you safe?"

Yet the focus on personal experience may impede feminists from seeking alliances with other groups battling social conservatism, such as activists for gay rights, or indeed sympathetic heterosexual men. The organisers of the recent anti-spycam protests, for example, specified that only "biological" women should take part. Yet such alliances may turn out to be crucial politically. Speaking out about mistreatment is one thing; changing a culture is another. ■

Banyan Self-harming Liberals

Australia's ruling party faces annihilation. Some members appear to want that

A FEW DAYS ago a respected member of the Liberal Party, which governs (if that is quite the word for it) in coalition with the smaller National Party, dropped a bombshell in Parliament: she was quitting the party to sit on the cross-benches as an independent. Julia Banks, the only Liberal to snatch a seat from the opposition Labor Party in the most recent general election in 2016, said she was sick of the direction her party was taking. "The Liberal Party has changed," she said, because of a "reactionary right wing who talk about, and talk to, themselves rather than listening to the people". As if in support, the women's minister, Kelly O'Dwyer, said in a leaked discussion with colleagues that the party's leaders were seen as "homophobic, anti-women, climate-change deniers".

The Liberal Party has a problem. Not least, Ms Banks's move to the cross-benches, which follows an earlier defection, leaves the government two votes short of a majority. What is more, many voters agree with Ms O'Dwyer. They also think the party ignores people's worries about affording a home and having sufficient savings to retire. And though successive governments have come to grief trying to craft a policy on climate change, this government strides purposefully away from a solution—despite the strong popular desire for one. Yet in place of any introspection, allies of the prime minister, Scott Morrison (who once sang an ode to a lump of coal in parliament), call Ms Banks a traitor.

That's rich. Mr Morrison owes his current eminence (if, again, that is the right word) to a cabal of what a senior Liberal calls a bunch of "crazy, right-wing nutjobs". In August they defenestrated the man, Malcolm Turnbull, who had called and won the previous election,

and had attempted to govern as a pro-business and socially liberal centrist. One of the cabal, Peter Dutton, a vituperative populist, failed to secure Mr Turnbull's crown. In the ensuing scrimmage, which did few of its participants credit, Mr Morrison won it almost by accident. The most competent moderate, Julie Bishop, was swiftly trampled.

Over the years, party leadership "spills" have become ever more frequent—of the five prime ministers of the past decade, four came to power in one. They are usually launched when leaders are blamed for their party's poor showing in the polls.

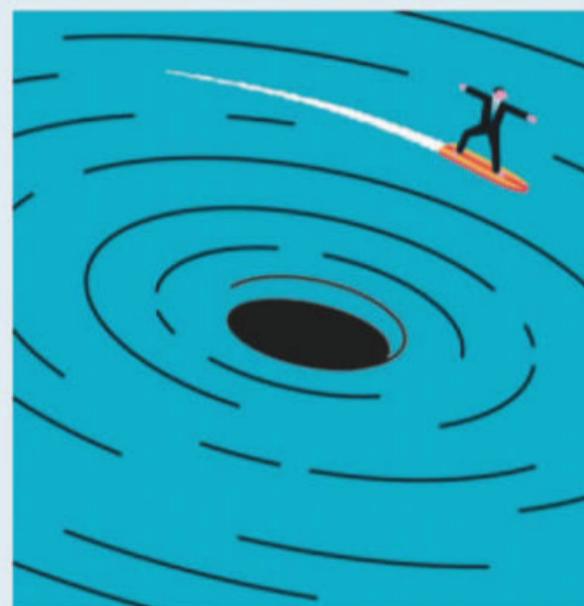
They do little good. Parties almost always perform worse in an election after a spill than they did at the preceding one. In a tacit admission of this, the Liberal party changed its rules this week to make spills harder. Too late: before the one in August, the Liberals were trailing Labor by two or three percentage points; today the gap has widened to ten. It is as if voters are even keener to punish the party, for presenting one candidate for prime minister only to kick him out. Astonishingly, in October

the party managed to lose the super-safe seat Mr Turnbull had vacated. Earlier this month in a state election in Victoria, it saw a dramatic drop in support, paving the way for Labor's re-election. John Howard, (Liberal) prime minister from 1996 to 2007, dismissed the setback by explaining that Victoria was the "Massachusetts of Australia", glossing over the fact that it is home to a quarter of Australians. The party is staring defeat in the face in an election in March in New South Wales, long a Liberal stronghold.

The party faces a thrashing in a general election due by May. Yet, says John Hewson, another former Liberal leader, all Mr Morrison, a former marketing supremo, has to offer is "a pocketful of slogans". Several of the party's spillovers may well lose their seats, including Mr Dutton and Tony Abbott, the arch-conservative ringleader who was briefly prime minister before Mr Turnbull spilled him in 2015. (Mr Abbott had spilled Mr Turnbull in 2009.)

When local party members looked set to deselect Craig Kelly, a cheerleader for coal and backer of Mr Dutton, he threatened to quit the party unless Mr Morrison overrode party rules. The threat worked, yet he was not called a traitor.

In politics, says one senior party member, you used to make progress through compromise. "Now, it's, 'If you don't give me something I want, I'll blow the place up.'" Perhaps Mr Abbott and his like really do have a death wish. Perhaps they fancy that defeat by the Labor Party will have a wonderfully purgative effect, clearing the wets out of the Liberal Party and allowing their faction to enjoy unadulterated rule. What is nearly certain is that a grand old party faces a whipping next year. The question is whether it can survive at all.





The anniversary of reform

Seeking salvation

PAIFANG

Forty years ago China began to reverse Mao's disastrous economic policies. It still debates what should replace them

THOUGH IT DOES not believe in saints, the Communist Party of China came close to canonising its former paramount leader, Deng Xiaoping, back in 2004. On the centenary of his birth, Deng—who died in 1997—was hailed as the immortal “chief architect” of reforms that had made China prosperous and strong. The eulogies had some basis. Thanks to his support for policies dubbed “reform and opening up”, Deng can take credit for a secular miracle: the greatest economic recovery in history.

With cunning and pragmatism, Deng and his aides dismantled a broken economy and dystopian society left behind by Mao Zedong. They re-awoke the country’s slumbering genius for capitalism and found a way to call it socialism, albeit “with Chinese characteristics”. By 2004 the economy was 44 times larger than it was on December 18th 1978 (see chart 1, next page). It was on that date that party leaders began a meeting that is now officially called the start of the era of *gaige kaifang*. Though growth has been slowing of late, the trend has been impressive. As China prepares to mark the 40th anniversary of the opening

of the conclave, the country’s GDP is more than five times larger than it was in 2004.

Like many who endured the Mao era, Deng was also something of a martyr. That story is hidden in the architecture of a museum that was opened in 2004 by the party’s then boss, Hu Jintao. It lies next to a black-and-white farmhouse that was Deng’s boyhood home in rural Sichuan province. The museum has a roof made of three sloping planes rising to a spire. It symbolises how Deng was repeatedly purged under Mao before recovering each time and finally rising “as high as heaven”, a guide explains.

On opening day, 14 years ago, few would have predicted that Deng might be purged again, or at least lose his central place in the Communist pantheon. Yet Deng and his reformist aides are being sidelined during this anniversary. This should be a time for

swagger and confidence. After all, the past 40 years have seen hundreds of millions of Chinese lift themselves out of poverty, and China become a global power. Instead the anniversary is being observed by an odd smallness of spirit and by semi-public squabbling among the country’s secretive elites. Official propaganda is playing down the achievements of past leaders, to focus on extolling the “new era” announced in late 2017 when President Xi Jinping secured a second term as party leader. Image-makers are also promoting a specific vision of reform and opening that casts private business in an important but supporting role, with state enterprises dominating the most sensitive and advanced sectors.

A gaige counter for the president

The largest anniversary exhibition, at the National Museum in central Beijing, devotes vastly more space to Mr Xi, and to what he has done since he came to power in 2012, than to the achievements of all previous Chinese leaders combined. In its halls, packed on a mid-week afternoon with school groups, workplace delegations and squads of soldiers in uniform, “reform” is treated as a synonym for progress and modernity, rather than as an economic programme of tearing down barriers to free competition and trade. In chest-swelling displays about China’s space programme, aircraft-carriers and high-speed trains, state firms are the champions. Private firms and self-employed entrepreneurs are praised too, but as a “complement” to the ➤

Also in this section

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► economy, with special strengths in innovation and job creation.

When Mr Xi visited the exhibition, the state press did—to be fair—record him inspecting inscriptions by Deng dating from 1984, urging more rapid development of coastal cities earmarked as “special economic zones”, or pilot areas for experimenting with market forces. But the reports quickly moved on to the important point: that Deng’s inscriptions reminded Mr Xi of his own arrival as deputy mayor in one such zone, Xiamen, in 1985.

To China’s liberal intelligentsia—an embattled band including free-market economists, reformist lawyers, retired officials and some business executives—such propaganda stokes fears that Mr Xi is only paying lip service to reform while harking back to the bad old days under Mao, when dogma trumped pragmatism.

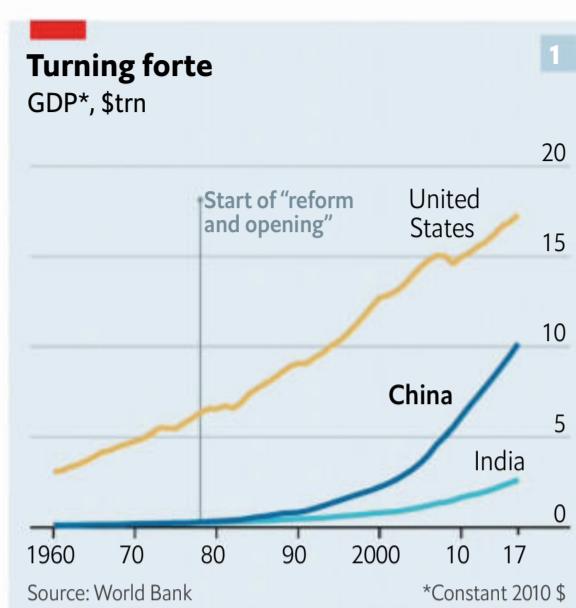
Thinkers who suffered in the Mao era express horror at the revival of Maoist slogans. They recall that economic debates had always been tolerated in the reform era, even after the crushing of pro-democracy protests in June 1989. Now speaking out even on technical subjects can be perilous. Unirule, an independent economics think-tank founded in 1993, recently lost its business licence. It has suspended public activities. Its apparent offences include criticising state-backed monopolies and calling for changes in the tax system.

Strong but wrong

A longtime advocate of reform describes how Chinese rulers fit onto two axes: one representing the extent of their power and the other the quality of their thoughts. The worst, like Mao, are strong with bad ideas. The best, like Deng, are strong with good ideas. He calls Mr Xi a strong leader whose philosophy remains unclear. Yet he fears that the party chief was marked, durably, by his upbringing during the Cultural Revolution, leaving his ideas “perhaps more aligned with Mao’s”.

Outsiders may find that outlandish. After all, in Maoist times those accused of capitalist tendencies lost property and even their lives. Today, billionaires can be party members, and—if they toe the line—feted as patriots. Mr Xi’s chief economic adviser and deputy prime minister, Liu He, is a reformist who is trusted by business leaders. Mr Xi has gone out of his way to promise support for private firms as the economy slows (see Schumpeter).

But this is a divisive anniversary. After all these years of reform and opening there is surprisingly little consensus about why *gaige kaifang* has worked. The period can be divided into stages. First came a break with Mao and a return to common sense, prudence and respect for expertise. That led to experimentation: “crossing the river by feeling the stones”, as Deng put it. Farm-

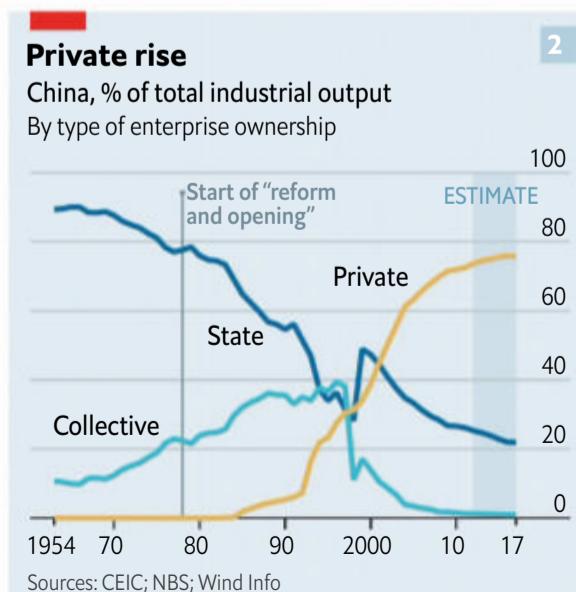


ers were allowed to manage their own smallholdings. Villages and townships opened businesses. Entrepreneurs began to build private empires. At the same time, state-owned firms (while contributing less to the economy, see chart 2) continued to enjoy unique privileges, such as cheap land and other subsidies. They faced unique burdens too, from price controls to demands to provide welfare for employees. Finally, in the early 1990s, something like a market economy began to emerge.

The lessons of each stage remain contested. Pro-market reformers think that China has grown rich despite state meddling in the economy. A rival camp, which liberals fear has Mr Xi’s ear, thinks that China has prospered because officials temper and guide the forces of capitalism.

Other big disputes divide the camps. Liberals believe that Deng enjoyed public backing because he symbolised a break with failed Maoist policies. They hold that Team Deng’s great idea was to distance the party from the government, then get both out of businesses’ affairs. Liberals are convinced that only further reforms, including political opening, can see China through the transition to an advanced middle-income nation, after relatively easy decades of catch-up growth.

A rival, statist camp is strikingly reluc-



tant to criticise Mao, seeing him as a source of the party’s legitimacy. To this group, state firms stand for strength and control. They see a “China model” that outshines free-market capitalism. Shunning political opening, they put their faith in party discipline, not external accountability.

There are hints of tension among princelings, or the heirs of early Communist leaders. In September Deng Pufang, Deng’s eldest son, defended his father’s legacy in a speech to the China Disabled Persons’ Federation, of which he is the honorary chairman (he was paralysed during the Cultural Revolution). Mr Deng said that reforms introduced by his father were “irreversible”, and had won support because of the public’s loss of faith after the chaos of Mao’s era. In October Mr Xi visited Shenzhen, on the border with Hong Kong. Many Chinese associate the city with the “southern tour” in 1992 by Deng, then retired, which led to a dramatic revival of economic reform after a prolonged attack on his policies by hardliners. But during his recent trip, Mr Xi did not even mention Deng’s name publicly. Other officials have gone further, using the anniversary to promote the role of Mr Xi’s father, Xi Zhongxun, who helped to launch Shenzhen as a hub for foreign-funded manufacturing.

On November 23rd Mr Xi led party commemorations to mark 120 years since the birth of Liu Shaoqi, a head of state who was deposed by Mao and died in prison during the Cultural Revolution. Mr Xi gave a speech commending Liu for his loyalty to the party, while managing not to mention his purging or Mao’s excesses. By contrast, on the centenary of Liu’s birth in 1998, China’s then leader, Jiang Zemin, blamed Liu’s death on wrongs committed by Mao’s acolytes. Well-connected Beijingers note that Liu’s son, Liu Yuan, an old friend of Mr Xi’s, told a memorial event in Hunan province on November 24th that China should not ignore the lessons of historic tragedy—a line some saw as a rebuke of the president (accounts of Mr Liu’s speech were later censored on social media).

So far this year almost 3m people have visited the park in Deng’s birthplace, Pia-fang. On a chilly, overcast morning, some of them explained that they had come to remember “Uncle Deng” for putting “money in our pockets”. The gift shop’s best-selling item is a wooden plaque bearing a gilded character for “prosperity” (in Deng’s calligraphy, staff say), which businessmen buy to put on their office desks.

Deng’s last living close relative in Pia-fang, Dan Wenquan, still helps at a restaurant opened by his children in 2004. A recent lunchtime found him sorting chopsticks at a round table. Mr Dan’s father and Deng’s mother were siblings. Those ties brought violent persecution during the Cultural Revolution, a time he now calls ►

► “quite challenging”. An 81-year old ex-farmer who never went to school, Mr Dan offers a definition of reform and opening that his powerful cousin would have recognised: a social contract that stresses nationalism and material prosperity, rather than theoretical “-isms”. China must become technologically advanced to be rich and powerful, says Mr Dan. “Once your science is powerful, others won’t bully you. When the country is prosperous, people are happy, and the people trust the government.”

Different views can be found in fields outside Paifang. The changes that began in 1978 produced winners and losers. Many industrial workers were laid off as the planned economy was dismantled. Ordinary Chinese associate reforms with rising living standards, but also with rampant corruption. On Paifang’s fringes, a gaggle of ageing farmers heatedly share a tale of officials taking land without promised compensation. Asked about reform and opening, one scoffs: “The opening’s for officials, us common folk are still common folk.”

Corruption divides elites, too. An anti-corruption drive led by Mr Xi has netted more than 100,000 officials. The campaign is wildly popular with the public, but is blamed by some officials for paralysing the work of government. Some in policy circles murmur that Mr Xi is far less supportive of private enterprise than he claims to be, and that he believes his beloved party is being poisoned by bribes from privilege-seeking private firms. Reformers retort that bribery exists because officials wield excessive power over business. In the 1980s and 1990s the best officials used to be entrepreneurial risk-takers, says one veteran of those times. They sought powerful positions in order to do the right thing for the country. Now, he sighs, too many officials think like bureaucrats, merely concerned with doing things the “correct” way.

A handful of entrepreneurs are willing to speak out. In late November Sun Dawu, whose firm owns large egg farms and other rural operations, hosted a scholarly forum on land rights and private enterprise at his spa and hotel complex near Baoding, two hours’ drive from Beijing. Attendees included liberal economists, lawyers and businessmen. “The real corruption is at state enterprises,” says Mr Sun. “The biggest crime private enterprises can commit is providing bribes. It is the people demanding bribes who are detested. The party doesn’t like private entrepreneurs because they don’t do as they are told.”

Happily for Mr Xi, some in business welcome his approach. Zhang Huamei, a button and clothing-accessories trader from Wenzhou, was the first person in China to be granted a self-employed business licence, back in 1980. She was 19. At a time when private trading was still illegal she began supplementing her family’s meagre

income by selling cheap goods from a stand in front of her home. When officials told her of a scheme to grant trading licences, she applied, sick of having to run and hide whenever she saw anyone in authority. “After we got the initial licence we would go out there knowing the government had our back,” she said in an interview at her small shop in central Wenzhou. Ms Zhang is proud that Wenzhou is famous for daring and canny traders, who have founded businesses worldwide. Some might hear her tale as an example of the government getting out of the way. But she is deferential to the state that protected her in 1980. On her shop’s walls, button samples jostle for space with pictures of her attending official gatherings and meeting the prime minister, Li Keqiang. A copy of her original licence is on display at the National Museum in Beijing. Without government support, it is hard for any business to survive, Ms Zhang avers. Private businesses can seek out new markets. But they cannot be compared to state-owned champions making advances in science and technology, she says. “If China did not have these big state-owned enterprises to grow, how would we be this well off?”

Deng might have liked Ms Zhang. Though missed by economic reformers today, he was no liberal. He had faith in technocrats and was willing to delegate authority to them. He saw the power of material incentives to drive efficiencies and progress. But he saw a role for a scientific, modern state too, in common with the leaders of such Asian tigers as South Korea or Singapore.

Most important, Deng bequeathed China a lopsided version of reform, in which economic freedoms were not matched by political opening. That explains problems

today, says Mao Yushi, a free-market economist and outspoken critic of Mao Zedong’s poisonous influence on Chinese society. He speaks with some authority, having been purged in the 1950s as a “rightist” and whipped during the Cultural Revolution. Mr Mao, who is the honorary chairman of the Unirule think-tank, recalls the 1980s as “the most democratic time in Chinese politics”, until progress was “stopped by the shots fired on June 4th [1989]”. Deng, he says, “contributed greatly to the marketisation of the Chinese economy, but he interrupted the political advancement of China. That was his big mistake.” Today Mr Mao sees China’s development being threatened by a tightening of curbs on free speech which he says is stifling badly needed debate about policy. Many economists, including those within the government, privately agree. But at the age of 89, he is unusually able to speak without fear.

Donald Deng

In this moment of doubt and dissent, many Chinese liberals put their faith in a surprising champion: President Donald Trump. They hope that pressure from Mr Trump will force Mr Xi to keep promises made in recent speeches—to open markets further to foreign investors, better protect intellectual property and encourage fair competition. By way of precedent, such optimists cite beneficial foreign pressure on China when it entered the WTO. Not all are so confident. “People want political change. I think getting political change through a trade war is hard,” says Mr Mao, drily. China’s liberals do not exactly admire Mr Trump. It is more that they hope he will prove a bigger bully than Mr Xi. On this somewhat gloomy anniversary, reformers will take what help they can get. ■



Down memory lane at Beijing’s reform exhibition

Chaguan | What's love got to do with it?

Coldly calculated interests, not affection, are binding China and Russia closer



THE HIGH-SPEED train from Changchun to Vladivostok would be a fine symbol of Sino-Russian friendship, if someone would finish it. The line's Chinese leg is a modern marvel: a silk-smooth ride through a blur of birch trees and red-roofed farms. Then the line ends at buffers in Hunchun, a border city near Russia.

At first Hunchun's residents are wary of discussing why their home town—a drab but friendly city of fewer than 230,000 people—is the terminus of a high-speed rail line from Changchun, the nearest provincial capital. The line, which cost 42bn yuan (\$6bn), opened in 2015. Public records show that the surrounding province, Jilin, invited Russia to help lay the track as far as Vladivostok, the Russian Far East's largest port. Russian selfishness scotched that plan, Hunchun's residents mutter. "Russia said, 'If you want it, you can build it,'" alleges a Chinese business owner. It will take 20 years for high-speed trains to cross that border, he sniffs.

Hunchun is a good place to hear how ordinary Chinese and Russians talk about each other, even in a city where they meet every day. Russian signs hang in shops and hotels. City clinics profit from Siberian medical tourists (Russian teeth are "not so good", says a dentist, delicately). Local seafood-importers turned to Russian suppliers after UN nuclear sanctions limited Chinese access to North Korean crabs. But suspicions lurk. Lang Yulin, a seafood dealer, blames Russian bureaucracy for the five days it takes goods to reach Hunchun from Vladivostok, 300km away by road. Worse, Russian partners will never work late or at weekends "no matter the financial hit", he grumbles.

There is a patriotic edge to Hunchun's main tourist site, an hour's drive away at Fangchuan. It marks a three-way border with North Korea and Russia created in 1860 when tsarist forces took advantage of imperial China's weakness and swiped a swathe of coastal land, leaving Jilin province landlocked and the sea a tantalising 15km away. That would never happen now, ventures a tourist from Sichuan province: "China is a strong country."

Economic ties between the two neighbours have long been disappointing. Despite growing exports of Russian natural gas, timber and other commodities to China, trade lags behind targets set by national leaders, says Xing Guangcheng of the Chinese Academy of Social Sciences, a government research institute.

Mutual coolness explains some of this slow growth. Mr Xing has devoted his working life to studying Russia. Still, when asked to explain trade volumes, he unhesitatingly contrasts the work ethic in China, a crowded, hyper-competitive country lacking in natural resources, with the languid pace of life in Russia, a country blessed with land and mineral riches to spare. He describes scenes of bafflement when Chinese farmers rent land in the Russian Far East, rising before dawn and working until after dark. When they pause for swift lunches in the fields, Mr Xing says, Russians circle them and stare, asking, "Why do you work so hard?" For their part, Siberian farmers think Chinese farmers use too many chemicals.

One barrier to co-operation used to involve fears about Chinese migrants overrunning the Far East, where just 6m Russians live. In the 1990s nationalist politicians lobbied against visa-free entry for Chinese citizens, thundering about Chinese men taking Russian wives. Fears were eased by a Russian government study, some four years ago, that found 600,000 Chinese living in Russia, mostly in the European west, rather than the millions commonly supposed. Still, the public is easily inflamed. Recently, Russian newspapers have fulminated against Chinese firms logging Siberian forests.

Russian elites long viewed China with racially tinged scorn, says Alexander Gabuev of the Carnegie Moscow Centre, a think-tank. He recalls a Russian official, just before the financial crisis in 2009, scoffing at China's supposed modernity, calling it a Potemkin village whose big GDP reflected "millions of poor people who will work for a bowl of rice".

Such rudeness leads Westerners to doubt whether the two countries can grow very close. "I see little in the long term that aligns Russia and China," America's defence secretary, James Mattis, said in September. Wiser Chinese and Russian heads argue that ties are stronger because they are based on coldly calculated interests. In Soviet times, China signed deals as a junior partner, says Mr Xing. Today logic dictates whether Sino-Russian projects happen because relations are more normal, he suggests: build a fast train to sparsely peopled Siberia and who would take it?

Present arms

Hunchun may be a fine place to see how underwhelming Sino-Russian friendship can be at ground level. But with the right catalysts, state-to-state relations deepen fast. That has been especially evident since 2014, when Russia's annexation of Crimea provoked Western sanctions that left the Kremlin turning to China in search of capital, technology and markets, says Mr Gabuev. In September 3,200 Chinese troops trained alongside 300,000 Russians in eastern Siberia: a remarkable show of trust between countries that fought a border war in 1969. Russian arms sales to China had slowed in 2005 after spy scandals, including China's theft of designs for a Russian fighter jet. They are booming now. A rising China will soon not need imported weapons, so Russian arms-makers are rushing to cash in. China does not want a military alliance—it views Russia as alarmingly hot-headed. But the pair work at the UN to promote a worldview that puts sovereignty and iron-fisted order ahead of universal rights. China copied Russia's law curbing foreign non-governmental organisations. Russian spooks are fascinated by Chinese surveillance technology.

Chinese and Russians still view each other with striking cynicism: just ask residents of Hunchun about trains to nowhere. But a shared cynicism about the world unites their governments—and survives the complicating factor of an amoral American president. For some neighbours, friendship is not the point. ■



Genocide prevention

Never again, again and again

COX'S BAZAR, GENEVA AND YANGON

As the UN convention against genocide turns 70, its failures are tragically apparent

SQUATTING ON A UN refugee agency mat, clutching her listless two-year-old, Setera Bibi tells her story. Last year, at 4am on August 25th, the 23-year-old was awoken by gunfire. Fifty soldiers were rampaging through her village in north-east Rakhine state, in the west of Myanmar. Entering her house, they grabbed her husband. Four hours later he was returned, his beaten and bloated body wrapped in his own *longyi*. He had been tortured to death.

She buried him as the village burned. Scooping up her two daughters and her mother, she, along with hundreds of others, fled for the Bangladeshi border. Two days into her flight she had to cross a swollen river, a daughter in each hand. Her terrified youngest, just a baby, wriggled free and was swept away, never to be found. Ms Bibi's party were chased by soldiers. Several were shot. Her less mobile mother fell behind. Soldiers beat her with their rifle butts, breaking her back.

The survivors eke out their days in a small hut in the world's largest refugee camp, Kutupalong, just inside Bangladesh.

Ms Bibi's mother cannot even walk now. She hopes her remaining daughter, Adija, will not recall much of the horrors. But her desolate eyes tell their own story. Malnourished, with a chronic cough, she is too weak to go to school. All three subsist on a ration of just rice, pulses and cooking oil. Asked about the future, she dare not think beyond the end of the week.

There are now 900,000 Rohingyas in the 27 camps on a spit of land called Cox's Bazar. Most have similar stories to tell—of loved ones beheaded in front of their eyes and of babies thrown onto the flames. About 80% arrived in the last four months of 2017, fleeing an onslaught that killed at least 10,000 people—probably far more. Men were particular targets; 16% of those in the camps are single mothers.

The Rohingyas' suffering clearly meets the criteria for "genocide", as set out in the Convention on the Prevention and Punishment of the Crime of Genocide passed by the UN on December 9th 1948—ie, acts intended "to destroy, in whole or in part, a national, ethnical, racial or religious group".

A report for the UN Human Rights Council recommends that the commanders responsible face trial for genocide.

Seventy years after the passage of the UN convention, the world still fails to prevent such crimes, let alone punish those responsible. So it is with humility, anguish and some shame that human-rights advocates, politicians and UN officials have been marking the anniversary.

Besides the Rohingyas, they will have in mind the Yazidis, an ethno-religious group mostly from northern Iraq. In 2014 Islamic State jihadists tried to erase their faith. They shot Yazidi men, kidnapped children and forced women and girls to become sex slaves. Roughly 10,000 were murdered, out of a global Yazidi population of perhaps 500,000. Some 300,000 fled to squalid refugee camps in Iraqi Kurdistan. The slaughter of men and mass rape of women has devastated Yazidi extended families. And the survivors now hate their Muslim neighbours, making it hard for them to co-exist in the future. Jan Kizilhan, a trauma specialist, says he fears that Yazidi society has been irreparably broken.

The genocide convention, drafted by Raphael Lemkin, a Polish Jew, was passed unanimously by the newly minted UN. The next day the UN also passed the "Universal Declaration of Human Rights". The two documents were conceived largely in reaction to Nazi atrocities.

At the Nuremberg trials in 1946, 24 Nazi leaders had faced charges of war crimes ►

► and crimes against humanity—mass-en-slavement, murder, conspiracy, persecution and more. Lemkin, however, was concerned with the Holocaust, the murder of 6m Jews by the Nazis. He even found a word for what Winston Churchill had called “a crime without a name”—genocide.

It took time for his new concept to be accepted. Stalin signed the convention but carried on slaughtering people regardless. America, worried that the convention would expose it to scrutiny for the decimation of native-American tribes in the 19th century, ratified it only in 1988. Britain, fearful of the implications for its colonies, ratified it only in 1970. Overall, 149 states have now acceded to the treaty.

It has not come close to stopping genocide (see chart). A Tutsi government in Burundi massacred hundreds of thousands of Hutus in 1972. Pol Pot’s communist Khmers Rouges murdered 1.5m Cambodians, a quarter of the population, in 1975-79. In Guatemala, the army killed about 60,000 Maya peasants during a civil war in the early 1980s. Saddam Hussein’s regime killed about 100,000 Kurds in Iraq in 1988.

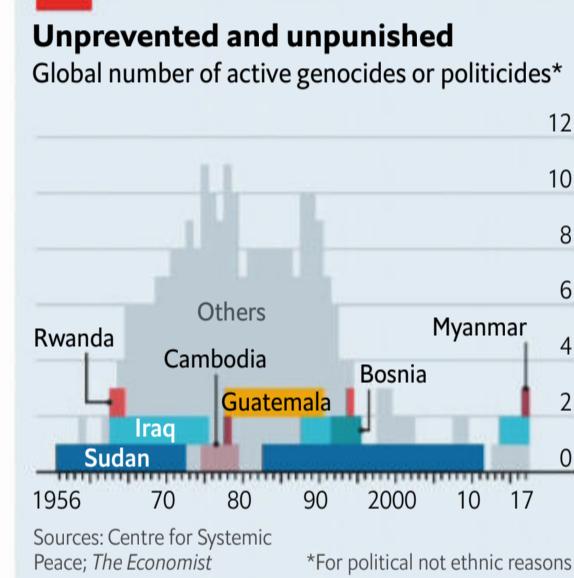
The Rwandan genocide in 1994 seemed to mark a turning-point. Hutu officers organised most adult Hutus to slaughter their Tutsi neighbours. Perhaps 500,000 people were hacked or beaten to death in 100 days. A small UN “peacekeeping” force in the capital, Kigali, stood by. By the time the West decided that something needed to be done, the genocide was over, having been stopped by an army of Tutsi rebels. Afterwards, Western leaders vowed never to let anything like it happen again.

This catastrophe, followed by the butchery of Bosnian Muslims at Srebrenica in 1995, at last galvanised action. An international war-crimes tribunal had been set up in 1993 by the UN to try those responsible for atrocities in the former Yugoslavia. Another court followed for Rwanda, and in September 1998 Jean-Paul Akayesu, a Hutu politician, became the first person ever convicted of genocide. In May 1999 Serbia’s president, Slobodan Milosevic, was the first serving head of state to be accused of crimes against humanity; genocide was later added to the charges. He died in custody before sentencing. In 2006 a court was set up in Phnom Penh to try former Khmer Rouge leaders. Last month it at last convicted two—Nuon Chea, aged 92, and Khieu Samphan, 87—of genocide.

In 2002 the International Criminal Court (ICC) was founded. In 2010 it indicted for genocide a serving head of state, Sudan’s president, Omar al-Bashir. He is accused of ordering the destruction of three ethnic groups in Darfur. Meanwhile, in 2005, a UN resolution on the “Responsibility to Protect” had given the UN Security Council a broad new duty to intervene to prevent atrocities.

A plethora of private and public initiatives now seek to give advance warning of potential genocides, and to hector governments into action. The Australian National University, for example, publishes lists of countries at risk of genocide, as does the United States Holocaust Memorial Museum. Simon Adams, head of the Global Centre for the Responsibility to Protect, founded in 2008 to promote the doctrine, says there have been some successes. Kenya verged on all-out inter-ethnic violence after a disputed election in December 2007. But swift diplomatic intervention cajoled the two sides into talking. Ivory Coast came back from the brink in 2011 after French and UN troops overthrew a blood-spattered president, Laurent Gbagbo.

Since then the outlook has darkened. Fighting in the Central African Republic was seen as the “early signs of genocide” by the UN in 2017. The term has also been applied to the bloodbath in South Sudan, the



depredations of Bashar Assad in Syria and Islamist attacks on Christians in Nigeria’s middle belt. Some groups do not even bother to hide what they are doing. Islamic State in Syria and Iraq published explicit rules about the duty of the pious to exterminate infidel men and rape infidel women. Meanwhile, Mr Bashir flaunts his continued liberty, breezily hopping from country to country that should be arresting him, eroding the ICC’s authority.

What has gone wrong? Clearly geopolitics plays a role. Permanent members of the UN Security Council have always shielded their allies. In Sudan, during the period of the worst killing in Darfur in 2003-04, America and Britain turned a blind eye to the actions of the *janjaweed* militias in exchange for intelligence from Khartoum about al-Qaeda. Russia will deflect any attempts to take action against the Syrian government. China, with economic interests in Myanmar and an aversion to any meddling in countries’ internal affairs, will protect it from referral to the ICC.

Yet there are also structural reasons

why genocide has proved so hard to prevent. The world has unwittingly created a hierarchy of suffering. Philippe Sands, a human-rights lawyer, argues that the creation of the crime of genocide has meant that “when the perceived lesser horrors occur, there is no reaction, and when it gets to genocide it is too late.”

To prove genocide, prosecutors have to demonstrate intent. This can take years of painstaking work. As Mukesh Kapila, a humanitarian official who witnessed the genocides in Rwanda and Darfur, puts it: “By the time you have established that all the criteria have been met, it’s over.”

Take the Rohingyas. They had been persecuted and murdered for decades, yet nobody acted. The determination of genocide eventually came over a year after the mass exodus. So much for “prevention”. Indeed, because the 1948 convention obliges countries to act on a genocide, it often discourages them from such a designation. During the Rwandan genocide, an American official memorably warned against calling for international investigations, because a genocide finding would commit his government “to actually ‘do something’”.

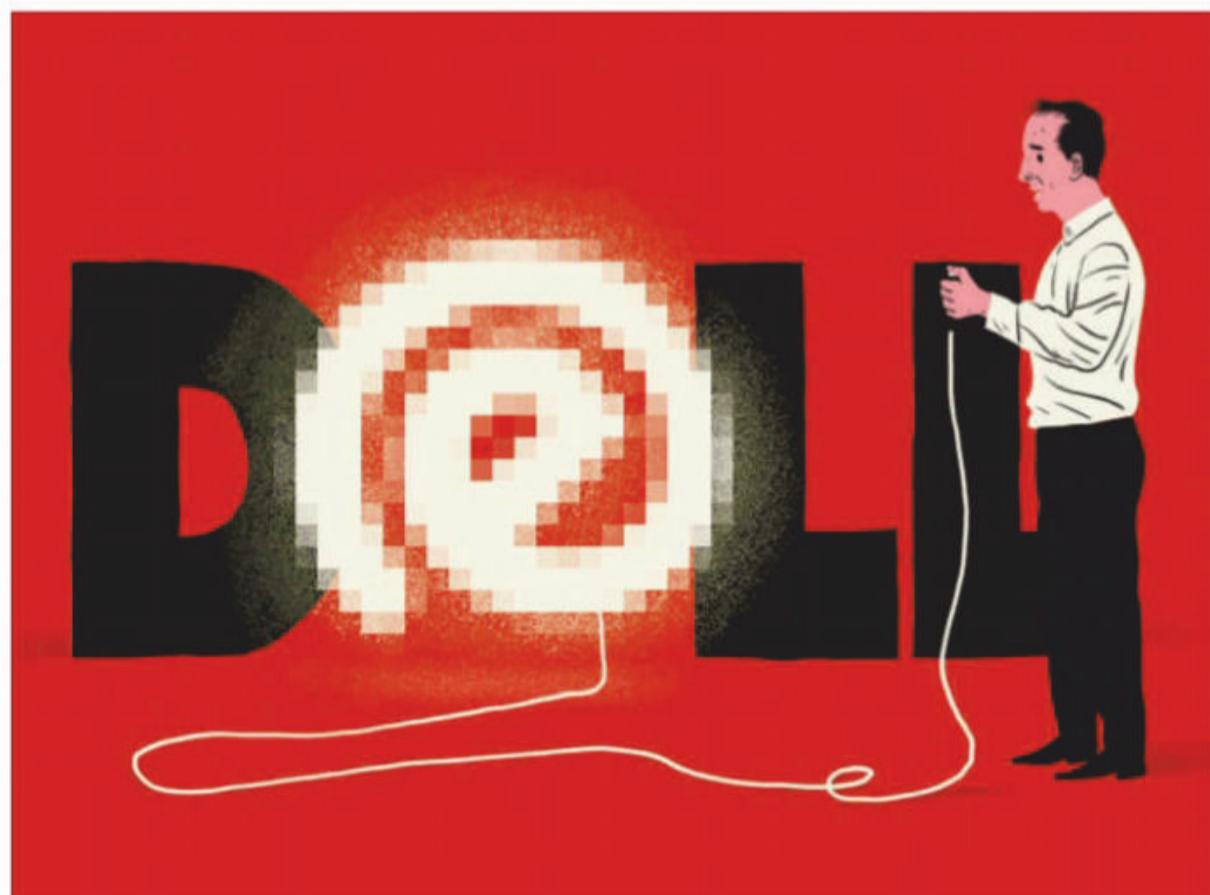
The UN report on the Rohingyas showed the hierarchy at work. It argued that the Myanmar army was also guilty of crimes against humanity among other ethnic minorities, the Kachin and Shan. Yet with attention focused on the charge of genocide in Rakhine, these crimes barely merited a mention in public reactions.

Lemkin and later scholars conceived of genocide as a process, moving from stigmatisation and dehumanisation through violence and terror to eventual annihilation (“in whole or in part”). Certainly, genocides are usually preceded by stigmatisation and dehumanisation of the intended victims. But few laypeople would regard stigmatisation as genocide. The word literally means killing a people.

Perhaps it is time, suggests Mr Sands, to end the hierarchy of suffering by creating one catch-all crime of mass atrocity, fusing genocide and “crimes against humanity”. This would give states more scope to act before events escalate to a Rwanda or Myanmar or Syria. Drones, satellites and mass-data collection ought to make it easier to detect the warning signs.

Nothing will come of nothing

The idea that ignoring a genocide will bring political or strategic benefits usually proves illusory. Playing down the culpability of Aung San Suu Kyi, Myanmar’s de facto leader, for the atrocities against the Rohingyas, as Western governments did, did not strengthen her hand against the army. Rather, inaction emboldened the army to act more ruthlessly elsewhere in Myanmar. Democracy cannot be built on the bones of those who are butchered. ■



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The IT industry

The opening Dell

ROUND ROCK AND PALO ALTO

Having turned his creation into the world's largest private technology firm, Michael Dell plans to take it public again

THERE ARE two ways to make money selling technology, goes an old industry saying: unbundling and bundling. Thanks to the spectacular rise in recent years of cloud-computing services from Amazon and Microsoft, many firms have shifted chunks of software, data and applications previously stored on in-house servers to the new "public cloud" infrastructure. Customers can now access a dizzying array of software and hardware offered as unbundled, cloud-based services.

Dizzying—but also bewildering. The typical chief technology officer (cto) of a big firm, under pressure to take advantage of every computing advance from data-analytics to artificial intelligence to the internet of things (iot), is faced with a mish-mash of information-technology options. The next big opportunity should therefore lie in simplifying this balkanised mess.

That insight lies at the heart of Michael Dell's vision for the future of Dell Technologies, a giant IT firm based in Texas. The billionaire founded Dell in his college dorm room at the University of Texas in 1984 and by the age of 27 he became the youngest-ever boss of a Fortune 500 company (Mark Zuckerberg was nearly 29 when Facebook first made the list, in 2013). Mr Dell revolutionised the business of perso-

nal computers (pcs) by selling directly to customers, adopting just-in-time manufacturing and lean, global supply chains that undercut rivals.

Now Mr Dell is pushing forward his next revolution. He is trying to save the ageing PC manufacturer from commoditisation by dramatically expanding its software and cloud offerings. He took Dell private in 2013



helped by Silver Lake Partners, a Californian private-equity firm, in a deal worth \$24.4bn. At the time, Dell's revenues and profits were tumbling as the pc market was squeezed by the rise of mobile devices and low-cost Asian manufacturers. Its prospects were rapidly darkening.

Away from the scrutiny of public markets, Mr Dell invested heavily (\$13.6bn in research and development since 2013) to strengthen Dell's capabilities in cutting-edge software and cloud integration. He pulled off the largest-ever tech acquisition, gobbling up EMC, a big American provider of data-storage devices and cloud-computing software, for \$67bn in 2016.

Very few firms have been able to pull off a corporate transformation, says Michael Cusumano of the MIT Sloan School of Management, but he thinks Mr Dell's labours are starting to produce results. As a result of both ongoing investment and accounting charges related to the purchase of EMC, Dell continues to make losses (see chart) but its growth engine is at last fired up. On November 29th its quarterly results included a surge in revenues of 15%. The firm's cashflow from operations leapt from \$2.4bn in the fiscal year ending in February 2017 to \$7.7bn in the four quarters to November 2nd 2018; losses fell.

On its current trajectory, Dell looks set to achieve annual revenues this year of just over \$90bn, up from roughly \$80bn last year. Dell's hope is that its investments in cloud computing and software, which offer far higher margins than the pc business, will soon return it to profitability.

A good example is Dell's crown jewel: vmware, a pioneer in virtualisation software, which allows software to run on mul-

► tiple machines seamlessly. It is a publicly traded and profitable entity with a hip campus in Palo Alto, California. Since Dell got hold of most of VMware through the EMC acquisition, investors have been able to own a piece of Dell itself through DVMT, a special tracking stock that is meant to reflect Dell's ownership stake in VMware.

Soon they should be able to buy into all of Dell directly. Shareholders will gather on December 11th in Round Rock, Texas, at Dell's unpretentious headquarters, to vote on a complex proposal that would allow the firm to pull off something resembling a

reverse merger (the acquisition of a listed firm by a privately held one that is keen to go public without the hassle of a conventional initial public offering).

This plan, announced in July, involves converting DVMT shares into new Dell shares to be publicly traded. DVMT investors could accept the new Dell shares at a given conversion ratio or cash out (though a cap on cash available means those choosing the latter may have to receive a mix). VMware said then that it would pay out a special one-time dividend of \$11bn, with Dell to use its share of the dividend (about

\$9bn) to help fund the transaction. In an initial proposal, Mr Dell and Silver Lake offered a deal that implied a value for DVMT of about \$22bn, including \$9bn in cash.

After noisy objections from Carl Icahn, an activist investor (who also made trouble back in 2013 about the price at which Dell went private), they revised the terms last month to reflect a value of some \$24bn for DVMT, some \$14bn of it in cash. If the resolution passes, as expected, Dell will soon trade on the New York Stock Exchange.

The real challenge begins after the vote. Mr Dell's plan to emphasise software in fu- ►►

Bartleby The gospel according to Paul

An executive who showed you can combine sustainability with profits

IRONIES ARE rarely so pointed as this. As chief executive for ten years of Unilever, an Anglo-Dutch consumer-goods group, Paul Polman was a champion of business ethics and corporate sustainability. But after shareholders revolted against a plan to move the group's headquarters to Rotterdam, his own position became, well, unsustainable. He will leave his post at the end of this year.

The company says Mr Polman was always set to leave at some point in 2019. But to announce his retirement only a month in advance strongly suggests an accelerated schedule. It is a shame that he is leaving on a low note. Mr Polman has been one of the most interesting and distinctive chief executives of a large multinational anywhere in the world.

By coincidence, the day after the announcement, Mr Polman was speaking at the Drucker forum in Vienna, an annual gathering for management theorists. He stuck resolutely to his favourite themes, citing the need for companies to husband the planet's scarce resources. Unilever's sustainable-living plan has extremely ambitious goals, such as cutting the group's environmental impact by half by 2030 and improving the health and well-being of more than 1bn people by 2020. Mr Polman emphasised that companies should be run for the long term, not for the short term. That is the reason why, on his first day in the job, he scrapped the practice of reporting quarterly profits.

Mr Polman argues that businesses are returning too much cash to shareholders via share buy-backs and dividends, meaning they are not investing enough for the future. He believes that if you could get the big fund managers (such as Fidelity and BlackRock), the big asset owners (pension funds and foundations)

and a few "high-net-worth" people in a room, it might be possible to sort things out. The solution would start by creating better incentives for fund managers: judging their record over a period of three to five years rather than on the next quarter. That, in turn, would allow them to back companies that have long-term investment plans.

He has not been immune to short-term pressure. In 2017 Unilever attracted a bid approach from Kraft Heinz, a firm with a reputation for cost-cutting. Mr Polman saw off that challenge, but followed up by announcing his own efficiency plan and the sale of the group's margarine business.

Having banged on about these themes for a decade, Mr Polman has become rather like one of his company's products—Marmite, a salty yeast spread that is either loved or loathed. All told, however, shareholders can hardly complain that Mr Polman's focus on sustainability has dented returns. Unilever's shares have risen by more than 150% since he took office, easily beating London's FTSE 100 index. And although the switch may be a little hasty,

Mr Polman is handing the reins to Alan Jope, the man who has been running the group's largest division, its beauty and personal-care business. So he has also fulfilled another important duty of a chief executive—ensuring that a capable successor is on hand.

As for Mr Polman's broader campaigning, plenty of investors will be sympathetic. Fund managers that control almost \$90trn of assets have signed up to an initiative called the "principles for responsible investment", which focuses on environmental, social and governance issues. Companies often take a more active stance than governments do in these areas. Shell, another Anglo-Dutch company, has just said it will link executive pay to a reduction in carbon emissions (see later story).

Mr Polman was ahead of the game in realising that, more than ever before, consumers identify with the brands that they buy. They are reluctant to support those that are not perceived to share their values. Any brand focused on younger consumers will have to bear this trend towards "woke capitalism" in mind. Employees, too, are more likely to work for companies whose values they share.

That said, any future boss tempted to follow Mr Polman's lead should study his record carefully. It is perfectly reasonable to run a company on the basis that other stakeholders (workers, consumers, etc) matter, as well as shareholders. But that does not mean you can appear to ignore your shareholders altogether. You need to take them with you on every step of the way. And if they think a chief executive is railroading them, as Unilever investors clearly did about the move to the Netherlands, they will rebel.



ture contains three bets. The first is to be the best all-in-one provider of bundled IT. That may not be easy. Norman White of the NYU Stern School of Business observes that combining a commoditised hardware business with an innovative software business is particularly hard to do. And IBM's \$34bn acquisition in October of Red Hat, a provider of open-source software, which it plans to sell alongside hardware, could make Big Blue a potent rival.

Still, Dell's transformation is welcomed by many beleaguered IT managers. The chief information officer of a big British bank that spends over \$50m a year on Dell kit says he values its ability to provide "converged infrastructure" that bundles multiple IT components such as servers, data-storage units, networking switches and the software to make all this gear work together, into a single package. Cheekily, Mr Dell promises customers to be the "one throat to choke" in case things go awry.

Mr Dell's second big bet is on the rise of a "hybrid" cloud which allows customers to blend their out-of-house and in-house IT. Companies are growing nervous about putting all of their sensitive customer and business data on third-party clouds. Lonne Jaffe, a former IBM man now at Insight, a venture-capital company, insists that hybrid clouds are the future.

The public cloud promoted by Amazon and Microsoft will remain a force to reckon with. Dell cannot invest as much in innovation, and is sure to face ruthless price competition from Amazon. Still, Dell may be catching a wave big enough to carry several firms. Last year Gartner, a consultancy, predicted a "massive shift toward hybrid infrastructure", with 90% of companies using hybrid clouds by 2020.

A third bet is on "edge" computing. As countries roll out 5G networks and firms put smart sensors into everything, the IoT should arrive. Mr Dell says it will make demands that the public cloud cannot satisfy. If an autonomous vehicle (AV) senses it is about to hit a deer on a country road, he asks, must it wait for software housed in a distant public cloud to give it permission to stop? It is an unlikely scenario but one Dell is using to promote its IoT division.

One of Dell's big customers says the answer is obvious. "Decisions must be taken absolutely in real time, a car is a data centre on wheels," says Simon Bolton, chief information officer of Jaguar Land Rover (JLR), an Indian-owned carmaker. The answer is edge computing, which allows the car to have a lot of computing power in the boot. JLR has long used Dell desktop computers, EMC storage devices and VMware software. Now it is using other bits of the firm's kit (cyber-security software, for example) as it develops edge-computing systems.

Last year, Dell created a new division devoted to the IoT. It has promised to invest

\$1bn in research and development over three years. Its venture-capital arm has invested in Graphcore, a British startup developing AI processors and software. Its super-fast chip, which enjoys very low latency (the time it takes for data to get to their destination), is ideal for use in AVs. Graphcore is bringing these AI chips to market by putting them into Dell hardware, which the latter's legions of salesmen will promote to big corporate customers normally out of a startup's reach.

In the end, the success of Dell's new strategies depends greatly on the person at the top. Sceptics wonder if he is yesterday's man. Others worry that his firm's recent growth spurt may be unsustainable, and question how long it will take for him to return the firm to profitability. It remains to

be seen if he can blend the aggressive sales culture at Round Rock with a softer, innovation-focused ethos in Palo Alto.

Mr Dell is confident that his bets will pay off. He notes that a public listing would "absolutely give us an acquisition currency," one that he intends to put to use as Dell shoots toward \$100bn in annual revenues. He has managed to defy naysayers in the past. In 2015, Meg Whitman, then the boss of HP Enterprise, a rival IT firm, predicted that the takeover of EMC would prove an "enormous distraction" to Dell. In a headline the same year, *Wired*, a magazine, said the PC was dead and not coming back—Dell's PC sales have been rising. Accepting the scrutiny of Wall Street again will doubtless mean plenty more such provocations. Over to you, Mr Dell. ■



Nautilus

Deep trouble

A high-profile deep-sea mining company is struggling

After listing on the Toronto stock exchange in 2006 Nautilus Minerals became the public face of a daring new industry: deep-sea mining. It planned to pursue riches on the ocean floor, mining metals such as gold, zinc and copper, desired for lustre, alloys and electronics. Robotic machines (pictured) would cut, grind and gather volcanic rock at a site called Solwara 1, located 1,600 metres beneath the surface of the Bismarck Sea near Papua New Guinea (PNG). The resultant rocky slurry would be pumped up to a support vessel, then shipped to a site at which the metals could be extracted. Investors were convinced; Nautilus's shares doubled from their initial price of C\$2 (\$1.80) in a few months.

Today a Nautilus share is worth just a few Canadian cents. Three problems have changed sentiment. First, the firm has had substantial contractual trouble with the government of PNG, in whose territorial waters Solwara sits. The two sides wrangled for years over payments that the government owed for its equity stake in the project. The government eventually stumped up, but the row slowed progress.

Second, the idea of using Nautilus's vast machines to carve and crush underwater volcanoes does not sit well with environmental groups in PNG and around the world. That may have unnerved investors.

Third, uncertainty after the financial crisis of 2008-09 made it harder for Nauti-

►

▶lus to fund its untested venture. That has left only two big shareholders: MB Holding, an Omani conglomerate, and Metalloinvest, a Russian steel and mining firm.

Timetables have slipped as a result. The firm states only that mining at Solwara 1 will now be delayed "past" the third quarter of 2019, with no start date offered. Its finances are making a descent. Some \$350m is required to get mining going. Nautilus has drawn down half of a \$34m credit line that MB Holding and Metalloinvest gave it in January in exchange for the rights to purchase more shares (an arrangement which coincided with the departure of some senior managers and Nautilus's chairman). The firm is due to start repaying these loans in January but, as of September 30th, only had \$200,000 of cash.

To add to these problems, Nautilus appears to have lost the specialised support vessel that it had planned to use. It had chartered a new ship through MAC Goliath, an Emirati shipowner and operator. The vessel was nearing completion at the docks of Fujian Mawei Shipbuilding in Fuzhou in southern China in December 2017 when MAC Goliath defaulted on a payment. Nautilus was given the option to step in and make the missing payment, but was unable to do so. In July the Chinese shipyard found a new firm to take over the contract, MDL Energy, an Indian shipowner that is planning to engage in deep-sea mining explorations for India's government. Kulpreet Sahni, MDL's chief executive, confirms that his firm now owns the ship.

On December 2nd Nautilus stated that it was "in negotiations with various parties" about ownership of the vessel; its shares surged in response. But Mr Sahni says his firm terminated negotiations about Nautilus's continued use of the ship months ago. On December 3rd Mr Sahni wrote to Nautilus's boss, John McCoach, warning that the firm's statement was detrimental to MDL Energy, and to Nautilus's own minority investors, and that it might contact the Toronto Stock Exchange or take legal steps if the matter was not clarified. (In an emailed statement to *The Economist*, Mr McCoach declined to comment on the specifics of this story but said that some of it was "not accurate from our perspective".)

If the vessel is gone, that would be a huge blow for Nautilus, for it had been custom-built for the firm's particular mining methods. It will be near-impossible to replace, especially given Nautilus's beleaguered finances.

But Nautilus's travails have offered lessons to the rest of the deep-sea mining fraternity. Gerard Barron, Nautilus's first financial backer (who sold out of the company years ago), has hired some of Nautilus's ex-employees for DeepGreen, a new deep-sea mining venture which focuses on harvesting metallic nodules that are

scattered across the sea floor in the deep ocean. These contain metals such as cobalt and nickel needed for the batteries and wind turbines that power the clean economy. Having watched Nautilus's progress, he reckons that hoovering up nodules will be easier than grinding volcanic rock, and that their uses lend such activities a more environmentally-friendly sheen. Other firms have made a similar bet.

Although the water in the Clarion-Clipper Zone, a patch of Pacific sea floor in which such firms will operate, is some three times deeper than that at Solwara, the location is out on the high seas. That means it is subject to a clearer set of rules for mining and exploration, which is overseen by the United Nations, thereby reducing the scope for wrangling with national governments. Nautilus holds a concession there, too. But if the firm does not secure a fresh infusion of cash, its machines may never venture further than a dock in PNG. ■

Oil majors

Staring down the barrel

NEW YORK

Royal Dutch Shell tries to reckon with climate change

INTERNATIONAL OIL companies wrestle with the clash between their duty to deliver value to shareholders and the fact that how they produce those returns threatens the planet. A key question is whether they can reduce greenhouse-gas emissions without gutting their businesses. On December 3rd Royal Dutch Shell went further than any other oil major so far in insisting it could. The firm announced that it would set specific targets for reducing carbon



Cross purpose

emissions every three to five years, with the goal of shrinking its net carbon footprint by about half by 2050.

Shell will also ask shareholders to reward executives for managing a transition to cleaner energy, though the details are still to be worked out. Remarkably, its targets will cover not only emissions from its own production of oil and gas, but from all cars, lorries, planes and factories that eventually burn the stuff. Shell will use sales of its products to estimate their subsequent emissions. Other changes include reviewing ties with lobbying groups bent on undermining action on climate change (the oil-and-gas industry spent \$126m lobbying in America last year; only four other industries spent more). These steps are unprecedented—and a reminder of how far the rest of the industry has to go.

Oil majors, despite their critics, remain a staple of investment portfolios. They pay large, reliable dividends. Shell has not cut its dividend since the second world war. Far from fleeing them, the biggest 20 institutional investors globally account for a rising proportion of their shareholders. Last year they held 27% of the majors' shares, up from 24% in 2014.

Nevertheless, shareholder resolutions on climate have become a common feature of annual meetings. Since 2014 the number of votes on such resolutions has more than doubled. A year ago 310 investors concerned about environmental damage, managing a whopping \$32trn between them, launched a group called Climate Action 100+ to co-ordinate efforts. Oil majors now express support for the Paris climate agreement. Their bosses lead the Oil and Gas Climate Initiative, a voluntary effort to lower emissions from their operations.

Still, oil chiefs take very different views of how dramatically firms should evolve. Climate-related strategies are starting to diverge. For instance, BP spent nearly \$13m this year to defeat a ballot initiative for a carbon tax in Washington state. Some companies, including Shell, have mostly divested their holdings in oil sands, one of the most carbon-intensive sources of oil, but ExxonMobil remains a big owner.

Shell's own announcement amounts to a volte-face. Its chief executive, Ben van Beurden, recently dismissed long-term binding targets on carbon as "foolhardy". Shell would be vulnerable to lawsuits if it missed the goals, he said. But after talks with investors, led by Robeco, a hedge fund, and the Church of England Pensions Board, ultimately overseen by the Archbishop of Canterbury, Justin Welby, Shell agreed to set short-term goals in the service of a longer-term ambition. That it can adjust its targets, says one energy lawyer, lowers its legal risk. Oil peers will be watching to see if Mr van Beurden can protect both the planet and his firm's dividend. ■

Digital taxation

A tech-taxing tangle

The European Union is not united on how to extract more from tech firms

THREE IS, SAYS Bruno Le Maire, France's finance minister, a need for "European sovereignty in the face of digital giants, which are now as powerful as sovereign states". The issue is tax—or rather a lack of it. The most creative corporate tax minimisers are big, mostly American, technology firms. Countries such as France and Italy harrumph that they are deprived of billions in tax receipts each year as Google, Amazon and their kind magic profits away from where business is done to where they are taxed least. The European Commission reckons digital firms pay 9.5% in income tax on average, compared with 23.2% for firms with "traditional business models".

The OECD, a club of mostly rich countries, was meant to tackle digital non-taxation as part of a global corporate-tax-reform initiative called BEPS (Base Erosion and Profit Shifting). Progress, however, has been glacially slow. Fed up with waiting, Europe vowed to act on its own. Yet the breakaway is not going to plan.

In March the commission proposed a tax on sales, which are harder to shift to tax havens than profits. The mooted 3% levy would apply to digital services and sales, including sales of users' data, regardless of whether the firm had a physical presence in the European Union. Tech companies with global annual revenues of €750m (\$850m) or more—an estimated 200 or so—were expected to fall within its scope.

The plan has since been tweaked several times. A sixth compromise text was put to EU finance ministers on December 4th. But the commission knew it was going nowhere: EU tax proposals require unanimous support, and several countries, including Ireland and Sweden, had made their continued displeasure known. France and Germany responded by jointly offering yet another compromise, targeting web firms' advertising sales only—thus not covering the likes of Amazon and Airbnb. That might raise about half as much as the original proposal, officials reckon. Even this dilution drew raspberries from some countries. The ministers agreed to try to move forward "as soon as possible".

The naysayers argue variously that such matters are best left to the OECD, that an EU-only approach would breach international treaty obligations, and that it could hurt European firms as well as American ones. Some also worry (but tend not to talk publicly) about repelling investors. Low-tax

Ireland, currently favoured by tech firms, would be an estimated €160m a year worse off if the EU pressed ahead.

Supporters say a European tax need not undermine global reform efforts; it could even focus minds in the OECD-led talks and hasten a multilateral deal (which, thanks to a "sunset clause" in the proposed EU levy, would trigger its withdrawal). Their optimism is ebbing, however. An exasperated Pierre Moscovici, the EU's tax commissioner, declared last month that "we are reaching the limits set by unanimity" on tax issues and that next year he will therefore propose switching to majority voting.

With member states struggling to find a common approach, some are preparing to act on their own. As many as 11 EU countries have announced or are considering nation-

al digital-sales taxes (as are several elsewhere, including South Korea and Australia). Britain, for instance, is holding a consultation on a 2% levy on firms with over £500m (\$635m) in revenues—though it says a global accord would be preferable.

What chance of such an agreement? Optimists talk of the OECD pulling together a deal by 2020. But America, protective of its tech giants, is "not much interested in making progress", says Alex Cobham of Tax Justice Network, a campaign group. Mind you, America is even less keen on the idea of Europe's regional tech tax. The congressional committee that oversees tax issues recently wrote to Brussels, decrying its proposed tech levy as "designed to discriminate against us companies...creating a significant new transatlantic trade barrier". ■

**Underwear**

Going for bust

Victoria's Secret is struggling to keep abreast of changes in the lingerie market

SEX SELLS, and it sells few things better than lingerie. Nowhere is that more evident than the Victoria's Secret fashion show. Befeathered models, known as "angels", shimmy down a runway to promote America's biggest underwear retailer. In 2011 more than 10m people watched it on television. But on December 2nd just 3.3m viewers tuned in (see chart on next page).

Victoria's Secret has around a tenth of a global lingerie market worth \$78bn, according to Euromonitor International, a research firm. It shows all the signs of a tired

brand struggling to keep up with customer tastes. In America its market share has plunged from almost 33% two years ago to around 24% today, as social media and e-commerce make it easier for new brands to enter the market. Shares in L Brands, its parent company, were worth \$100 three years ago; today they go for \$30. Newcomers are disrupting every part of retail, but Victoria's Secret has made its woes worse.

When Roy Raymond started the firm in 1977, he wanted shops where men could comfortably buy lingerie for their wives ►

► and girlfriends. Velvet sofas and silk drapes made them look more like boudoirs than places for women to find supportive undergarments. Leslie Wexner, L Brands' boss, who bought the firm in 1982, added soft lighting and floral prints to give it more appeal to women, his main customers. Once its chief asset, the brand's sexiness now looks like a liability. "The way people dress has changed," says Serena Rees, a stalwart of the industry whose most recent project is a brand of unisex underwear. "People don't want boobs up under their chin or things pressed or pushed in."

A slew of competitors, promoting comfort and inclusivity, have taken that message to heart. Aerie, the underwear arm of American Eagle Outfitters, commands just 3% of the American market but has increased its sales by an average of 11% each year since 2016, compared with an average 9% annual decline for Victoria's Secret over the same period, according to Euromonitor. Thirdlove, an online brand which has sold over 3m bras since its launch in 2013, is growing at around 300% a year.

The newcomers have tweaked the old formula. Michelle Cordeiro-Grant left Victoria's Secret, where she was a senior merchant, and went on to found Lively, an online underwear brand. She argues that what makes women sexy is confidence, meaning an emphasis on comfort: 70% of the bras sold by Lively are wireless.

They are eager to emphasise inclusivity, too. According to Mintel, a research firm, over half of consumers in Britain, France, Germany, Italy and Spain reckon fashion retailers should use more realistic models. Thirdlove's ads feature models in their 60s, or who are breastfeeding. Since 2014 Aerie has eschewed digital retouching for photos. The response has been overwhelmingly positive, says Stacey McCormick, an executive at Aerie. When Rihanna, a pop star, launched her Savage x Fenty line of underwear in May, the models were every size and shape. People queued for hours online to buy the products.

Victoria's Secret looks out of touch by comparison. In November Ed Razek, a company executive, dismissed suggestions that its show should have transgender and plus-size models, insisting it was meant to be a "fantasy" (he had to apologise). The show does the brand a disservice, reckons Randy Konik, an analyst at Jefferies, an investment bank, and one of Victoria's Secret's knockers.

Focusing on the need for comfort rather than male taste is good business; women purchase the vast majority of female underwear. "The repeat business is in basics," says Heidi Zak, Thirdlove's founder, not lacy luxuries. Some 12m women have used Thirdlove's "fit finder" to determine which bra to buy. Easy returns alleviate customers' worries about buying online.



Victoria's Secret is not about to go bust. The firm's scale is such that with the right rebranding, it could bounce back. In November it replaced its chief executive, Jan Singer, with John Mehas, formerly of Tory Burch, a fashion retailer. Following that rejig Victoria's Secret has held off on big announcements. "Everything is on the table," said one executive on an earnings call last month. But in the wake of the #MeToo movement, it will have to tread carefully.

Women's underwear has always been controversial. Fifty years ago, as the sexual revolution took off, a protest at the Miss America pageant cemented the incorrect notion that feminists burn their bras (they actually threw them in a "freedom trash can"). Marks & Spencer, Britons' favourite underwear seller, was attacked on social media last month for its advertising of "fancy little knickers" as a must-have for her next to "outfits to impress" for him. It is in this tricky environment that retailers such as Victoria's Secret operate. ■

Pharmaceutical mergers

Kill or cure?

TOKYO

Takeda's acquisition of Shire is Japan's biggest-ever foreign takeover

AS BEFITS A deal in the medical industry, this one has been rather hard to swallow. But on December 5th, eight months after Takeda, Japan's largest pharmaceutical firm, said it was interested in buying Shire, an Irish-headquartered drugmaker of a similar size, shareholders at last voted to approve the acquisition. The purchase will cost Takeda \$56bn in cash and new shares. Since the initial news of the deal the firm's share price has fallen by 25%.

Takeda's acquisition is unusual. It is by far the largest foreign buy-out ever executed by a Japanese firm (even though the

country's outbound merger-and-acquisition activity is surging). Nor was Shire considered a likely target. Acquiring firms usually seek new technologies or overlaps that allow cost-cutting. Shire does have a strong pipeline of new molecules, but the portfolio did not complement any large drugmakers' existing suite of drugs, including that of Takeda.

Powerful domestic pressures are encouraging Japanese drugmakers to look abroad. An ageing population has put pressure on Japan's government-run healthcare system, which accounts for two-fifths of the country's drug spending. The health ministry is hard at work promoting generic drugs and pushing down prices.

But few groups have taken as drastic action as 237-year-old Takeda, which in 2014 brought in as its leader a Frenchman, Christophe Weber. He has noted that Japan's drugs market is only 7% of the global one, and that "if we want to be successful, we have to be successful outside of Japan".

A slim pipeline of new drugs and fiercer competition also boded ill for Takeda's revenues. Slowing sales of Velcade, a cancer drug, were expected to wipe a fifth off its profits in the next few years. The firm had only two new drugs with blockbuster potential in late-stage clinical trials. Buying Shire does help there: the drugmaker earns two-thirds of its revenues in America and its portfolio of rare-disease drugs will bolster Takeda's revenues.

But the sheer size of the deal elicited resistance. A group of shareholders led by Kazuhisa Takeda, a descendant of the founding family and a former board director, and Shigeru Mishima, a former stockmarket analyst, was bitterly disappointed by this week's approval. On the question of why the group opposed the acquisition, Mr Mishima cites "risk, risk, risk!". Local rivals, Astellas and Daiichi Sankyo, which have chosen to make smaller acquisitions, of American biotechnology companies, have seen their shares rise by 18% and 43% respectively, as Takeda's have fallen.

The dissidents may have a point. Scope for cost-cutting is relatively limited. It will saddle the combined entity with \$48bn of net debt, or over five times its expected annual operating earnings. To bring the huge cost of servicing this down, Mr Weber will have to dispose of promising products worth \$5bn after the firms merge, on January 8th. He claims strong combined cash-flow will help pay down debt quickly, but Shire's haemophilia drugs, worth a quarter of its revenues in 2017, are threatened by new drugs from other big pharma firms.

Mr Takeda and other dissident shareholders do not deny the company needs to diversify its range of products. Nor, they claim, are they against acquisitions or globalisation. But the dose makes the poison. Swallowing Shire could prove toxic. ■

Schumpeter | State your business

China's high-flying private sector faces an advance by the state



AN OLD AFFLICION is settling on China's entrepreneurial class. It manifests itself in a cold sweat just at the mention of state-owned enterprises (SOEs), and a gnawing sensation that it is out of favour with the Communist-run government. Xi Jinping, China's leader, last month gathered private businessmen to soothe nerves and to offer a comradely cure: to take an "anxiety pill".

The remedy is a staple of the Chinese socialist lexicon, a phrase doled out to reassure, usually when individual interests appear to butt up against the state. But its use in the *People's Daily*, the Communist Party's main mouthpiece, has shot up, as one scholar recently calculated, appearing in 119 headlines since January. (One article with satirical intent, "A Brief History of the Anxiety Pill", was censored and taken down from WeChat, a messaging app.)

Why so uneasy? The success of the private sector in China is undisputed. Its most innovative and global technology stars are all privately run, including the "BAT" firmament of Baidu, Alibaba and Tencent. The non-state sector contributes close to two-thirds of China's GDP growth and eight-tenths of all new jobs. The proportion of private ownership in industry continues to rise as that of the state recedes. This is for good reason: SOEs' return on assets is half that of privately held ones. Many state firms are propped up by the cheap capital they enjoy from state-owned banks (which are averse to lending to riskier private firms).

A different storyline is now unfolding. Between January and October profits at SOEs grew by 17% compared with the same ten months last year; those at private companies fell by 19%. Most of the 11,000-odd businesses that went bankrupt between 2016 and the first half of 2018 were privately owned, according to an estimate by China Merchants Bank, a lender. Many have been disproportionately hurt by cuts to excess capacity in steel and coal, because of higher industrial prices—from which state-owned producers have in turn profited.

Soon after Mr Xi came to power in 2012, the talk was of reinvigorating state-run laggards by allowing private companies to buy stakes in them, a plan known as "mixed-ownership reform". That scheme is now working in reverse. At least 29 listed firms on the Shanghai and Shenzhen stock exchanges have sold controlling interests to the state this year. Many have been crimped by a govern-

ment crackdown on the informal channels of financing on which they rely. CICC, an investment bank, calculates that by September over half of all deals in which a controlling stake was sold this year were nationalisations. Just 8% were privatisations.

Such deals do not necessarily mean a firm is put to the service of the state. Many state investors simply want a tidy return. Shaanxi province, for example, has a three-year plan that urges SOEs to invest in private firms "with great potential for growth". The government of Shenzhen, a freewheeling capitalist enclave, has earmarked 100bn yuan (\$15bn) to buy stakes in struggling listed private firms, to help them rather than take them over. Local governments have spread tentacles beyond their own provinces for a share of the riches: an SOE in Fujian province has invested in a private maker of liquid-crystal displays from neighbouring Jiangxi.

Expansion by the state sector is not new: it also happened during a huge financial stimulus in 2008, for example. It periodically fuels fears of what is known as *guojin mintui*—the state (sector) advances, the private retreats. Yet this latest bout feels different, says Zhang Lin, an economist at the Unirule Institute of Economics, a respected liberal think-tank in Beijing that has been forced by the government to suspend its work. SOEs saw their fortunes rise a decade ago because of a reflex response to a crisis, says Mr Zhang. Now, he contends, *guojin mintui* is "intentional and active".

Analysts in the dairy industry say the phenomenon is clearly taking hold. Even if SOEs are also drawn to its fat profit margins, some interventions look strategic. This month Beingmate, an ailing private maker of milk formula, said it was selling a 5% stake to a state investor. Its second-largest shareholder is Fonterra of New Zealand. Beingmate's founder has said in private that he wants the Kiwis out so the state can lift its stake.

In the flashier tech industry, rumours abound of the state wanting to take small stakes in its big thriving firms, too. Some have been told to expect party "observers" on their boards from next year. The founder of Bytedance, a tech giant founded in 2012, has said publicly that "technology must be led by socialist core values". When Jack Ma of Alibaba was revealed last month by state media to be a party member, a matter he had long avoided discussing, some took it to mean that no one now works outside the party-state nexus. Since last year most big live-streaming and short-video platforms have set up party committees.

Bitter pills

What can be experienced as intrusion is sometimes simply belated regulation. Still, the state is indifferent to paralysing private companies in the process. It has frozen approvals for companies to charge for new video games since March, without explanation. As a result, Tencent's stock has fallen by almost a third since a record high in January; dozens of small game-developers face bankruptcy.

State media, meanwhile, love to use the example of one firm, Shanghai Jahwa Group, to prove the ills of privatisation. The cosmetics-to-chemicals group was founded in 1898, nationalised in the 1950s and enjoyed boom times in state ownership. It recruited marketing managers from international firms and, to design packaging, partnered with Sephora, a French make-up retailer. In 2011, as part of reforms to lessen the presence of the state in certain sectors, it was bought by Ping An, a private insurer, and has since floundered. Not every firm in which the state has a stake is uncompetitive. Mr Xi says he is an ardent supporter of private firms. But unless he puts a halt to *guojin mintui*, Chinese entrepreneurs will conclude that the state is turning against them. ■



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Peace in our time

SHANGHAI AND WASHINGTON, DC

A wobbly trade truce is in danger just days after it was struck

AFTER A WORKING dinner between Presidents Donald Trump and Xi Jinping on December 1st, it seemed as if a truce had been called in their two countries' rumbling trade war. "This was an amazing and productive meeting," said Mr Trump. But the truce is already at risk of unravelling.

On December 5th Canada's justice department said that, on the same day that the two presidents dined, it had arrested Meng Wanzhou, the chief financial officer of Huawei, a Chinese maker of telecoms equipment, at America's behest. For China, that looks like a political salvo. Huawei is a pillar of the Chinese economy—and Ms Meng is the founder's daughter. The fate of the trade talks could hinge on her encounter with the law.

She was due to appear in a Canadian court on December 7th, after *The Economist* went to press. Her arrest is thought to be related to an American probe into Huawei's alleged violation of sanctions on selling technology to Iran. The company said it was "not aware of any wrongdoing". A similar investigation led ZTE, a smaller Chinese peer, to be hit with a near-fatal ban that, until it was hastily reversed, prevented American firms from selling parts to it. The implications of a comparable ban on Huawei would be greater by orders of magni-

tude. America has also been pressing allies to end business ventures with Huawei over national-security concerns.

The trade truce had looked shaky enough anyway, based as it was on mercantilism and a promise to talk more. Mr Xi pledged that China would buy more American goods and address deeper American concerns; Mr Trump promised to delay to March 1st a rise in tariffs, from 10% to 25% on \$200bn of goods, that had been set for January 1st. Even before news of Ms Meng's arrest, global stocks see-sawed as investors wondered if hostilities might resume.

The two countries' trade teams have been given until March 1st to agree on "structural changes" in China with respect to "forced technology transfer, intellectual property protection, non-tariff barriers, cyber intrusions and cyber theft, services and agriculture". American authorities have long accused China's government of forcing foreign companies to give their proprietary technology to Chinese partners. But such demands are not enshrined in Chinese legislation; they are not even written down. Even if requirements on American companies to enter into joint ventures with Chinese ones were removed, the problem could continue in practice.

Larry Kudlow, Mr Trump's economic ad-

viser, says talks on these thorny issues are well advanced. And on December 4th China did unveil tougher penalties for intellectual-property thieves, including restrictions on their access to finance. But a cynic would point out that China has made such promises before, and broken them. And the real sticking point is not the size of penalties, but how actively they will be imposed.

Moreover, there is a big gap between what the two countries say they are working towards. America's hawks want deep changes, including limits on China's industrial subsidies. China says that it wants to continue reforming its economy in line with existing plans. This would surely be too little for America—even when garnished with some additional purchases of American soyabeans. If the two tracks remain wide apart, the talks may collapse.

Mr Trump and his officials are giving the Chinese a chance to show that they are taking the negotiations seriously. Reports are emerging that the Chinese are preparing to buy more American soyabeans and natural gas. But that says little about China's willingness to embrace deeper change.

For their part, with the arrest of Ms Meng, Chinese officials are questioning whether the Americans are negotiating in good faith. To go after a Chinese commercial champion just as Mr Xi draws closer to Mr Trump plays badly in China. If the timing is a coincidence, and Mr Trump was unaware of it, it is one more sign of a chaotic White House, which is not reassuring. But many in China see it as a brazen show of American power. To revive the already-fragile truce, Americans will now have to soothe jangled Chinese nerves at the same time as trying to extract concessions. ■

North American trade

Foul play

WASHINGTON, DC

America's president is bullying Congress into passing his trade pact

FOR YEARS President Donald Trump has been itching to withdraw from the North American Free Trade Agreement (NAFTA), a trade deal between America, Canada and Mexico. But as long as negotiations about a revamp continued, he held off. The day after signing a new deal on November 30th, rebranded the USMCA, he announced that he would "shortly" indulge himself and terminate the original deal after all. That would force Congress to choose between the USMCA and a NAFTA-less world.

"If Trump's new NAFTA is so great, why does he need to resort to brinkmanship to ram it through Congress?" asked Ron Wyden, a Democratic senator. The answer is that many do not think the new deal is so great. The AFL-CIO, a union of unions, calls it incomplete. Nancy Pelosi, the minority leader in Congress and probably the next speaker, says it is a "work in progress". Some Republicans express misgivings. Mr Trump wants to silence such voices.

If this plan fails, and the Democrat-dominated House votes down the USMCA next year, it may be in part to deny Mr Trump a foreign-policy success. But Democrats also have substantive complaints. The biggest is that, though the labour standards in the new pact are tougher than in the old version (or than in the Trans-Pacific Partnership, or TPP, which was negotiated under Barack Obama and dumped by Mr Trump), many regard the enforcement provisions as too weak.

Older trade deals involving America allow any member that thinks another is breaking the terms to launch an official dispute. Once various procedural hoops have been jumped through, the parties pick five from a roster of judges, who decide whether there has been wrongdoing. But in NAFTA that process has been broken for years. After Mexico launched a dispute against America over sugar in 2000, America refused to fill vacancies on the roster, in effect blocking the dispute's resolution. There have been no state-to-state disputes within NAFTA since.

Over time, other problems with this template have emerged, including the possibility for defending countries to slow down procedures. A dispute over labour standards between America and Guatemala under a different trade deal, for example, was delayed temporarily when Guatemala claimed that the two had not agreed on the

meaning of choosing the final panellist "by lot", and demanded meetings before a panel could be picked.

The concern is that the USMCA does not fix those problems, and that this was intentional on the part of American negotiators. (There were attempts to fix them in the TPP.) Since NAFTA's enforcement mechanism broke down, disputes that should fall under it have been taken to the World Trade Organisation instead. But the Trump administration is undermining that, too.

Tough rules are painful when wielded against you, but useful when holding others to account. The Trump administration may think it can get the best of both worlds, by retaining its ability to block panels in

case Mexico or Canada sue, and by using the same bullying tactics as it has with China when it has a problem of its own. But bypassing the judges attached to the USMCA risks delegitimising American complaints about unfair trade practices.

By threatening a choice between the USMCA and the chaos of a lapsed NAFTA, Mr Trump wants to convince critics to ignore their worries that the new deal lacks teeth. But if he terminates NAFTA he will face legal challenges from the private sector, in particular over his authority to withdraw from a trade deal without the approval of Congress. Who would win is uncertain. What is clear is that the fight over North American trade is not over. ■

The euro-zone economy

Keeping the faith

The European Central Bank prepares to end asset purchases, despite faltering growth and low underlying inflation

CENTRAL BANKING can be agonising. The effect of monetary policy on the economy is not immediate, so decisions must be based on expectations for two years' time. That means putting faith in forecasts that could well turn out to be wrong.

Some soul-searching might be expected at the monetary-policy meeting of the European Central Bank (ECB) on December 13th. Since 2015 it has stimulated the euro-zone economy by buying bonds worth €2.6trn (\$3trn) under its quantitative-easing programme. In June it said it planned to stop asset purchases by the end of the year (though it will continue to reinvest proceeds from maturing bonds), and to keep

interest rates at their current rock-bottom levels "through the summer" of 2019. Since then, though, economic growth has slowed and inflation, stripped of oil-price rises, has stayed resolutely low. The question is how persistent these developments will be.

After an impressive showing in 2017, the euro zone's economy has weakened (see chart on next page). Temporary factors bear some of the blame. Poor weather, strikes and a bad flu season marred the start of the year. Then in the third quarter of 2018 output was 0.2% higher than in the second, the slowest growth since 2014. New emissions tests in September meant carmakers put production on hold while they rushed ►►



► to certify their stock of vehicles. As a result, in the third quarter the German economy—the bloc's powerhouse—contracted for the first time in nearly four years.

In 2017 trade provided a welcome boost to the euro zone. This year demand for exports has moderated, dampening growth, most notably in Germany and Italy. Domestic demand has picked up some of the slack, particularly in France and Spain. But it has not fully offset the effects of the trade slowdown on the bloc.

Italy's domestic politics are also concerning. The government's row with the European Commission over its budget and ensuing market jitters are starting to weigh on sentiment and push up borrowing costs. The country's GDP shrank in the third quarter as consumption and investment fell. The purchasing managers' index, a closely watched survey, suggests that output also fell in October and November. An official recession—two consecutive quarters of contraction—could be on the cards.

Italy aside, economists are not predicting a sharp deceleration. Daniele Antonucci of Morgan Stanley, a bank, expects euro-zone growth to slow from 1.9% this year to 1.5% by 2020, broadly in line with his estimate of its long-term growth potential. That might give the ECB some comfort: it means inflation is unlikely to fall.

Even so, weak pricing pressure is testing the ECB's resolve. In recent months headline inflation has been a little higher than the ECB's target of "below, but close to" 2%. But that largely reflects past rises in the oil prices; a recent tumble should drag it down. Core inflation (excluding food and energy) has long confounded the bank's expectations of a rise. Since 2015 it has hovered at around 1%.

ECB officials are convinced that this time is different. Mario Draghi, its boss, is cheered by signs of a pickup in wage growth to 2.3% as unemployment has fallen. This is showing up in salaries rather than bonuses, signalling greater confidence in the economy.

But even in Germany, where wage growth is particularly strong, inflation is low: in October core inflation there was around 1.5%. That may partly reflect Germany's need for its many exports to stay affordable on global markets. Andrew Benito of Goldman Sachs, an investment bank, thinks that low German inflation limits price pressures across the currency area, because southern countries are trying to regain competitiveness against Germany. That means euro-zone inflation could stay subdued for the next couple of years.

Puzzlingly low core inflation is not solely a European problem. America has seen it too. Indeed, the Federal Reserve's experience of tightening policy should caution the ECB against ending stimulus too soon. When America's rate-setters halt-

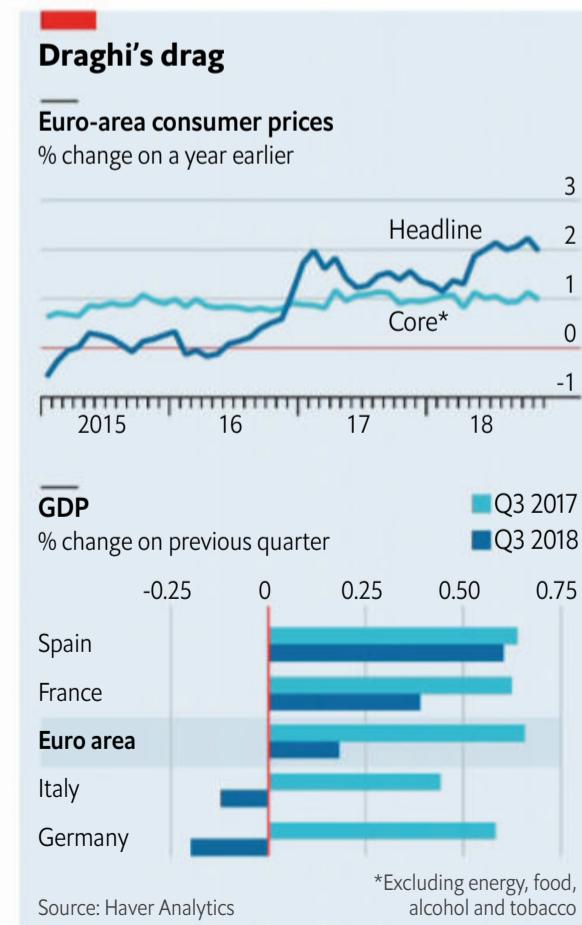
ed their quantitative-easing programme in 2014, they put the long-term unemployment rate—towards which joblessness can fall without pushing up inflation—at 5.2–5.5%. But since then unemployment has fallen much further without sharp price rises. The Fed learnt that the economy had more room to expand safely than it expected; in hindsight, it could probably have kept interest rates lower for longer.

Recent statements by Mr Draghi and his colleagues, however, suggest that the ECB will stick to its plan for now. It sees the growth slowdown as modest, and a pickup in core inflation as imminent.

Mr Benito reckons, however, that disappointing data releases in coming months could eventually prompt a rethink. If it does decide to loosen policy, the ECB will not find it easy to extend QE. The central bank's holdings of German bonds is nearing its self-imposed limit of a third of a member's debt stock. Instead, policymakers would probably guide markets to expect a further delay before interest rates rise. This comes with its own problem, however: Mr Draghi is leaving in October 2019, and his successor may have different ideas.

ECB-watchers think another option may be an extension to its targeted long-term repo operations, which offer banks cheap funding in return for lending to households and firms. That would benefit Italian banks most. They are heavy users of the scheme and the stand-off with Brussels has pushed up their borrowing costs.

But to help them would be to ease the market pressure on Italy that might otherwise encourage fiscal rectitude. The agony of setting monetary policy only gets worse when politics comes into play. ■



Danske Bank

Legitimise this

The first charges are laid in a massive money-laundering scandal

AS EUPHEMISMS FOR suspected money-laundering go, "insufficiently legitimised" takes some beating. That is how Denmark's Financial Supervisory Authority (FSA) described some of Danske Bank's customers in a report in 2012. The country's largest bank now faces criminal charges at home and investigations elsewhere.

The dirty-money scandal swirling around Danske is the largest ever uncovered. Over €200bn (\$227bn) of suspicious transfers originating in ex-Soviet countries may have been rinsed through the bank's Estonian branch. As the scale of the suspected laundering, dating back a decade, has emerged this year, the bank has lost its boss and seen its share price halved.

In preliminary criminal charges filed on November 28th, Danish prosecutors accuse Danske of failing to report suspicious transactions, not training staff in anti-money-laundering procedures, and having no senior manager responsible for compliance. They are considering whether to charge any individuals. Danske's acting boss, Jesper Nielsen, said this week that the bank is "not in a position to contest a lot".

Probes by America's Department of Justice (DOJ) and Estonian authorities, meanwhile, are gathering pace. The DOJ could come down particularly hard if Danske is found to have handled transactions for firms or individuals subject to American ►

► sanctions. (There is no evidence of that.) Bill Browder, an anti-Kremlin campaigner who helped uncover the iffy transfers, has called for America to stop banks clearing dollars for Danske. The bank has built a reserve of as much as \$2.7bn—equivalent to 85% of its net profit last year—to cover potential fines, and continues to add to it.

A whistleblower is making life even more uncomfortable for Danske. Howard Wilkinson, a former head of its Baltic trading operations (pictured on previous page), told a recent Danish parliamentary hearing that Danske first ignored the “smoke detec-

tor” he set off by reporting suspicions internally in 2013, and then tried to “obstruct criminal investigations” by getting him to sign a non-disclosure agreement (which it recently waived).

At least eight other banks handled some suspicious money, among them three correspondent banks that linked the Estonian branch to America’s financial system: Deutsche Bank, Bank of America and JPMorgan Chase. American investigators have asked them for information, though there is no indication they are targets. Mr Wilkinson says he has relevant informa-

tion about other lenders. His lawyer says Danske “looks like the tip of the iceberg”.

Regulators also face scrutiny. Emails produced by Mr Wilkinson suggest that some at the FSA tried to protect Danske, rather than police it. It was several years after the agency first became aware of problems that it finally took action, and even then its written rebuke was brief and mild.

Mr Wilkinson has called for an independent inquiry into the FSA’s role to establish whether officials were guilty of misconduct as well as poor decision-making and foot-dragging. Mr Browder, mean- ►

Buttonwood Beneath the spreadsheets

Why investors in emerging-market bonds are so attuned to political risk

PAULO GUEDES might not be your first-choice brother-in-law. He is a close adviser to Jair Bolsonaro, Brazil’s populist president-elect, who is wistful for military rule. But if you invest in emerging-market government bonds, Mr Guedes is the sort of person you might want as economy minister, the post he will take up on January 1st. He was co-founder of BTG Pactual, Brazil’s Goldman Sachs. He has a PhD in economics from the University of Chicago. He favours tax reform and privatisation.

Brazil is not the only focus of attention for such investors. This week Andrés Manuel López Obrador, a left-leaning populist, was sworn in as president of Mexico. He has cancelled a \$13bn bond-financed airport that is already one-third-built. In November a committee of South Africa’s parliament resolved that the constitution should permit land reform without compensation. Some have begun to worry about what Narendra Modi might do to secure re-election as India’s prime minister next year.

A host of emerging-market political risks seem suddenly to be salient. These are not amenable to being tallied in a spreadsheet. Nor is the curriculum vitae of the finance minister really much use. For bondholders, the worry is that bad politics will lead ultimately to bad debts. When your upside is capped at getting your money back with interest, you tend to worry more about your downside.

To trade emerging-market bonds you need to know two things, says Jan Dehn, of Ashmore, an investment firm: a country’s ability to pay its debts—and its willingness. A spreadsheet is useful when reckoning ability to pay. The debt-to-GDP ratio is a good shorthand. Emerging markets have a lower ratio (the average is 50%) than rich countries (105%),



whose bonds are for the most part considered a safe store of value. There is no magic threshold at which default risk becomes acute. But as a practical matter, investors are less jumpy when the debt ratio is stable or falling.

Whether it rises or falls depends on interest rates, GDP growth and the size of the primary budget balance (ie, before interest payments). The more interest rates exceed GDP growth, the bigger the primary surplus must be to stop the debt ratio rising. In this regard, Mexico and Brazil are a study in contrasts. Mexico’s debt ratio is near the average and stable. Brazil’s, at 84%, is large and rising fast.

When ability to pay is in question, a country’s willingness to pay is critical. A government is forced to choose between its debtors and others with a claim on its money, like civil servants and pensioners. A lot depends on the interests of political players. Take Brazil. Mr Guedes’s fiscal conservatism may indeed hold sway with his boss. If it does, will Mr Bolsonaro be able to persuade a fractious congress to reform Brazil’s pension system, a big cause

of its fiscal problems? What can he offer in return? Coming up with answers takes on-the-ground research.

This kind of intelligence-gathering is beyond the scope of the ordinary investor. But mutual funds based on benchmarks, such as J.P. Morgan’s emerging-market bond index (EMBI) of hard-currency debt, are broad enough to be considered by the non-specialist. The dozens of countries in the EMBI span a diversity of political risks. And the rewards are handsome. The spread of EMBI bonds over Treasury bonds is around 4.2 percentage points. And because in most emerging markets dollar bonds are not a big part of overall debt, there is little point in selectively defaulting on them.

Crunch points are rare, says Graham Stock of BlueBay Asset Management. Most of the time, things get a little better in some emerging markets, a bit worse in others. Brazil is different, however. If it does not take action quite soon, its debt ratio will spiral upwards.

Though this sort of binary (will-they-won’t-they?) political risk is now uncommon in emerging markets, it is increasingly present in the rich world. The euro’s viability depends largely on whether Germany and the zone’s other high-saving countries can agree to some form of fiscal union with others, notably Italy, whose debts loom larger.

At least, say the specialists, you are paid a premium for bearing political risk in emerging markets. It rankles that America has incurred no penalty for policies—a big unfunded tax cut; protectionism—that would sink a poorer country. That Steven Mnuchin, the treasury secretary, is also an alumnus of Goldman Sachs was no bar to recklessness. Something to bear in mind as Mr Guedes and his boss ready themselves for office.

► while, has filed a complaint over the regulator's role with Denmark's attorney-general. Among its litany of allegations is a claim that in 2012 the FSA made a false representation to the Federal Reserve, stating that there were no money-laundering issues at Danske when it knew otherwise. There are reasons to suspect that the regulator helped cover up illicit transactions, the complaint concludes. The FSA's director-general, Jesper Berg, says the agency "completely rejects" these allegations, and that it reprimanded Danske on four occasions between 2010 and 2018 and reported the bank to the police after finding that it had not implemented its anti-money-laundering action plan as claimed.

Whatever investigators conclude, Denmark has already lost its reputation as a country with a clean, well-supervised financial system. In 2017 Transparency International ranked it the world's second-least-corrupt country, behind New Zealand. A place anywhere near the podium in 2018 would be scandalous, too. ■

Uranium trading

U-turn

Buying nuclear fuel is back in fashion

ON DECEMBER 3RD McIntyre Partners, a hedge fund in New York that normally buys equity and debt securities, told investors it was buying a commodity: uranium. This "slight anomaly" was justified by the metal's impressive recovery, said its founder, Chris McIntyre. Uranium's spot price has jumped by 41% since April, to near a two-year high (see chart), following an overdue reduction in supply.

Uranium fell out of favour after the Fukushima nuclear disaster in 2011, which led to plant closures in Japan and Germany and a slowdown in plant-building elsewhere. (Uranium, or plutonium, which is made from it, is an essential nuclear fuel.) Despite the recent surge its price, at \$29 a pound (\$64 per kilo), is still 60% below the 2011 peak, according to UXC, a consultancy. Production costs will be above that for perhaps three-quarters of this year's output.

Uranium miners were slow to cut supply in response. Most sales were locked in through long-term contracts pre-dating 2011, so the spot price barely mattered to them. Now, however, those contracts are starting to expire; few extend past 2020. Producers "are finally showing some responsibility", says an executive at one of the largest mining firms.

Kazatomprom, the largest producer,

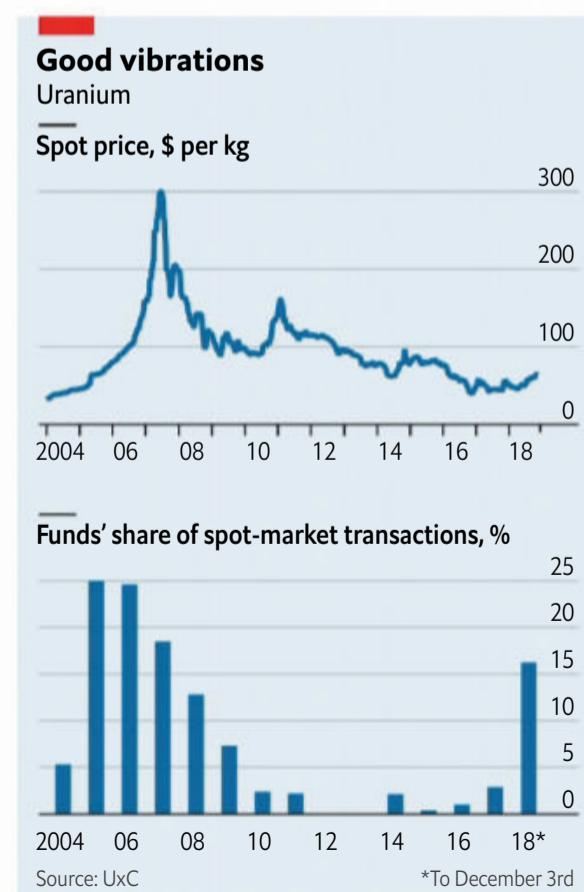
committed to a 20% cut in December. Cameco, a Canadian rival, then said it would mothball the world's largest uranium mine, in Saskatchewan, reducing global supply by 11%. It is buying on the spot market to fulfil existing contracts. Paladin Energy, an Australian firm, has gone bust. Meanwhile, consumption is creeping up: this year, global nuclear generation finally recovered to pre-Fukushima levels. Supply and demand are once more near to balance.

Prices are also buoyed by buy-and-hold vehicles like Uranium Trading, in New York, and Yellow Cake, in London, which are sequestering large amounts. Yellow Cake, which listed five months ago, has seen its initial stash grow in value by over a third. Hedge funds are also coming back. Overall, funds account for 16% of spot-market transactions to date this year. "They're putting oil on the fire," says Scott Melby of Uranium Energy, an American firm.

Hedge funds are fickle. In 2007 their entry into the market buoyed uranium to \$136 a pound, says Jonathan Hinze of UXC. Their retreat after the financial crisis helped cause a collapse.

But the long-term trend seems clear. Global demand is expected to rise by 44% by 2035. China has 19 nuclear reactors under construction and 41 more planned. India is building six and considering another 15. Saudi Arabia is seeking to award its first two projects; Egypt, Jordan, Turkey and the United Arab Emirates have announced programmes. All this will require new mines. If they are to be viable, the spot price will eventually have to rise to \$50-60, reckons Andre Liebenberg, Yellow Cake's boss.

A higher uranium price is not much of a worry for customers. Fuel is a far smaller share of operating costs at nuclear plants



than at coal- or gas-fired ones. The bigger concern for importing countries is whether supply is secure. On November 26th, in a sign that China's government is taking the issue seriously, China National Uranium Corporation, a state-backed firm, bought a Namibian mine, guaranteeing itself 3% of global output. The American administration is considering invoking national security to restrict imports and support domestic production.

Big exporters, like Kazakhstan, which supplies two-fifths of global output, are nonetheless sanguine. Demand for uranium is largely unaffected by price. As it becomes dearer, they should be able to have their yellowcake and eat it. ■

Consumer fraud

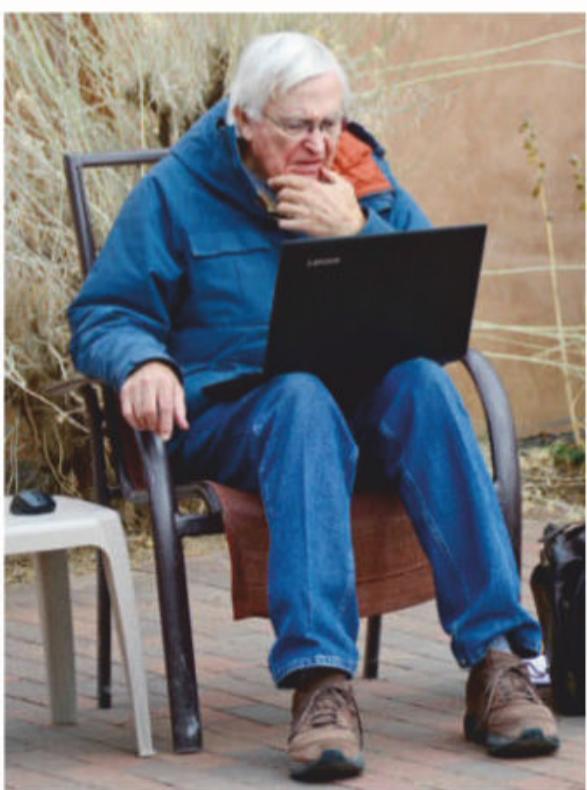
Conning Honest John

Why do so many people fall for financial scams?

IN HINDSIGHT, DAVID CARTER sees the deal differently. The 63-year-old has a Master's degree in technology. A successful career meant he found a six-figure salary offer perfectly plausible. He knew from reading newspapers that tech stocks were up and the job market was hot. So when an email offered him a job with a Swiss firm at a \$100,000 salary, he took it.

Mr Carter never saw a penny. Instead he owes \$80,000, which he is paying off from his retirement savings. The job was too good to be true. All he had to do was use his credit card to buy iPhones and iPads. He started in June, buying them at Best Buy and Walmart and sending them from his home in Maryland to an address in California. The company paid his credit-card bill—for a few weeks. In July those payments were voided. His bank said the debts were his. The company's website vanished. The people he had spoken to stopped answering the phone.

Researchers at Stanford University's financial-fraud research centre estimate that such "consumer fraud" costs Americans more than \$50bn annually. The baby-boomer generation, with sizeable pension pots and houses that have soared in value, are ripe for plucking. And the scammers have become more sophisticated. The Nigerian prince with an unmissable investment opportunity is now too well-known, so they produce mobile apps and dashboards that look like those from investment advisers. They create fake jobs, like Mr Carter's; or profiles on dating sites, which draw in hopeful partners who are then asked for money; or competitions and ►



Unmissable, you say?

▶ lotteries, which turn out to need “winners” to pay something to get a prize. And they disguise their phone numbers to make cold calls that appear to be from banks or tax authorities, or to send text messages that will appear in the same threads as genuine messages from financial institutions.

Central to the scammers’ trade is a play on emotions, often greed or lust—but sometimes more benevolent urges. According to a paper in the *Journal of Adult Protection* in 2015, some fraud victims were reeled in by their desire to be able to afford gifts for their loved ones. A person who is generally competent but going through a bad patch—a bereavement or job loss, say—may be more susceptible. Police in Britain say they have seen an increase in the sort of “grooming” associated with sexual abuse, with scammers finding their victims online and eventually building up to meeting in person to deepen trust.

Once the losses start, victims may suffer from the “gambler’s fallacy”—keeping going and hoping that their luck will turn, rather than facing up to the hit. Some will never accept that they have been had, preferring to believe that their losses are simply investments gone wrong. Many are embarrassed to admit the truth even to themselves. As Marti DeLiema of Stanford University puts it, “people are more willing to talk about their sexual encounters than their experiences with fraud.”

Neither education nor a familiarity with finance seem to offer much protection. A report in 2011 by the AARP, a lobby group for the aged, found that people conned into fake investments tended to be more qualified and richer. One reason may be that they overestimate their financial acumen. In a study in 2014, academics at Boston College’s Centre for Retirement Research found that those who gave a lot of

China's economy

Woolly thinking

SHANGHAI
Struggling firms offer to pay in kind in order to avoid default

LI XINTONG DID not want one overpriced cashmere sweater, let alone a hundred. But when his loan to Jicai came due, the investment firm offered to repay him not in cash, but in sweaters. The value of 100 cashmere pullovers, it said, equalled his 150,000 yuan (\$22,000) loan, and was thus fair compensation. Mr Li (not his real name) disagrees. Perhaps he should count himself lucky. At least he did not receive dozens of packages of premium ham, as a troubled Chinese pig farm’s bondholders recently did, in lieu of interest. In another case, a financial subsidiary of HNA, a conglomerate that includes an airline, offered flight vouchers instead of cash when its clients’ investments matured.

The spate of unorthodox repayments highlights a squeeze in China’s financial system, which has hurt smaller companies and non-bank lenders most. So far this year companies have defaulted on 135bn yuan (\$20bn) of bonds, more than triple the previous annual record. But some firms that have been pushed to the brink are desperate to avoid the ignominy of default. So they try to persuade investors to accept things that they make in lieu of at least part of what is owed.

Payment in kind has a long, if not exactly venerable, tradition in China. In

the 1990s, when state-owned factories ran short of cash but had bulging inventories, some paid workers with goods, from fridges to fertiliser. The government has tried to stamp out this practice, but in tough times some companies still resort to it. In 2015 Hubei Yihua, a loss-making chemicals manufacturer, raided its liquor cabinets to offer alcohol to workers and suppliers, instead of cash. Many companies also give in-kind bonuses, such as shopping vouchers to celebrate the Chinese new year. Such gifts are taxable, but firms and employees often neglect to declare them.

Jicai is one of thousands of peer-to-peer lenders to fail this year, hit by the government’s crackdown on badly managed shadow banks. When Mr Li tried to redeem his investment on its platform, he was offered just a few cents on the dollar upfront or the consignment of fine sweaters, which Jicai claimed were worth hundreds of dollars each. It made this offer because it is owned by Zhongyin, a garment-maker, which itself is in bad shape. Mr Li does not intend to accept the offer: “Unless you’re in the clothing business, who’d want all these sweaters?”

For Chinese investors, the lesson is clear. If uncertain about a small firm’s prospects, be sure you like its products.

wrong answers in a financial-literacy test, but said they were sure they had been right, were more likely to be victims of fraud.

Peter Lichtenberg, a psychologist at Wayne State University who was one of the first to examine psychological vulnerability to fraud, argues that prevention and treatment should take their cue from medicine. He points to a technique called “motivational interviewing”, which involves asking questions designed to help people come up with their own solutions and which has been shown to help get alcoholics into treatment. Questions could be crafted to open fraud victims’ eyes to what is going on, for example by asking them to explain what is happening in their own words, and then to discuss any similarities with articles they have seen in the press.

Banks generally insist that people who fall for and ultimately consent to frauds must bear their losses. But the growing sophistication and scale of such frauds are starting to prompt a reassessment. Victims of elaborate scams, like Mr Carter, argue that they should be reimbursed by the banks that permitted suspicious transac-

tions. Banks, for their part, are starting to argue that some liability should fall on the internet firms that host fraudsters’ websites and enable payments.

In September a group of large banks and consumer-advocacy organisations in Britain published a draft voluntary industry code, saying that victims of “authorised push-payment fraud” should be reimbursed in some circumstances. This scam involves tricking people into arranging payments from their accounts into those of scammers, often by faking messages from the police or tax authorities. When banks and consumers have both taken adequate measures to prevent such fraud, the idea is that customers should be repaid.

That is all very well, but who should the money come from? Banks are reluctant simply to fork out. Ideas so far include covering losses from fines on financial firms that do too little to stop such fraud; levying a small charge on large bank payments to build up a fund; and a taxpayer-funded compensation scheme similar to that for violent crimes. In the meantime, if it looks too good to be true, it probably is. ■

Free exchange | Future lives matter

Unpacking the moral assumptions embedded in economic models of climate change



CLIMATE CHANGE is many problems in one. Developing and deploying zero-carbon technologies is a formidable challenge. So is the politics of co-ordinating disparate groups to achieve the necessary collective action. In America, where the Republican Party persists in climate denialism, it is an epistemological pickle. Policymakers met in Katowice, Poland, this week to discuss implementing the climate deal signed three years ago in Paris, from which America withdrew under President Donald Trump.

Behind all this, however, lies an economic problem. Humanity must work out how many resources should be diverted from other, valuable uses—from life-enriching consumer goods to funding for pensions—to the task of limiting global warming. These calculations may look bloodless, but they are built on weighty moral assumptions, namely, how to value other people's lives. Though it is hard to know what might finally impel humanity to take the threat of climate change seriously, speaking more plainly about its moral costs might help.

The crux of the challenge is straightforward. Modern economic activity generates carbon dioxide, which accumulates in the atmosphere and increases the global temperature via the greenhouse effect. Higher temperatures impose large, growing and long-lasting costs on humanity. The world has already heated up by around 1°C, compared with pre-industrial times. Warming of 3°C relative to that benchmark by the end of this century would be likely to reduce economic output by trillions of dollars and cause tens or hundreds of millions of additional deaths, compared with a rise of just 1.5°C. But limiting global warming to that level would require the use of resources that might otherwise boost current well-being. Taxes might have to rise to pay for investment in zero-carbon electricity generation, for example. Over the past few decades economists have been working to figure out how much it makes sense to forgo today in order to have more jam tomorrow.

The models they use have huge numbers of variables. Easily the most consequential is the discount rate, which captures how much more lightly welfare in the future is weighed compared with welfare today. People are impatient. Most, if asked, would prefer a chocolate bar today to one tomorrow, and would therefore need to be offered more than one if they are to be persuaded to wait. The

discount rate represents how much the value of a present good fades as it is delayed into the future.

The power of compounding, and the long time horizons involved in climate change, mean that the choice of discount rate matters hugely when weighing policies against one another. Using a discount rate of 1%, someone might be willing to forgo as many as 37 chocolate bars today in order to have 100 a century from now. But at a discount rate of 4%, today's sweet-toothed rational actor would be willing to forgo just two.

William Nordhaus, one of the winners of this year's Nobel prize for economic sciences, recommended gradual, modest reductions in carbon emissions in a landmark book on the economics of climate change published in 1994. A report by Lord Nicholas Stern for Britain's government in 2006 demanded immediate and dramatic efforts, including spending in advanced economies equivalent to 1-2% of GDP. Their analytical approaches differed in a number of ways, but the stark difference in their conclusions resulted mostly from the use of different discount rates.

Where do such rates come from? Mr Nordhaus derived his from observations of real-life human preferences, as captured in market interest rates and other studies of decision-making. But it is far from clear that the rates people have in mind when deciding whether to attend university or to save for retirement should be applied to questions of social policy that will affect billions of lives. Climate policy does not simply shift a bit of ill-defined utility from one pile to another, after all. It determines how much life-threatening environmental harm the current generation will impose on scores of future ones.

Philosophers are accustomed to discussions about how to value lives distant from our own in time and place; economists are not. But in a new book, "Stubborn Attachments: A Vision for a Society of Free, Prosperous, and Responsible Individuals", Tyler Cowen of George Mason University argues that the moral status of human lives ought not to be traded off over time in the same way that a bond portfolio might be. He puts the results of discounting in evocative terms: given a 5% rate of discount, one human life today is worth 132 a century hence. Is it really ethically acceptable to save one life now at the expense of so many in the future? The lives of humans born decades from now might be difficult for us to imagine, or to treat as of equal worth to our own. But our own lives were once similarly distant from those taking their turn on Earth; the future, when it comes, will feel as real to those living in it as the present does to us. Economists should treat threats to future lives as just as morally reprehensible as present threats to our own.

The future ain't what it used to be

That need not imply the use of a 0% discount rate. As Partha Dasgupta of the University of Cambridge has pointed out, there is a risk that humanity will no longer be around a few centuries from now—for example, if a large comet hits the Earth, or if supervolcanoes erupt and cloak the Earth in choking debris. It makes sense to discount future lives by a tiny amount to take account of the possibility that they will never come to be. That would nonetheless mean that humanity ought to be willing to bear substantial costs now to reduce eventual climate harms.

A shift in our view of future humans might not be enough to persuade humanity to get its act together on climate change. Moral logic often fails in the face of distance—geographical, cultural and temporal. But it would still be right to give future humans their due, and adjust economic models accordingly. ■



Autism

Gut feelings

Experiments on intestinal bacteria may point the way to a treatment for autism

AUTISM AFFECTS people's social behaviour and communication, and may impair their ability to learn things. All this is well known. Less familiar to most, though, are the gastrointestinal problems associated with the condition. The intestines of children with autism often harbour bacteria different from those in the guts of the neurotypical. As a consequence, such people are more than three times as likely as others are to develop serious alimentary-canal disorders at some point in their lives.

Unfortunate though this is, the upset gut floras of autistic people are seen by some investigators as the key to the condition—and to treating it. Recent research has shown that altering animals' intestinal bacteria can have dramatic effects on their nervous systems. Ameliorating autism by tinkering with the ecology of the gut might thus be a fruitful line of inquiry.

A study just published in *Neuron* suggests that it is. In it, Mauro Costa-Mattioli of Baylor College of Medicine, in Texas, and his colleagues demonstrate that introduc-

ing a particular bacterium into the guts of mice that display autistic symptoms can abolish some of those symptoms. The bug in question is *Lactobacillus reuteri*. It is commonly found in healthy digestive systems and helps regulate acidity levels. And it is also easily obtainable for use as a probiotic from health-food shops.

Mens sana in corpore sano

Dr Costa-Mattioli and his team first reported *L. reuteri*'s effects on autism in 2016, after conducting experiments with obese female mice. These animals have a tendency to give birth to offspring with autistic traits familiar from people—unwillingness to socialise, repetitive behaviour and un-

willingness to communicate (in the case of mice, via ultrasonic squeaking). The researchers noted that the guts of both the obese mothers and their young were bereft of *L. reuteri*. They wondered what effect transplanting these bugs into the animals might have. They found, when they did so to the offspring, that the youngsters' autism-like traits vanished.

That led to the latest experiments, on mice that have autistic symptoms induced in four other, different ways. Some were genetically edited to be autistic. Some were exposed to valproic acid, a drug used to treat bipolar disorder and migraines that is known to induce autism in fetuses. Some had their guts cleared of all bacteria. And some belonged to a strain called BTBR, individuals of which display autism-like traits that have no known cause.

Martina Sgritta, one of Dr Costa-Mattioli's colleagues, analysed the bacteria in the guts of all of these animals. She found that, while the genetically engineered mice and the BTBR mice had, as expected, reduced levels of *L. reuteri*, and those with bacteria-free guts were (obviously) free of the bug altogether, the valproic-acid mice had normal amounts of the bacterium.

This last result was unexpected, but the team carried on regardless. They arranged for between seven and 15 mice of each of the four types to have, starting at the age of three weeks, their drinking water laced with *L. reuteri*. Equivalent numbers of each

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► type continued to be given ordinary water as a control. During the course of the experiment the mice had their faeces collected regularly, so that their bacteria could be tracked. And, at the age of seven weeks, they were given two sorts of social tests.

The first test involved putting each experimental mouse into a perspex container from which it could go either into a chamber where there was an empty wire cup or into one where there was a similar cup containing an unfamiliar mouse. Subject mice were left in the container for ten minutes and were monitored to see how long they spent with the empty cup and with the other mouse.

The second test placed a mouse in an arena where another, unfamiliar mouse was already present. An observer, who did not know which mice were controls and which had been given *L. reuteri* in their water, then noted how often over the course of ten minutes the two mice touched, sniffed, groomed and crawled on one another.

In both tests, all the mice that had had their water laced with *L. reuteri*, regardless of how their autism had been induced, were more sociable than equivalents that had been drinking unlaced water. In the first, they spent twice as much time with the mouse under the wire cup. In the second, they engaged in many more social interactions with the unfamiliar mouse.

The team's initial hypothesis had been that the supplementary *L. reuteri* were somehow changing the gut flora of the mice exposed to them into something more normal. But they weren't. Indeed, *L. reuteri* proved able to abolish autistic behaviour even in those mice which had guts otherwise devoid of microbes—as well as in those with valproic-acid-induced autism, which already had normal levels of the bug. That suggests boosting levels of this bacterial species is shaping behaviour all by itself.

Their next hypothesis was that the bacterium was doing this by interacting somehow with oxytocin, a hormone that shapes behaviour and plays a part in the ways in which people and other mammals form social bonds. Dr Costa-Mattioli knew from work published in 2013 that spraying oxytocin into the noses of mice with autistic symptoms helps to ameliorate some of those symptoms. Dr Sgritta therefore ran the experiments again, but this time on autistic mice that had had the oxytocin receptors on the relevant neurons disabled by genetic engineering. In these new experiments, the presence of *L. reuteri* in drinking water had no effect.

Follow-up examinations of the mice in all these experiments looked at the strengths of connections between nerve cells within part of the brain called the ventral tegmental region. This region regulates, among other things, motivation and

reward-related social behaviour. Nerve signals are carried by the movement of ions (electrically charged atoms), so the team were able to measure connection-strength by monitoring the flow of ions at the junctions between nerve cells in this region. Strong connections, with lots of ion flow, indicated that social experiences were rewarding. These were normal in the mice exposed to *L. reuteri*, which makes sense since animals treated with the bacterium sought out more social experiences. Conversely, weak connections (those with little ion flow) indicated that social experiences were not triggering a reward. Such weak connections were found in animals that had not been exposed to the bacterium.

The researchers suspected that such effects were controlled by signals from the gut that are being transmitted by the vagus nerve, which connects gut and brain. To test this idea they cut that nerve in selected animals. In these animals, subsequent treatment with *L. reuteri* failed to abolish their autistic symptoms.

The crucial aspect of this work is *L. reuteri*'s wide availability—an availability approved by regulators such as America's Food and Drug Administration. This existing approval, which means *L. reuteri* poses no known health hazard, simplifies the process of organising clinical trials.

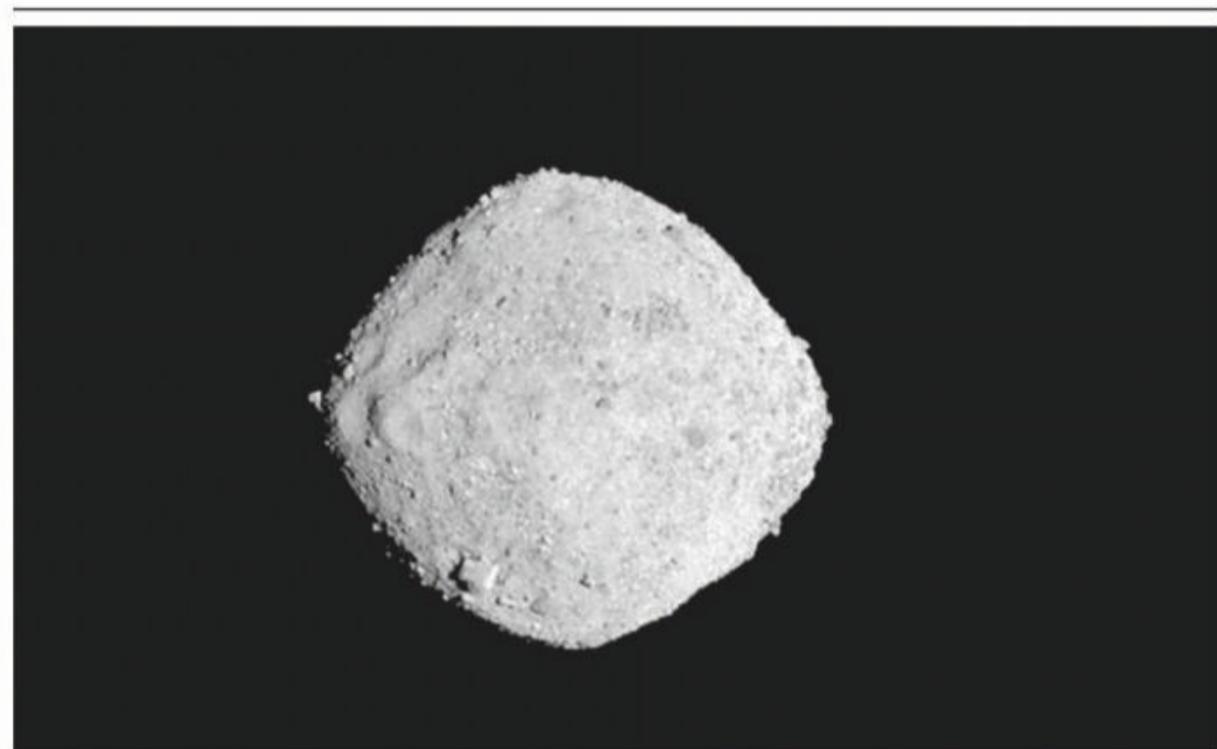
Clearly, autism in people is more complicated than a mere willingness to associate with others. And getting too excited

about a mouse trial is usually a mistake. But in Dr Costa-Mattioli's view his results, which have been replicated in part by Evan Elliot's laboratory in Bar-Ilan University, Israel, would justify embarking on at least preliminary trials intended to determine whether *L. reuteri* has positive effects on people with autism, and might thus be worth pursuing.

Others agree. Sarkis Mazmanian of the California Institute of Technology works in the same area. He says of these results: "I think the bar is now very low for getting this research moved on to human trials since most people already have these bacteria inside them and we know there are few, if any, safety or toxicity issues."

The general availability of *L. reuteri* does, however, bring with it another possibility—that people will conduct their own, "off label" trials, either on themselves or on their children. Dr Mazmanian is cautious about that idea. "I don't know if there is a barrier to people buying and using this stuff now. It may be strain-specific and the paper does not state which strain or strains were used," he says.

At the moment, Dr Costa-Mattioli is unwilling to divulge that information. He is expecting to publish another paper soon, though, with more details. In practice, it may be hard to discourage people from testing *L. reuteri*'s effects themselves. All the more reason to do properly conducted trials quickly. ■



Hello to Bennu

Another stamp has just been added to the album of objects in the solar system visited by space probes. Bennu, pictured, is an asteroid that orbits the sun at approximately the same distance as Earth. This proximity, plus spectral analysis of its chemical composition (carbon-rich), radar analysis of its surface (smooth) and telescopic analysis of its spin rate (slow), made it the target of choice for a sample-return mission. That mission, OSIRIS-Rex, arrived on December 3rd. After an extensive inspection from an altitude of a few kilometres, OSIRIS-Rex will, in July 2020, swoop down and grab about 60 grams of material from the surface. It will leave Bennu in March 2021 and deliver the sample to Earth, in a special landing capsule, in September 2023.

Eradicating polio

Stalled

Vaccine-derived polio viruses are a growing worry

IN 1988 A world emboldened by the eradication of smallpox set its cross-hairs on polio. The aim was to enter the new millennium without this crippling virus. But the battle drags on. On November 30th an emergency committee on the global spread of polio, appointed by the World Health Organisation (WHO), delivered its latest verdict. Eliminating polio has become what Michel Zaffran, director of polio eradication at the WHO, calls a "dual emergency".

The first is the stalled progress on wiping out wild polio viruses in their last two strongholds, Afghanistan and Pakistan. The world's steady countdown to zero since 2012 has stopped, with cases this year already surpassing those in 2017 (see chart). As a consequence there are worries that polio may travel back to countries which have already eradicated it, like India.

The second emergency is the growing number of countries with cases of the disease that have been caused by a polio vaccine. These are still rare. But they are attracting more notice as those caused by the wild virus itself have dwindled. In 2017 cases caused by vaccine-derived viruses overtook, for the first time, those caused by the wild version.

Polio vaccines come in two forms. The injectable version, which rich countries use, contains dead viruses and creates antibodies in the blood. Someone vaccinated with it who ingests the wild virus (say, by drinking contaminated water) is protected from the disease. But, for several weeks afterwards, the wild virus in his gut can be passed on to people who are not immune.

The oral vaccine, by contrast, contains weakened live virus. Because the antibodies it creates take up residence in the gut, they battle there with any wild virus a vaccinated person ingests, making further transmission less likely. The oral vaccine is thus a better option where wild polio viruses roam and vaccination rates are low—which has been the case in poor countries.

The oral vaccine has another benefit. Someone vaccinated with it excretes the weakened form of the virus for a couple of weeks. Anyone who comes into contact with this excreted virus also gains immunity, and can pass it on further, to others who are not immune. In places with poor sanitation, this sort of passive vaccination is a boon—but only up to a point. As the weakened virus from the vaccine jumps from one unvaccinated person to another,

The composition of the universe
Still in the dark

A persistent claim to have detected dark matter looks wrong

NEGATIVE RESULTS are rarely reported widely. But they can be important. And this week sees one such—the possible demolition of what had been thought to be a sign of dark matter.

Twenty years ago results from DAMA, a particle detector housed under a central-Italian mountain, suggested that this mysterious stuff, thought to make up 85% of all matter in the universe, had been detected. DAMA's operators saw an oscillating signal, peaking in June and at its lowest ebb in December, which was consistent with the Milky Way being embedded in a halo of dark matter. Because Earth's axis of rotation is tilted with respect to the disc of the Milky Way, the flow of dark matter through the planet should vary seasonally as it orbits the sun. Calculations suggest the dark-matter flux should reach a maximum in early summer and a minimum in winter, which is what DAMA found.

DAMA has continued to gather data—and more than two decades later and after numerous upgrades researchers there continue to see their cyclical sig-

nal. In the meantime, none of the other detectors set up to find dark matter has caught even a whiff of the stuff. But because these searches are conducted in ways different from DAMA, their results might somehow be explained away. So, in an effort to replicate precisely what DAMA does, yet more experiments have been set up, this time using the same detector material—crystals of sodium iodide, which should flash if dark-matter particles collide with them.

This week, one such experiment, COSINE-100, in the Yangyang Underground Laboratory, in South Korea, reports in *Nature* an analysis of data taken during its first two months of operation. Though not definitive (which would require a full year's data) this analysis suggests that the average signal over the collection period, minus noise such as that caused by the radioactive decay of the surrounding rock, leaves little room for a dark-matter signal akin to that at DAMA. The search, therefore, continues—as does the mystery about dark matter's true nature.

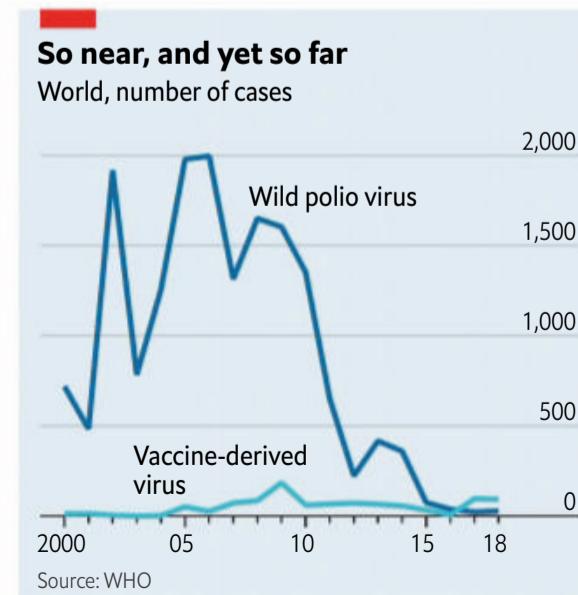
the chances increase that something will go wrong. Along the way, the virus mutates and, after a year or so, can turn into a paralysing form that resembles the wild virus.

Of the three strains in which poliovirus exists, type 2 is most adept at this trick. It causes more than 90% of paralytic polio cases from mutated oral-vaccine strains. So when, in 2015, the wild type 2 polio virus was declared eradicated, it made sense to stop vaccinating people against it. In 2016, in a co-ordinated switch that took place over the course of two weeks, 155 countries replaced their stocks of oral polio vaccine

containing all three strains with a version that does not include the type 2 strain. To protect people from any type 2 vaccine-derived virus still circulating, the injectable vaccine was added to routine immunisation schedules in these countries.

Yet last year type 2 viruses derived from the oral vaccine caused cases of polio in Syria and the Democratic Republic of Congo (DRC). This year cases emerged in Nigeria, Niger, Somalia and the DRC—a sign that gaps in vaccination coverage are widespread. Genomic analysis of the strains involved showed that they had crossed borders (rare for vaccine-derived strains) and that some had circulated undetected for as long as four years. Health officials worry that the outbreaks in Somalia, in particular, may spread to neighbouring countries.

That is a setback for Africa. The last person on the continent paralysed by the wild polio virus was a Nigerian child who contracted the disease in 2016, so Africa has probably already eradicated the wild virus. The outbreaks are also a sign that polio's grand finale may be more drawn out than even pessimists expected. When wild polio virus disappears, the oral vaccine will be replaced with the injectable vaccine. How long such jabs will be needed to guard against remnants of vaccine-derived polio is anybody's guess. ■





Belgium's Africa Museum

The burden of history

TERVUREN

A revamped museum endeavours to tell the vexed story of colonialism

IT IS A magnificently bizarre hybrid. Still officially called the Royal Museum for Central Africa, but better known as the Africa Museum, it cannot help but ooze colonial triumphalism, despite recent protestations of egalitarian diversity. Housed in a majestic purpose-built palace 20 minutes' drive east of Brussels, it stands above a lake amid parkland. Immaculate gravel paths sweep around the site. However radically the interior may have been refashioned to reflect new attitudes to Africa, the grandeur of King Leopold II's design and the fervour of his desire to promote his imperial venture into the continent's heart still overwhelm the visitor. The monarch ruled Congo as a private estate nearly 80 times bigger than his European homeland from 1885 until a year before his death in 1909; his double-L motif is embossed on almost every wall and above many an alcove.

Short of knocking the entire edifice flat, the museum's current regime, run since 2001 by Guido Gryseels, a 66-year-old agricultural expert, has spent the past five years behind closed doors seeking to put a modern imprint on an irredeemably archaic structure. It reopens on December 9th. "We'll be criticised on both sides," predicts Mr Gryseels, who, like many modern museum bosses, is perforce a canny diplomat.

"For not going far enough and for being too politically correct."

The result is a brilliant, weird, tantalising hotch-potch of old and new. A glass oblong now encases a new entrance, restaurant, conference hall and auditorium a stone's throw from the main building, to which it is connected by an underground tunnel-cum-gallery painted in bright white that hosts a huge dug-out canoe carved out of a single tree. On the other side of the main palace, a separate pavilion, a century old, still houses a library holding the archive of Henry Morton Stanley, the Victorian explorer commissioned by Leopold to advance the king's imperial interests ahead of his European rivals.

Whether the colonial enterprise is now deemed a source of national shame or pride, the sheer wealth and variety of the treasures within are a marvel. "It's probably the largest museum of its kind in the world," says Mr Gryseels. "It has 125,000 ethnographic items, 10m zoological ones, 6m insects, 8,000 musical instruments, 200,000 rock samples, 3,000 historical maps, 4km of archives..."

Unsurprisingly, the most controversial issue is how to present history. Leopold's regime is now widely condemned as one of the cruellest in colonial Africa, with forced

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labour akin to slavery and horrifying punishments such as the amputation of hands. Mr Gryseels is unequivocal. "Colonialism as a system of governance is now considered immoral, authoritarian, racist, based on military occupation and exploitation," he says, while acknowledging beneficial "individual contributions in such things as medicine and education". The museum's new message is broadly damning.

But its original one cannot be physically expunged. Late-19th-century maps of the Congo are encrusted on the walls, along with an honorific granite mural naming 1,600 Belgians who died on service for the king during his quarter-century of predation. A central rotunda still contains four famously controversial statues depicting white men clad in gold-painted raiment in arrogantly paternalistic postures. Captions hail their mission to bring "high civilisation" to the benighted natives, who gaze up gratefully at their mentors. Just as controversially, a gallery devoted to natural resources asks, in Mr Gryseels's words, "why, if Africa is so rich, is it still so poor?"

Leopold and his ghosts

Belgium took longer than other European powers fully to acknowledge the dark legacy of colonialism. A third of white Belgians are thought to have family or business links to Congo or the other two former Belgian dependencies, Rwanda and Burundi. A society of veterans still battles fiercely to defend the reputation of Leopold and the colonial achievement in general. In particular, it points out that since Congo became independent in 1960 it has suffered under almost unparalleled misrule and misery.

Activists in Belgium's lively Congolese ➤

► community, however, largely blame the colonialists for leaving the locals ill-prepared to govern and, among other crimes, for conniving in the assassination of Congo's first prime minister, Patrice Lumumba. Representatives of the diaspora have advised the museum on the revamp. Contemporary as well as ancient ethnic Congolese art is handsomely displayed. Colonial interpretations and prejudices that previously underscored the items on show are rigorously explained in a light more sympathetic to the indigenous people.

Still, some diaspora voices say that they have been ignored. Some resent the notion that their ancestors are depicted in galleries that elsewhere exhibit stuffed animals—invoking (they say) the shocking memory of 1897, when 267 Congolese were brought over to be shown off in a human zoo, seven of them dying in the unfamiliar climate. "Africans are not study objects but people," Anne Wetsi Mpoma, an art historian in Brussels, has pointed out.

Such resentments have sharpened since last year when France's president, Emmanuel Macron, denounced the acquisition of African art now lodged in French and other European museums and declared that it should be given back. "The African heritage cannot be a prisoner of European museums," he said. A report he commissioned, written by a Senegalese economist, Felwine Sarr, and a French art historian, Bénédicte Savoy, issued its verdict on November 23rd. It concluded that a first tranche of 26 outstanding items should be given back immediately, another lot within five years, and the rest in due course, either on loan or permanently, once their provenance is properly established. Some 90,000 ethnographic and other African items, the report noted, adorn France's premier African collection, the Musée du Quai Branly in Paris. It implies that most such treasures were taken "by theft, looting, spoils [of war], trickery and sales under duress".

Finders, keepers

African activists calling for mass restitution tend to affirm that virtually all art brought from Africa in the colonial era was acquired immorally. Some, such as the glorious Benin bronzes—seized on a British expedition to what is now Nigeria in 1897—were patently looted. Others were doubtless stolen or locals bamboozled or persuaded to sell under duress. But who can say definitively how each such transaction was conducted? Nor is it clear to whom the artefacts should be returned. Royal or chiefly families, tribal communities, churches, states that did not then exist in their modern form—each may have competing claims.

Hartwig Fischer, who runs the British Museum (where many of the bronzes are

Somali fiction

Home fires

North of Dawn. By Nuruddin Farah. Riverhead Books; 384 pages; \$27

OVER A DOZEN novels and almost five decades, the Somali writer Nuruddin Farah has chronicled the effects on ordinary lives of his country's upheavals. Some of his characters stay put amid the turmoil; others return from exile and try to fit in, remain afloat and make sense of the chaos around them. "Hiding in Plain Sight", published in 2014, took a different tack, focusing on a Somali woman who leaves Italy, her adopted home, to care for the children of her murdered half-brother in Kenya. Now, in "North of Dawn", Mr Farah charts the fortunes of a Somali family who leave Kenya for Europe.

In this absorbing story, the stakes are

raised. Mugdi and Gacalo feel their safe world implode when their Norwegian-raised son returns to Somalia, embraces jihadism and kills himself in a suicide attack. The couple argue about whether to offer sanctuary to his widow and two stepchildren. Gacalo wants to fulfil a promise of care she made before her son's death. Mugdi frets that his daughter-in-law may turn out to be "a troubled person, or, even worse, a terrorist".

In the end Mugdi relents, and Waliya, her daughter Saafi and son Naciim swap their zinc-sheet shack in a Kenyan refugee camp for an apartment in Oslo. After teething problems—"this fellow has a lot to unlearn," says Mugdi of his grandson—the children acclimatise, assimilate and grow to love their grandparents and to relish their newfound freedoms.

Their mother goes the opposite way. She rails against Western values and refuses to work, learn or integrate. Instead she fraternises with an outspoken imam and his radical deputy. Mugdi and Gacalo begin to worry about her connections, and, when she is questioned by an antiterrorist unit, her intentions.

Throughout the novel, from its shock opening to its bitter end, Mr Farah shines a searching light on family unity and national identity, examining what binds and what divides. There are glitches along the way. In places the prose is strident or ponderous. Some of the voices are undifferentiated; for the first half of the book Naciim sounds more like his grandfather than a 12-year-old boy.

But when Mr Farah's characters ring true, his novel soars. Along with family friction and cultural clashes he rigorously explores migration and extremism, and provides a wealth of insight into Somalia and "Somaliness". As one character explains: "you can't do well in a new country if you don't have a good measure of the one you left behind."



Brave new worlds

held), says it and other European institutions have been discussing long-term loans to African museums. Yet in previous instances some proved ill-equipped to look after such valuables. In 1977 the Belgian government, seeking to improve relations with Congo's venal president, Mobutu Sese Seko, returned a trove of exquisite items. Almost all rapidly disappeared or were sold off on the international market. No matter, argue some in the Congolese diaspora. Their view is that what happens to re-

turned art is no concern of outsiders. It should go back to Africa forthwith.

For his part, Mr Gryseels is wary of Mr Macron's initiative. "It's a very complex issue," he says. The wrangle is likely to be as prolonged as the reckoning that Belgium, and the Africa Museum, are conducting with their pasts. "The museum's decolonisation will take time," says Ayoko Mensah, a Franco-Togolese member of a group that has advised on the renovation. "But it's well and truly on the march." ■

Artificial intelligence in the ancient world

From Talos to “Terminator”

Gods and Robots: Myths, Machines and Ancient Dreams of Technology. By Adrienne Mayor. Princeton University Press; 288 pages; \$29.95 and £24

AS JASON AND the Argonauts sailed home with the Golden Fleece, they stopped to rest by the island of Crete and found themselves under attack by a giant robot. Designed by the god Hephaestus to protect the realm of King Minos, this bronze android, called Talos, was built to repel invaders by hurling rocks at any foreign ships that approached. The sorceress Medea saved the day, mesmerising the robot using her mind-control powers and then removing a bronze rivet from his ankle, causing the life fluid to drain away.

This ancient myth raises several surprisingly modern-sounding questions about Talos's nature. He is described as an automaton, a constructed being. Yet if Medea's mind-control powers affect him, surely that suggests that he has a mind, and is more than a mere machine? Talos is sometimes depicted as a tragic figure, condemned for blindly following his programming, like HAL, the murderous supercomputer in "2001: A Space Odyssey". His story can also be read as a cautionary tale about the dangers of giving machines the power to kill when they lack the capacity to make moral judgments.

On close inspection, ancient mythology turns out to be chock-full of robots, androids and mechanical creatures. As well as Talos, Hephaestus created a quiver of drone-like arrows that could never miss, a mechanical dog that always caught its prey, a pair of fire-breathing bronze bulls and a fleet of self-driving cauldrons that acted as butlers to the gods, serving them nectar and ambrosia. The "Odyssey" describes autonomous, crewless ships that work in any weather and can find their way to any port. Pygmalion fell in love with an artificial woman he had created. Mechanical beasts and realistic, moving statues were attributed to the mythical inventor Daedalus.

Adrienne Mayor entertainingly re-examines the various versions of these myths that survive in written and visual form and speculates about their origins. Talos may have been inspired by the large stone figures made by the Nuragic people of Sardinia, for example, who were famed metallurgists; Greek statues were painted to look more lifelike, so adding mechanisms to make them move was an obvious next step. Ms Mayor demonstrates how these myths

prefigure modern science-fiction stories such as "Metropolis", "Blade Runner" and "Terminator", and connects them to modern debates about machine intelligence, autonomous weapons, human augmentation and artificial life. Aristotle pondered the use of machines in place of slaves and the prospect of technological unemployment; Pygmalion built the first sexbot.

The focus is mainly on Greco-Roman sources, though Etruscan, Persian, Hindu and Buddhist stories also make appearances, including the rich medieval tradition of the "Alexander Romance". A Persian tale tells of a 1,000-strong troop of fire-breathing mechanical cavalry, supposedly built for Alexander the Great at the suggestion of his vizier Arastu (Aristotle) and sent

into battle against the war elephants of Porus of India. Lively digressions on Alexander's adventures in a diving bell, or on the development of Greco-Roman torture instruments, are entertaining, even if they deviate somewhat from the author's central theme.

Ms Mayor ends with a survey of actual (rather than mythical) ancient automata built by historical figures such as Heron of Alexandria and Philo of Byzantium, to illustrate how, then as now, speculative narratives and real technologies can co-evolve and inspire each other. The inescapable conclusion is that when it comes to modern debates about robots and machine intelligence, as with so many other things, the Greeks got there first. ■

Roman history

To bury, not to praise

Lessons from the self-inflicted demise of a great republic

SHAKESPEARE MISSED a trick. His version of Julius Caesar's funeral does, admittedly, have its moments. But he might have done even better had he read his Appian. For while the Bard's version musters oratorical verve, the historian's offers a coup de théâtre, complete with the astute use of props, sightlines and stagecraft.

Before the funeral, well aware that Caesar's corpse would be obscured by the throng, a wax cast of the body was prepared, with each of the assassins' blows

Mortal Republic: How Rome Fell into Tyranny. By Edward Watts. Basic Books; 352 pages; \$32. To be published in Britain in March; £25

marked on it clearly. This was then erected above Caesar's bier. As the Roman people filled the Forum, a mechanical device rotated the model slowly, revealing the 23 "gaping" wounds to everyone. The crowd, as they say, went wild.

Caesar's reign—and its bloody end and bloodier aftermath—would later come to be seen as a turning point in the history of Rome. And indeed it was, but as Edward Watts points out in "Mortal Republic", the Republic had been in its death throes for decades. The decline was caused less by gaping wounds than gaping inequality, and by leaders unable or unwilling to remedy it. If that syndrome sounds familiar, it is meant to. Mr Watts says inquiries about how antiquity can illuminate the "occasionally alarming political realities of our world" prompted his reflections.

This ominously titled book is his response, furnished with such nudgingly apposite chapters as "The Politics of Frustration" and "The Republic of the Mediocre". His gambit isn't new: the classical world is often used as a lens through which to examine modernity. Want to understand China? Read Thucydides. Need to know about Afghanistan? Best study Plutarch. This trick can easily go awry: the past was not just the present in togas, as some historians would do well to remember. But Mr Watts pulls it off deftly.

He begins by taking the reader on a brisk ►



The road to ruin

► march through Roman history. The Republic's early citizens were legendarily hardy. In the late third century BC, faced with multiple threats, Rome entered a state Mr Watts describes as "an ancient version of total war". Two-thirds of the male citizen population between 17 and 30 years old were enrolled in the army, ready to die for Rome. And die they did, cut down in battle after battle like fields of wheat. During one engagement with Hannibal, tens of thousands were killed. The Roman response was to regroup—and win.

Such sturdiness didn't last. By the sec-

ond century BC, the formerly united Republic had been split into two factions—not by war but by wealth. On one side was a class of "superwealthy Romans", enriched by military conquest and growing financial sophistication. They dined off silver plate, ate imported fish, drank vintage wine and holidayed in extravagant Mediterranean villas. One of the most powerful was Crassus, a man who made his fortune in unscrupulous property deals, then used that money to buy political influence.

Yet while some Romans swilled from ornate goblets, the majority drank a more

bitter draught. They endured a life of back-breaking work and the knowledge that they would almost certainly end up poorer than their parents. Such a situation could hardly last—and didn't.

What remains one of the world's longest-lasting republics fell by the end of the first century BC, to be replaced by autocracy. Rome had defeated its enemies abroad but, argues Mr Watts, it was undone from within by greed and inequality—and by the sort of politicians "who breach a republic's political norms", plus "citizens who choose not to punish them". ■

Johnson Signs of the times

The lexicon of 2018 is depressing. But the buzz words won't last

CAMBRIDGE DICTIONARY recently selected "nomophobia" as its word of the year, via a poll of readers. Those lucky enough not to have heard of this condition are nonetheless probably familiar with its symptoms: it refers to the fear of not having your mobile phone. The choice seems almost quaint; the concept is neither peculiar to 2018 (it is years older than that) nor especially hot. Your columnist had never heard of the term before the announcement.

But it says a lot that the selection is one of the least depressing made for 2018, another year in which the most notable new or newly zeitgeisty English words correspond to a wave of insults and anxieties in the Anglophone world. Collins, another dictionary publisher, chose "single-use" as its word of the year, referring to disposable plastics that make their ways into landfills and seas. Britain in particular is newly conscious of such noxious rubbish after the success of "Blue Planet II", a BBC documentary series about the oceans.

From there things get more poisonous still. Oxford Dictionaries chose "toxic" as its emblem for 2018. That word has come to be attached to many others: toxic masculinity, toxic homosociality (male bonding through awful behaviour), toxic debates over things like transgender rights. And Oxford's short-list of other contenders was nearly as bleak. It included "gaslighting" (trying to make someone doubt their own memory or even sanity) and "incel" (self-described "involuntarily celibate" men, an increasing number of whom have taken to violence).

A kind of opposite of "toxic" has also had a big year: fragility, as in "white fragility". This refers to the inability (or alleged inability) of whites to handle

claims of racism perpetrated against non-whites, so that they panic when the subject is brought up, shutting down discussions about discrimination, privilege and worse. Coming out of the academic school of "critical race theory", white fragility has given birth to "male fragility", "cis fragility" (on the part of people who are not transgender), and so on.

Dictionary.com made an interesting choice with "misinformation" as its word of the year. Why not "disinformation"? One editor explained that disinformation refers to an intentional effort to spread lies; misinformation is the spreading of false information with or without that intent. In other words, Russian troll farms engage in disinformation; when unwitting Americans share those posts, that's misinformation—which, in the end, is the bigger problem. This, too, feels older than 2018, though. "Post-truth" was Oxford's pick in 2016.

Several other groups are yet to name their words of the year. What else might they consider? Brexit was a source of many new words or applications. The "backstop"

meant to prevent the reimposition of a hard border in Ireland is a new use for an old word. "Gammon" as a way of insulting older red-faced male Brexit supporters has the virtue of being creative, and the downside of being a sneer based on skin colour. "Cakeism" might be the most useful. After Boris Johnson, one of Brexit's figureheads, declared that he was "pro having [cake] and pro eating it", cakeism has neatly summed up Brexiteers' refusal to face trade-offs.

American politics has seen words rapidly changing in their valency after being coined by adherents of one party and then being adopted and flipped by the other. In 2016 "fake news" meant news that was fake; Donald Trump seized on that and distorted it to mean true news he didn't like. Hillary Clinton ill-advisedly referred to "deplorables" among Mr Trump's supporters during their presidential contest; his fans eagerly adopted the name. American conservatives taunt left-wing youth as "snowflakes", a name they have in turn reappropriated with Twitter handles like "Iron Snowflake". Those who voted for Remain in Brexit have done the same with "Remoaner".

So if there is any good news in the cascade of abuse it is that, like so much slang in circulation today, any word popular enough to sum up the mood of a year will saturate social media so quickly that it will soon lose its bite. Or it might be ironically appropriated by the very people it was meant to insult—an old phenomenon, but now manifest at breakneck speed. Social-media tastemakers prize playfulness, ironic detachment—and novelty. In other words, if you are depressed by the vituperations of 2018, be consoled. Most will seem old in 2019, and be history by 2020.



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Economic data

	Gross domestic product			Consumer prices		Unemployment rate		Current-account balance		Interest rates		Currency units	
	% change on year ago latest	quarter*	2018†	% change on year ago latest	2018†	%		% of GDP, 2018†	latest,%	change on year ago, bp	per \$ Dec 5th	% change on year ago	
United States	3.0	Q3	3.5	2.9	2.5	Oct	2.5	3.7 Oct	-2.6	3.11	73.0	-	-3.8
China	6.5	Q3	6.6	6.6	2.5	Oct	2.1	3.8 Q3§	0.5	3.10§§	-73.0	6.87	
Japan	0.3	Q3	-1.2	1.1	1.4	Oct	0.9	2.4 Oct	3.8	0.10	7.0	113	-0.3
Britain	1.5	Q3	2.5	1.3	2.4	Oct	2.4	4.1 Aug††	-3.4	2.12	85.0	0.79	-6.3
Canada	2.1	Q3	2.0	2.3	2.4	Oct	2.3	5.8 Oct	-2.6	2.14	25.0	1.34	-5.2
Euro area	1.7	Q3	0.7	2.1	2.0	Nov	1.7	8.1 Oct	3.4	0.28	-3.0	0.88	-3.4
Austria	2.2	Q3	-1.9	2.9	2.2	Oct	2.1	5.1 Oct	2.2	0.57	-5.0	0.88	-3.4
Belgium	1.6	Q3	1.2	1.5	2.8	Nov	2.2	6.2 Oct	-0.3	0.79	23.0	0.88	-3.4
France	1.4	Q3	1.6	1.7	1.9	Nov	2.1	8.9 Oct	-0.9	0.69	8.0	0.88	-3.4
Germany	1.2	Q3	-0.8	1.9	2.3	Nov	1.8	3.3 Oct‡	7.9	0.28	-3.0	0.88	-3.4
Greece	2.4	Q3	4.3	2.0	1.8	Oct	0.8	18.9 Aug	-1.3	4.15	-66.0	0.88	-3.4
Italy	0.7	Q3	-0.5	1.1	1.7	Nov	1.4	10.6 Oct	2.4	3.08	138	0.88	-3.4
Netherlands	2.4	Q3	0.8	2.8	2.1	Oct	1.7	4.6 Oct	10.1	0.41	-2.0	0.88	-3.4
Spain	2.5	Q3	2.4	2.7	1.7	Nov	1.8	14.8 Oct	1.1	1.50	1.0	0.88	-3.4
Czech Republic	2.5	Q3	2.3	2.8	2.2	Oct	2.3	2.1 Oct‡	0.8	2.04	49.0	22.9	-5.1
Denmark	2.1	Q3	2.7	1.3	0.8	Oct	1.1	3.9 Oct	7.2	0.26	-13.0	6.58	-4.4
Norway	1.1	Q3	2.3	1.7	3.1	Oct	2.7	4.0 Sep‡‡	8.5	1.84	30.0	8.50	-2.4
Poland	5.7	Q3	7.0	5.0	1.2	Nov	1.8	5.7 Oct§	-0.5	3.06	-22.0	3.78	-5.8
Russia	1.3	Q3	na	1.6	3.5	Oct	2.9	4.7 Oct§	5.1	8.83	119	66.8	-12.1
Sweden	1.7	Q3	-0.9	2.7	2.3	Oct	2.0	5.5 Oct§	3.8	0.48	-22.0	8.99	-6.0
Switzerland	2.4	Q3	-0.9	2.7	0.9	Nov	1.0	2.5 Oct	9.9	-0.10	nil	1.00	-1.0
Turkey	5.2	Q2	na	3.8	21.6	Nov	15.3	11.1 Aug§	-5.7	16.9	492	5.32	-27.6
Australia	2.8	Q3	1.0	3.2	1.9	Q3	2.1	5.0 Oct	-2.6	2.50	-10.0	1.38	-5.1
Hong Kong	2.9	Q3	0.3	3.4	2.7	Oct	2.4	2.8 Oct‡	2.0	2.21	29.0	7.81	nil
India	7.1	Q3	3.3	7.4	3.3	Oct	4.6	6.6 Nov	-2.4	7.44	38.0	70.5	-8.7
Indonesia	5.2	Q3	na	5.2	3.2	Nov	3.4	5.3 Q3§	-2.6	7.76	121	14,395	-6.1
Malaysia	4.4	Q3	na	4.7	0.6	Oct	0.8	3.3 Sep§	2.3	4.08	19.0	4.15	-1.9
Pakistan	5.4	2018**	na	5.4	6.5	Nov	5.4	5.9 2015	-5.9	12.5†††	457	139	-23.9
Philippines	6.1	Q3	5.7	6.2	6.0	Nov	5.5	5.1 Q4§	-2.2	7.01	133	52.8	-4.0
Singapore	2.2	Q3	3.0	3.5	0.7	Oct	0.6	2.1 Q3	17.4	2.26	18.0	1.37	-1.5
South Korea	2.0	Q3	2.3	2.8	2.0	Nov	1.6	3.5 Oct§	4.5	2.06	-44.0	1,114	-2.5
Taiwan	2.3	Q3	1.5	2.6	0.3	Nov	1.6	3.7 Oct	12.8	0.93	-5.0	30.8	-2.7
Thailand	3.3	Q3	-0.1	4.1	0.9	Nov	1.2	1.0 Oct§	8.1	2.38	4.0	32.7	-0.3
Argentina	-4.2	Q2	-15.2	-2.3	45.5	Oct	33.6	9.6 Q2§	-4.3	11.3	562	38.0	-54.3
Brazil	1.3	Q3	3.1	1.5	4.6	Oct	3.8	11.7 Oct§	-1.0	7.97	-105	3.87	-16.5
Chile	2.8	Q3	1.1	3.9	2.9	Oct	2.5	7.1 Oct‡‡	-2.2	4.42	-22.0	672	-2.8
Colombia	2.6	Q3	0.9	2.7	3.3	Nov	3.3	9.1 Oct§	-2.7	6.95	47.0	3,170	-5.4
Mexico	2.5	Q3	3.4	2.1	4.9	Oct	4.8	3.2 Oct	-1.8	9.18	188	20.6	-9.1
Peru	2.3	Q3	-8.3	4.1	2.2	Nov	1.3	6.9 Oct§	-2.1	5.75	78.0	3.38	-4.1
Egypt	5.4	Q2	na	5.3	17.7	Oct	17.0	10.0 Q3§	-2.0	na	nil	17.9	-0.9
Israel	3.1	Q3	2.3	3.4	1.2	Oct	0.9	4.1 Oct	1.6	2.42	65.0	3.73	-6.2
Saudi Arabia	-0.9	2017	na	1.5	2.4	Oct	2.6	6.0 Q2	8.0	na	nil	3.75	nil
South Africa	1.1	Q3	2.2	0.7	5.1	Oct	4.8	27.5 Q3§	-3.5	8.98	-17.0	13.9	-2.7

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist poll or 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

	% change on:			% change on:		
	Index Dec 5th	one week	Dec 29th 2017	index Dec 5th	one week	Dec 29th 2017
United States S&P 500	2,700.1	-1.6	1.0	39,303.1	-3.4	-2.9
United States NAScomp	7,158.4	-1.8	3.7	3,155.9	2.0	-7.3
China Shanghai Comp	2,649.8	1.8	-19.9	2,101.3	-0.3	-14.8
China Shenzhen Comp	1,380.8	1.9	-27.3	9,916.7	0.3	-6.8
Japan Nikkei 225	21,919.3	-1.2	-3.7	1,672.3	1.9	-4.6
Japan Topix	1,640.5	-0.8	-9.7	31,779.9	2.1	5.7
Britain FTSE 100	6,921.8	-1.2	-10.0	89,039.8	-0.2	16.5
Canada S&P TSX	15,182.6	0.1	-6.3	41,895.3	2.2	-15.1
Euro area EURO STOXX 50	3,150.3	-0.6	-10.1	12,586.7	-5.4	-16.2
France CAC 40	4,944.4	-0.8	-6.9	1,480.6	0.6	8.5
Germany DAX*	11,200.2	-0.9	-13.3	7,883.6	3.3	9.1
Italy FTSE/MIB	19,328.7	1.1	-11.6	51,709.2	-0.4	-13.1
Netherlands AEX	516.0	-0.7	-5.2	2,008.6	-1.0	-4.5
Spain IBEX 35	9,012.2	-1.0	-10.3	1,001.9	1.0	-13.5
Poland WIG	59,707.7	3.6	-6.3			
Russia RTS, \$ terms	1,153.0	3.6	-0.1			
Switzerland SMI	8,940.0	0.5	-4.7			
Turkey BIST	93,970.1	-0.1	-18.5			
Australia All Ord.	5,749.1	-0.9	-6.8			
Hong Kong Hang Seng	26,819.7	0.5	-10.4			
India BSE	35,884.4	0.5	5.4			
Indonesia IDX	6,133.1	2.4	-3.5			
Malaysia KLSE	1,688.3	0.1	-6.0			
US corporate bonds, spread over Treasuries						
Basis points				latest		Dec 29th 2017
Investment grade				170		137
High-yield				475		404

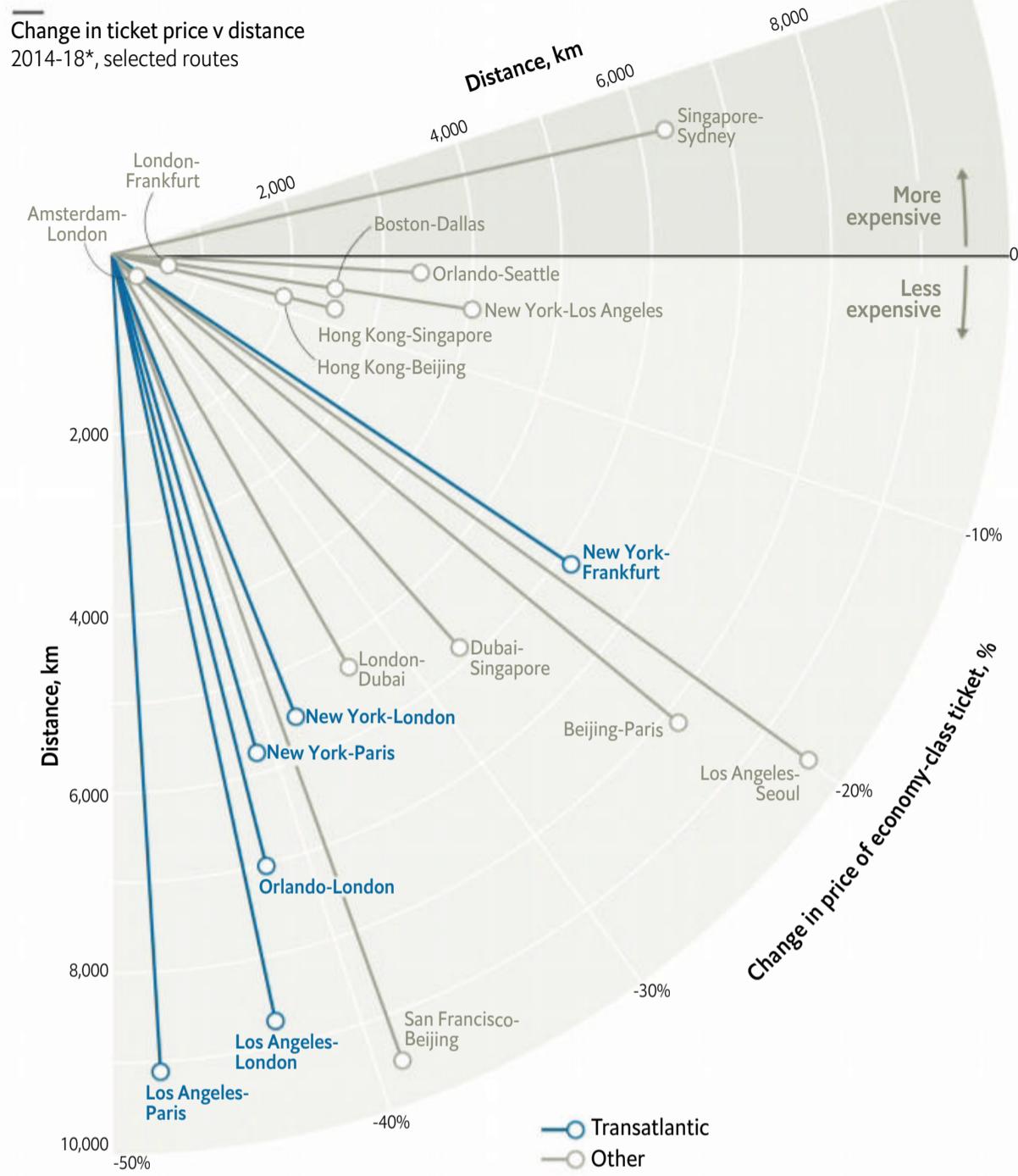
Sources: Datastream from Refinitiv; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

	The Economist commodity-price index			% change on year
2005=100	Nov 27th	Dec 4th*		
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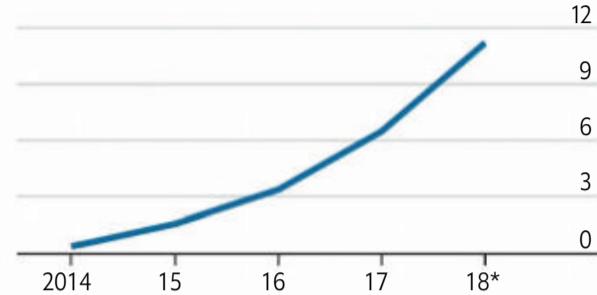
Graphic detail

Most airfares have fallen since 2014, with prices on transatlantic and long-haul routes declining the most



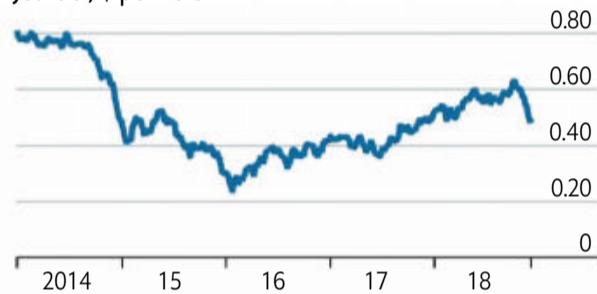
Discount airlines are flying more long routes, increasing competition

Share of seats offered by Norwegian on six transatlantic routes†, %



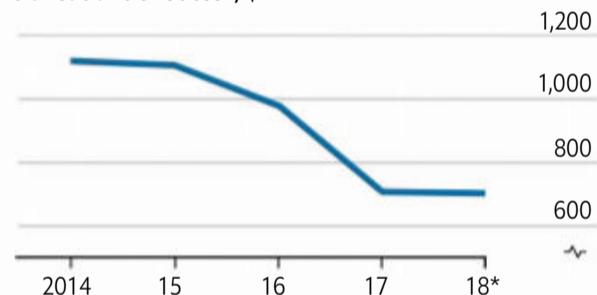
The oil-price bust helped airlines cut fares, but fuel costs have doubled since 2016

Jet fuel, \$ per litre



As a result, fares have plateaued after a steep decline

Average ticket price on six transatlantic routes†, \$



Sources: Expedia; Chris Tarry (CTAIRA); CapStats; S&P Global Platts *Comparing equivalent quarters †Routes highlighted in blue

Flight prices

Prepare for landing

Fares have plunged on long routes, but are now in a holding pattern

IF YOU HAVE booked a flight recently and been surprised by how cheap your ticket was, you are not alone. Airfares have been falling for years. Between 1995 and 2014 they halved in real terms, according to the International Air Transport Association (IATA). But in 2014 that descent became a nosedive. In the following two years, the average airfare dropped by nearly a quarter.

Curious passengers will find no public record of average prices paid on international routes. However, Expedia, a book-

ings firm, has given *The Economist* data for tickets sold on its platform for some popular itineraries. The biggest price falls have been on lengthy journeys. Routes longer than 5,000km (3,100 miles) have generally seen price drops of 30% on economy-class seats, approaching 50% on some transatlantic tickets. Fares on most trips shorter than 5,000km have fallen by less than 10%.

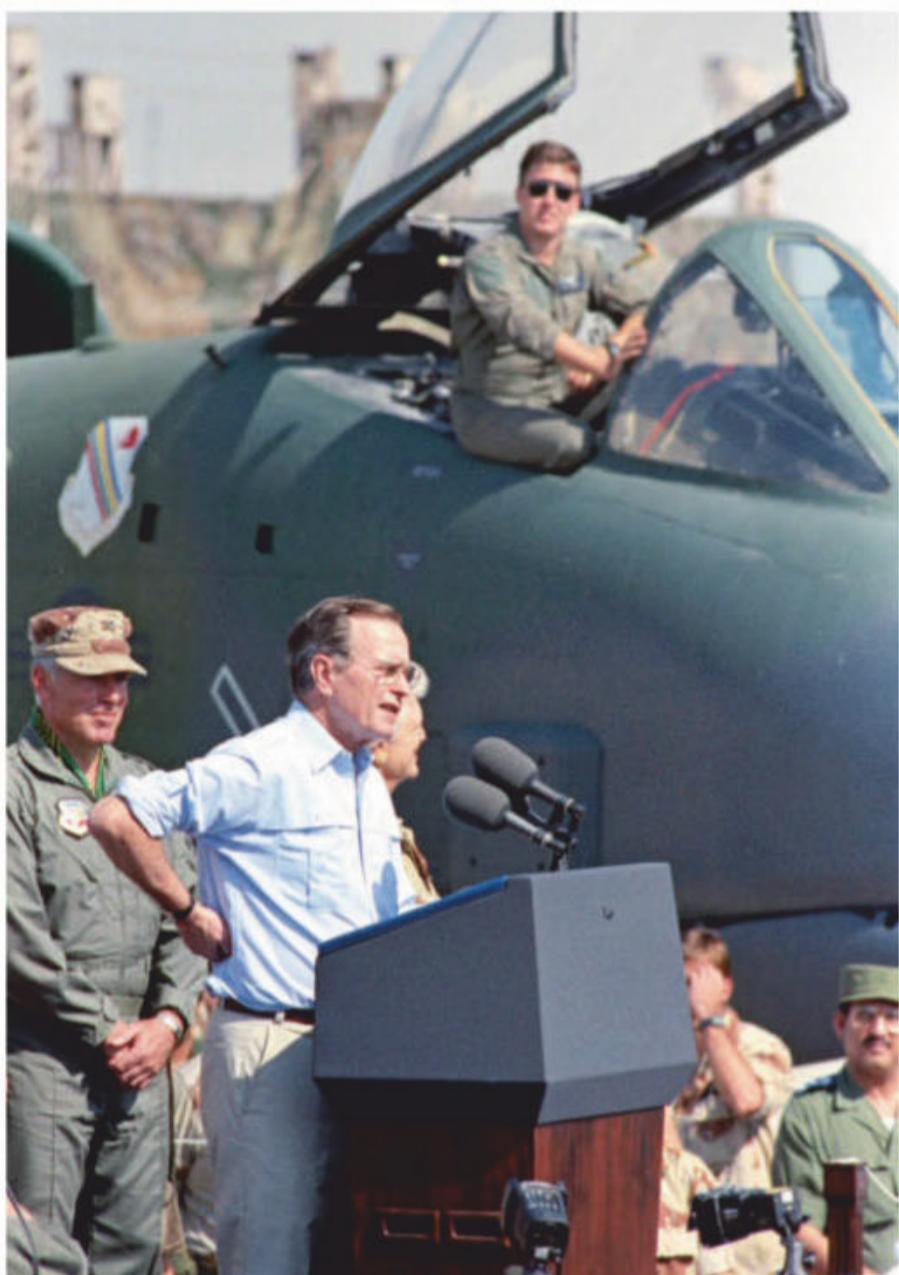
What explains the sharp drop on long flights? One factor has been the price of jet fuel, which makes up a higher share of costs on such routes. It fell from \$0.81 per litre to \$0.22 between 2014 and 2016.

But falling costs alone do not always lead to lower prices. The fuel slump coincided with increasing long-haul competition from low-cost carriers. Budget airlines swarmed onto regional routes in Europe and America 20 years ago. Now, with help from more fuel-efficient planes, they have turned their sights on longer journeys that

were once out of reach. On transatlantic routes, Norwegian has crammed customers into sparkly new Boeing Dreamliners, offering return tickets from London to New York for as little as £260 (\$330). Incumbents have had to cut their prices to protect their market share.

In Asia state-owned Chinese carriers have also undercut their rivals, because of hefty subsidies and a threefold increase in passengers in the past decade. Those cheap tickets mean that China is starting to rival the Gulf as a convenient hub for European visitors flying on to the rest of Asia.

But the downward spiral has stalled. Despite a recent sell-off, fuel prices have doubled since early 2016. Other costs are rising by 5% a year, notes Chris Tarry, a consultant. IATA expects profits to fall by 11% in 2018. That gives airlines less scope to cut fares, which have been flat for a year. After a long descent, prices have levelled out. ■



Doing his darnedest

George Herbert Walker Bush, 41st president of the United States, died on November 30th, aged 94

WHEREVER HE went, as America's president or before it, George Herbert Walker Bush usually carried a felt-tipped pen and a supply of notecards. On these he wrote letters. Some were thank-yous; others a clumsy, but courteous, attempt to get his views across to other people; yet others just a "good to see you" kind of thing. When the time came to write his presidential memoirs, to salve some of that desperate hurt after Bill Clinton thrashed him in 1992, he published instead 600-plus pages of correspondence. They ranged from doting letters to newborn grandchildren to his worries, as a young seaman in 1943, that his girlfriend Barbara, "so darn attractive", would drop him while he was away; from his attempt to explain the Watergate scandal to his four young sons, to his mortified account of throwing up in 1992 on the Japanese prime minister, "the damnedest experience". He admitted that some of the letters were nutty. But they were also of the moment. As he said, "It's all about heartbeat."

In one letter he happened to mention a childhood rebuke from his mother: "Now, George, don't walk ahead." He took her words to heart, staying, for most of his political career, loyally behind and modestly to one side. As chairman of the Republican National Committee in 1974, he stuck by Richard Nixon until it became more urgent to save the party; at which point, he publicly asked

him to resign. He felt afterwards as though someone had died. In his eight years as Ronald Reagan's vice-president, though they had sparred bitterly in the 1980 primaries over Reagan's "voodoo economics" and his callow Hollywood sparkle, he never criticised or upstaged him. During the Iran-contra affair of the 1980s, though present at many salient meetings, he declared himself out of the loop, and it was hard to prove otherwise.

The vision thing

People often supposed him out of the loop in other ways, too: a boy born to privilege, called "Poppy" by his parents, a product of Phillips Academy and Phi Beta Kappa at Yale, who was (falsely) rumoured in the 1992 campaign never to have passed a quart of milk through a supermarket scanner. He was a Yankee aristocrat who could have followed his Daddy on to Wall Street but instead became a Texas oil man (the only Texan, growled Speaker Jim Wright, who ate lobster with his chilli), and went on to represent the toniest bit of Houston in Congress. All this, as well as the tennis-playing summers in Kennebunkport, seemed to set him firmly apart from the average Joe, though he let it be known as president that his favourite food was pork rinds, and banned from the White House the broccoli his mother had made him eat.

With the label "preppy" came the tag "wimp", which infuriated him far more. He had had a brave war, enlisting at 18 and completing one mission with his aircraft on fire. Later he did not hesitate to send 27,000 troops to dislodge Manuel Noriega from Panama, or to launch a ground war against Saddam Hussein in 1991—declaring victory and pulling out in 100 hours, which pushed his approval ratings to 89%. He was not above nasty attack ads in the 1988 campaign, excoriating Michael Dukakis for giving furlough to a black rapist. But Nixon, who hated Ivy Leaguers, seemed to think him soft; Reagan said he lacked spunk; and his talk of "Big Mo" and "kicking ass" on the campaign trail often ended in retreat. In 1990 a dust-up with Congress forced him to capitulate on his steely election pledge of "No new taxes". This, as well as the brief recession of 1990-91, cost him the 1992 election, though even as voters went to the polls the figures for growth were ticking upwards, ushering in almost a decade of prosperity.

What he lacked, as he more or less admitted, was "the vision thing". Ideologically, he was flexible: moderate sometimes (indeed, in one Texas race, left of the Democrat), while at others he would traipse round pandering to conservatives, as George Will cruelly put it, with a thin tinny "arf", like a lap-dog. On domestic policy, as president, he inclined to the hard right (prayer in schools, gun rights, anti-abortion), while also loosening immigration policy and expanding the rights of the disabled. Wearing his mild Episcopalian hat, he mentioned a thousand points of light, a kinder, gentler America, and a new breeze blowing away the leaves of an old tree. It was all as vague as it was all deeply hoped for.

His forte, and first love, was foreign policy. He had been ambassador to the UN for Nixon, an envoy to China for Gerald Ford (he and Barbara riding round delightedly on bicycles) and head of the CIA, besides, as vice-president, a follower-of-the-hearse at dozens of state funerals. Instinctively, he thought in terms of global power games; fortuitously, his time as president coincided with the end of the cold war, a heady and fascinating moment. With Mikhail Gorbachev he struck up an easy working friendship, and in 1991, in the wake of the Gulf war, he even had a moment of comprehensive vision: a new world order, based not on force but on the rule of law, which America would strongly lead.

Such grandiloquence, like eloquence, was rare in him. He was schooled in modesty, fond of the small behind-the-scenes gesture rather than the large public show. He belonged to a generation that had no patience for today's blowhards who, putting self before nation, always push themselves forward. But when the times and events demanded he could, perhaps to his own surprise, find the right words and walk confidently ahead. ■

The World in 2019



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a millennial