

The Economist

Theresa May: dead woman standing still

Ponzi schemes in China

Higher education, lower returns

Pity the pangolin

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Doctor You

How data will transform health care



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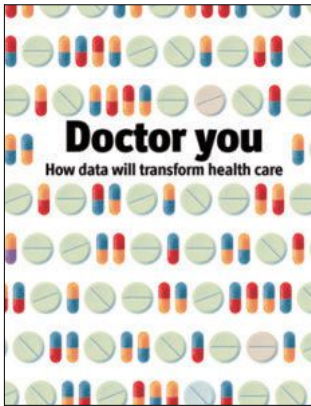
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Politics



Donald Trump's first **State of the Union** speech to Congress conveyed his dark view of a hostile world, but one in which he would "make America great again for all Americans". The president touted his plan for **immigration** reform. This would introduce a decade-long path to citizenship for the "Dreamers", migrants who came to America illegally as young children, which could potentially help up to 1.8m people, in return for lower overall immigration and money to build a border wall.

In a rare public statement the **FBI** criticised the drive by Republicans in Congress to publish a classified memo. Written by Republicans on the House Intelligence Committee, the memo purports to show that the agency acted improperly when it carried out a surveillance operation on a former aide to the Trump campaign. The **FBI** said it had "grave concerns about material omissions of fact" from the document.

A few days earlier, Andrew McCabe stepped down as deputy-director of the **FBI**. He had faced relentless criticism from Mr Trump, in part for the political **donations** that Mr McCabe's wife received from what the president has described as "Clinton puppets".

Steve Wynn resigned as finance chairman of the **Republican Party** following a report that he had coerced female employees at his casino in Las Vegas into sex or to massage him. The allegations, which Mr Wynn called "preposterous",

stretch back decades. Wynn Resorts is one of the world's largest casino companies.

Negative connotations

Colombia's president, Juan Manuel Santos, suspended peace talks with the **ELN**, a guerrilla group that has been fighting the state for more than 50 years. He blamed the **ELN** for three bombings in which seven policemen were killed and 47 people injured. The group accepted responsibility for the bloodiest attack but not the others. Rodrigo Londoño, the leader of the **FARC**, a larger guerrilla group that made peace with the government in 2016, launched his candidacy for Colombia's presidency.

Honduras's president, Juan Orlando Hernández, was sworn in for a second term. Protesters who say the presidential election in November was rigged marched towards the stadium in which the ceremony was held. Security forces fired tear-gas at them.

Spirited opposition

Alexei Navalny, a Russian opposition leader, was briefly jailed in **Russia** to prevent him appearing at a rally at which he was to demand a boycott of the presidential election in March. Meanwhile, America's Treasury department released a list of politicians and oligarchs with ties to Vladimir Putin. Those who appear on the list (which seemed almost identical to a similar list reported in *Forbes*) are not necessarily subject to sanctions.

Defying the polls, the **Czech Republic's** Eurosceptic president, Milos Zeman, was re-elected in a tight second round of voting.

The Speaker of Catalonia's parliament postponed a session that had been expected to reinstate the separatist Carles Puigdemont as president of the region, prolonging a tense stand-off with the **Spanish** central government in Madrid.

The government of **Ireland** decided to hold a referendum before the end of May on whether to legalise abortion. Leo Varadkar, the prime minister, said he would campaign to repeal the Eighth Amendment of the constitution, which gives equal status to the life of a fetus and its mother.

As speculation swirled about her party plotting to depose her as prime minister, **Britain's** Theresa May visited China to beat the drum for closer post-Brexit trade relations. Mrs May is under pressure to contain the battle raging in the Conservative Party between "hard" and "soft" Brexiteers.

A princely sum

Saudi Arabia said that a crack-down on corruption had raked in \$107bn for the government. Prominent princes and businessmen had been detained at the Ritz-Carlton Hotel in Riyadh until they agreed to hand over a portion of their wealth.

Separatist forces in **Yemen** captured most of the port city of Aden from the government, splitting an alliance formed to fight Houthi rebels in the north who occupy the Yemeni capital, Sana'a.

White commercial farmers in **Zimbabwe** are to be allowed to rent their land on 99-year leases, instead of a maximum term of five years, as the government tries to revive investment. The policy marks a reversal from that of Robert Mugabe, who was deposed as president last year and who had forced thousands of white farmers off their land.

Officials at the **African Union** accused **China** of bugging its headquarters and hacking into its computer system. The **AU's** headquarters, and its computer systems, were a gift from

China to the organisation, which is based in Addis Ababa, Ethiopia.

Some turbulence ahead

A dispute escalated between **China** and **Taiwan** over the opening of new civil-aviation routes by China in the Taiwan Strait, without asking Taiwan's government. Taiwan responded by refusing permission for two Chinese carriers, China Eastern and Xiamen Airlines, to lay on 176 extra round-trip flights across the strait in February during the lunar new-year holiday.


Officials in **Hong Kong** barred two people from standing in a by-election that is due to be held in March for having expressed support for the territory's self-determination.



A bomb placed in a fake ambulance killed more than 100 people in **Kabul**. Islamic militants also attacked an army base in the Afghan capital, killing 11 soldiers.

Malaysia's highest court ruled that the consent of both parents is needed before a child can convert from one religion to another, closing a legal loophole whereby a Muslim parent could win a custody battle with a non-Muslim spouse by having their children declared Muslim. The ruling is a rare instance of Malaysia's civil courts standing up to Islamic ones.

A trove of top-secret documents turned up in a consignment of second-hand furniture that had once belonged to the **Australian** government. Among the secrets revealed were several other instances when officials had been careless with important papers. ▶▶



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Business

America's **health-care industry** got a shock as **Amazon**, **Berkshire Hathaway** and **JPMorgan Chase** announced that they would form a non-profit company to cover the health needs of their combined million-strong employees. There were few details, other than a focus on technological innovation, but Amazon's entry into the health market has long been expected, and feared, by conventional providers. Warren Buffett, Berkshire's boss, described the ballooning costs of health care as a "hungry tapeworm" devouring the economy.

Janet Yellen presided over her last meeting as chairman of the rate-setting committee at the Federal Reserve, and kept it on course for another interest-rate rise in March. The central bank is going through a period of upheaval. Jerome Powell, who takes over as chairman, will soon have a new vice-chairman. A search is also under way for a replacement for the retiring head of the New York Fed.

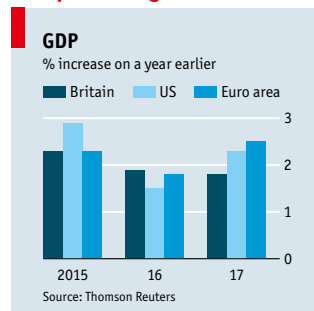
A data-driven story

Blackstone, one of the world's biggest private-equity firms, struck a \$17bn deal to take a controlling stake in the financial-data business of **Thomson Reuters**. Thomson Reuters provides data analysis to traders around the world, competing with Bloomberg's terminals. The business will be split off into a privately held firm with Blackstone as the majority owner. That leaves Thomson Reuters with its news service.

JAB Holding, an investment group based in Luxembourg, expanded its portfolio in America by agreeing to buy **Dr Pepper Snapple** for \$18.7bn, the biggest acquisition of a soft-drinks company to date. Dr Pepper Snapple owns several brands, including 7UP and Schweppes, which traces its roots to 1783, when it created the world's first carbonated mineral water in Geneva.

Fujifilm unveiled a deal through which it will take a 50.1% stake in **Xerox**, ending the independence of an American corporate giant of the 20th century. The pair already operate a long-standing joint venture selling photocopiers in Asia; their agreement in effect broadens that venture to encompass all Xerox business.

Europe shining



America, Britain and the euro zone released preliminary estimates of their **economic growth** rates for 2017. The euro zone's GDP rose by 2.5% over the year, its best performance since 2007. America's rate also improved, to 2.3%. Britain's economy expanded by 1.8%, the slowest pace since 2012.

The number of **cars** made in Britain fell by 3% last year according to the Society of Motor Manufacturers and Traders. Output for the domes-

tic market slumped by nearly 10%, though exports dipped only slightly. British carmaking is heavily dependent on exports, with four out of every five cars heading abroad. As EU countries drive half of that demand, Brexit will only make things more difficult for the industry in the coming years.

In a surprise turn of events, America's International Trade Commission overturned the Trump administration's recommendation that **Bombardier's** C-series aircraft should be subjected to punitive tariffs, finding that the Canadian planemaker's small passenger jets "do not injure" American industry. **Boeing** maintains that the C-series has benefited from state aid; it is "disappointed" with the ruling.

Facebook said that the amount of time users spend on its network had dropped by 50m hours a day in the fourth quarter of 2017. That was before it announced changes to its news feed, which it acknowledges will lead to less engagement with its site. In its latest earnings release, Facebook stressed it was now focused on what's "good for people's well-being and for society" by "encouraging meaningful connections".

Capita, an outsourcing company that runs some big public services in Britain, such as London's congestion charge, warned that its profit will fall far below expectations. With the bankruptcy of Carillion, another government contractor, still rippling through Whitehall, investors took fright, sending Capita's share price down by 48%.

A few days before formally stepping down as chief executive of Hewlett Packard Enterprise, **Meg Whitman** accepted a new job as CEO of **Newtv**, a startup that will make short Hollywood-style videos purely for mobile devices. Ms Whitman describes it as "one of the most disruptive" ideas she has ever come across.

He chucked out your chintz

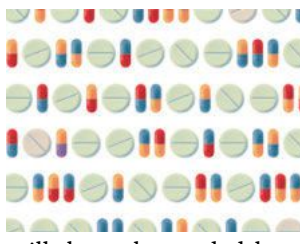
Ingvar Kamprad, who founded **IKEA**, died at the age of 91. He was by some measures one of the world's richest men. Mr Kamprad's flat-pack revolution spread from Sweden to 37 countries, bringing cheap-but-stylish furniture to the masses. Despite his wealth, he once said that "IKEA people do not drive flashy cars or stay at luxury hotels".

Other economic data and news can be found on pages 76-77



Doctor You

A digital revolution in health care is coming. Welcome it



NO WONDER they are called “patients”. When people enter the health-care systems of rich countries today, they know what they will get: prodding doctors, endless tests, baffling jargon, rising costs and, above all, long waits. Some stoicism will always be needed, because health care is complex and diligence matters. But frustration is boiling over. This week three of the biggest names in American business—Amazon, Berkshire Hathaway and JPMorgan Chase—announced a new venture to provide better, cheaper health care for their employees. A fundamental problem with today’s system is that patients lack knowledge and control. Access to data can bestow both.

The internet already enables patients to seek online consultations when and where it suits them. You can take over-the-counter tests to analyse your blood, sequence your genome and check on the bacteria in your gut. Yet radical change demands a shift in emphasis, from providers to patients and from doctors to data. That shift is happening. Technologies such as the smartphone allow people to monitor their own health. The possibilities multiply when you add the crucial missing ingredients—access to your own medical records and the ability easily to share information with those you trust. That allows you to reduce inefficiencies in your own treatment and also to provide data to help train medical algorithms. You can enhance your own care and everyone else’s, too.

The doctor will be you now

Medical data may not seem like the type of kindling to spark a revolution. But the flow of information is likely to bear fruit in several ways. One is better diagnosis. Someone worried about their heart can now buy a watch strap containing a medical-grade monitor that will detect arrhythmias. Apps are vying to see if they can diagnose everything from skin cancer and concussion to Parkinson’s disease. Research is under way to see whether sweat can be analysed for molecular biomarkers without the need for an invasive blood test. Some think that changes in how quickly a person swipes a phone’s touchscreen might signal the onset of cognitive problems.

A second benefit lies in the management of complex diseases. Diabetes apps can change the way patients cope, by monitoring blood-glucose levels and food intake, potentially reducing long-run harm such as blindness and gangrene. Akili Interactive, a startup, plans to seek regulatory approval for a video game designed to stimulate an area of the brain implicated in attention-deficit hyperactivity disorder (see page 55).

Patients can also improve the efficiency of their care. Although health records are increasingly electronic, they are often still trapped in silos. Many contain data that machines cannot read. This can lead to delays in treatment, or worse. Many of the 250,000 deaths in America attributable to medical error each year can be traced to poorly co-ordinated care. With data at their fingertips, common standards to enable sharing and a strong incentive to get things right, patients are more likely to

spot errors. On January 24th Apple laid out its plans to ask organisations to let patients use their smartphones to download their own medical records (see page 53).

A final benefit of putting patients in charge stems from the generation and aggregation of their data. Artificial intelligence (AI) is already being trained by a unit of Alphabet, Google’s parent company, to identify cancerous tissues and retinal damage. As patients’ data stream from smartphones and “wearables”, they will teach AIs to do ever more. Future AIs could, for instance, provide automated medical diagnosis from a description of your symptoms, spot behavioural traits that suggest you are depressed or identify if you are at special risk of cardiac disease. The aggregation of data will also make it easier for you to find other people with similar diseases and to see how they responded to various treatments.

An Apple a day

As with all new technologies, pitfalls accompany the promise. Hucksters will launch apps that do not work. But with regulators demanding oversight of apps that present risks to patients, users will harm only their wallets. Not everyone will want to take active control of their own health care; plenty will want the professionals to manage everything. Fine. Data can be pored over by those who are interested, while those who are not can opt to share data automatically with trusted providers.

The benefits of new technologies often flow disproportionately to the rich. Those fears are mitigated by the incentives that employers, governments and insurers have to invest in cost-efficient preventive care for all. Alphabet has recently launched a firm called Cityblock Health, for example, which plans to trawl through patients’ data to provide better care for low-income city dwellers, many of them covered by Medicaid, an insurance programme for poorer Americans.

Other risks are harder to deal with. Greater transparency may encourage the hale and hearty not to take out health insurance. They may even make it harder for the unwell to find cover. Regulations can slow that process—by requiring insurers to ignore genetic data, for example—but not stop it. Security is another worry. The more patient data are analysed in the cloud or shared with different firms, the greater the potential threat of hacking or misuse. Almost a quarter of all data breaches in America happen in health care. Health firms should face stringent penalties if they are slapdash about security, but it is naive to expect that breaches will never happen.

Will the benefits of making data more widely available outweigh such risks? The signs are that they will. Plenty of countries are now opening up their medical records, but few have gone as far as Sweden. It aims to give all its citizens electronic access to their medical records by 2020; over a third of Swedes have already set up accounts. Studies show that patients with such access have a better understanding of their illnesses, and that their treatment is more successful. Trials in America and Canada have produced not just happier patients but lower costs, as clinicians fielded fewer inquiries. That should be no surprise. No one has a greater interest in your health than you do. Trust in Doctor You. ■

Monetary policy

Changing of the guard

The growing powers of central banks will give rise to a different type of central-bank boss



WHEN George H.W. Bush lost his presidency after four years in office, he blamed Alan Greenspan for not cutting interest rates fast enough in an election year. “I reappointed him, and he disappointed me,” said Mr Bush of the Federal Reserve chairman.

Janet Yellen cannot now be a let-down to President Donald Trump. She chaired her last meeting of the Fed’s rate-setting committee this week; her successor, Jerome Powell, will serve beyond the next presidential election. On both counts—the change at the top and the type of replacement—America is setting a lead that others are likely to follow.

The guard may be about to change at other central banks, too. Haruhiko Kuroda, boss of the Bank of Japan, must be reappointed or replaced by April. Zhou Xiaochuan is expected to step down as governor of the People’s Bank of China after 15 years (see page 64). Big changes are coming at the European Central Bank (ECB). The eight-year term of its vice-president, Vitor Constancio, expires in May. His is one of four jobs on the ECB’s six-strong executive board, including the top post held by Mario Draghi, which are up for grabs in the next two years. The signs are that central bankers of Ms Yellen’s kind (nurtured in academia, immersed in economic models, aloof from politics) are out of favour. The new central-bank bosses will probably, like Mr Powell, be generalists versed in the ways of government and masters of a brief rather than a theory. They are set, in short, to be more agreeable to politicians.

It is natural for politicians to want to hug central bankers closer. The bankers’ powers have grown since the financial crisis of 2007-08 in part because governments have themselves been unable or unwilling to act. Central banks kept credit markets working, bailed out banks and gave confidence to shaky

bond markets. They have since been given, or been given back, powers to regulate banks and to preserve financial stability.

The politicians’ instinct to appoint one of their own will be amplified in Europe by the usual horse-trading among euro-zone members. Spain believes it is high time it got a top ECB job, and is claiming the vice-presidency. Were a Spaniard to be appointed, it might imply Mr Draghi’s job will go to a northern European (though perhaps not to a German) to preserve balance between the euro zone’s core and periphery. France will lose one post, so must gain another. And so on. It is unlikely that someone with the qualities of Ms Yellen or Mr Draghi will emerge from such a messy process.

The decline of the pointy-headed central-bank governor need not be calamitous. Mr Zhou has been influential on a broad range of economic reforms even though—or, perhaps, because—the People’s Bank of China does not have autonomy over monetary policy. Independence can sometimes be a trap. Until Mr Kuroda was appointed in 2013 as its boss, with the express backing of Shinzo Abe, the prime minister, the Bank of Japan was loth to fight deflation aggressively in part because it feared it would compromise its independence.

All over bar the Yellen

Yet there is also good reason to worry. An independent central bank can be better trusted to act swiftly to curb inflation. That trust also gives it freedom to cut interest rates when the economy turns down. The kinds of problems set by a booming world economy and elevated asset prices (see page 61) are best tackled by experts at some distance from politics. What central banks need is not the appointment of officials who are less inclined to disappoint their political masters. It is new thinking about how to make overmighty central banks more accountable to electorates, while at the same time shielding them from day-to-day political pressure. ■

Theresa May

Intolerable but unsackable

Britain must hang on to its inadequate prime minister



AFTER she contrived to lose the Tories’ parliamentary majority last year in spite of a widely unfancied Labour opposition, Theresa May was described by one former cabinet colleague as “a dead woman walking”. That harsh description has turned out to be only half-right. The prime minister’s inactivity since the election means that it would be more accurate to describe her as a dead woman standing still.

The lack of policies or purpose in Downing Street, coupled with Mrs May’s frequent political pratfalls, have driven the

Conservative Party to the brink of seeking a new leader (see page 48). The case for getting rid of the prime minister is compelling. But consider more closely what would follow and there is a stronger, though depressing, argument that if Britain tried to replace its failing leader it would be even worse off.

Sub-prime

Since her electoral disaster Mrs May has blown several last chances. She mishandled the aftermath of a tragic fire at Grenfell Tower. She spluttered her way through a speech designed to relaunch her premiership, as the set literally fell apart behind her. When she attempted a cabinet reshuffle some of her ministers refused to budge. Worse than these blunders is the ►►

vacuum of ideas. The politician whom we nicknamed “Theresa Maybe” a year ago still cannot decide what to do about Britain’s housing shortage, the crisis in care for the elderly or the slow decline of the National Health Service.

Most deafening is her silence on Brexit. This was once passed off as a clever tactic to keep Britain’s negotiating strategy under wraps. But with less than a year left to reach a deal, it is clear that the real purpose of her secrecy is to disguise the fact that there is no strategy. Mrs May’s “red lines”, which include leaving the European Union’s customs union and maintaining an invisible Irish border, are mutually inconsistent. On trade, she wants a solution that somehow combines continuity for business with reclaiming control over regulations—and she seems to expect the EU to draw up the blueprint.

But ousting Mrs May might make Brexit little better, and perhaps much worse. Brexit’s internal contradictions could not be squared by any prime minister, though another might be more frank about them. As the government’s own analysis showed this week, the more Britain sets out to reclaim sovereignty the more it will dent prosperity. Leave did not win its majority on the basis that Britons would be poorer. Nor would any prime minister be able to force a have-cake-and-eat-it deal on the EU, whose economy is six times the size of Britain’s.

The Tories are still right to suspect that another leader might

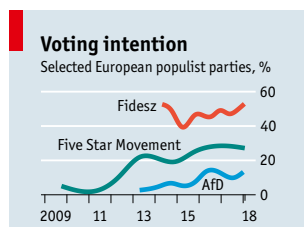
make a better job of Brexit than Mrs May. But they would probably pick someone even less suitable. Under party rules, its MPs would shortlist two candidates: probably one proponent of “soft” Brexit (remaining in the customs union and perhaps the single market) and one of the “hard” variety (leaving both arrangements and even walking out of the talks). The party’s members, who back hard Brexit by three to one, would then decide—so the chances are the winner would be a hardliner such as Boris Johnson, the chaotic foreign secretary, or Jacob Rees-Mogg, a neo-Victorian backbench novelty (see Bagehot).

Under Mrs May, Britain is on course to leave the EU in 2019 without anything much in place bar a transition agreement to buy a couple more years of talks. The Tories will surely oust her at that point if they do not do so now. But it is conceivable that by then they would be readier to pick a sensible successor. The reality of a hard Brexit’s consequences—for the economy, the Irish border, the regulation of medicines and much else—is slowly dawning. Labour is creeping towards a softer position, giving the Tories space to do the same. A new generation of would-be Conservative leaders might be less willing than their elders to enact a policy that would harm the economy, and with it their party’s electoral prospects. Mrs May’s is a failed premiership that must end. But only when she can be replaced by someone who would not fare even worse. ■

European populism

Threat and opportunity

How to learn from the populists



THE European Union must feel as if it has seen off the populist horde. Economic growth is at its strongest in a decade. Emmanuel Macron has defeated the National Front and is transforming France. Although just 41% of citizens trust the EU, that is more than trust their national governments—and is fully ten points up on the lows after the financial crisis.

Yet populism is not vanquished (see page 18). Insurgents are in office in Poland, Hungary and Austria and won last week’s vote in the Czech Republic. In Italy the Five Star Movement could sniff power in next month’s elections. In the years to come the influence of populist parties is likely to grow.

Rather than declare victory and return to politics as usual, the establishment needs to learn from populists. That means adopting the best of what they offer and discarding the rest.

The far-from-medium is the message

There is plenty to discard. Hardline populists pursue an antagonistic politics, imagining society to be simplistically split between people and elites that have sold them out. They claim a direct connection between politician and citizen that leaves little room for an independent judiciary or free press, for assertive minorities or for facts that contradict voters’ gut feelings.

But though populism has included plenty of demagogic swindlers, it also contains reformers and democrats. The European revolutionaries who animated opposition to absolute monarchy in 1848 bore populist traits. So did the late 19th- and

early 20th-century statesmen who laid the foundations of Western welfare states, and anti-regime movements behind the Iron Curtain, such as Solidarity, in the 1980s. In the right hands, and distilled from their poisonous ingredients, populists’ habits can be useful even to their opponents.

Populists vividly communicate ordinary voters’ discontent. A lot of populism is driven by rage at a political establishment that is guilty of crass selfishness: moving from the public sector to lucrative posts in private business, scratching each other’s backs, applying open competition to working-class jobs while shielding their own from threat. Recent history is littered with examples of mainstream politicians failing to confront emotive political issues in public, including even Angela Merkel in her handling of Germany’s refugee crisis. Instead they either hide or employ technocratic arguments, with the subtext that there is “no alternative”.

Communication is empty unless it heeds voters’ concerns. Where grievances are justified, they deserve attention and remedy. Today support for full-blown populists is often bound up with the dislocation of globalisation, including rapid industrial change, mass immigration, shifting social values and a declining sense of community. To ignore those issues for fear of raising their salience will only cede them to the rabble-rousers.

That requires political enterprise. Populists are structural innovators. This was true in the past when, for example, the searing inequalities of the late 19th-century “Gilded Age” spawned new Marxist parties and the agrarian-populist People’s Party in America. And it is true today, evident in the Five Star Movement, founded in 2009, and the far-right Alternative for Germany party, founded in 2013. Their opponents, by contrast, car- ▶▶

ry a burden of loyalty to dusty old identities and institutions. It is no coincidence that the most successful forces for liberal pluralism in recent years have included Spain's Ciudadanos, founded in 2006 and currently leading polls, and Mr Macron's En Marche! in France, founded in 2016.

All of which calls for a new way of viewing populists. They can be a danger, but their rise is a call for renewal. That was the insight of the late 19th- and early 20th-century reformers, who kept the Marxists and the agrarian populists at bay by judiciously borrowing from them. Theodore Roosevelt and Woodrow Wilson took on oil and rail cartels, and advocated social insurance on behalf of the man in the street. Otto von Bismarck's introduction of old-age and health insurance in Germany and David Lloyd George's "People's Budget" in Britain in 1909 similarly annexed the populists' political territory.

Today's reformers have no shortage of ideas to mine. Mass immigration demands better integration that promptly im-

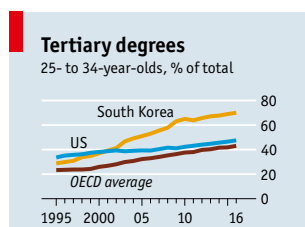
parts language skills, jobs and Western values to newcomers. Where recorded crime is rising, as in Germany and Sweden, politicians should admit it and set about tackling the problem. Expanded retraining and relocation, portable benefits and action against tax evasion can help spread the appreciation of free trade. Galloping automation and digitisation invite a re-making of education systems and should prompt reformers to take on tech giants like Google and Amazon in the name of competition and consumer protection. Canada combines immigrant integration, an effective safety-net and economic liberalism better than other major Western countries—and has been the least affected by the recent populist wave.

Fragmenting societies and polarised politics make it unlikely that populism's rise will be reversed soon. But its excesses can be contained by seeing it as the impetus for change. Because solving people's problems will bear fruit, populism is as much an opportunity as a threat. ■

University degrees

Time to end the academic arms race

As higher education expands, returns are falling. School-leavers need other options



THERE are plenty of good reasons for a young person to choose to go to university: intellectual growth, career opportunities, having fun. Around half of school-leavers in the rich world now do so, and the share is rising in poorer countries, too.

Governments are keen on higher education, seeing it as a means to boost social mobility and economic growth. Almost all subsidise tuition—in America, to the tune of \$200bn a year. But they tend to overestimate the benefits and ignore the costs of expanding university education (see page 51). Often, public money just feeds the arms race for qualifications.

As more young people seek degrees, the returns both to them and to governments are lower. Employers demand degrees for jobs that never required them in the past and have not become more demanding since. In a desperate attempt to stand out, students are studying even longer, and delaying work, to obtain master's degrees. In South Korea, a country where about 70% of young workers have degrees, half of the unemployed are graduates. Many students are wasting their own money and that of the taxpayers who subsidise them.

Spending on universities is usually justified by the "graduate premium"—the increase in earnings that graduates enjoy over non-graduates. These individual gains, the thinking goes, add up to an economic boost for society as a whole. But the graduate premium is a flawed unit of reckoning. Part of the usefulness of a degree is that it gives a graduate jobseeker an advantage at the expense of non-graduates. It is also a signal to employers of general qualities, such as intelligence and diligence, that someone already has in order to get into a university. Some professions require qualifications. But a degree is not always the best measure of the skills and knowledge needed for a job. With degrees so common, recruiters are using them as a crude way to screen applicants. Non-graduates are thus increasingly locked out of decent work.

In any case, the premium counts only the winners and not the losers. Across the rich world, a third of university entrants never graduate. It is the weakest students who are drawn in as higher education expands and who are most likely to drop out. They pay fees and sacrifice earnings to study, but see little boost in their future incomes. When dropouts are included, the expected financial return to starting a degree for the weakest students dwindles to almost nothing. Many school-leavers are being misled about the probable value of university.

Governments need to offer the young a wider range of options after school. They should start by rethinking their own hiring practices. Most insist on degrees for public-sector jobs that used to be done by non-graduates, including nursing, primary-school teaching and many civil-service posts. Instead they should seek other ways for non-graduates to prove they have the right skills and to get more on-the-job training.

School-leavers should be given a wider variety of ways to gain vocational skills and to demonstrate their employability in the private sector. If school qualifications were made more rigorous, recruiters would be more likely to trust them as signals of ability, and less insistent on degrees. "Micro-credentials"—short, work-focused courses approved by big employers in fast-growing fields, such as IT—show promise. Universities should grant credits to dropouts for the parts of courses they have completed. They could also open their exams to anyone who wants to take them, and award degrees to those who succeed.

Mutually assured instruction

Such measures would be more efficient at developing the skills that boost productivity and should save public money. To promote social mobility, governments would do better to direct funds to early-school education and to helping students who would benefit from university but cannot afford it. Young people, both rich and poor, are ill-served by the arms race in academic qualifications, in which each must study longer because that is what all the rest are doing. It is time to disarm. ■

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Deadline for applications: 30 April 2018.

More public scrutiny, please

The collapse of Carillion raises questions about how Britain can get better at contracting public services to the private sector (“Cleaned out”, January 20th). The scramble across government to understand its exposure to the company shows that Britain needs much better data that is open to the public on the full procurement process, from the planning of contracts to their fulfilment.

The existing data are surprisingly poor. An analysis of publicly available information by my organisation and by Open Opps, an open-data startup, found deals with 208 buyers across the public sector since 2011. But we could only confirm the details of less than half of the 450 contracts reported by the government. Compare that with other countries, where a single register of contracts exists and the exposure and diversity of public markets can be monitored in real time. There is strong evidence that open data and contract registers are great for encouraging smaller firms to put in bids.

GAVIN HAYMAN

Executive director
Open Contracting Partnership
London

The donkey market



China’s *ejiao* industry, which uses a gelatine taken from donkey skins in traditional medicines, is putting the donkey populations of other countries at risk, too (“Tusks, skins and waste recycling”, January 6th). Demand for their skin has led to a dramatic fall in the number of donkeys in India, Kyrgyzstan, Botswana and Mongolia. The *ejiao* industry is putting substantial financial

resources into the development of donkey-breeding farms in China so that it doesn’t have to rely on middlemen scouring the earth for raw materials. However, donkeys breed at a pace not conducive to neither speed (12-month gestation) nor efficiency (high levels of miscarriages when bred intensively).

Until these hurdles are overcome, if they ever can be, then the vast majority of the 4.8m donkeys slaughtered each year for the production of *ejiao* will continue to be sourced from countries where they provide a sustainable living for millions of vulnerable communities and families. As the initial supply of readily available or “spare” donkeys diminishes, so too the instances and threat of donkey theft increase.

Prices for donkeys have rocketed, up by 300% in Kenya alone last year, reflecting an unrelenting demand. China is in effect aiding an overseas industry that is already making extraordinary profits by cutting the import duty on donkey skin. This helping hand from China will result in even more poaching and slaughter of an animal that supports and sustains some of the world’s poorest people.

MIKE BAKER

Chief executive officer
Donkey Sanctuary
Sidmouth, Devon

A smart phone policy

You are far too blasé about the benefits of restricting teenagers’ use of mobile phones (“Teens and screens”, January 13th). I teach at a one-year boarding school for 10th-graders. The students are by definition “out of the house”, away from their parents. They are with other children all the time since they share bedrooms. This year we brought in a policy that bans mobile phones before 6pm and severely restricts them thereafter. It was introduced after last year’s cohort were asked what could have improved their stay at the school, and has proved to be very popular. This year’s students say they

are happier and less stressed because of it, and have rejected calls to have it eased. In a nutshell, restriction works.

That still leaves computer screens and what to do about them. But, hey, Rome wasn’t built in a day.

WALTER BLOTSCHER

Haarby, Denmark

Not-so-strict constructionists

The assessment in “Full-court press” (January 13th) that Republicans favour originalist and textualist judges—as opposed to the activist kind—is largely correct, but that has not always been the case. An activist constitutionalist philosophy is not necessarily married to a particular political ideology. In a series of cases typified by *Lochner v New York* in 1905, which held that limits on working hours were unconstitutional, a constitutionally activist, but politically conservative, Supreme Court abandoned textual and original meaning in order to strike down progressive economic regulations. This was based on an unwritten principle of “freedom of contract”. Activist rulings resulting in liberal political outcomes, and, conversely, deferential rulings favouring conservative policies, are based on recent political alignments. The opposite formula has held in the past.

ULYSSES PAMEL

Montreal

Creative ad destruction

A central assumption in Schumpeter’s back-of-the-envelope calculation in order for American advertising revenues to reach 1.8% of GDP (January 20th) is that all advertising firms will achieve the growth rates implicit in their valuations. This is unlikely, as Schumpeterian forces have proven again and again. Surely many firms will not succeed in the long run and only a select few will live up to their promise. But then, isn’t selling plausible, rather than probable, promises what advertising is all about?

MANUEL NAVAS

Bogotá

An aid for hearing

Your Technology Quarterly on brain-computer interfaces mentioned that cochlear implants “convert sound into electrical signals and send them into the brain” (January 6th). Not quite. It is the cochlear-implant’s processor, an external self-contained device, that converts sound to electrical signals which it transmits by induction through the skin of the skull to the implant, which then feeds the signals to the auditory nerves.

My wife’s processor is held to her head by a magnet which is glued to her skull beneath her skin. She does not wear the processor at night, which has a side benefit. Without it she cannot hear me snore.

RICHARD WEXELBLAT

West Brandywine, Pennsylvania

Scots are more studious

It is perhaps emblematic that David Willetts’s “A University Education” considers only the state of English colleges in Britain (“Three years and you score”, January 6th). You noted his observation that England gained its third university only in 1829. By this time, however, there were already four universities in much less populous Scotland: St Andrews (1410), Glasgow (1451), Aberdeen (1495) and Edinburgh (1582). Ireland, then a part of the United Kingdom, had Trinity College (1592).

Scottish universities had much to be said for them. In 1746, when Adam Smith left my old college, Balliol, to return to Scotland, he is reputed to have said that it was to pursue “less drinking and more thinking”.

KEVIN HOOVER

Professor of economics and philosophy
Duke University

Durham, North Carolina ■

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A dangerous waltz

BERLIN AND HÄSSLEHOLM

Europe's populists are becoming more intertwined with the mainstream

ON AN icy January morning, twinkly lights and the glow from chic cafés illuminate Hässleholm's tidy streets. The employment office opens its doors to a queue of one. Posters in shop windows invite locals to coffee mornings with immigrants asking: "What will you do to make Sweden more open?" At first glance, this small town fulfils every stereotype about the country: prosperous, comfortable, liberal. But last year it became the centre of a political storm.

Mainstream Swedish politicians have refused to co-operate in any way with the Sweden Democrats (SD), a right-wing populist party with extremist roots, since it was formed in 1988. In 2015 Fredrik Reinfeldt, a former prime minister and then still leader of the centre-right Moderates, described the SD's leadership as "racists and the stiffly xenophobic". But a year ago the Moderates used SD support to oust Hässleholm's centre-left local government and elect Patrik Jönsson, the SD's regional leader, vice-chair of the new council. In November the council adopted an SD budget that would cut spending on education and social care for immigrants and build a new swimming pool for locals instead. "We just want to shut Hässleholm's doors," announced Mr Jönsson. Per Ohlsson, a columnist on *Sydsvenskan*, the local newspaper, is alarmed: "I get a growing feeling that liberal democ-

racy is something we have taken for granted for too long."

Some European politicians saw 2017 as a welcome setback to the rise of populism across the continent. After a 2016 in which support for parties like the SD hit record highs, and England and Wales voted for Brexit, polls showed the populists' popularity falling (see chart on next page). Marine Le Pen of the Front National (FN) lost the French presidential election to Emmanuel Macron; her party fared poorly in the subsequent elections for the National Assembly. The Alternative for Germany (AfD) made it into the Bundestag for the first time, but not to a degree that truly threatened moderate politics. Two far-right "Freedom" parties, the PVV in the Netherlands and the FPÖ in Austria, did worse than expected in their national elections.

The continuing rise of populism, though, is something to measure decade by decade, not year by year. The financial crisis and the large influx of refugees contributed to a spike, but Euro-populism has been growing quite steadily since the 1980s. According to a new study by Yascha Mounk of Harvard University and others for the Tony Blair Institute, the populist vote in an EU state was, on average, 8.5% in 2000. In 2017 it was 24.1%. This quantitative increase is producing qualitative shifts in the continent's politics. As Hässleholm

shows, populists are no longer shunned by the democratic mainstream as a matter of course; they are increasingly called into coalitions, co-opted and copied.

Defining populism is notoriously subjective, but political science provides some guidelines. Jan-Werner Müller of Princeton University singles out its exclusive claim to represent a "morally pure and fully unified people" betrayed by "elites who are deemed corrupt or in some other way morally inferior". Populism attacks judges, journalists and bureaucrats it deems not on the side of the people. It speaks the language of silent majorities, national humiliations, rigged systems; of "We are the people" (Germany's anti-Islam PEGIDA movement), "Take back control" (Brexiters), "This is our country" (the FN)—and, elsewhere, "Make America great again".

Cas Mudde of the University of Georgia notes that populism is a "thin" ideology. It can have hosts on the left as well as the right and even create hybrids of its own, such as the Five Star Movement (M5S) which is topping Italian opinion polls in the run-up to the general election in March. It can also be practised by politicians whose parties are not avowedly populist. Such politicians can subscribe to a more or less monolithic and exclusive vision of "the people"; they can defend minority groups, the judiciary and the free press to a greater or lesser extent; they can choose honesty about policy trade-offs over convenient scapegoats more or less frequently. Their parties can inch along the spectrum over time. So can whole societies.

Take Hungary. The Fidesz party led by Viktor Orbán, the country's authoritarian prime minister, grew out of the anti-communist movement and governed the coun- ►►

try as a fairly conventional conservative party around the turn of the century. But partly under pressure from Jobbik, an extreme right-wing party founded in 2003, and increasingly citing “the will of the people”, Mr Orbán has taken to demonising immigrants and minorities (particularly Muslims), attacking the judiciary and disenfranchising sources of dissent. He is demanding that, at the parliamentary election to be held in April, the voters give him a mandate to take on George Soros, the Hungarian-born, America-based billionaire who founded the Central European University in Budapest and who, Mr Orbán claims, has a secret plan to flood the country with Muslims.

Most political scientists now consider Fidesz a full-blown populist outfit. Elsewhere the entangling of mainstream parties with populist policies and the populist style takes place in subtler ways. The options open to Sweden’s Moderates illustrate the dynamics at play.

The slow growth of the SD has not been enough for it to form a government, as Fidesz, Syriza, a far-left party in Greece, and the Law and Justice party in Poland have done. But by 2014 it was big enough to make it hard for the established parties to form stable centre-left or centre-right coalitions, as was long their wont.

The Moderates might have joined a stodgily broad government of the centre right and left. Such governments have become much more common across the continent as the growth of populist parties, along with wider political fragmentation, has made more ideologically coherent coalitions harder to pull off. Today Germany, Italy, the Netherlands and Spain offer variations on this muddled-middle theme, some of them formal coalitions, some looser toleration agreements. Such arrangements are unappealing for ambitious politicians. They also pep up populist rhetoric by proving that the political class is indeed all in it together.

The other two options available to the Moderates were to co-opt the populists or to try to steal their voters. Last March Anna Kinberg Batra, Mr Reinholdt’s successor as leader, leant towards co-option, announcing that after next September’s election she might try to form a government with SD support. This prompted furious arguments which led to her resignation. Ulf Kristersson, the new leader, moved the party towards option two: “In Sweden we speak Swedish,” he declared pointedly in his Christmas message. But an SD-backed Moderate government is still possible.

Such possibilities do more than anything to normalise parties like SD. Austria, Bulgaria, Denmark, Finland, Latvia, the Netherlands and Norway have all now seen mainstream parties govern with the formal or informal support of populist parties. In Slovakia a government led by the

centre left has a similar arrangement. The number of European governments with populists in their cabinets has risen from seven to 14 since 2000. Their ranks may soon be joined by the Czech Republic and Denmark, where the centre-right Venstre party says it might invite the right-populist Danish People’s Party (DPP), now propping it up in government, to become a full partner after the next election, which has to be held by July 2019.

The left is looking at new alliances, too. Last year, for the first time, Germany’s Social Democrats (SPD) went into a general election without ruling out a coalition with Die Linke, a left-populist party descended from the East German communists. Similarly, Spain’s centre-left Socialists have flirted with a deal with Podemos, a movement which grew out of anti-austerity street protests.

This all suggests the populist tide will continue to rise. Through analysing 296 post-1945 European elections, Joost van Spanje of the University of Amsterdam has found that, in general, welcoming formerly ostracised parties into the mainstream tends not to reduce their support.

The sincerest flattery

Going hand in hand with normalisation-by-coalition—in part its cause and in part its effect—is a growing professionalism and a professed moderation among the populists. In their early days they were often closely associated with frank racism, as with the anti-Semitism of the FN in the days of Ms Le Pen’s father; such sentiments are now increasingly kept at arms length (though in the case of Mr Orbán’s attacks on Mr Soros not very convincingly). They were also chaotic and split-prone. Some, like the UK Independence Party (UKIP), still are. Others, tasting or scenting power, have been getting their act together. The FPÖ in Austria is an example. It was shambolic during its previous turn in government, from 2000 to 2007, but it returned to ministerial power last December with a more sober image, having made efforts to distance itself from the right-wing Austrian social networks known as “fraternities”. “I ex-

pect the FPÖ to be much more disciplined and effective this time,” says Mr Mudde.

Part of this sprucing up involves tailoring policies to broaden support, which normally comes from the working class. While voters for Podemos, M5S and Syriza tend to be more educated than average, and also younger, the best predictor of support for the right-populists of the north is usually how early an individual left formal schooling. Winning over more bourgeois voters means tempering their message in some ways. Thus the FPÖ is less stridently anti-EU than it was. The same is true of the FN—which now presents itself as a staunchly pro-Israel bulwark against Islamism—the Danish DPP and the AfD.

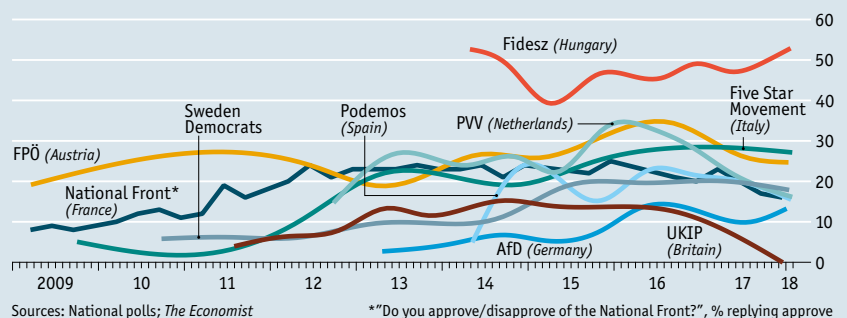
Another part is experience gained in state governments and running municipalities like Wels, near Linz; subnational politics offers a good way to gain acceptability. City government in the north of Italy has helped the populists of the Northern League; in Spain mayors allied to Podemos in Madrid and Barcelona have given the party a stronger national profile. But local power is not always a plus. Corruption scandals and piles of rubbish in the streets of Rome under mayor Virginia Raggi have damaged M5S.

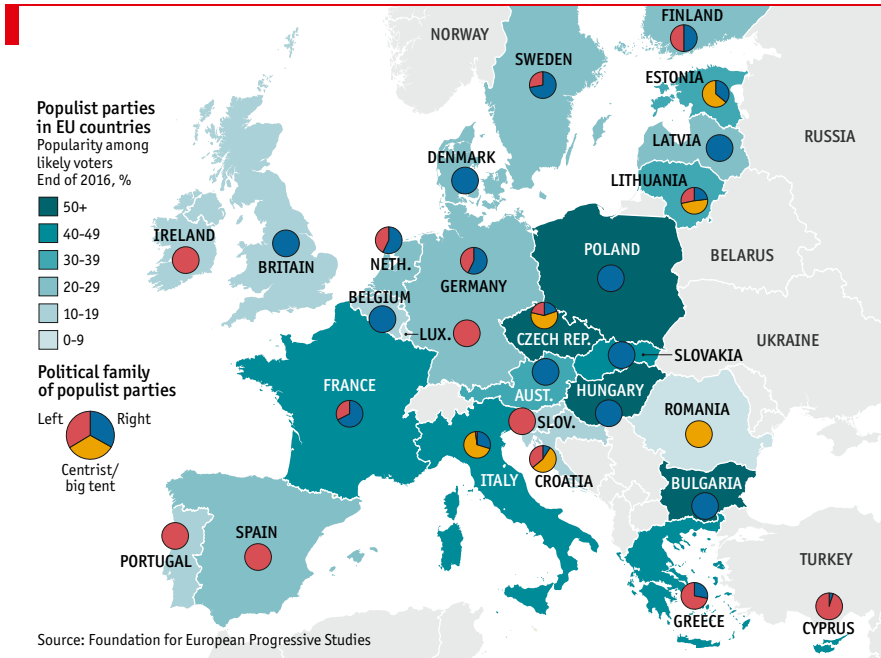
Austria’s new government also exemplifies the second sort of populist-mainstream accommodation: copying the populists’ ideas. In the election campaign the established Austrian People’s Party (ÖVP)—now the senior party in the coalition—shamelessly ripped off FPÖ policies, such as a burqa ban and reduced social-security rights for migrants. A cartoon in the *Kurier*, a newspaper, showed Heinz-Christian Strache, the FPÖ’s leader, naked in a police station: “They took everything!”

This “contagion”, as political scientists put it, is visible across the continent. Mark Rutte, the liberal-conservative Dutch prime minister, has pioneered a style of politics he distinguishes from “the wrong kind of populism”. Before last year’s election his party, pressed by the PVV and the Forum for Democracy, a new nationalist-populist party, ran dog-whistle adverts in newspapers telling foreigners to “behave ▶▶

Changing fortunes

Voting intention, selected European populist parties, %





▶ normally or go away". In 2016 Theresa May, his British counterpart, rallied her party by attacking "citizens of nowhere" who "find your patriotism distasteful, your concerns about immigration parochial, your views about crime illiberal, your attachment to your job security inconvenient" in a speech that could have come from UKIP. In December France's Republicans chose as their leader Laurent Wauquiez, a Eurosceptic opposed to gay marriage who wants immigration reduced to "a strict minimum" and plans to make his party "truly right-wing". New Democracy in Greece and GERB in Bulgaria, facing competition from the extreme-right Golden Dawn and Zankina parties respectively, have taken tougher lines on immigrants and other out groups.

In Germany the notionally liberal Free Democrats have called for most refugees to be sent back eventually. In Angela Merkel's Christian Democrats (CDU) there is talk of a more assertive German "lead culture" and a stronger sense of "homeland", which may indicate the party's direction when Mrs Merkel steps down. At the annual gathering in January of the Christian Social Union, the CDU's Bavarian sister party, Mr Orbán was a guest of honour. Alexander Dobrindt, a CSU grandee, demanded a "conservative revolution" against Germany's metropolitan minority.

One rationale for such cosy up is that it denies the populists exclusive ownership of sensitive issues such as identity, thus allowing reasonable voters to whom such issues matter an alternative not tinged with extremism. But in "The European Mainstream and the Populist Radical Right", a new book, Pontus Odmalm and Eve Hepburn of the University of Edinburgh conclude that there is "no immedi-

ate pattern" suggesting that the availability of mainstream alternatives to the populist right weakens their electoral performance.

Mr van Spanje's analysis suggests that imitating populist insurgents only weakens them in the rare cases where they are also ostracised. Pointing to the dynamic between UKIP and Britain's Conservatives before the Brexit referendum, Tim Bale of Queen Mary University of London observes that "the centre right often primes the electorate for the radical right's message...helping it to take off and then, in an attempt to counter its appeal by talking even tougher, simply makes that message even more salient and further boosts its appeal."

Meanwhile, on the left, social democratic parties are adopting what John Judis, an American journalist, calls "dyadic populism". Insurgent populism often boasts three ideological players: the people, the elite, and the "other" (foreigners, immigrants, welfare spongers and the like) to whom the elite has sold the people out. Thus it is "triadic". The dyadic version has no nefarious third party, just an us-and-them world where a corrupt capitalist political caste has betrayed the proletariat for its own benefit. Under Jeremy Corbyn, a 68-year-old from the party's hard left, Britain's Labour Party went into the 2017 election calling British politics a "cosy cartel" and a "rigged system set up by the wealth extractors, for the wealth extractors". Martin Schulz, the SPD's centrist leader, sought to protect his working-class flank in last year's election by railing against bankers in "mirrored skyscrapers".

Another way to get populist politics and policies without populist governments is to hold referendums. In 2013 Dutch populists keenly supported a law enabling any piece of primary legislation

to be put directly to the country's 12.9m voters if 300,000 of them demanded it. In Greece the Syriza government used a referendum to reject the conditions of a bail-out by international institutions. In Britain the referendum on Brexit—the fulfilment of a long-standing UKIP demand—compelled almost the entire political class to adopt a policy confined until recently to its populist fringes. Austria's coalition agreement opens the door to more plebiscites; so, more tentatively, does the preliminary blueprint for a new CDU/SPD coalition in Germany. In Italy the M5S manifesto promises to give the people opportunities to vote on which laws to scrap.

Trilingualism against the triadics

Not all mainstreamers are parroting populist positions. The surge of what Mr Müller calls "illiberal democracy" has produced a backlash. The confidently pro-European, pluralist politics of Mr Macron and his En Marche! party is one instance. Another is the centrist Ciudadanos ("Citizens") party now leading the polls in Spain. Its leader's slogan is "Catalonia is my land, Spain my country and Europe is our future"—the first phrase spoken in Catalan, the second in Spanish, the third in English. Other new parties—Modern in Poland, Momentum in Hungary and NEOS in Austria—match the populists' enterprise and presentational swagger while fighting their world view. As yet, though, they remain small.

It looks likely they will grow, but so will the sway of the populists. For a glimpse of what that may mean look at the continent's last generation of political entrants: Green parties. Originally scrappy, over time they became more professional and started to join local and sometimes even national governments. None has ever led a European country alone, but their influence is felt in the attention now paid to green transport, recycling, renewable energy and certain civic liberties (particularly sexual freedoms).

What if the populists are as successful in the next few years? One might expect more authoritarian law-and-order policies, burqa bans, greater opposition to multilateral bodies like the EU, NATO and the WTO, and greater sympathy for Russia (an affection held across the populist spectrum, from Syriza to Fidesz by way of M5S). Expect, too, frequent referendums, less well integrated immigrants, more polarised political debates and more demagogic leaders emoting directly to and on behalf of their devoted voters.

Populists do not need to win elections to enact their policies and spread their style of politics. They can do so through the very mainstream parties whose votes they threaten to take; infecting them and living off their political blood. "Eventually," warns Mr Bale, "the parasite may end up consuming the host." ■



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South Korea and China

Setting a new course

ULSAN

A big customer is fast becoming a big competitor

TO UNDERSTAND South Korea's transformation into an export powerhouse, climb up to the observatory on Yeompo mountain overlooking the city of Ulsan. To the north, on the left bank of the Tae-Hwa river, stands Hyundai's vast carworks and a shimmering shoal of new vehicles. To the west, across the river, chemical works lazily puff out white plumes. To the south and east, around the estuary, half-built metal hulls litter Hyundai's shipyards.

A giant red gantry crane stands out. Bought for \$1 in 2002 from the fading Kockums shipyard in Sweden, it is known as the "Tears of Malmö". These days, the people of Ulsan wonder whether they, too, will soon be crying. Just as South Korean competition sent much of European shipbuilding into bankruptcy, China is now threatening to do much the same to South Korea's industry.

A decade ago South Korea had been the biggest of the "big three" shipbuilding powers, along with China and Japan, that together account for about 90% of global ship production (see chart). Today its order-book is barely half the size of China's.

The agony of the shipyards, the country's biggest exporters after its semiconductor and car industries, feeds South Korea's disquiet about China. It had until recently been seen as a lucrative export market, buying everything from cosmetics

to k-pop. These days China is increasingly regarded as a dangerous competitor. A year-long Chinese boycott of South Korean goods, provoked by the deployment of an American missile-defence system, more or less ended in October. But it deepened the sense that China poses a grievous threat to South Korea's economic model.

The crisis in shipbuilding is instructive. South Korean yards were hit by a global slump, caused first by the financial crisis of 2007-08 and the fall in world trade. A second blow stemmed from shipping firms' ill-considered binge on huge container vessels in 2011, which led to a collapse in freight rates. A third was the fall in oil

prices, which dented orders for oil rigs.

This has undone the happy middle position that South Korean shipmakers thought they had found, beating Japanese rivals on cost and Chinese ones on quality. Suddenly, they are being squeezed in what Park Chong-hoon of Standard Chartered Bank in Seoul calls "a nutcracker". On one side, he says, China "is picking up technologically faster than we expected"; on the other, Japan has gained competitiveness owing to the weaker yen while South Korea is burdened by the strong won.

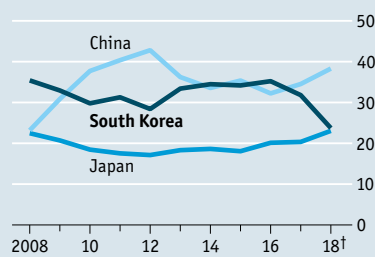
At Hyundai Heavy Industries, the largest South Korean shipbuilder, officials note that orders are down from the usual 60-80 vessels and rigs a year to about 20 in 2016. Although they picked up last year, long production schedules mean that the yard will be in the doldrums for at least another year. "Container ships used to be our main work," notes a spokesman. "This year we have barely any orders for them." Hyundai was stunned in August when it lost a French tender to build nine ultra-large container vessels, each carrying more than 20,000 standard 20-foot containers, to Chinese rivals.

Thousands of workers have been placed on part-time rosters, if not laid off altogether. Subcontractors are being squeezed. Some laid-off workers have set up local restaurants, only to go bust within months because of a lack of customers. Others have gone back to their families in farming villages.

President Moon Jae-in, declaring that South Korea "cannot give up" on being a global shipbuilding leader, set out a plan in January to support the industry. This included ordering icebreakers, patrol vessels and offshore wind farms. His push to boost the minimum wage by 16.4% this year elic- ▶▶

Sinking

Ship deliveries*, compensated gross tonnes
% of world total



Source: Clarksons Research

*Vessels of 1,000 gross tonnage and above †Forecast

▶ its little more than passing interest among workers; they worry whether they will have jobs at all.

Everyone talks of modernising ship-building by extensive use of digital technology. The trouble is that China is also seeking to adopt advanced manufacturing methods. A report last year from the Mercator Institute for China Studies, a German think-tank, identified South Korea as the country most exposed to the resulting Chinese competition.

To judge from the macroeconomic figures alone, South Korea still seems to be prospering. Last year growth passed 3%, goods exports were up 13% (despite the Chinese boycott) and the unemployment rate was 3.7%. But Mr Park notes that there is much nervousness within individual industries. "I am more worried than optimistic," he says.

Carmaking, he thinks, could soon feel the force of Chinese competition. Car exports to China were in decline even before the boycott as the quality of Chinese cars improved and South Korean brands failed to match the appeal of Japanese and European ones. Moreover, South Korea risks being left behind by China's effort to shift to electric cars, and even more so by the advent of driverless vehicles. Chemicals, another mainstay of South Korea's economy, look exposed. Semiconductors are most resilient, for now.

It is sometimes said that South Korea's economic interests lie in partnership with China, but its security depends on its military alliance with America. Under the disgraced former president, Park Geun-hye, South Korea sought to move closer to China, signing a free-trade agreement in 2015. Mr Moon, her successor, has extracted a promise to extend the deal to services and investment, but that seems a long way off.

The two sides are still bruised by the missile-defence debacle. South Korea and America insisted that the sole target was North Korea, whose aggressive pursuit of nuclear missiles left them no choice. China argued that the radar could be used against it as well. Government insiders say they are aware of the limits of the relationship with China, and know that South Korean firms struggle to compete with Chinese industries that are financed and directed by the state. Many South Korean firms are redirecting investments, towards America in large part.

This would thus seem to be a propitious moment for South Korea to align both security and economic interests towards America. But Donald Trump often seems to be pushing it back into China's arms. He has demanded a renegotiation of America's free-trade deal with South Korea. He has also slapped punitive tariffs of up to 50% on imports of South Korean washing machines (along with tariffs on solar panels from China). South Korea has asked the

World Trade Organisation's permission to retaliate with penalties of its own.

South Korea worries even more about Mr Trump's belligerence towards North Korea and his talk of pre-emptive military strikes to destroy its nuclear weapons. If there is one thing that brings China and South Korea closer together, officials whisper in Seoul, it is their dread of a war started by America. ■

The Afghan conflict

Terror in Kabul

A spate of attacks in the capital has rattled the Afghan government

THREE murderous attacks in Kabul in little more than a week have thrust Afghanistan back into the headlines. They included the siege of a luxury hotel, a massive blast near a hospital caused by an explosive-laden vehicle painted to look like an ambulance and an assault on an army compound. More than 130 people have been killed and over 300 maimed. Equally horrifying was an attack in the city of Jalalabad on the offices of Save the Children, a British charity, in which six people died. The violence left Afghans wondering whether the Taliban and the local branch of Islamic State, which between them claimed responsibility for the attacks, are shifting their focus to urban terrorism—and why the security services seem so incapable of defending the country against it.

A comforting answer to the first question could be that the urban attacks reflect the increased pressure the Taliban have been under in rural areas since Donald Trump acquiesced to his generals' call for

more troops and a fiercer air campaign. By staging attacks in big cities, it is suggested, the militants hope to get more attention than in a losing battle in the countryside.

In fact, there is little evidence that the insurgency is being pushed back. A report released by the Pentagon in October estimated that the government had control over 57% of the country's 407 districts, while the Taliban controlled 13%, with the remainder contested. The Pentagon's latest figures are 56% and 14%—in other words, not much has changed. The reality is that the insurgency remains resilient, but its advance following the departure of many American troops at the end of 2014 has slowed.

The answer to the second question—the government's inability to counter the rash of urban attacks—lies in its own dysfunction, especially when it comes to gathering intelligence and screening security personnel. At a news conference after one of the attacks, Ashraf Ghani, the president, declared that "reforms" in the intelligence services and the Ministry of Interior were his "top priority". But there is no one to do the reforming. He has churned through several ineffective and underqualified security officials in the past year.

Not all is doom and gloom, however. Several thousand additional American military trainers, many of whom will be embedded in front-line units of the Afghan army, are settling in. The Americans are also trying hard to beef up intelligence. And this time their stay is open-ended.

That still leaves the question of how the Taliban might be pushed to the negotiating table. American commanders reckon the militants will buckle when the government has some control over 80% of the country. That sounds like a very distant prospect. It would be better if both sides recognised that neither can break the current stalemate. Only that realisation will end the suffering of ordinary Afghans. ■



An increasingly frequent sight



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Wages in Japan

Payday mender

TOKYO

The government's drive for higher wages is gathering steam

EIGHT years after Natsumi started work at a printing company in Tokyo, her monthly salary is only ¥15,000 (\$138) more than it was when she started. That equates to a paltry rise of less than 1% a year. She hopes that this year's wage negotiation—an annual rite between employers and unions known as the *shunto*, or spring offensive—will provide a bigger boost.

She may be in luck. Economists are predicting the highest rise since wages started to inch up during the *shunto* in 2014, reaching 2.1% last year. (This figure includes regular wages, which are made up of “base pay” and a seniority-based element that is raised automatically, but excludes bonuses and overtime.) Asahi Group plans to raise wages by 3.4% at its soft-drinks business. Ikinari! Steak, a restaurant chain, says it is increasing the base wage alone by 5% for all its 430 full-time employees. “The momentum is there this year,” says Takeshi Ninami, the boss of Suntory, another drinks firm, who also advises the government on economic policy.

The relatively bullish outlook is based in part on a tentative recovery. The economy has expanded for seven quarters in a row. Prices of goods have edged up over the past year. Bosses are starting to believe that the country may be escaping deflation for good. It helps that firms have been raking it in, too. Big businesses sit on hoards of cash (see chart).

The second reason is structural. The population is falling and getting older, causing a dire shortage of labour. There are now 1.59 jobs for every jobseeker, the highest level since 1974. Restaurants and construction firms have to offer competitive conditions if they want to find staff. Shinzo Abe, the prime minister, has pledged to lower the tax burden on firms that oblige.

Nonetheless, banks are forecasting an average pay rise of only 2.3-2.5%. That will be a disappointment to Mr Abe, who sees lifting wages as the crux of his promise to restore the economy to health. He has called for a 3% increase this year—something Japanese workers have not received for more than 20 years.

Many of the reasons wages have stagnated still apply. Part-timers, who tend to be paid less, make up more than a third of the workforce. Rigid labour law means employees do better by sticking with their company rather than moving. This makes workers less demanding, and bosses less generous. Those who want to treat their



staff give chunky bonuses rather than raising monthly pay, a move which is nigh on impossible to reverse.

The enthusiastic outlook appears largely confined to big businesses and the capital. Kazutaka Ishii, who heads a company of 200 employees in Osaka, Japan's second city, says that for business-owners

Dangdut

The racket of the rakyat

JAKARTA

Indonesians love a raunchy genre of music, to the dismay of conservative Muslims

EVEN before they enter the Asmoro bar, a nightclub in central Jakarta, patrons can hear the music. A regular beat—dang, dut, dang, dut—spills out, only slightly muffled, onto the street. Inside the smoky, dimly lit space, women in tight mini-dresses and teetering heels stand by a stage where nine men play various instruments. Occasionally one woman, known as a “waitress” although she appears to do little waitressing, breaks into song, usually accompanied by one of the male visitors to the bar. At other points the women sway to the music as customers slip them wads of cash, flashing disco lights illuminating them momentarily in the darkness.

On the other side of the city, around a thousand people sit in a television studio owned by Indosiar, a private TV station. They are there to watch the recording of “Liga Dangdut”, a show that started on January 15th. It involves 170 contestants competing to be the best dangdut singer. Male and female performers in sequined outfits or brightly coloured regional costumes shiver backstage in the freezing air-conditioning. They sing songs like those heard in the bar, often in their local dialects, the crowd whooping and swaying with them. The show lasts for five hours, and is broadcast almost every day. It will run until May.

Dangdut is Indonesia's closest answer

to these things are “so-so”. Individuals are not feeling the economic uptick, either.

At any rate, increases in wages have not yet translated into increases in consumption and greater inflation. Some reckon that will change if wages rise faster and people gain confidence in the economy. But a survey by REITI, a think-tank, suggests the hurdle is even higher. Some 60% of people in their 20s and 30s say they are reluctant to spend because they are anxious about having enough money in their old age. Costly state pensions must be trimmed, says Hideshi Nitta of Keidanren, a powerful business lobby which backs Mr Abe's 3% target, to reassure young people that the system will still be solvent when they retire.

The reformers' wish-list does not end there. “Investing in education and training are just as important as wages,” Mr Ninami says. The government also hopes to cap overtime, which might spur both hiring and consumption. Higher pay, in other words, is no cure-all. ■

to American country music, says Indra Yudhistira of Indosiar. Younger singers croon about heartbreak and romance. Older ones warble about religion, alcoholism and poverty. The music appeals particularly to the *rakyat*, the people (as opposed to the elite), especially in the countryside. As with country music, it is used by politicians at rallies to drum up support from ►►



Not exactly poetic

▶ voters. Already several high-profile dangdut singers have been lined up to play at campaign rallies ahead of the regional elections in June.

But unlike much that comes out of Nashville, there is a strain of dangdut that often surprises foreigners. Much of it is unashamedly erotic, despite various attempts by hardline Muslim groups to censor it. Its enduring popularity hints at the diversity and tolerance of the world's most populous Muslim-majority country.

Although dangdut has been around

since the 1930s, it really started to take off in the 1970s as more Indonesians began to watch television, according to Andrew Weintraub of the University of Pittsburgh, who has written a book on it. Originally it was heavily influenced by Indian music, since Sukarno, the first president of Indonesia, banned the distribution of Western music and films. But as Indonesia went through various political transformations—falling under the dictatorship of the unashamedly pro-American Suharto, then becoming a democracy—the genre took on

different styles and influences. Throughout, it has remained enormously popular. According to one poll, fully 58% of Indonesians say it is their favourite kind of music, ahead of the mere 31% who like pop.

Much of dangdut's appeal, however, lies not in its infectious beat but in the allure of the performers who sing it, particularly if they are female. Although it has roots in Indonesian folk music, for the past two decades dangdut has become ever more raunchy. Women wear tight-fitting or skimpy clothes at outdoor music festivals and in clubs. In many performances, men in the audience jiggle their hips too, but also hand out cash to the women as if to a stripper. Many venues sell alcohol, cigarettes and, in some cases, sex.

Mostly, though, performances are simply suggestive. Inul Daratista, a dangdut artist who was particularly popular in the early 2000s, rose to prominence thanks to a signature move known as “drilling”, in which she frantically gyrates on stage. One video, which has been viewed 3.9m times on YouTube, shows Ms Inul wiggling her hips suggestively with her back to the audience, who eagerly look on. Until a dangdut singer died of a snake bite in 2016, many used cobras as props too.

These uninhibited performances have not gone unchallenged. In 2003, after Ms Inul performed her drilling movement on television, a coalition of Islamic groups spoke out against her. She was also denounced by Rhoma Irama, an Islamic preacher and singer known as the “King of Dangdut”, who is planning to run for president next year. She is said to have been one of the inspirations for the anti-pornography law of 2008, which bars the distribution of images of anyone “dancing or moving in an erotic fashion”.

In the end, however, it seems to be capitalism, not fundamentalism, that is toning dangdut down. Indosiar's Mr Yudhistira describes how, when he and his colleagues decided to create a dangdut competition in 2014, they wanted to make it more appealing to middle-class families. They gave singers more demure outfits, put them on sparkly stages and changed the content of their songs to make them more “poetic”. He even found a clean-cut way to include Ms Inul, whose career was not unduly damaged by the drilling episode: he made her a judge on one of his shows.

Yet away from the television screens, much of the original, rebellious and lascivious spirit of dangdut can still be found across Indonesia, in bars, seedier clubs and at spontaneous outdoor concerts set up by youngsters wanting to have a good time. At the Asmoro bar, the woman on the door claims that at least one girl who has sung there has gone on to have a successful career as a more mainstream singer. “Dangdut will never die,” insists Ms Inul. “Dangdut is Indonesia's music.” ■

Thai politics

Go beset a watchman

Scandal swirls around the ruling junta's number two at an awkward moment

TIME is currently of the essence in Thailand. In December a photo of Prawit Wongsuwan, the deputy prime minister, wearing a luxury watch caught the attention of activists. The timepiece appeared to be worth more than \$100,000. How could the general afford such an item on his modest military salary and why had he not mentioned it in the declaration of assets he made on taking office? Since then social-media vigilantes have uncovered pictures of him wearing 25 different watches worth around \$1.2m, including 11 Rolexes. A bad situation was made worse when Mr Prawit lamely explained that he had borrowed them all from friends.

The prime minister, Prayuth Chan-ocha, defended his brother-in-arms last month, saying public and private matters should not be confused. He also said it was up to the National Anti-Corruption Commission to investigate. But the commission has not yet thought it necessary to open a full probe into the affair. Its boss instead helpfully pointed out that, if the watches were the property of others, Mr Prawit, who claimed assets of just over \$2.6m on his form, would not have needed to declare them. (That view suggests that bribing an official is legal, as long as the bribe is a loan.)

Despite such bluster on the general's behalf, the fuss will not go away. This week the director of the polling arm of the National Institute of Development Administration, a government university in Bangkok, announced his resignation. Arnon Sakworawich said he was quitting for “academic freedom” after coming under pressure from administrators not to publish the results of a survey on “Borrowed Pricey Wristwatches”.

The fiasco is untimely. It comes just as Mr Prayuth has begun hinting that he plans to remain in politics after elections that are supposed to return Thailand to



Tell me when they've stopped watching

democracy. Even though existing parties are not allowed to do any campaigning or organising, several new, pro-junta parties are being allowed to form. The junta, which has been in power for four years, also recently delayed the promised election for the fourth time. It had been scheduled for November, but is now postponed until an undetermined point next year.

A poll actually permitted to enter the public domain, conducted by Suan Dusit Rajabhat University between January 24th and 27th, found that almost half of respondents opposed such a delay because of fears that it will harm both the economy and Thailand's image abroad. The otherwise beleaguered opposition seems keen to press its momentary advantage. Politicians are queuing up to demand Mr Prawit's resignation. But if he does step down, the generals must worry, it may embolden critics to call time on the entire junta.

Banyan | Dancing the cha-cha

The pursuit of constitutional change in the Philippines may prove perilous



THE coarse-talking, arse-kicking president of the Philippines is not the sort to worry unduly about the finer points of the law. Yet Rodrigo Duterte is making plain his priority in 2018: changing the constitution in ways that will reshape the state. Last month Mr Duterte announced a committee of politicians and worthies to feed ideas to Congress. The plan is for Congress, armed with the committee's recommendations, to turn itself into a constituent assembly empowered to draft revisions. The country will then vote on its proposals in a plebiscite. The task may consume the rest of Mr Duterte's presidency, at a time when much needs fixing elsewhere. Many Filipinos are scratching their heads. Others question Mr Duterte's motives.

The least contentious of the president's three desired changes is the easing of the constitutional limits on foreign ownership of companies, to attract foreign capital and encourage competition. The other two goals are radical. One is to remove some of the president's powers and hand them to a prime minister, creating a hybrid presidential-parliamentary system along the lines of France, Taiwan or South Korea. The other is to turn the Philippines' centralised government into a federation of perhaps five newly created states.

Rumba in the jungle

Talk of "cha-cha" (short for "charter change"—amending the constitution) is not new. The current constitution was promulgated in 1987 under Cory Aquino after the People Power revolution. It aimed to prevent a repeat of the tyranny the country had suffered under Ferdinand Marcos. The president was limited to a single six-year term. A bicameral Congress was created in the place of the unicameral one that Marcos had manipulated. Martial law can be declared only with its approval.

The first push for cha-cha came towards the end of the term of Aquino's successor, Fidel Ramos. His supporters, too, advocated a hybrid presidential-parliamentary model. The idea has never gone away. Constitutional specialists backing Mr Duterte claim that the change would remove the president as the fount of patronage in a winner-takes-all system. Above the fray of day-to-day politics, he could play the wise statesman, guiding foreign policy and guarding Philippine sovereignty. Parties, it is hoped,

would acquire more ideological heft, to help build a majority in Congress, instead of simply seeking the president's favour. In this set-up, the prime minister could be removed by a vote of no confidence—no need for any more coups or mass protests.

Mr Ramos's attempts at change were scuppered by suspicions that he wanted the post of prime minister himself, in order to extend his time in power. Mr Duterte's motives are even more likely to come under scrutiny. A populist and an autocrat, he scoffs at the law, encourages extrajudicial killings of drug users and makes light of human rights. It is hard to imagine him regretting a powerful presidency—and many Filipinos love a strongman.

But Mr Duterte is merely making suggestions, his backers say. Anyway, Congress, not the president, has the power of cha-cha. Yet congressmen fawn on Mr Duterte. Some are bound to propose extending his term, which ends in 2022, or abolishing term limits for the presidency. Meanwhile, little would stop the nakedly self-serving legislators from rewriting the constitution to suit themselves—for instance, by bringing back a pork-barrel fund that the Supreme Court ordered scrapped five years ago.

The idea of a federal Philippines is appealing. Power—political and economic—is now centralised in "imperial" Manila, the capital. Almost every function of government, from education to the police, is administered from the metropolis, despite the country's mosaic of peoples and languages. Mr Duterte's calls for reform went down well in the provinces during his election campaign. His own base of Davao, in the far south of the country, feels far from the capital.

Look closer, though, and doubts multiply. For one, what is to stop families who already dominate politics and business in their localities from further entrenching their power in the newly created states—Mr Duterte's included? The president's main argument for sweeping federal change is oddly narrow: to bring peace to the troubled Muslim areas of Mindanao, the island on which Davao is the biggest city, home to a decades-old Islamist rebellion. A national political consensus has long held that disaffection in Mindanao can only be countered by autonomy for the 4m-odd Muslims there, coupled with economic development.

The issue is whether the constitution blocks such an outcome. A decade ago a peace pact with the main insurgents, the Moro Islamic Liberation Front (MILF), offered more autonomy to Muslim areas in return for abandoning the armed struggle for independence. Yet the agreement was knifed by the Supreme Court, which ruled that, since it created a state within the Philippine state, the pact was unconstitutional. In response, one faction of MILF broke away, and now runs the small but potent Islamic State franchise in Mindanao.

A new and more comprehensive agreement was struck with the MILF in 2014. The worry is that the court will deem the enabling legislation unconstitutional, too. The MILF has yet to threaten publicly to go back to war, but is impatient with the peace process. For the president, peace is a big enough prize to justify changing the constitution.

Is he right? Surely not, at least until the national legislation putting the agreement of 2014 into effect has actually been passed and tested before the Supreme Court, which is increasingly wary of crossing the president. Even then, overhauling the political system that governs 100m people to please 4m of them seems extreme—and probably will not appease the armed groups outside the peace deal anyway. Filipinos would be running the risk of a constitutional coup for meagre and uncertain benefits. ■



Pyramid schemes

A multi-level scourge

BEIJING

Ponzi schemes cause huge social harm in China. Crackdowns may not be working

THE authorities call them “business cults”. Tens of millions of people are ensnared in these pyramid schemes that use cult-like techniques to brainwash their targets and bilk them out of their money. In July 2017 victims of one such fraud held a rally in central Beijing (pictured), an extremely unusual occurrence. The police quickly dispersed it and the government, in panic, declared a three-month campaign against the scams. Hundreds of them were closed down and thousands of people arrested. But the cults are adopting new guises. The problem may still be growing.

Li Xu shows how they work and why they are so hard to fight. Mr Li was 34 when his family got him a job at Tianshi, which claimed to be a company selling cosmetics and health products in the coastal province of Jiangsu. He paid 2,800 yuan (\$340) as a “joining fee” and rose quickly through the ranks. He recruited others, including his younger sister. “They gave you a vision of wealth and success,” he says. “It does wonders for your confidence.”

As he became more senior, however, Mr Li started to worry about the business. Its head office was miles from anywhere. Surrounded by colleagues day and night, he rarely saw outsiders, or customers—let alone the riches he had been promised. There is a genuine cosmetics company called Tianshi, but the firm Mr Li worked

for was not it, nor did it seem to make money selling cosmetics. Rather, he thought, its revenue came from the “donations” which he, his sister and other members of the swelling workforce willingly paid out in the expectation of big returns. Eventually Mr Li realised the operation was a scam. The firm’s real business, he realised, was to trick people into handing over money and then persuade them to hoodwink others to do the same.

Mr Li left the firm and convinced his sister to do so as well. But most of his colleagues believed the company, not him. They stayed with it right up until it was closed down for breaking laws on fraud. Determined that others should not suffer as he had, Mr Li told his family that he was going to become an itinerant labourer. Instead, his travels took him in search of other victims of pyramid schemes. Most of those he found believed, like his former colleagues, that the companies which had taken their savings had their best interests at heart. Beginning with a couple of phones and volunteers, he founded and built up an NGO, the China Anti-Pyramid Promotional Association, into the main private institution taking on this warped product of China’s growth.

Many countries suffer from Ponzi schemes, which typically sell financial products offering extravagant rewards.

They pay old investors out of new deposits, which means their liabilities exceed their assets; when recruitment falters, the schemes collapse. China is no exception. In 2016 it closed down Ezubao, a multi-billion-dollar scam that had drawn in more than 900,000 investors. By number of victims, it was the world’s largest such fraud.

Chinese pyramid schemes commonly practice “multi-level marketing” (MLM), a system whereby a salesperson earns money not just by selling a company’s goods but also from commissions on sales made by others, whom the first salesperson has recruited. People often earn more by recruiting others than from their own sales. Since 1998 China has banned the use of such methods, although it does allow some, mostly foreign, MLM companies to do business in China as “direct sellers”. This involves recruiting people to sell products at work or at home.

Family connections

The distinguishing feature of the Chinese scams is the way they combine pyramid-type operations with cult-like brainwashing. Typically, says Mr Li, a friend or family member will persuade a new recruit to go to an unfamiliar, often isolated place for a week of “introductions and training”. Cao Yuejie, for example, was enticed into joining such a scheme by her husband while on honeymoon. In many cases the recruiter (who is often duped) will spend the first three days trying to persuade the victim that the firm is a benevolent institution (not like those awful Ponzis!) and that working for it would be for the good of the family. For the next four days, the company’s representatives will appeal to the recruit’s ambition and greed, as well as his loyalty to his family. ▶▶

▶ In southern China these interactions usually take place in small groups, or one to one. In the north the persuasion is often done in groups of 30, crammed into a small room. In both systems victims sometimes have their mobile phones taken from them. They say they never have a moment to themselves. By the end, eight out of ten will leave but the last two will become converts. Once in the firm, everyone lives and eats together and sings communal songs. Some sample lyrics: “The poor shall escape their fate and the rich will gain more than they dream of.” “Invest once and your family will be rich for three generations.”

Many perfectly legal companies try to boost morale by getting staff to sing company songs or organising awaydays. China’s business cults, however, combine such techniques with violence. Zhang Chao was a 25-year-old who was trying to break away from an illegal MLM company outside the northern port city of Tianjin. He was found dead from heatstroke, dumped at the side of a road by colleagues. In another case, Cheng Cuiying and his wife walked for two days to Tianjin to rescue their son from an MLM business. They found him drowned in a lake. People were arrested in connection with both deaths. But the firms, and the money, disappeared.

Business cults seem to be growing. In the first nine months of 2017 the police brought cases against almost 6,000 of them, twice as many as in the whole of 2016 and three times the average annual number in 2005-15. This was just scratching the surface. In July 2017 the police arrested 230 leaders of Shan Xin Hui, a scheme that was launched in May 2016 and had an estimated 5m investors just 15 months later (see chart). In August 2017, after the government launched its campaign against “die-hard scams”, police in the southern port of Beihai, Guangxi province, arrested 1,200 people for defrauding victims of 15bn yuan (\$223m). One scheme in Guangxi,

known as 1040 Project, was reckoned to have fleeced its targets of 600m yuan. If Mr Li’s estimate of tens of millions of victims is accurate, they must have handed over tens of billions of yuan in total.

The scale of the scams worries the government. Their cultish features make it even more anxious. The Communist Party worries about any social organisation that it does not control. Cults are especially worrisome because religious and quasi-religious activities give their followers a focus of loyalty that competes with the party. Hence the relentless repression since 1999 of Falun Gong, a spiritual movement which the government describes as a cult. Hence, too, new rules on religious activity that took effect on February 1st. They are aimed at reinforcing state control over worship, decreeing that no religion may imperil the stability of the state. The party decides what constitutes a threat. Its threshold is very low.

The case of Shan Xin Hui suggests that, although business cults are a problem, people do not blame the authorities for causing it. If anything they want the government to help the schemes. The protest in Beijing last July was held by thousands of Shan Xin Hui’s depositors. The authorities closed off roads in the city centre and sent the police to break up the demonstration. Yet the unrest was triggered not by the scam but by the arrest of the company’s bosses. “They have accused the company of pyramid selling, but they did nothing wrong. They only wanted to help poor people,” one demonstrator-investor told the Reuters news agency. “Shan Xin Hui supports the party’s leadership”, says the banner pictured on the previous page.

The authorities will find it hard to curb the scams for three main reasons. First, in order to encourage cheap loans for industry, the central bank keeps interest rates low. For years they were negative, ie, below inflation. That built up demand among

China’s savers for better returns. With gross savings equal to just under half of GDP, it is not surprising that some of that pool of money should be attracted to schemes promising remarkable dividends.

Second, it is often hard for consumers to spot frauds. In 2005 China legalised direct selling, arguing that there was a distinction between that practice and the way that Ponzi schemes operate. But Qiao Xincheng of Zhongnan University of Economics and Law argues that the difference is often “blurred” in the eyes of the public. Scammers can easily pass them themselves off as legitimate. Dodgy companies exploit government propaganda in order to pretend they have official status. For example, they may claim to be “new era” companies, borrowing a catchphrase of China’s president, Xi Jinping.

Third, argues Mr Li, business cults manipulate traditional attachments to kin. Companies in America often appeal to individual ambition, promising to show investors how to make money for themselves. Those in China offer to help the family, or a wider group. Shan Xin Hui literally means Kind Heart Exchange. It purported to be a charity, offering higher returns to poor investors than to rich ones. (In reality everyone got scammed.) Business cults rely on one family member to recruit another, and upon the obligation that relatives feel to trust each other. This helps explain why investors who have lost life savings continue to support the companies that defrauded them.

Off with their many heads

It also explains why they are hydra-like. As the authorities shut down large business-cults, smaller ones find new ways to survive. Experts say that, increasingly, pyramid schemes are moving onto the internet. They are often relatively small, usually with hundreds or thousands of followers, not millions. They cannot rely on brain-washing in an isolated location, as face-to-face schemes do. But they are skilled at using the closed environment of social-media chat groups to replicate that kind of real-world experience. And they appear to be flourishing.

These new forms could be even more pernicious than the old because they are extending their social reach. Previously, schemes concentrated on pensioners and migrant workers, the two groups that save the most in China. The new scammers target all sorts: from the ultra-rich with money to burn; to poor students who face a tightening job market; to the children of migrant workers, struggling with poor education and falling demand for cheap labour. It was bad enough when the scammers operated mainly on the margins of society, targeting its most isolated members. Now, says Mr Li ominously, “there is a business cult for everyone.” ■

Persistent Ponzis

China, selected pyramid schemes

| Name | Years active | Number of investors | Damage, yuan bn |
|---------------------------|--------------|---------------------|-----------------|
| Hua Liang | 1999-2001 | 200,000 | 0.3 |
| Yilishen ant scheme | 1999-2007 | 1m | 15.0 |
| Diebeitlei | 2002-06 | 600,000 | 2.0 |
| Wanli Dazaolin Group | 2002-07 | 30,000 | 1.3 |
| Yilin Wood Company | 2004-05 | 20,000 | 1.7 |
| Zhejiang Yijia E-Commerce | 2010-13 | 2m | 24.0 |
| Ezubao | 2014-15 | 900,000 | 59.8 |
| Online Gold EGD | 2014-17 | 500,000 | 10.9 |
| Wanfubi | 2014-17 | 120,000 | 1.2 |
| Longyan E-Commerce | 2015-16 | 200,000 | 15.6 |
| Xin Huo Cao Yuan | 2015-16 | 1.5m | 0.2 |
| Shan Xin Hui | 2016-17 | 5m | 2.2 |
| 1040 Project | 2016-17 | 4,000 | 0.6 |

Source: State media



The 45th president Miller light

WASHINGTON, DC

Donald Trump has an immigration proposal to sell

“IN MANY ways,” said one pundit after Donald Trump’s maiden address to Congress 11 months ago, “it was the long-awaited pivot that Trump has always promised...He was disciplined, didn’t veer much at all from the script and hit his marks.” This assessment reflected where Candidate Trump had set the bar. Reading from a teleprompter and not belittling opponents was enough to get some critics to call him presidential. It did not last long. Four days later Mr Trump took to Twitter to accuse Barack Obama, falsely, of masterminding a plot to tap his phone during “the very sacred election process”.

A year into his term, public opinion on the 45th president has calcified. His approval ratings are stuck right where they were a couple of weeks after his inauguration: just under 40%, according to Gallup. For a president in office while wages are growing and unemployment at a 17-year low, that is extraordinarily poor. Though frustrating for the White House, there is wisdom in the polls’ consistency. The president is who he is, and he is unlikely to change. This matters because a more popular president with more control over his party’s fractious congressional wing might actually be able to pull off the proposed deal on immigration that was the most controversial bit of his first State of the Union address, delivered this week.

This year, like last, Mr Trump mostly stuck to his script when speaking to Congress. As is customary, he feigned toward unity, urging politicians to “seek out common ground” and restating his “righteous mission—to make America great again for all Americans”. He sounded familiar themes on trade, particularly that other countries have taken advantage of America, and that “the era of economic surrender is over”. The president promised “strong enforcement of our trade rules”, which is how he characterised the imposition of hefty tariffs on imported washing machines and solar panels. He says that this will save American solar-cell manufacturers, though there are not many of those. According to a trade group, the solar tariffs could lead to the industry having 23,000 fewer jobs in America. His insistence that trade deals should be “fair” and “reciprocal” reflects his mercantilist belief that exporting is winning and importing is losing: all bilateral trade must balance to be “fair”.

Once again Mr Trump urged Congress to “produce a bill that generates at least \$1.5trn for the new infrastructure investment we need”. What this means in practice—what new infrastructure Mr Trump wants, where the money will come from or how a congressional bill “generates”, rather than appropriates, funds—is anyone’s guess. Equally unclear is why spend-

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ing should go to new construction rather than repair, and how he will convince a Republican-controlled Congress to come up with the money.

What is clear is that the president has a habit of overpromising on infrastructure. He said he would have a plan finalised during his first 100 days in office. In last year’s speech to Congress he vowed to produce legislation for a \$1trn infrastructure plan. Republican congressmen promised a plan by late spring. Last April Mr Trump said he would have one in a few weeks. Just this month a White House aide said Mr Trump would present a concrete plan in two to four weeks. Infrastructure seems less a real policy priority than a shiny bauble that the White House dangles from time to time.

The Oslo accords

So far, so familiar. The most substantive proposal made by the president was on immigration. It is as follows: a path to citizenship for 1.8m undocumented immigrants who came to America as children, including all 700,000 or so DACA recipients. And, in exchange, a wall on the Mexican border; more immigration police; ending the Diversity Visa lottery, which gives visas to immigrants from countries that send few people to America; and restricting family reunification visas, which Mr Trump claimed allow “a single immigrant [to] bring in virtually unlimited numbers of distant relatives”. Immigrants can sponsor children, spouses, parents, brothers and sisters, in limited numbers. Chain migration, as this is known, is neuralgic on the right. To bolster his case, Mr Trump asserted that terrorists entered on family reunification and diversity visas, and that violent gang members entered America as “unac- ▶▶

▶ accompanied alien minors”.

He called the trade “a down-the-middle compromise”. It could certainly drive a wedge down the middle of the Democratic Party. The proposal falls far short of a comprehensive deal to cover all 11m or so undocumented migrants in America, but it would fix something that Democrats have said is a priority since 2001 (see next story). On the other hand, the party’s base is keen on family migration and the congressional black caucus likes the visa lottery, which bumps up the number of migrants from African countries. Furthermore, any immigration bill that could pass the House would probably include steep cuts in legal immigration, which many Democrats would hate. The White House has said it supports a House bill which, according to the Cato Institute, a libertarian think-tank, would see a nearly 40% cut in the number of legal immigrants in 2019, with more cuts to follow. If passed, this would be the most restrictive immigration law since the 1920s.

On the Republican side, congressmen willing to consider offering citizenship to DREAMers have in the past been tarred as favouring “amnesty”. In fact, only a couple of weeks ago Mr Trump’s own campaign organisation accused Democrats who wanted to legalise DREAMers of protecting murderous illegal immigrants. Nativist Republican congressmen might vote for such a bill out of loyalty to Mr Trump. Then again, they might prefer not to bend at all. Perhaps mindful of this, the president wrapped his immigration offer in language about crime and revolting murders committed by MS-13, a Latino gang. That did not improve his chances of selling the deal to Democrats. But if it fails, the president has a ready-made line for the next election. Lawmakers, he said, should “defend Americans...and their right to the American dream. Because Americans are dreamers too.” This was a mean-spirited little rhetorical dig, reminding people that DREAMers are not Americans, and insinuating that politicians owe them nothing.

Though a bit sunnier in tone than some of Mr Trump’s other speeches, this one was similar in content. Mr Trump’s world remains a violent and frightening place, where Americans need someone like Mr Trump to keep them safe. He called for making the country’s nuclear arsenal “so strong and powerful that it will deter any acts of aggression”. Just before the speech he signed an order to keep open America’s military prison at Guantánamo Bay, which as a candidate he vowed to fill with “bad dudes”. He reiterated his “campaign of maximum pressure” to keep North Korea from acquiring missiles capable of hitting America. Throughout the speech he praised policemen and the army; teachers, students and entrepreneurs did not rate a mention. It was all Hobbes and no Jefferson. Morning in America this was not. ■

The original DREAMer

A 17-year wait

CHICAGO

Congress has let DREAMers down again and again

TEREZA LEE is the original DREAMER. Now in her mid-thirties, she is also a perfect illustration of why people brought to the country illegally when they were minors ought to become American citizens. A largely self-taught pianist (her family could not afford heating or hot water, let alone a piano teacher), her talent was discovered by teachers at Chicago’s Merit School of Music. At 16 she performed Tchaikovsky’s Piano Concerto No. 1 with the Chicago Symphony Orchestra. When her teacher pushed her to apply for college, she had to come clean about being in the country illegally. They turned to Illinois’s senior senator, Dick Durbin, for help. After finding out that Ms Lee would probably be deported, the senator agreed to write a bill just for her. It passed Congress without a problem. Other youngsters came forward to ask Mr Durbin for help, often hiding in the car park in front of his office until he left work. The senator teamed up with Utah’s Senator Orrin Hatch to write the DREAM act. That was 17 years ago.

In theory, this should be an easy problem to solve. Polls show that most Americans think the DREAMers should be allowed to stay. “Back in 2001, we had 62 votes for the DREAM act lined up in the Senate,” remembers Ms Lee, enough even to override a presidential veto. A hearing on the bill was scheduled for September 12th. It was postponed in the wake of the terrorist attacks that took place the day before. By the time it reached the Senate floor again, the mood

in the country had changed. “People were afraid of outsiders,” says Ms Lee. Detentions and deportations increased.

The DREAM act has been reintroduced in Congress every couple of years since then. In 2007 it came close to passing. In 2010 it failed by only five votes. In 2012 Barack Obama issued a possibly unconstitutional executive edict, the Deferred Action for Childhood Arrivals (DACA), which provided temporary, renewable work and residency permits to undocumented immigrants younger than 31, who were brought to America before they were 16, provided they were in or had graduated from high school or university or had been honourably discharged from the armed forces. In 2013 a “gang of eight” senators (including Senator Durbin) proposed a sweeping immigration overhaul that would have expanded the original DREAM act. It never came to a vote in the House.

Republican primary voters reject anything that sounds like an amnesty. Meanwhile, many Democrats do not particularly want to trade DREAMers for anything. Mark Krikorian of the Centre for Immigration Studies, a proponent of curbs on both legal and illegal immigration, says that the chances for a deal remain slight. He believes Democrats will not vote yes if the price of their support is the substantive curbing on legal immigration proposed by the president. Democrats “are using DACA as a marketing gimmick to get an amnesty for all illegal immigrants,” says Mr Krikorian.



Senator Durbin’s vigil

Institutional warfare

GOP v FBI

WASHINGTON, DC

The self-described party of law and order takes on the G-Men

QUITE often, the peddling of a conspiracy theory is a form of confession: a window into how a suspicious mind thinks that the world works. President Donald Trump says that federal probes into Russian attacks on the presidential election of 2016 are a “hoax” concocted by Democrats to explain Hillary Clinton’s defeat, and are now kept alive by what he calls the “Deep State Justice Department”.

These are heady days for believers in that plot. On January 29th a Trump bogeyman, the deputy director of the FBI, Andrew McCabe, abruptly quit his post and went on leave pending his formal retirement. Mr McCabe’s wife, the conspiracy-minded note, is a Democrat who ran unsuccessfully in 2015 for a state Senate seat in Virginia, helped by six-figure campaign contributions from a close Clinton ally. Incredibly, at least to Mr Trump and his supporters, in early 2016 Mr McCabe was allowed to oversee a probe into Mrs Clinton’s improper handling of secret government e-mails on a private computer server when she was secretary of state.

Mr McCabe’s defenders note, in vain, that he flagged up his wife’s candidacy and was cleared of a conflict of interest. His critics feel vindicated by press reports that an internal review into the Clinton e-mail investigation, led by the Justice Department’s inspector-general, Michael Horowitz, has zeroed in on decisions made by Mr McCabe which some colleagues saw as politicised. Even before that internal review is published, Mr McCabe’s exit must delight Mr Trump. The president spent months rubbishing the FBI deputy head on Twitter, demanding to know why his attorney-general, Jeff Sessions, had not removed him. Mr Trump attacked Mr McCabe as both a Clinton stooge and as a friend of James Comey, the FBI director he fired in May 2017, after Mr Comey rebuffed a presidential demand to swear loyalty.

Among Republicans, and on the Fox News TV shows that the president devours for hours each week, Mr McCabe is rivalled in infamy by two other senior officials at the FBI, Peter Strzok and Lisa Page. Mr Strzok was removed from the Russia investigation being run by Robert Mueller, the special counsel, after they were found to have exchanged text messages expressing disdain for then-Candidate Trump (“an utter idiot”) and apparently arguing—at a time when opinion polls suggested that Mrs Clinton would win easily—that a

**Burn after reading**

probe into alleged collusion between Russia and the Trump campaign, was a vital “insurance policy”. Mr Trump has called those text exchanges “treasonous”. A Republican senator, Ron Johnson of Wisconsin, fulminated about other Strzok-Page texts that talked about a “secret society” before conceding that the texts may have been a joke.

If the din of claims and counter-claims seems confusing, here is one bleak observation. Mr Trump seems unable to believe that public servants are capable of putting country ahead of personal beliefs or interests. The president seems to divide aides into two groups: those loyal to their masters, and ingrates. In December Mr Trump shared with the *New York Times* his belief that Eric Holder, attorney-general for most of Barack Obama’s time in office, “totally protected” his president from serious scandals, and added: “I’ll be honest, I have great respect for that.”

Mr Trump’s worldview may be further confirmed by a memo commissioned by a loyalist who chairs the House Intelligence Committee, Representative Devin Nunes of California. Republican committee members voted to make the memo public against the urging of the FBI, which expressed “grave concerns about the material omissions of fact that fundamentally impact the memo’s accuracy”. The Nunes memo reportedly sketches out a case that officials, including the deputy attorney-general, Rod Rosenstein, misled a secret court, the Foreign Intelligence Surveillance Court, when seeking a warrant to spy on Carter Page, a former Trump campaign associate. Specifically, it contends that the government did not spell out that evidence against Mr Page came from a dossier drawn up by Christopher Steele, a former British spy, with funding from Democrats and the Clinton campaign.

Sean Hannity, a Trump cheerleader on Fox News, has called the memo proof that Mr Mueller “and his band of Democratic witch-hunters” should be disbanded and that Mr Rosenstein, who oversees Mr Mueller, should be fired. Paul Ryan, the Republican House Speaker, is more squeamish. He wants possible FBI “malfeasance” investigated, while claiming that the Nunes memo is “completely separate” from the Mueller inquiry. If that puzzles some, Mr Trump need not care. For him, sowing distrust and confusion is a win. ■

Human rights

Narrative violation

WASHINGTON, DC

This White House has more power to constrain bad guys than its predecessor

ODDLY little is known about President Donald Trump’s readiness to use massive force against adversaries. An isolationist on the campaign trail, at times Mr Trump has sounded quite the hawk. What is known is his desire to bargain from a position of strength, whether calling for more defence spending or a new nuclear arsenal that is “so strong and powerful”.

The same model applies to Team Trump’s approach to human rights and corruption. The president has sent mixed signals about global torturers and kleptocrats, chiding some while praising others as “tremendous” allies. Yet with little fanfare, he signed Executive Order 13818 a few days before Christmas last year. A remarkably broad sanctions instrument, one human rights expert calls it a cross between a scalpel and “a tactical nuclear weapon”. ▶▶

► Critics call Mr Trump an appeaser of despots. They were loud after his administration said on January 29th that there was no need to rush new sanctions on Russia demanded by Congress in near-unanimous House and Senate votes last year. Partisans will be wrangling for a while over Mr Trump's strange reluctance to confront Russia over election-meddling. Meanwhile, in Washington and other capitals, sanctions experts and government officials are puzzling over EO13818's potential import, for it is a tool to strike fear into the stoniest oligarch's heart.

On paper, the order implements a law passed by Congress in 2016, the Global Magnitsky Act (or GLOMAG to sanctions wonks). In fact, says Robert Berschinski of Human Rights First, a campaign group, it magnifies the power of GLOMAG by loosening or deleting criteria for action written into the original law, which in turn went further than a first, Russia-focused Magnitsky Act passed in 2012 to honour a Russian tax lawyer and whistle-blower, Sergei Magnitsky, who died after torture in official custody. EO13818 targets officials in any foreign entity whose members have engaged in "serious" human-rights abuse or corruption. The original law targets "gross" violations of internationally recognised human rights, a higher standard. The law of 2016 also explicitly reserves its protections for whistle-blowers working to expose law-breaking by officials, or campaigners for human rights. EO13818 scraps that requirement. It also ditches a clause reserving sanctions for those with "command responsibility" for malign acts.

Most dramatically, the order finds that human-rights abuses and corruption have reached such a pitch that they constitute "an unusual and extraordinary threat to the national security, foreign policy and economy of the United States". That legalese about a standing national emergency adds the full force of a second sanctions law, the International Emergency Economic Powers Act, to create "an incredibly powerful global tool" to impose financial sanctions and visa bans, says Mr Berschinski, a former deputy assistant secretary of state for democracy, human rights and labour in the Obama administration.

Scott Busby, who now holds that post, says that EO13818 is intended to make it easier to implement the "spirit" of Congress's law. For instance it can be "challenging" to prove that a foreign official is in a chain of command. The first GLOMAG target list, unveiled in December, named officials and their cronies from China to Russia, Nicaragua to Myanmar. In internal debates Steven Mnuchin, the treasury secretary, is said to have sought maximum flexibility when crafting sanctions. Mr Trump's soft-speaking about strongmen is grounds for alarm. But America's human-rights monitors have a big new stick. ■

Earthquake preparedness

Ten per cent

LOS ANGELES

America is not ready for the next big one

DENNIS RICHARDSON, Oregon's secretary of state, brought his children up to be ready. "When a crisis arises, the time for preparation has passed," he would tell them. Today Mr Richardson worries his state is less prepared than it should be. There is a 10% chance that in the next 30 years an earthquake between 8.0 and 9.0 in magnitude will rupture the Cascadia subduction zone that runs along the coast of Washington, Oregon and Northern California. If the quake hit, it would trigger a tsunami that could raze coastal houses and infrastructure.

On January 25th Mr Richardson's office published a report describing how vulnerable the state is to a Cascadia quake. To begin with, it points out that the building which houses Oregon's emergency co-ordination centre has not been retrofitted to withstand earthquakes. It estimates that a big tremor combined with a tsunami could claim 10,000 lives and cost \$32bn in damage and lost output in Oregon alone. Calculations made in 2013 suggest that it would take between one and three years to restore drinking water and sewerage in coastal areas. The wreckage left behind would be enough to fill 1m refuse trucks.

The Pacific north-west is not the only region with a problem. The United States Geological Survey (USGS), a scientific agency of the federal government, says there is a 99.7% chance that California will suffer a quake larger than magnitude 6.7 in the next 30 years. The Southern San Andreas Fault line, which runs close to Los Angeles, is the most likely place for a large quake. The Los Angeles metropolitan area

has taken steps to brace itself for shaking. In 2015 the city council passed a law requiring around 13,500 apartment buildings to be retrofitted to withstand earthquakes. It gave the owners of wood-framed apartment buildings seven years to reinforce them, while the owners of concrete structures got 25. In 2017 Santa Monica and West Hollywood, two municipalities next to Los Angeles, also adopted mandatory retrofit measures. Implementing the laws will not be straightforward. Property owners have to find a way to meet the costs upfront, which range from \$60,000 to \$130,00 for wood buildings to millions of dollars for concrete towers.

There is one glaring way in which Los Angeles, the west coast and America as a whole lag behind other quake-prone nations: it has no early-warning system. Mexico, Japan, Turkey, Romania, China, Italy, and Taiwan all boast systems to warn residents of imminent earthquakes. In Mexico, alerts allowed residents to rush out of buildings that were likely to collapse, and to seek cover, before an 8.2-magnitude quake shook the country's southern coast in September 2017. In Japan, every resident with a mobile phone receives a text message warning of imminent quakes. Even a few seconds' notice can mean "a doctor taking his scalpel out of a patient, a dentist removing his drill and manufacturers shutting off equipment that leads to fires or spills", says Lucy Jones, a seismologist.

Later this year, after 12 years of research and development, Shake Alert, an earthquake early-warning system designed eventually to work up and down America's west coast, will be turned on. But at least for now it will only be available on a limited basis. Douglas Given, the earthquake early-warning co-ordinator at USGS, says about half the necessary stations have been completed. USGS has said it will cost \$38.3m to complete the system and \$16m a year to operate it.

"Virtually everybody who hears about it says 'Gee! That seems awfully cheap, why don't we just do it?'" Mr Given adds. But securing even that much funding has been difficult. The budget proposed by the president last summer sought to eliminate all federal money for Shake Alert. A congressional committee later blocked the cuts, allowing construction to continue. California's budget for the next fiscal year proposes contributing \$15m to the system, but more financing is needed. "Unlike in Japan, where earthquakes are a national priority, in America earthquakes are viewed as a west-coast problem," laments Mr Given. Adam Schiff, a congressman from the Los Angeles area who has pushed for the alert system, agrees. "Were we to have a devastating earthquake in California tomorrow," he muses, "there would be the will for relief efforts. But we shouldn't wait for that." ■



Oklahoma's schools

Five into four

INOLA AND WAGONER

What happens when a state cannot afford to educate its pupils

FORTY miles from Tulsa, sometimes along unpaved roads, sits Wagoner High School, with its 650 pupils, championship-calibre football team and show barn—a seemingly ordinary small-town school. But unlike most high schools, Wagoner is closed on Mondays. The reason, a severe reduction in state funds, has pushed 90 other school districts in Oklahoma to do the same. Teacher pay is the third-lowest in the country and has triggered a state-wide shortage, as teachers flee to neighbouring states like Arkansas and Texas or to private schools. “Most of our teachers work second jobs,” says Darlene Adair, Wagoner’s principal. “A lot of them work at Walmart on nights and weekends, or in local restaurants.” Ms Adair hopes that Walmart does not offer her teachers a full-time job, which would be a pay rise for many.

The roots of the fiasco are not hard to determine. As in Oklahoma’s northern neighbour, Kansas, deep tax cuts have wrecked the state’s finances. During the shale boom, lawmakers gave a sweetheart deal to its oilmen, costing \$470m in a single year, by slashing the gross production tax on horizontal drilling from 7% to 1%. North Dakota, by contrast, taxes production at 11.5%. The crash in global oil prices in 2014 did not help state coffers either. Oklahoma has also cut income taxes, first under Democrats desperate to maintain control over a state that was trending Republican, and then under Republicans, who swept to power anyway. Mary Fallin, the Republican governor, came to office pledging to eliminate the income tax altogether. Since 2008 general state funds for K-12 education in Oklahoma have been slashed by 28.2%—the biggest cut in the country. Property taxes, which might have made up the difference, are constitutionally limited.

Other state agencies are broke, too. Highway patrolmen are told not to fill their petrol tanks to save money. Those caught drunk-driving are able to keep their licences because there are no bureaucrats to revoke them. Prisons are dangerously overcrowded, to the point that the state’s director of corrections publicly says that “something is going to pop”. But unlike Kansas, whose Republican legislature eventually rebelled and reversed the tax cuts over the governor’s veto, Oklahoma will find its troubling experiment much more difficult to undo. Because of a referendum passed in 1992, any bill that seeks to raise taxes must be approved by three-

**Road to nowhere**

quarters of the legislature.

No fact embarrasses Oklahomans more, or repels prospective businesses, than the number of cash-strapped districts that have gone to four-day weeks. Yet even such a radical change may not help finances much. Paul Hill, a professor of education at the University of Washington, Bothell, estimates that the savings are “in the 1 or 2% range at most”. That sliver is still important to Kent Holbrook, superintendent of public schools in Inola (the self-styled “Hay Capital of the World”). “In my mind, that’s five or six teachers,” says Mr Holbrook. Already, from 2008 to 2016, he has lost 11 teachers from a corps that once numbered 100. He has also had to reduce Spanish classes and, for the tenth year running, delay buying new textbooks.

It is also unclear whether four-day weeks actually harm learning. Administrators note that the children are better behaved. Parents seem to appreciate having an extra day for doctors’ appointments. Nor do the pupils mind much. In an informal poll, a class of eight-year olds was overwhelmingly in favour. Academics are less certain. One study, conducted in Montana, noted a short-term increase in test scores soon after the schedule shift, but a significant drop-off in subsequent years. Some schools have experimented with four-day weeks not because they risked financial insolvency, but to encourage pupils to job-shadow in their time off.

The real reason why so many school districts are resorting to a tighter calendar is that it is the only true perk they can offer to poorly paid teachers, whose salaries start at \$31,600 and who have not received a rise for ten years. The exodus to Texas and Arkansas, which included Oklahoma’s Teacher of the Year in 2016, continues unabated. A 20-minute drive across the border often results in a \$10,000 increase. Dallas’s school district has unashamedly set up booths in Oklahoma City to poach what talent remains. So dire is the shortage that school districts have found 1,850 adults without the necessary qualifications, given them emergency certifications, and placed them in classrooms. “This year, I emergency-certified my secretary,” says Penny Risley, the principal of an elementary school in Wagoner. Teach for America, which places fresh graduates from leading colleges in classrooms, is usually unpopular with teachers’ unions. In Oklahoma, they are welcomed with open arms.

To make matters worse, the expensive health insurance offered to teachers eats into already meagre pay. Under the cheapest plan on offer, monthly premiums are \$400 for a single person. The cost of adding a spouse is another \$470 per month; a child is \$208. In Catoosa, a school district not far from Tulsa, an elementary-school secretary tells of an aide with four children whose premiums were so large that she paid the district \$200 a month to work there. A recently hired special-education teacher worries that she will not be able to afford a flat for herself and her two children without a housing voucher and food stamps, says Julie Phillips, a speech pathologist with Tulsa Public Schools. After a school drive to raise food for poor families unexpectedly had some left over, needy teachers divided the remaining bags of apples and potatoes among themselves.

Prospects of a sensible resolution appear dim. “We’re close now to the point of no return, when the system is doomed to sag from here on out,” says John Waldron, a public-school teacher in Tulsa, as he knocks on doors on a sunny afternoon, campaigning for a seat in the state House. Each voter Mr Waldron greets with a smile seems grim and worn out, muttering about the “completely screwed-up” education system. Out of nearly 20 Oklahoma teachers and administrators interviewed, none held out hope of meaningful reforms. Ms Fallin, the state governor, has called for a \$5,000 pay rise for teachers and has endorsed some modest tax increases ahead of the next legislative session. Whether she can muster enough support to cross the three-quarters threshold the state constitution requires for a tax increase is unclear; recent attempts have fallen just short. Meanwhile some Republicans, intent on cutting more spending, have an eye on the state’s Medicaid programme. ■

Lexington | The last of the moderates

Claire McCaskill exemplifies pragmatism and bipartisanship—and how endangered they are



FOR those Democrats, brimming with anti-Trump zeal, who think now is the time to cleanse themselves of ideological impurity, Claire McCaskill has a message. “I want people to understand, particularly in the progressive wing of my party,” said the senator from Missouri, who is fighting a tough battle for re-election in November, “that it’s not just a question of whether I am perfect for them on all the issues. It is that, if I lose, a Republican will take my place who’d be anathema to them on every issue.”

Speaking on the fringe of a campaign event in St Louis, Missouri’s second city, Ms McCaskill had had a trying week. Her state elected President Donald Trump by a 19-point margin, mainly, as everywhere, because he promised to keep out foreigners. Yet her party, egged on by its progressives, had just shut down the federal government in a botched bid to protect a multitude of illegal immigrants. Ms McCaskill, a tough operator with a prosecutor’s mind and a folksy manner, joined four other moderate Democrats in voting against the shutdown. She was also, though flu-ridden, involved in negotiating an agreement to end it. Naturally, this won her no favours from her Missourian opponents, who consider her a liberal cuckoo in a Republican nest, or from ambitious progressives such as Kamala Harris and Elizabeth Warren, who decried the shutdown’s swift conclusion. At least she is used to it. “No matter what I decide on any issue, half the people are mad at me,” she said, rather optimistically.

Her difficulty points to a paradox in American politics. While both parties have moved further to the extremes in recent years, making it increasingly hard for centrist politicians to operate, the tightness of the contest means those same politicians tend to decide which party holds sway. In other words, moderates have never been more marginalised or more important. The hyper-partisanship around Mr Trump’s presidency has increased that tension further, especially in the Senate, where ten Democrats are up for re-election in states the president won. Most are moderates, including five in states he won by crushing margins: Indiana, Missouri, Montana, North Dakota and West Virginia.

That makes their task daunting. Mr Trump’s victories represented, among other things, a rightward turn in many formerly competitive states. Missouri, once seen as an electoral bellwether, is now firmly under Republican control. And the fact that most

Democrats denounce everything Mr Trump says or does has made these senators’ lives even harder. Yet they are their party’s single best hope of recovery. If the Democrats can defend their seats, and pick up a couple more, probably in Nevada and Arizona, they could take back the Senate. That would give the party control of presidential appointments, including judges, as well as of the legislative agenda. If most of the moderates lose, on the other hand, no amount of grassroots activism in California and New York will dull the blow. “The Republicans could conceivably get to 60 votes,” says Ms McCaskill. “And then, as my grandmother used to say, ‘Katy bar the door.’”

She had just spent an hour on a scuffed stage trying to prevent that, by answering unscripted questions from a small crowd. It was the 52nd such event Ms McCaskill had undertaken in a year—mostly in conservative places where she can at best restrict the size of her defeat. The format suits her. Having held elected office at several levels in Missouri—as a county prosecutor, in the state assembly and as chief auditor—before she entered the US Senate in 2007, she has a good grasp of public policy. She has also retained, unusually for a career politician, a knack of sounding human. She speaks plainly, sounds genuinely interested when she probes the audience for extra details and keeps her crowing to a tolerable minimum.

These skills help Ms McCaskill serve two tactical ends. She can mostly avoid saying nasty things about Mr Trump, who is as popular in Missouri as she is. (“Part of our problem is demonisation,” she says, “It’s like a sugar-high, but it doesn’t get us anywhere.”) They also help her present herself as a pragmatist, eager to work across the aisle—and in the process downplay partisan positions such as her support for abortion. Her likely opponent, Josh Hawley, the state’s 38-year-old attorney-general, is also highly rated. Yet opinion polls suggest Ms McCaskill, though the most endangered Democratic senator, has a decent chance.

Democratic strategists are thrilled. One sees Ms McCaskill’s resilience as proof the Democrats are far more viable in conservative states than is often assumed. If, as expected, the party enjoys a wave of victories in the mid-terms, another predicts its ranks will be swelled by many new moderates, who would peg back the leftist ideologues and further expand the party’s reach. They are probably both half-right, yet much too optimistic.

Even if the Democrats check their drift to the left, the Republicans’ social conservatism will give them a sizeable advantage in the Senate, where small conservative states carry as much weight as big progressive ones. For a Democrat to win in most of the 30 states Mr Trump won requires an outstanding candidate, as Ms McCaskill is, or an awful opponent, like Roy Moore in Alabama, or both. More often, an ordinary pro-life Republican will win.

Nothing in moderation

There is also little evidence of a moderate revival in either party. The newbie Democratic candidates campaigning for the mid-terms are perhaps unusually ideological, the party having deterred pro-lifers and other heretics. And in this, moreover, both parties reflect a shift in the electorate. The essence of political moderation is not to hold mild views, which few voters consistently do, but to be open to persuasion, and only a tiny minority of Americans are. The cohort of swing voters has been falling for decades. Majorities of Republicans and Democrats now have strong negative feelings towards each other. Americans have become hooked on the sugar-rush. It is doing them no good. ■



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Human rights

The mouse that ruled

SAN JOSÉ

A regional court tells countries to permit gay people to marry each other. That will provoke resistance

IN A quiet suburb of San José, Costa Rica's capital, is a building that looks like the White House in miniature. Costa Rica's government gave it in 1993 to the Inter-American Court of Human Rights (IACHR), established 14 years earlier, to show its commitment to human rights. Until 2008, when the court built a second floor above the garage with money from Norway, its seven judges deliberated in a repurposed dining room. The setting is modest. The decisions emanating from it, increasingly, are not.

On January 9th the court told Costa Rica to legalise same-sex marriage. That provoked a furore in the country, which is scheduled to hold the first round of presidential and legislative elections on February 4th (see next story). A fringe candidate for the presidency who vows to ignore the ruling is suddenly leading in the polls. The judgment will also cause consternation in many of the 20 other Latin American and Caribbean countries that fall under the court's jurisdiction. In the court's view, its opinion is binding there, too.

It derives its power from its role as the final arbiter of the meaning of the American Convention on Human Rights, which took effect in 1978 and gained influence as dictatorships became democracies in the 1980s and 1990s. The court rules on cases referred to it by the region's human-rights commission, a watchdog organisation that is based in Washington. The commission can issue

preliminary judgments of its own. At first countries saw the IACHR, which operates under the aegis of the Organisation of American States (OAS), as a complement to their own judicial systems. But over the past decade it has become a supranational supreme court for human rights.

That shift has happened in part because in the mid-2000s the court invented the doctrine of "conventionality control". This obliges national states and judiciaries to make their constitutions and laws compatible with human-rights treaties their countries have ratified. This principle gives the court, whose budget is a puny \$5m, the power, in theory at least, to compel signatories of the human-rights convention to change their constitutions and laws. The European Court of Human Rights, which spends nearly 20 times that amount, has no such power.

Court in the crossfire

In its first decades the IACHR ruled mainly on cases stemming from violations of human rights by dictatorships in the 1970s and 1980s. It ordered governments to investigate atrocities and compensate victims. Its ban on amnesties for such crimes gave legal grounds for courts in Argentina, El Salvador and Guatemala to try alleged perpetrators. It provided justification for jailing Alberto Fujimori, Peru's president in the 1990s, on charges of violating human rights. (On February 2nd the IACHR is due

to hear a complaint against the recent decision by Peru's current president, Pedro Pablo Kuczynski, to pardon him.)

Recently, the court and commission have moved into more contentious territory. In 2001 the IACHR struck down a clause in Chile's constitution that stifled freedom of expression. In the same year it ruled that governments must consult indigenous communities before approving projects on their lands. In 2006 the court obliged Peru's government to add the names of 41 members of Shining Path, a leftist guerrilla group, to a memorial for victims of terrorism. In the early 2010s the human-rights commission rebuked left-wing governments in Ecuador (over press freedom) and Venezuela (over political prisoners).

Such rulings have provoked a backlash against both the court and the commission. Brazil suspended its contribution to the OAS after the commission issued a "precautionary measure" that temporarily blocked construction of the Belo Monte hydroelectric dam in the Amazon. In 2012 Venezuela began the process of leaving the court's jurisdiction. While the court's word is supposed to be final, its mechanisms for enforcing its rulings are weak.

That will matter more as it wades into Latin America's culture wars. In 2012 it issued a liberal ruling on in-vitro fertilisation, saying that life begins gradually, not at the moment of conception. It may invoke that principle when it comes to hear cases on the touchy issue of abortion.

The same-sex marriage ruling has pepped up activists. If it does not prompt governments to rewrite laws, it will provide a basis for challenging them in national courts. Iván Chanis, a lawyer in Panama, is preparing a brief on same-sex marriage for his country's supreme court and helping in a case in Guatemala. Herman Duarte, the founder of Igualitos, a gay- ▶▶

The Super Bowl in Canada

Let the dachshunds stampede

OTTAWA

Why watching American advertisements is in the public interest

DURING Super Bowl 50, in 2016, American viewers got to watch Heinz's uplifting "wiener stampede" commercial, with dachshunds dressed as hot dogs gambolling in slow motion across a meadow. An ad for T-Mobile featured executives from a rival company badgering Drake, a rapper, to clutter up his lyrics with legalese. Canadians watching the same game were treated to a dull slide show for Sun Life Insurance.

Last year Canadian football fans had a choice, thanks to the television regulator. It ruled that access to American made-for-the-occasion ads was "in the public interest". CTV, which had broadcasting rights in Canada, continued to show local ads. But most Canadians can watch Fox, which showed such treats as a Donald Trump-inspired shampoo commercial. CTV lost nearly 40% of its viewers during the game.

This year Bell Media, which owns CTV, tried again to feed viewers Canadian-only fare on the two channels showing the Super Bowl. This would be in keeping with a long-standing policy of protecting Canadian culture, it argued. Since 1972 Canadian carriers of foreign programming like Bell Media have been able to transmit their own broadcast signals, even on American channels.

Its argument did not move the Supreme Court. On January 24th it refused to suspend the regulator's decision. Canadians watching the game (on NBC this time) will see its ads, too.

That will cost Bell Media money. Although NBC is part of the cable package it sells, it gets no revenue from Ameri-

can ads. The National Football League (NFL), which is keen to get the highest price for broadcast rights, joined Bell Media in its suit against the decision.

Canadians have long disliked simultaneous substitution, or "simsub", as they call it. It is especially annoying during live events. Viewers miss important plays when the broadcaster cuts to a commercial; broadcasts can end prematurely. When the event is the Super Bowl, the ads are part of the show, not interruptions of it. That is what the regulator said. Bell Media and the NFL have now appealed to Mr Trump to intervene. That is surely a Hail Mary pass.



The 40-yard dachsh

▶ rights NGO in Costa Rica, has filed a case in El Salvador against the country's family law, which defines marriage as the union between a man and a woman.

Advocates of other rights hope to ride a wave of liberal jurisprudence. Several women's-rights groups are "rethinking their strategies" after the same-sex marriage ruling, says Viviana Krsticevic of the Centre for Justice and International Law, an NGO in Washington. The ruling "has energised a lot of people".

That includes critics, who will probe more avidly the court's vulnerabilities. One is the doctrine of conventionality control, which is contested by some scholars. The court's use of the doctrine "will weaken rather than enhance" its authority, says Jorge Contesse, a professor at Rutgers Law School. Another weak spot is the way

judges are appointed by member countries of the OAS without public hearings. As the court's influence expands, critics may demand more scrutiny. Governments that dislike the court's socially liberal rulings could join forces to appoint like-minded judges. In a worst-case scenario, they might, like Venezuela, start the process of withdrawing from the court's jurisdiction.

In Costa Rica, which has always complied cheerfully with the court's decisions, a public outcry has begun. The same-sex marriage ruling has dominated the election campaign in its closing stages. The next president may try to defy the court. Officials at the suburban White House are shocked by their new notoriety. "My grandma called me up and asked why I'm working here," says one. He may have to get used to such scolding. ■

Costa Rica's elections

Like Iowa, with lots of beefs

SAN JOSÉ

Latin America's oldest democracy is not immune from the region's discontents

A"SLICE of Iowa misplaced on the Central American isthmus", is how an American political scientist once characterised Costa Rica. He meant it as a compliment. Costa Rica is orderly, relatively rich, and has been a democracy since 1949. But ticos, as Costa Ricans call themselves, are feeling disgruntled. Their sour mood is shaping elections to be held on February 4th. None of the five leading presidential candidates has the support of more than 20% of the electorate, according to the (unreliable) polls. Two are anti-establishment. For the first time in Costa Rica's democratic history, such flame-throwers could win.

A ruling on January 9th by the Inter-American Court of Human Rights seems to oblige Costa Rica to let same-sex couples marry. That angered its conservative electorate (see previous story). But it is not the only cause of discontent. The unemployment rate is 9.4% and income inequality is rising. The murder rate—12.1 per 100,000 people last year—is low by regional standards but higher than it used to be. A scandal involving the import of Chinese cement by a businessman with ties to the president, Luis Guillermo Solís, has contributed to voters' anger.

Ticos now look enviously upon the two countries that bracket Costa Rica: Panama, which is richer, and Nicaragua, which is safer. Life was better 30 years ago in some ways, admits Rodolfo Piza, the candidate of the Social Christian Unity Party, one of two parties that held the presidency until 2014 (he is in fifth place). "You could walk the streets without fear. There was more equality. There was less unemployment."

Politics is not providing answers. The 57-seat legislature has nine parties, many of them dedicated to one issue. Its rules, written for a two-party system, allow one deputy to filibuster a law. It takes nearly three years on average for Costa Rica to pass one. That is slower than in any member of the OECD, a rich-country club that Costa Rica has applied to join.

Gridlock has weakened support for democracy. It dropped from 80% of the population in 1996 to 62% last year, according to Latinobarómetro, a pollster (though that is a slight recovery from its low in 2013).

For now, dissatisfaction is showing up as support for unconventional candidates. Fabricio Alvarado, a deputy who was a journalist and an Evangelical Christian crooner, jumped from 3% to around 20% in the polls after he made opposition to the ▶▶

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► gay-marriage opinion his main campaign issue. That makes him the front-runner. His supporters “want to give the finger to the system”, as well as to gay marriage, says a bewildered veteran politician. In fourth place is Juan Diego Castro, a Trumpian candidate who claims that “traditional” parties are buying addicts’ votes with drugs and cash. Mr Castro has zeroed in on real problems, such as expensive electricity, burdensome bureaucracy and corruption. But his answers are facile. His “very easy” solution to overcrowding in prisons is to force inmates to build more of them.

The strongest hope for avoiding a lurch

towards looniness lies with Antonio Álvarez, the nominee of the Party of National Liberation, the other establishment party. He portrays himself as the heir of Óscar Arias, a president of the 1980s and early 2000s who won a Nobel peace prize for helping to end civil wars in other Central American countries. But voters are less impressed with such pedigrees than they would once have been. Mr Álvarez is running second in the polls, with the support of 10-15% of the electorate. Carlos Alvarado (no relation to Fabricio), a confidant of the current president, is just behind him.

The mainstream candidates have more

to say than the outsiders about the most pressing problem, the budget deficit, which was 6% of GDP last year. Spending on government salaries, pushed up by pay rises and more hiring, consumes 48% of revenues, more than in any OECD country. The next president will have to cut back. Mr Álvarez promises to reform public salaries and to introduce a value-added tax.

If one of the establishment candidates makes it to the second round, he will probably beat either the pulpit-thumping Fabricio Alvarado or the Trumpesque Mr Castro. That is the best chance to keep Costa Rica Iowa-like. ■

Bello | The friendly dragon

China is taking advantage of a growing great-power vacuum in Latin America

WHILE Donald Trump was in Davos last week trying to persuade the global plutocracy that “America First” does not mean “America alone”, China’s foreign minister, Wang Yi, was promoting globalisation, free trade and co-operation in Latin America. For his hosts, the contrast was striking. Mr Trump has insulted Mexico, El Salvador and Haiti, discourages investment in the United States’ southern neighbour, and talks trade protectionism. China, in the soothing words of Mr Wang, offers Latin America a “strategy of mutual benefit and shared gain”.

He was speaking at a meeting between China and the Confederation of Latin American and Caribbean States (CELAC), a talking shop comprising all the region’s 33 countries. Contrary to some reports, China did not formally invite Latin America to join the Belt and Road Initiative that is the cornerstone of President Xi Jinping’s foreign policy and features big investments in infrastructure in Eurasia and Africa. But it came close, calling Latin America a “natural extension” and “indispensable participant” in the scheme. Labels apart, China is already investing in infrastructure in Latin America.

The meeting marked the maturing of a relationship that has developed precociously in this century. Total annual trade between China and Latin America shot up from almost nothing to more than \$200bn by 2014. After stalling for the next two years, Latin America’s exports to China increased by around 30% last year, according to the Inter-American Development Bank (IDB), mainly because of an increase in the price of South American oil, minerals and other commodities. China is the largest trading partner of Chile and Peru, and nearly so of Brazil.

The biggest changes are in Chinese investment and lending. Until recently,

these focused on oil, mining and Venezuela. Now they are centred on Brazil and Argentina, and are in more sectors. Chinese companies splashed out at least \$21bn on Brazilian deals last year, including the purchase of power plants, an electricity distributor and ports. China is financing a motorway to Buenaventura, a port on Colombia’s Pacific coast, and upgrading a railway to Argentina’s north-west. According to Margaret Myers of the Inter-American Dialogue, a think-tank in Washington, Chinese loans to Latin America totalled \$9bn last year. That is barely half the amount that China lent in 2015 and 2016. The main explanation for the decline is that there was no new money for Venezuela, and only one oil-backed loan.

From Latin America’s viewpoint, the relationship is “really about the money”, says Oliver Stuenkel, who teaches international relations at Fundação Getulio Vargas, a university in São Paulo. That is especially so in Brazil, which is recovering from a deep recession. A few Latin Americans worry that Chinese imports are deindustrialising the region and fear economic dependence. But there is little thinking about

the geopolitical implications of the relationship, says Mr Stuenkel.

These are considerable, and the Chinese are more attentive to them. If Panama is the only country in the region to have signed a belt-and-road agreement, that may be because China is aware that signing up more countries “would create a strong reaction” in the United States, thinks Ms Myers.

China’s interest in Latin America is not matched by other big powers. The Trump administration has no clear strategy, although Rex Tillerson, the secretary of state, plans to visit five countries in the region starting on February 1st. The European Union (EU) remains the largest single source of foreign investment. But the conclusion of a long-awaited trade agreement with Mercosur, which includes Brazil and Argentina, has so far been thwarted by the desire of France and other countries to protect their uncompetitive farmers. “The EU hasn’t worked out clearly what it wants of Latin America,” concludes a new report by the Elcano Institute, a think-tank in Madrid.

The same applies to Latin America in its embrace of China. This brings undoubted benefits. Apart from money, Latin American governments like—and take at face value—China’s stance on global governance and climate change. But the region is entering into a political entanglement with an external power that has no interest in democracy. In a few years, if China has a military confrontation in the South China Sea, for example, some Latin American countries might feel obliged to back their new patron. “China is not yet calling the shots in Latin America,” says Mr Stuenkel. “But its influence is growing by the day.” Latin America should be wary of the conditions that may come with China’s offer of “shared gain”.





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TIMBUKTU

Western countries are backing a government incapable of bringing peace

AT THE weekly market in Toya, at the edge of the Niger river, just outside the ancient city of Timbuktu, little seems to have changed. Under shelters built from branches and tarpaulins, traders in turbans with leathery faces hawk almost everything imaginable. There are slabs of rock salt, mined deep in the desert, next to crates of Algerian cigarettes. Cheap radios sit beside tins of USAID vegetable oil (the marking “not for sale” roundly ignored).

Yet all is not well here. A group of armed UN peacekeepers walks among the shoppers, asking questions. One elderly Tuareg says that just a few days earlier a dozen armed men had wandered into the village, flaunting their weapons. He will not say who they were, but they were not soldiers from the Malian army. “We have fear here. When these men can come and go as they please, there is no security,” he says. When asked if he had ever seen the state’s security forces, he gestures a hand with a large silver ring at the market: “They are never here.”

During the past decade Mali has become one of Africa’s most intractable security problems. Once seen as a model democracy, it has been plagued by violence since 2012, when Tuareg-led jihadists with links to al-Qaeda led a rebellion across northern Mali, at the edge of the Sahara desert (see map). At one time tourists used to pour into Timbuktu to ride camels across the desert. Now most of the foreigners at the airport wear army uniforms. The

city has said goodbye to Bono, a rock musician who once played there. But in most other respects things have got worse.

The old fracture lines of race and tribe widened after independence in 1960. Many among the Tuareg and Arab minorities were uncomfortable with being ruled by black Africans in the south. Big rebellions broke out in 1963 and 1990. But the one in 2012, which came after soldiers had staged a coup in Bamako, the capital, marked a turning-point. The rebels, who had developed from a secular nationalist movement into an Islamist insurgency, seemed ready to march on the capital. That prompted France to send in troops, who pushed the rebels out of most cities but did not defeat them entirely.



In 2015 the warring parties signed a peace deal. But since then the violence has continued to escalate. At least four separate attacks between January 25th and 28th killed scores of people. Last year the UN counted 220 attacks on its operations. That is more than in 2015 and 2016 combined. The peacekeeping mission established in 2013, known as MINUSMA, is by far the UN’s most dangerous. It has a force of about 11,000, but 150 peacekeepers have been killed. Insecurity has spread from the north to the centre of Mali.

The country’s vast desert is not only a breeding ground for jihadism; it is also a trade route that carries consumer goods south and drugs and migrants towards Europe. That partly explains why France’s president, Emmanuel Macron, has already visited Mali twice. France has some 3,000 troops in the Sahel fighting terrorists, most of whom are in Mali. America has a force there too, as does the European Union (on a training mission). Western countries are also paying for a counterterrorism force drawn from regional armies, the G5 Sahel.

In Kano, a village 60km east of Timbuktu, the UN shows off what its DDR (disarmament, demobilisation and rehabilitation) programme has achieved. As women in bright wraps and headscarves ululate, a newly built water tower is ceremoniously untapped and brown liquid gushes out onto the sand. “It is an excellent thing,” enthuses Mohammed Ahmed Cissé, the village’s portly chief. “We can grow gardens, and... work together instead of fighting.”

Although the fighting has died down, there is not much disarmament. Armed rebels still live in the village, admits Mr Cissé. And a bigger problem is apparent. No one from the Malian government has been seen in almost a decade. Andrew Lebovich, a Bamako-based analyst from the European Council on Foreign Relations, a think-tank, argues that the government has

▶ little interest in quelling insecurity. Fully 90% of Mali's population is in the south, as is most of the economy, which is dominated by goldmining.

A presidential election is due to be held this year and is occupying the incumbent, Ibrahim Boubacar Keita, far more than insecurity. Mr Keita has faced protests, but not chiefly over the war: corruption allegations sting more. When the Malian army, which is recruited almost entirely in the south, does try to fight, it is often brutal, which helps armed groups recruit.

As long as the state remains so ineffective, Western countries find themselves pushing on a string. According to one report by the International Crisis Group, an NGO based in Brussels, G5 Sahel soldiers "are spending longer in training and preparatory missions than in doing their actual jobs". Yet without systematic change, Mali's problems are only likely to get worse. Half of the population is under the age of 16. The average Malian woman has six children. According to Unicef, barely a third of the population can read, a sad statistic that is unlikely to improve soon, given that hundreds of schools have been closed because of the fighting. Young men without much education or chance of employment are easy recruits to jihadism.

In Timbuktu Mohammed Ag Atta, a 52-year-old Tuareg, says that a decade ago he made good money guiding tourists out into the desert. But now he cannot even feed his camels. "The problem is the state," he says. "Nobody notices us." And so the war goes on. ■

Abortion in South Africa

Still in the backstreets

JOHANNESBURG

Abortion is legal but many women seek out dodgy providers

NEARLY every lamp post, rubbish bin and brick wall in Johannesburg's downtown is plastered with garish ads offering abortions that are "quick, safe and pain-free", and just a phone call away. So when Busi, a student, unintentionally fell pregnant while far from home in her first year of university, calling a number from a lamp-post ad seemed the easiest fix. Fear crept in when the "doctor" handed her pills in a shabby room. "I was too ashamed to tell my family," she recalls. "It could have gone so wrong."

Abortion, banned during apartheid, was legalised in 1996, partly to stop the dangerous backroom procedures that were taking the lives of more than 400 women a year. But many South African women still find themselves in the shady

backrooms and unlicensed clinics advertised on the streets. About half of all abortions happen outside proper hospitals and clinics. "This tells you there is definitely something wrong," says Shenilla Mohamed, the executive director of Amnesty International, a campaign group, in South Africa. "People don't feel safe to go to designated health-care facilities."

Although South Africa's laws and constitution are progressive, social attitudes do not always match. Women going for abortions worry they will be criticised by nurses and doctors, many of whom treat them rudely. Some say they are told they will go to hell.

Clinicians who perform abortions are sometimes shunned by colleagues and neighbours. Dr Eddie Mhlanga, who specialises in obstetrics and gynaecology, used to think that abortion should not be legalised. It took the death of a close friend from a botched illicit procedure to change his mind. "I opened her up and found her womb was rotten," he says. Now he is a vocal advocate for safe abortion, but has faced criticism even from officials in the health department. One bigwig said: "Now I am shaking the hand of one who is dripping in blood."

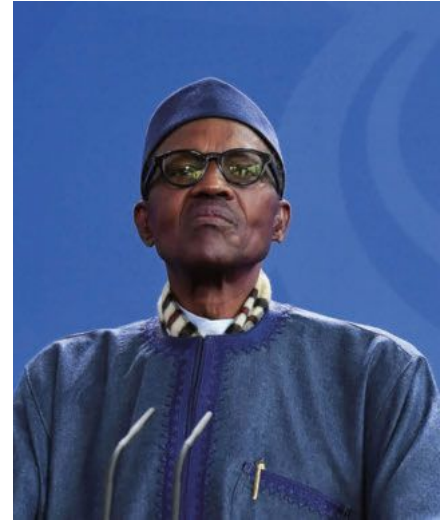
Some health professionals working for the state refuse to offer abortion services because they are against it for personal and religious reasons. It can therefore be hard to find a place willing to perform a legal abortion, especially in rural areas. Only 264 of 3,880 health facilities in the country are licensed to provide them, according to research by Amnesty International. Moreover, surveys show that a great many women think that abortion is still illegal in South Africa.

For dodgy providers, this shortage is a business opportunity. Some approach women waiting in queues outside state-run clinics. And for many women who brave the queues, long waiting lists mean that by the time they are seen they are too far along in their pregnancies to have a legal procedure (13 weeks is the usual limit unless there are special circumstances).

"The vultures are waiting for them at the gates of the hospital," says one nurse. Visits to quacks can end very badly. According to the government, "septic abortion" is a major cause of death for women in South Africa, alongside cervical cancer and diseases related to AIDS. Those who break laws are rarely held to account.

Instead of risking dangerous backstreet abortions, some women have babies in secret and then dump them. A charity in Johannesburg runs a "baby bin" where women can leave unwanted children in a safe place.

"We've got wonderful laws, a wonderful constitution," says Edwin Cameron, a Constitutional Court judge. "But at the level of practice, we fall desperately short." ■



Nigerian politics

Baba, please go slow some more

ABUJA

Muhammadu Buhari's second-term quandary

THE mantle of power is so heavy in Nigeria that presidential candidates must be begged to run for office, or at least give that appearance. There was no serious doubt that the current president, Muhammadu Buhari, would run in 2015; that was his fourth attempt to win through the ballot box. Yet even he had to maintain the fiction ahead of that vote, with allies saying that they had pleaded with him to stand. Now, little more than a year away from the next presidential election in 2019, the theatrics are starting again.

In September 2017 the communications minister, Adebayo Shittu, was appointed to chair a "dynamic support group" to campaign for Mr Buhari's re-election. The name seems over-energetic for a candidate who was nicknamed "Baba Go Slow" during his lethargic first few years in office. "He has not made up his mind but...some of us can assist him in making up his mind," Mr Shittu said. A month earlier the president visited Kano, the largest city in northern Nigeria, where he coyly refused to accept the endorsement of the local chapter of the ruling All Progressives Congress (APC).

Yet before the 74-year-old Mr Buhari can even consider winning an election, he has to secure the full support of his party and his allies. And that is not necessarily a given, particularly since his approval rating slumped to 45% in December, from a high of 80% in October 2015.

In mid-January Olusegun Obasanjo, a former president and still-powerful statesman, wrote an open letter urging him to quit after one term, accusing him of nepo- ▶▶

tism and mismanaging the economy. Last year Atiku Abubakar, a former vice-president and serial party-switcher, defected back to the opposition People's Democratic Party (PDP). Other ruling-party bigwigs are weighing up whether to defect, bide their time until the next election in 2023, or challenge Mr Buhari in a primary.

The pivotal figure is Bola Tinubu, a former governor of Lagos state, whose domination of politics in Nigeria's south-west won Mr Buhari the presidency when they formed a coalition ahead of the contest in 2015. Mr Tinubu, no spring chicken at 65, is thought to want the top job himself.

But Nigeria's main parties cling to a convention that ensures the presidency rotates between northern and southern poli-

ticians after two terms. If Mr Buhari is eased out after one term, he should be replaced by another northerner. If so Mr Tinubu's first shot at the presidency would be in 2023, so people think he would rather throw in his lot with Mr Buhari than back a different northern politician who might want to serve two terms.

Nor is the opposition standing still. Mr Abubakar has a huge war-chest and he is formidable on the campaign trail. But his wealth and party-hopping are viewed with suspicion. "The greatest asset Buhari has right now, politically, is the incompetence of the opposition," says Chris Ngwodo, an analyst. If the incumbent wins the backing of Mr Tinubu again, their electoral machine will be hard to beat. ■

Jihadist chick lit

How to please your holy warrior

That and other advice from al-Qaeda's women's magazine

"GREET your husband with a smile when he comes and a smile when he goes." So says a new magazine aimed at women in the Middle East. "Don't dabble in his work," it continues, and certainly don't hector him. "Can you imagine all the bloodshed and bones he sees every day? Your fussing only increases the pressure."

The magazine, launched in December, is called *Beituki* ("Your Home"). The publisher is al-Qaeda, which seems fed up with the way other jihadists empower their women. Al-Qaeda's scribes tell female members to stay indoors and be good brides. "Make your house a paradise on earth," it advises. "Prepare the food your husband loves, prepare his bed after that and do what he wants."

The magazine appears, in part, to be a reaction to Islamic State (IS), which has called women to the front lines. IS has trained jihadistas to use weapons and given women a role in spreading propaganda online. Before the group lost Mosul, waves of female suicide-bombers threw themselves at Iraqi forces.

"Al-Qaeda fears the conflict has made women too vocal, active and empowered," says Elisabeth Kendall of Oxford University. "It would rather they focused on etiquette indoors." *Beituki* is crammed with tips for getting your holy warrior's attention. "Stealing is legal," it teases, "when you're stealing your man's heart." Flirt "like a butterfly", it suggests, and wear dashing clothes.

Unlike a women's magazine published by the Taliban, *Beituki* does not feature gun-toting women. Instead it shows designer homes furnished with mahogany chairs and neat stacks of

dishes. Love letters from "Um Abdullah" to her husband, an unnamed jihadist, are decorated with cherubs' wings and hearts. It even runs an agony-aunt column for frustrated jihadist brides.

In addition, al-Qaeda is rolling out women's institutes to spread domesticity. Its Syrian offshoot, Hayat Tahrir al-Sham, runs "Daughters of Islam" centres, which advertise on pink billboards. They have distributed tens of thousands of black *abayas*, or full-body coverings.

The history of Islam is full of strong women. Nusaybah bint Ka'ab fought alongside the Prophet Muhammad. Aisha, the Prophet's favourite wife, rode to war on a camel. Al-Khansa'a, a 7th-century poet, claimed to be "the greatest poet among those with testicles, too". That seems a far cry from *Beituki*'s vision of women confined to the home. " weren't you thrilled when your husband told you he was going to join the *jihad* for God," it asks, "even though you knew that perhaps he might never return?"



Africans in Israel

Let my people stay

JERUSALEM

A controversial plan to deport African migrants is dividing Israel

COMPARISONS with dark chapters in Jewish history tend to elicit the knee-jerk Israeli response of *asur le'hashvot*, the Hebrew for "you can't compare". But a government plan to deport more than 34,000 African migrants to Rwanda is provoking more hand-wringing than usual, not least because Israel itself was created by refugees and survivors of the Holocaust.

The government has proposed a plan to offer financial incentives including the payment of \$3,500 to African migrants who agree to leave Israel "voluntarily" and go to Rwanda or Uganda. It said that those who do not agree to leave may be expelled by force or imprisoned.

In response activists in Israel are promising to hide Africans threatened with expulsion in their homes. They have named their campaign to provide shelter the "Anne Frank Home Sanctuary", after the Dutch-Jewish girl who hid with her family from the Nazis in Amsterdam. Opposition to the plan has also made it onto the airwaves. A popular television programme has cut actors' names from its credits, listing them instead simply as "grandson of a refugee from Russia" and "granddaughter of a refugee from Iraq".

Adding to pressure, a group of Holocaust survivors has written an open letter to Binyamin Netanyahu, Israel's prime minister, saying: "We who know what it is to be a refugee, what it is to be without a home and a state that will protect us from violence and suffering, cannot understand how a Jewish government is capable of deporting refugees and asylum-seekers to a journey of suffering, pain and death."

The government objects strenuously. It insists that its deportation policy adheres to international law, adding that refugees will not be sent back to war-torn or repressive countries such as Sudan and Eritrea. In any case, it argues, none of the deportees qualifies for political asylum. But rights groups say Mr Netanyahu's government has obstructed asylum-seekers with red tape. Of 15,000 applications processed, just 12 were approved.

The government has relented a little. It is reducing the pace and scope of deportations. Only unmarried men will be expelled. Hoping to minimise embarrassment, Rwanda, a close friend of Israel, has also said it will not accept migrants removed against their will. (Israel's ministers, though, insist that the arrangement with Rwanda still stands.)



An uncomfortable comparison

▶ Yet Mr Netanyahu will probably not water down his policy much more. His voters like it and he worries that rival parties might outflank him on the right. Last year Gallup, a pollster, named Israel near the bottom of an index in which it measured people's acceptance of immigrants. Some fret that refugees are causing crime; others that they will dilute the Jewish state. Ayelet Shaked, the justice minister and a member of the nationalist-religious Jewish Home Party, gibed that "Israel is not Africa's employment agency".

Such concerns are overblown. Israel's booming economy has driven unemployment so low that the country is short of labour. And the addition of 34,000 Africans will hardly transform the character of a population of almost 9m. In any case, the flow of African migrants to Israel through Egypt ended in 2013, after Mr Netanyahu erected a new border fence.

Yet the debate is widening cleavages between those championing Jewish nationalism and what others deem the Jewish values of charity and humanism that also underpin the state. Yehuda Bauer, a former director of Israel's Holocaust museum, Yad Vashem, has denounced Israel's policy of herding African migrants into "modern concentration camps" in the desert.

Critics also contrast this with Israel's Law of Return, one of the underpinnings of Israel's existence which grants citizenship to Jews no matter where they are born. Under it some 27,000 Jews immigrated to Israel last year. Yet this two-tiered system provides no standard process of naturalisation for non-Jews. That may have made sense when Israel offered a vital haven for persecuted Jews and could not afford to open its doors more widely. But 70 years on it is a prosperous country in need of workers. Meanwhile most Jews around the world live in peace and do not want to exercise their right to move to Israel. ■

Disintegrating Yemen

Anarchy beckons

MARIB

Yemen's second city follows the rebellious example of the capital

IT WAS typical Aden. Bomb blasts, gunfire and fireworks lit up the night in a chaos of conflict and celebration. Southerners marched through Yemen's second city proclaiming independence from northern taskmasters. Tanks punctured their cries with shells. Soldiers of the United Arab Emirates (UAE) joined in the mayhem, raining artillery fire on bases loyal to the vestiges of a central government that they had supposedly entered Yemen to protect.

The fighting that began on January 28th subsided after two days, leaving at least 36 dead. For the second time in three years officials loyal to the titular president, Abd Rabbo Mansour Hadi, prepared to flee from their offices. As *The Economist* went to press Mr Hadi's presidential guard held out on just one small hilltop. But his government's bases, the lucrative container port and the refinery were all under control of the Security Belt, a southern rebel militia trained and armed by the UAE.

As a result, Yemen is left with three centres of power and Mr Hadi's coalition is split in two. The Houthis, a Shia rebel group supported by Iran, rule Sana'a, Yemen's capital, which they captured in 2014. Ali Mohsin, a veteran warlord and the vice-president, oversees the remains of Yemen's national army from the city of Marib (see map), east of Sana'a, together with his allies from Islah, a clutch of Islamist-leaning northern Sunni tribes. And now the Security Belt's political arm, the Southern Transitional Council, is ruling the roost in Aden under a former governor, Aidarus al-Zoubaidi, and his Emirati patrons.

The big loser is Mr Hadi. He has no loyalists left on the ground. "An emperor with no clothes," sneers a foreign observer. From his gilded exile in Riyadh, the Saudi

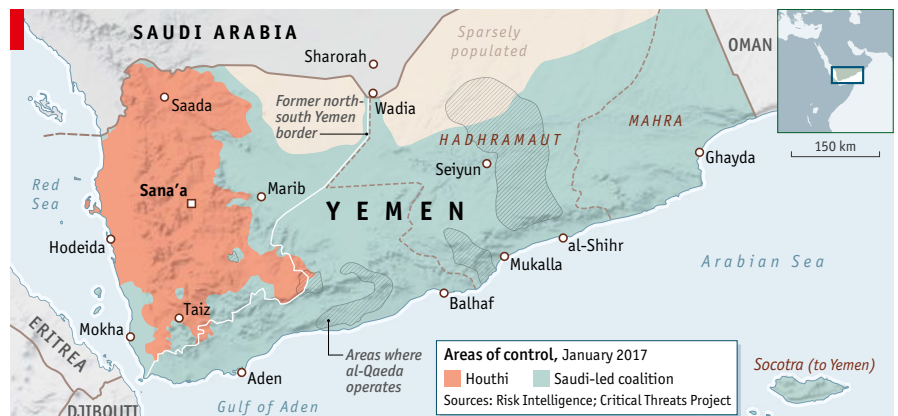
capital, he still has choices. He could proclaim Yemen a federation and name Mr Zoubaidi as his deputy. Though Mr Zoubaidi has raised the flag of the former South Yemen, he is tempering his separatist rhetoric for now. He says he just wants Mr Hadi to shuffle his cabinet to bring his men on board.

But Yemen's cracks go deeper. Bar the past 28 years, the south and north have rarely been united. For centuries Sunni Muslim fighters manned *ribats*, or citadels, on the coast and in the Hadhramaut region in the south and east. Their aim was to stop the northern imamate, which followed a Shia version of Islam known as Zaydi, from encroaching. Britain ruled the south, with its capital in Aden, as a separate colony for 128 years. South Yemen became a state of its own when Britain withdrew.

Unification of north and south in 1990 was meant to be a merger. But southerners saw it as a takeover by the more populous north. Even now, southerners consider themselves more cosmopolitan and northerners as *qat*-chewing highland tribesmen. They regard Mr Mohsin and his friends in Islah less as allies against the Houthis than as occupiers set on pilfering their oil. "The Yemen army should go and fight in the north, and leave the south to defend its own land," says Haider al-Attas, a former president of South Yemen.

In an effort to marshal the south under his rule, Mr Zoubaidi has held an assembly in Aden for representatives of the south's six provinces, and staged rallies in places Mr Hadi never visited during his six years in office. Although expelled from Aden, Mr Mohsin and Islah still have bases in the south that can threaten the separatists.

Southern warlords, too, will be loth to surrender autonomy to Mr Zoubaidi. Just as Aden wants to cut loose from the north, many southern cities crave independence from Aden. Hadhramis would like their provincial capital, Mukalla, to leave them alone. In turn Mahra, an eastern province, fears Hadhramaut. A Yemeni federation may be better than an anarchic break-up. But neither Mr Zoubaidi nor Mr Hadi may be able to halt the slide into chaos. ■





Turkey and NATO

An unhappy marriage

Recep Tayyip Erdogan seems happy to put Turkey on a collision course with NATO

ANXIETIES about Donald Trump's commitment to NATO and Russia's military assertiveness remain at the top of the alliance's agenda. But close behind looms the problem of semi-detached Turkey, a country that not only possesses NATO's second-biggest armed force, but also straddles a critical geopolitical fault-line between west and east.

Turkey is not only unpredictable. It also pursues a nationalist agenda that can put it at odds with its obligations to allies. The most recent source of tension is the simmering row between Turkey and America over Turkey's incursion into Afrin, a Kurdish enclave in north-west Syria. This is not, strictly speaking, a matter for NATO. However, American troops could soon find themselves under direct attack from their NATO ally if Turkey's president, Recep Tayyip Erdogan, carries out a promise to "strangle...before it is born" a 30,000-strong American-backed "border security force", composed largely of YPG Kurdish fighters whom Turkey regards as terrorists.

Mr Erdogan probably calculates that he can face down America, which is less interested in the region than he is. He may be right, but clashing interests in Syria are only one element in Turkey's troubled relationship with NATO members. Well before an attempted coup in the summer of 2016, there were growing concerns within NATO about Turkey's drift towards authoritarian-

ism. In the aftermath of the botched coup, those fears have intensified. Mr Erdogan, resentful of what he took to be insincere expressions of support from the West (in contrast with Vladimir Putin's full-throated congratulations), has embarked on a brutal purge of anyone suspected of disloyalty. Among the 50,000 arrested and 110,000 dismissed from their jobs for supposed links with the exiled cleric, Fethullah Gulen (regarded as the plotter-in-chief), are about 11,000 military officers and pilots.

According to one Turkish military analyst, 38% of Turkey's generals were sacked. Many were singled out for being pro-Western secularists. Some 400 Turkish military envoys to NATO were fired and ordered home—many fled abroad rather than face jail—to be replaced by less qualified Erdogan loyalists, some of whom are actively hostile to NATO and sympathetic to its adversaries. General Curtis Scaparrotti, the alliance's supreme commander, has complained of "degradation" in staff quality.

In another episode, German MPs were last year (not for the first time) refused permission to visit German air crews flying support missions into Iraq from two bases in Turkey, Incirlik and Konya. It looked like punishment after Germany had banned Mr Erdogan's supporters from holding rallies on its soil in support of his campaign to extend the powers of the presidency. (He called the ban a return to "Nazi practices".)

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After an intervention by NATO's civilian chief, Jens Stoltenberg, the Turks eventually allowed the lawmakers access to the AWACS crews at Konya. But the Germans still moved their Tornados from Incirlik to Muwaffaq Salti, an air base in Jordan which America is expanding, at a cost of \$143m, as an insurance policy in case they need to leave Incirlik.

The warmth of Turkey's relations with Russia, particularly since the coup, is another worry. Mr Erdogan looks to his opposite number in the Kremlin as the man to do business with in Syria. He sees in him a strong and purposeful leader like himself. By cosying up to Mr Putin, he sends a message to NATO that he has other options. From Mr Putin's point of view, Mr Erdogan gives him a means of dividing and weakening NATO and the West, which is his overriding strategic objective.

Red on blue

The most flagrant demonstration of Mr Erdogan's Janus-faced foreign policy was the announcement in December that Turkey has signed an agreement to purchase two batteries of advanced S-400 surface-to-air missiles from Russia. The S-400 system cannot be integrated with NATO air-defence systems and, at least at first, will be set up and operated by Russians. Unless Turkey is frozen out of NATO information-sharing on countermeasures aimed at defeating the S-400, Russia can expect a windfall of intelligence.

Most worrying, Turkey is a partner in the F-35 programme and is due to take delivery of 116 of the stealthy fighter jets that will be the mainstay of NATO's combat air capability for the next 30 years. Turkey will be in a unique position to hone the S-400 against the F-35, knowledge that Russia may well take advantage of. Some nation- ▶▶

al-security commentators in America argue that Turkey should either cancel the S-400 or be told it cannot buy the F-35. The resulting confrontation could lead to Turkey marching out of NATO.

NATO officials are doing their best to put on a brave face. They point out that Turkey has also signed a deal with Eurosam, a European consortium building air-defence missiles, and that the S-400 may be just a stopgap. They also say that, in other ways, it is business as usual. Turkey is fulfilling its commitments to the alliance, for example by guarding Kabul airport and doing nothing to hinder a NATO-EU security agreement, which it could have blocked. There is sympathy, too, for Turkey's vulnerability to terrorism and praise for the refugee burden it has borne. And even if there were a mechanism for suspending or expelling Turkey from NATO, which there is not (although its tarnished democratic credentials would prevent it joining the alliance as a new member), its geopolitical importance is as great as ever.

The hope is that Mr Erdogan knows that Russia is using Turkey for its own purposes, and that it is no substitute for NATO as a long-term security partner. It is possible, too, that his post-coup paranoia will abate, although there is little sign of it. But as with many unhappy marriages, the reality is that—however fraught their relationship—Turkey and NATO have little choice but to try to make it work. ■

Italy

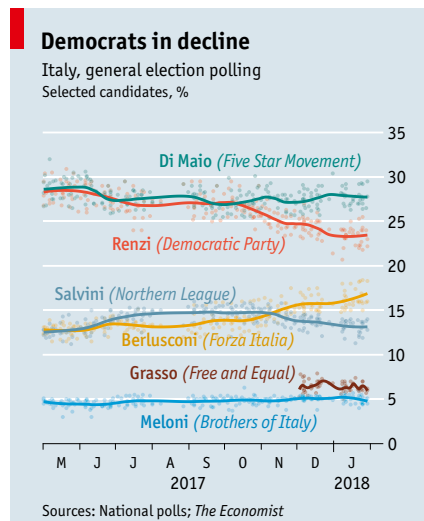
Demolition of the demolition man

MODENA

The ruling party is struggling as the election nears

THEY like their food in Modena, a city on the foggy flatlands south of the River Po that gave the world the Ferrari, Luciano Pavarotti and a restaurant, the Osteria Francescana, that was voted the best in Europe last year. As people gathered for a fundraising dinner in the suburb of San Damaso, a delectable aroma wafted through the sports hall where it was to be served. And among the pleasures it betokened was the sweet taste of revenge.

The dinner was for a new party, *Liberi e Uguale* (Free and Equal, or *LeU*), founded last year by politicians who had left Matteo Renzi's governing, centre-left Democratic Party (PD). Some of the rebels objected to his business-friendly policies; others complained of his ruthless marginalisation of the party's old guard, including the night's main speaker, Pier Luigi Bersani, who led the PD until 2013. Mr Bersani insists his differences with Mr Renzi are political. "He



has taken the PD—my PD—torn out its roots, and taken it elsewhere," he says as he waits to take the platform.

The PD traces those roots to the once mighty Italian Communist Party (PCI), which for almost 40 years was the main opposition party to the now-also-defunct Christian Democrats. A merger between those, like Mr Bersani, who belonged to the PCI and a smaller group of progressives who left it as it imploded, including Mr Renzi, became the PD. Proclaiming himself *il rottamatore* ("the demolition man"), Mr Renzi has sidelined PD worthies of all stripes, but particularly ex-communists. The list of candidates for Italy's general election which he unveiled on January 27th showed that he had set aside around 80% of winnable seats for his followers.

Mr Bersani claimed, and senior PD officials privately concede, that his successor's true goal after the vote on March 4th is a coalition with Silvio Berlusconi's conservative Forza Italia party—if, as looks probable, no party or alliance wins an outright majority. But Mr Renzi's chances of being a kingmaker in the talks after the ballot, and perhaps even of surviving as party leader, depend on the PD's performance. The auguries are not good. Polls have recorded a steady decline in its support from a peak of more than 40% in mid-2014 to around 23%. The *LeU* split has not helped.

The PD's decline seems an odd reward for the dominant partner in a government presiding over a (modest) economic revival after years of crisis. Italy's GDP grew by an annual 1.7% in the third quarter, spurred by rising exports and, even more encouragingly, rising internal demand and foreign investment. Under Mr Renzi, who resigned as prime minister last year to be succeeded by Paolo Gentiloni, a labour reform was passed that has since helped to create around a million jobs (though too many of them involve short-term contracts).

A senior PD official points to two causes of the party's decline: a perception that it is

not in control of immigration and the split in its ranks, which is as much about Mr Renzi's autocratic style as about policy. Mr Bersani reckons the *LeU* could achieve double its current poll showing of 6-7%. But he denies that it is stealing votes from the PD. Its message, he says, woos disenchanted supporters of the anti-establishment Five Star Movement and voters who would otherwise abstain. But he acknowledges that it also appeals to a third group: "people who have been voting PD without conviction". There seemed to be plenty in the hall in San Damaso. "Renzi doesn't listen to anyone," said Tiziana Bassoli, a housewife. "He has to understand we're not just going to sit here and listen to him."

In places like Modena, where the left has been in office continuously since 1946, the disputes that have split the left have divided families, soured friendships and caused Davide Fava, the PD's provincial secretary, weary, incredulous despair. The surrounding region of Emilia-Romagna was once among the poorest in Europe, he recalls. It grew rich because its inhabitants pulled together in a way that made them naturally receptive to the PCI's pragmatic version of communism. His grandfather, who had been "happy to eat one meal a day", had joined other local shopkeepers to form an association that gave them leverage over their suppliers. Today, it is one of Italy's biggest supermarket chains.

"I have difficulty understanding the reasoning behind this split," he says. "We are divided over issues that make no sense." And he scoffs at the claim that Free and Equal will not damage the Democrats. "In the current situation, losing 1% is damaging," he says. "My fear is that it will let in a right that has already shown itself unable to govern Italy." ■



Renzi approaches breaking point

Sanctions on Russia

Copy and paste

MOSCOW

A token effort from the Trump administration

RUSSIA'S elite had been on edge for months. A new American law on sanctions, passed last summer, required the administration to draw up lists of senior officials and "oligarchs" close to Vladimir Putin's regime. Though inclusion on the list would not automatically lead to sanctions, many feared that it would be tantamount to a scarlet letter. Businessmen hired lawyers and lobbyists to press their case in Washington. Some considered bringing capital back to Russia, fearing asset freezes and seizures.

Then early this week the list came out, and sniggering ensued—on both sides of the Atlantic. Just over 100 senior government officials were named. Keen commentators noted that the selection closely matched publicly available lists on the English-language version of the Kremlin website. Konstantin Kosachev, the head of the foreign-affairs committee of the upper house of parliament, said that the administration appeared to have "copied the Kremlin's phone book". Another 96 big businessmen were singled out; the entirety, in fact, of the billionaires list from the Russian edition of *Forbes*. "My research assistant could have done it in an hour—maybe less," tweeted Michael McFaul, a former American ambassador to Russia.

The copy-paste approach produced an eclectic and illogical list. Alongside well-known cronies and old friends of Mr Putin are fairly neutral executives, Russian citizens who operate mostly abroad and magnates who have clashed with the Kremlin. As a result, the report is "so broad, so inclusive and so non-discriminatory" that it undercuts the purpose of the bill, argues Daniel Fried, the State Department's former co-ordinator for sanctions.

For Donald Trump's administration, that may have been the point. Mr Trump reluctantly signed the bill, the Countering America's Adversaries Through Sanctions Act (CAATSA), after it sailed through Congress last year. "There's a huge philosophical gap between where the president and the bureaucracy stand on sanctions and Russia policy writ large," says Andrew Weiss of the Carnegie Endowment for International Peace. The so-called Kremlin report followed an earlier announcement that the government would not yet impose sanctions on countries or companies doing business with Russia's defence and intelligence sectors, another step mandated by CAATSA. The Kremlin brushed off the

Drugs policy in Germany

Still not high

COLOGNE

Though now legal, medicinal cannabis is hard to find

"THE pain wasn't going away." It was 2004. Two years earlier a car had missed a "stop" sign and hit Günter Weiglein, throwing him off his motorbike, breaking many bones and leaving him full of medical screws and plates. Prescription painkillers were proving ineffective, leaving him sweaty and sleepless. Then, one evening, he smoked cannabis with some friends. It was a revelation: "70% of the pain went, without side effects." It became a routine and, after a close shave with the police, he sought the right to smoke legally. In 2014 the government granted him an exceptional licence to consume cannabis, which helped pave the way for the nationwide legalisation of medicinal cannabis. It came into force last March.

But almost a year on, sufferers like Mr Weiglein struggle to obtain the weed they need. One problem is the conservatism of the medical industry. Many doctors are reluctant to prescribe cannabis rather

than traditional opiates, like morphine. Even when they do, at around €24 (\$30) per gram, more than double the street price, the over-the-counter cost is more than many people can afford privately. Health insurers decline a third of requests for reimbursement. Not all pharmacists stock cannabis, either because they disapprove or because they are unfamiliar with it. And demand far outstrips supply. Yet Germans take new treatments seriously (*Apotheken Umschau*, a health-and-medicines monthly, is the country's most read magazine) and particularly like natural remedies.

Growing cannabis within Germany will remain illegal until next year, when just ten licences will be issued allowing production at secret sites by trained pharmacists vetted for security, sworn to confidentiality and (lest they be tempted to sample for quality) prevented from touching the finished product. Farmers think these conditions impossible.

That leaves foreign-grown cannabis. But here, too, "the licensing rules are far too strict," says David Henn, whose firm, Cannamedical, is Germany's largest supplier. The blockages are evident even in Cologne's weed-friendly pharmacies: "We're on a waiting list. I think it will take two months," says Frau Metzendorf at the Apotheke im Hauptbahnhof. At the nearby Dom Apotheke, clients are told to wait three months, though "those who really want it can get it on the corner".

Plenty do. Police in big cities sometimes turn a blind eye to street dealers (possession of small quantities is legal). Growing cannabis at home is riskier. In November Mr Weiglein was sentenced to two years' probation for having 45 cannabis plants in his flat. The first licence for home cultivation was issued in 2016, but he is urging that this, too, be fully legalised. "That's the next frontier," he says.



Need for weed: pot pursuit 2

report's potential impact. The rouble rallied slightly and Russian borrowing costs dipped when it was published, suggesting the markets saw little to worry about.

Nonetheless, the report may yet bite. More detailed and damning information may be included in a classified section. Steve Mnuchin, the treasury secretary, said further sanctions would follow from the published list. Western businesses and banks may be more reluctant to deal with the Russians named. The Association of European Businesses, a lobbying group in Moscow, warned that the report "increases

the uncertainty in the Russian business environment" and could affect the interests of European investors and firms operating in Russia. RBC, a Russian business-news agency, reckons that the 96 businessmen on the list collectively lost \$1.1bn because of share-price movements on the day after its release. Alexei Navalny, a Russian opposition leader who campaigns on an anti-corruption message and days earlier had led nationwide protests, cheered the report, saying: "We're glad that they've been labelled crooks and thieves at the international level." ■

Russia's church

Orthodox business

MOSCOW

The Russian church is getting too close to the Kremlin

EVERY January 18th a million Russians make foreigners shiver and wonder. This year again, in temperatures ranging from -10°C in Moscow to -45°C in Yakutia, they plunged into a cross-shaped hole cut in the ice. The annual ritual, marking the baptism of Christ, was the top news item on Russian state television, mainly because one man taking part was President Vladimir Putin. Arriving dressed in the peasant attire of a sheepskin coat and felt boots, he stripped off, crossed himself and leapt into the icy waters of Lake Seliger.

Local officials followed suit. In the ancient city of Yaroslavl, on the Volga, the local mayor and a member of the United Russia party told district prefects to lead by example. "I ask all heads and their deputies to take part in this organised event. You are all Orthodox people, are you not?" he said in a televised statement. He seemed the spitting image of a Soviet Komsomol leader ordering public workers to take part in May Day parades or communist *subbotniks*, "voluntary" unpaid weekend manual work.

The mayor's rhetoric illustrates a paradoxical similarity between Soviet and modern religious practices. The portraits of Lenin have been replaced with Orthodox icons and the anniversary of the Bolshevik revolution has been swapped for a celebration of the expulsion of the (Catholic) Poles from (Orthodox) Russia in the 17th century. But the attitude still feels deeply Soviet. The Russian prosecutor regularly slaps criminal charges on bloggers for "offending the feelings of the faithful". The Patriarch of the Russian Orthodox church practically campaigns for Mr Putin's reelection. The state protects religious activists and attacks artists who challenge the church. The church, in return, has become a guardian of state ideology.

Although this may elevate the official status of the church, it has bred much the same resentment as Soviet ideology did in the 1980s. Two-thirds of the Russian population, according to the Levada Centre, an independent pollster, do not wish to see the church influence decisions of the state. Whereas the number of people who identify themselves as Orthodox Christians has doubled since 1991 to 71%, only 6% visit church every week, according to the Pew Research Centre. Senior Russian clerics prefer to measure the growing role of the church by the number of parishes, rather than church attendance. "In 1988 the Rus-

sian Orthodox church had 6,000 parishes. Now we have 36,000...This means that every year we opened more than 1,000 churches," says Metropolitan Hilarion Alfeyev, the bishop who runs the church's foreign relations.

The clergyman says that, as a rule, the church has always supported the state. In the 19th century, Orthodoxy was incorporated into an ideological triad of the state, along with nationalism and autocracy. Stalin flirted with it for the same reason. The KGB infiltrated the church, turning many hierarchs into its informers. Such proximity to an often corrupt and repressive state undermined the moral authority of the church.

The end of Soviet rule offered hope for spiritual revival, but the church was more focused on the restitution of its properties. The 1990s were perhaps the freest years it had ever experienced. They were also the most challenging. Cut off from the state, the church risked sliding into irrelevance. It offered its loyalty to the new state in return for various concessions, including the right to import alcohol and tobacco duty-free. "Money turned out to be more important to the church than its reputation," says Sergei Chapnin, a commentator who was fired from the Moscow Patriarchate in 2015.

In the 2010s the newly enthroned Patriarch Kirill successfully engaged in a new trade. He presented the clergy as chaplains of the empire and principal suppliers of

ideological tenets such as "traditional values" and "Russian World", a Slavic commonwealth based in Moscow. But as Mr Chapnin wrote, "There is only one tradition that is being passed on to the next generation. It is the Soviet tradition."

But while Soviet bishops were often forced to co-operate with the KGB, these days they volunteer their services. One of the more entrepreneurial is Bishop Tikhon Shevkunov, often described as Mr Putin's confessor. The choir of his monastery, once ransacked and occupied by Soviet secret police, recently sang at a Kremlin concert dedicated to the 100th anniversary of the state security service. Like his peers in the security services, Bishop Shevkunov peddles anti-Western conspiracy theories and pays homage to Stalin.

Yet the church is no monolith. Few have been as strong or clear on the question of the Soviet past as Bishop Hilarion. In 2009 he described Stalin as "a monster who created a terrible, anti-human system of governing the country based on lies, violence and terror", and likened him to Hitler. "They both brought so much sorrow into the world that no military or political successes can redeem their guilt before humanity," he said. In today's Russia such words are an act of defiance.

The church's attitude towards the Soviet era will soon be in the spotlight as Russia commemorates the centenary of the execution of its last tsar and his family by a Bolshevik firing squad in July 1918. As Bishop Hilarion says, "I do not believe that reconciliation can be achieved by a simple silence about the atrocities which were done by the Soviet authorities towards their own people. We still have to talk about this, because when people tend to forget history, they tend to repeat the same mistakes." It will take more than a plunge into icy water to wash away the past. ■

**The Russian establishment**

Charlemagne | The Minniti method

Italy's interior minister thinks the left should have an answer to illegal migration



MOST interior ministers can hope for little more from their job than to avert disaster. Managing migration, crime, terrorism, policing and prisons is largely a matter of avoiding bear-traps rather than seeking glory. Jack Straw, who held the job in Britain for four years, called it “Life in the Graveyard”.

Not, though, for Marco Minniti, Italy's interior minister. In the first half of 2017 a sharp rise in maritime migration from Libya spooked Europeans, still recovering from the refugee crisis of 2015-16. But crossings fell by 70% after Mr Minniti stepped in. Polls declared him Italy's most popular politician. Some even spoke of him as a potential prime minister.

From his office in Rome, Mr Minniti sets out the steps of his strategy. First, last February, came a deal between Italy and Libya's UN-backed government, which the EU quickly supported. Then, in April, Mr Minniti brokered an agreement between warring tribal leaders from Libya's sparsely populated south, through which African migrants heading to the coast travel from Niger. The breakthrough came in July, when he convened a meeting of 14 Libyan mayors in Tripoli. “Agree to separate your city's destiny from human smuggling, and we'll create a different future,” he told them. Smugglers in coastal cities like Sabratha were told (and perhaps paid, although Italy denies funding criminals) to find other things to do. Meanwhile the Italians and the EU trained Libya's coastguard to pull back migrants fleeing for Europe. The numbers, and deaths at sea, dropped precipitously. International organisations, like the UN's refugee agency, now have space to function in Libya, Mr Minniti proudly notes.

Mr Minniti, who once oversaw Italy's intelligence services, cultivates the reputation of a spymaster with mysterious contacts in every corner. But he also has a strategist's mind. Sounding more like a foreign than an interior minister, dropping the names of philosophers and classical authors as he goes, he offers a vision of the intertwined destinies of Europe and Africa, based on security, demography and economics. His knowledge of the complex tapestry of militias, tribes, terrorists and competing power centres of Libya, to which he has been travelling for two decades, is “second to none”, says one EU official. Mr Minniti has suggested that his upbringing in Calabria, Italy's toe, a baroque world of organised crime and political violence, may have given

him a head-start in understanding Italy's southern neighbour.

Once a card-carrying communist, Mr Minniti reinvented himself as a centre-left pragmatist. Today his security-first approach to migration irks other Italian ministers who hew to what an EU official calls “the moralistic school of policy”. Some ex-colleagues, such as Massimo D'Alema, Mr Minniti's mentor and a former prime minister, have disowned him; NGOs hate him. But voters are fans. Mr Minniti was a “far-sighted interpreter of fast-changing Italian attitudes”, says Giampiero Massolo, a former intelligence head who worked with him. “He did things that would have been unthinkable for the left a few years ago.”

For many on the European left they remain so. But Mr Minniti suggests that is a sign of his comrades' struggle to understand the politics of fear. “The left must stand beside those with fears in order to free them,” he says. “Populists do so to chain them.” Yet his critics claim that Mr Minniti is responsible for stoking rather than quelling those anxieties. However popular, his actions have hardly seen off the threat from anti-immigrant populists, as Italy's election on March 4th will demonstrate.

Other worries centre on the conditions of detained migrants in Libya. Many are picked up and returned to shore by the coastguard, which Mr Minniti says conducted 22,000 search-and-rescue-operations last year. But 5,000 migrants moulder there in overcrowded official detention centres staffed by corrupt guards with a fondness for torture and sexual violence. The unofficial centres are doubtless worse, and no one knows how many they hold. Médecins Sans Frontières, an NGO, calls the system “rotten to the core”, and says Europe is complicit. “The problem is an old one,” says Mr Minniti. “The difference is that the UN [and other organisations] are now present.”

Then there is the murky role of Libya's militias, which run the smuggling networks. Mr Minniti says that combating smuggling shores up Libya's weak institutions. But Mark Micallef from the Global Initiative Against Transnational Organised Crime, a watchdog, says Italy may have fuelled instability in Sabratha and elsewhere by providing the militias with fresh ways to make money, and opportunities to launder their reputations. Aiding militias, even indirectly, does not foster stability in Libya, he says.

The road to Tripoli

Many observers seem unsure about Mr Minniti, praising his knowledge and competence—traits not abundant in Italian politics—while fearing a lack of follow-through. “I adored him,” says Maria Nicoletta Gaida, who as head of an NGO, Ara Pacis, helped him broker the deal in the south last year. But she and others say that the projects the tribal leaders were promised as alternatives to smuggling have not materialised. Others worry that the minister sees Libya only through the “dirty lens” of intelligence.

Libya's instability makes it hard to bet that Mr Minniti's deals will stick. Migrant crossings have started to creep up again, amid a fresh surge in fighting. In the long term, Mr Minniti says, he has created space for Europe to do more for Africa. But the EU's ambitious plans in countries like Niger have already been hampered by dozy bureaucracies and Brussels turf wars.

Still, Mr Minniti has shown that governments need not be helpless bystanders when neighbours are unstable. His own days in office may be numbered—although his popularity could inoculate him against dismissal, even with a change of government. Either way, if the rest of Europe genuinely cares about Libya, it should walk through the door he has opened. ■



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Britain and the European Union

A sea of troubles

Theresa May is under fire from all sides—including from many Tory Eurosceptics

ANYONE familiar with the European Union could have predicted that the negotiations to leave it would be long and painful. But few could have expected Theresa May's government to prove so incompetent at the job. The boost she got after reaching agreement in Brussels in December on the Brexit divorce terms under Article 50 has faded fast. All around the EU she is criticised for failing to spell out what she wants the future trade relationship to be. And in London many of her own MPs are plotting to dump her because they think she is not up to the job.

It is telling that the latest Brexit row should be about the transition period after March 2019. This ought to have been one of the few uncontroversial issues. In her Florence speech last September, Mrs May was clear that what she calls an "implementation" period would prolong the status quo, only with Britain losing its voting rights. As she argued, such an arrangement was needed to give business certainty and to avoid requiring it to adjust twice. She proposed that the period should be time-limited, lasting "around two years".

On January 29th EU foreign ministers approved their negotiating guidelines for such a transition. They leave Britain few choices. During transition, it must stay in the single market and the customs union. It will be subject to the full force of EU legislation, including new laws, without any say

in them. All four freedoms, including of movement of people, will continue, though Mrs May wants to limit new arrivals' right to stay. Britain will remain under the European Court of Justice. As for the time limit, the guidelines propose a shorter period than Mrs May did, with transition ending on December 31st 2020.

There are pitfalls in transition. One is what happens to the EU's hundreds of agreements with third countries, including its trade deals. David Davis, the Brexit secretary, wants to remain in these, and he expects the EU to agree. But some third countries may seek concessions in return. A bigger problem is that the transition period is too short to negotiate and ratify a deep trade deal with the EU. The guidelines may leave open the possibility of an extension, but some lawyers say this may not be possible under Article 50, which is about withdrawal, not staying in.

Yet the biggest political issue on transition is the assertion by Brexiters that Britain will become a "vassal state". Mr Davis's suggestion that he should be allowed to object to new EU laws will get short shrift, although British observers may be able to attend some working groups. Britain will be in a more abject position than full EU members and than countries in the European Economic Area, which mostly follow EU rules. One diplomat in Brussels likens EU transition to being a colony, something

Britain should know all about.

Jacob Rees-Mogg, the new head of the European Research Group of Eurosceptic Tory MPs (see Bagehot), dislikes vassal statehood so much that he thinks it would be more honest to extend Article 50's two-year deadline, though that would need unanimous agreement from the EU's members. It would also resolve legal worries and concerns about third-country deals. But politics gets in the way. Mrs May might be fuzzy about her ultimate goals for Brexit, but she is clear that she must be able to say that Britain has left the EU on March 29th 2019. That is consistent with entering a transition period, but not with prolonging membership by extending Article 50.

Why are hardline Brexiters only now making a fuss about the transition? After all, as Jonathan Lis of British Influence, a think-tank, points out, its terms have been "patently obvious since Florence". The answer is that hardliners are becoming ever more fretful about the direction the Brexit negotiations are taking. Many fear that Mrs May is heading towards a softer Brexit than the one she set out in her Lancaster House speech just over a year ago. Mr Rees-Mogg has accused the government of being cowed by the EU.

Brexiters worry about the consequence of Britain's promise in December that there will be no border checks in Northern Ireland. One Eurocrat calls this "unimplementable" if Mrs May sticks to her red lines of leaving the single market and the customs union. Brexiters also know the EU is unimpressed by talk of selective regulatory divergence, which it sees as cherry-picking, and wants to enforce a level playing-field for competitiveness. They know big businesses want to stick with EU regulations and stay in a customs union. Though they dismissed this week's ►►

▶ leak to BuzzFeed, a news website, of government forecasts showing that any model of Brexit would cut economic growth as just more scaremongering, some must worry that the forecasters will be right this time. Most alarming is the analysis that trade deals with third countries would do little to offset lost trade with the EU.

The response of Brexiters has been to coin an acronym for something they are determined to prevent: BRINO, or Brexit in name only. Many were incensed when the chancellor, Philip Hammond, told business leaders in Davos that, although Britain might diverge from the EU, the differences would be “very modest”. Mrs May’s office promptly said that leaving the single market and customs union could not be described as very modest steps. But Brexiters now have Mr Hammond, and maybe Mrs May and her adviser Olly Robbins as well, in their sights.

The mood in Parliament is febrile. This week the House of Lords began its debate on the EU withdrawal bill. Even many Tory peers criticised the excessive powers it confers on the government. Several also called on Mrs May to be clearer about her end-goals. Many MPs expect the Tories to do badly in local elections in May, especially in anti-Brexit London. The prime minister could yet survive all the plots against her, not least because she has no obvious successor. But there is a risk that Parliament may vote down any Brexit deal she reaches this autumn. The biggest fear for Brexiters may not be of a soft exit—but whether Mrs May can deliver any Brexit at all. ■

Theresa May in China

Macartney’s heir

BEIJING

The prime minister’s awkward visit shows Britain’s weakened clout

IN 1793 the leader of Britain’s first mission to China, George Macartney, refused to kowtow to the emperor. His attempt to maintain Britain’s dignity, however, was rather undermined by the message written on the sails of the imperial junks that transported his diplomats and trade goods to Beijing. This read: “Ambassador bearing tribute from the country of England”.

Dealing with the Chinese government is rarely easy, as Theresa May found during her three-day visit to the country this week. The prime minister had a difficult balance to strike. For one thing, she wanted to reassert that Britain and China are still enjoying the “golden era” proclaimed in 2015 by Xi Jinping, China’s president, and her predecessor, David Cameron, who since leaving office has been trying to set up a China-Britain investment fund.

She also wanted Britain to become more closely involved in the Belt and Road Initiative, a \$4trn network of infrastructure projects that is Mr Xi’s signature foreign policy and the focus of Mr Cameron’s fund. To that end, she has already—as she sees it—done more than other rich countries to cosy up to the scheme. Her chancel-



Mrs May (right) and friend

lor, Philip Hammond, has appointed a “City envoy” to it (Douglas Flint, a former chairman of HSBC) and set up a “City board” to try to bring the financing of belt-and-road projects up to rich-world standards of transparency (good luck with that). Above all she needed to show, by improving ties with China, that her talk of a global Britain open for business after Brexit is not just waffle.

Like Macartney, Mrs May would prefer to get all this without kowtowing. She also knows that European countries are wary of the opaque financing of belt-and-road projects, and suspicious of China’s use of the scheme to expand its influence in central and eastern Europe. America’s administration has dubbed China a “strategic competitor”. This means Mrs May cannot bend over backwards to buy her host’s acquiescence without offending Europeans and Americans.

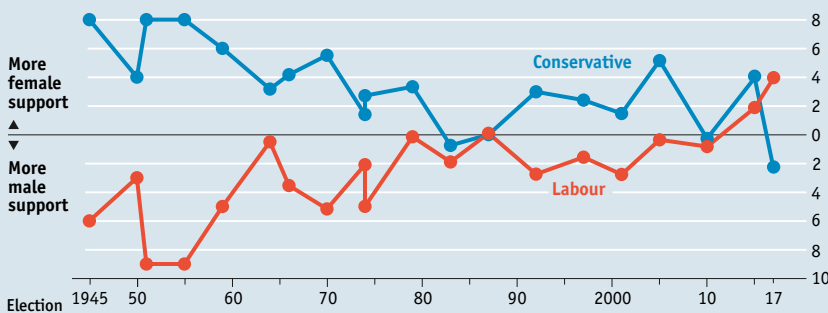
If she had hoped the Chinese government would let her off the hook by not demanding too much in exchange for her wish-list, she was soon disappointed. The Chinese asked her formally to endorse the Belt and Road Initiative by including flattering words about it in various memoranda of understanding. They also wanted Britain to support Mr Xi’s attempt to present himself as a leader of globalisation by embracing his buzz-phrase about a “shared future for mankind”.

All this went too far. Mrs May gamely spoke of the “British dream”, echoing Mr Xi’s slogan of a “Chinese dream”, and tactfully avoided the subject of human rights, at least in her public remarks. But she turned away from happy talk about a “golden era” and gave warning that China needed to respect international trading rules more. Perhaps Mr Xi supposed Mrs May was so weak domestically that she would have to give in to Chinese pressure. But perhaps she was so weak that she could not. ■

History lessons

On February 6th Britain will celebrate a century of female suffrage. The movement had a cautious beginning. In 1918 voting rights were extended only to women over 30 who owned property or were married to a man who did. Universal suffrage came a decade later. The conservative men who passed the law of 1918 feared electoral defeat if they opened the ballot boxes to “flappers”, the young women who wore short dresses, heavy make-up and bob haircuts and had scandalously liberal social attitudes. In reality, women’s voting habits turned out to be more conservative than men’s—and more or less stayed that way until last year. If men alone had voted, Labour would have won the elections in 1955, 1959 and 1970. The Tories prevailed in all three because they won the female vote by a margin wider than the tasselled hem of a flapper’s skirt.

Britain, general elections, difference in male and female vote share by party, percentage points



Sources: *Critical Elections: British Parties and Elections in Long-term Perspective*, G. Evans and P. Norris, 1999; Rosalind Shorrock; British Election Study

Bagehot | The pinstriped populist

An eccentric backbencher has become one of the most important politicians in the country



JACOB REES-MOGG is about as low on the Conservative Party's official pecking order as you can get. He doesn't have a seat in the cabinet, or the chairmanship of a Commons committee. He has never graced the whips' office. Judged in conventional terms, his career since being elected as MP for North East Somerset in 2010 has failed to take off. Yet he is one of Britain's most prominent politicians. He is forever popping up on television or radio. His gibes about "BRINO"—Brexit in name only—generate headlines. On February 1st a poll of Tory party members conducted by ConservativeHome, an activists' website, found that he was the top choice to succeed Theresa May, with 21% of the vote.

With the likes of Boris Johnson, the foreign secretary, and Michael Gove, the environment secretary, bound by collective cabinet responsibility, Mr Rees-Mogg has emerged as the leader of the ultra-Brexiteer faction of the Tory party. He has served the longest apprenticeship in Eurosceptic thinking in British history. His late father, William Rees-Mogg, a former editor of the *Times*, was one of the founders of the movement. Sir William Cash, another Eurosceptic grandee, recalls tutoring the young Jacob in the cause. Now he is increasingly the movement's public face, as the leader of the European Research Group, a caucus of Eurosceptic MPs.

He is also the object of a personality cult. Young Tories (an admittedly limited group) embrace him with the same cooing enthusiasm that young Labourites have for Jeremy Corbyn. Georgia "Toff" Toffolo, this year's winner of "I'm a Celebrity...Get Me Out of Here!" has declared him "dishy". (It is a measure of how absurd Britain has become that one of the other "celebrities" in this programme was Mr Johnson's father, Stanley.) One young man has had Mr Rees-Mogg's name tattooed on his chest. There is talk of "Moggmentum" to take on Labour's Momentum.

But he is more than just the leader of a faction or a cult. He is also the embodiment of the average Conservative Party member. A recent survey by Queen Mary University of London painted the fullest picture to date of Tory members. Some 44% are over 65 and 71% are men. They think austerity has been a good thing. They believe in traditional values and harsh prison sentences. They love Brexit—and not just any old Brexit, but the full-strength sort, leaving both the customs union and the single market.

These activists put up with David Cameron, and his embrace

of Notting Hill values, so long as he was winning. But their hearts lie with Mr Rees-Mogg, not just because they agree with his views but because they love his style. He is the blue passport in human form, the red telephone box made flesh, the Royal Yacht *Britannia* in a pinstripe suit; a reminder of a world in which traditional Britons didn't have to apologise for being who they were and bow before the gods of multiculturalism, feminism and health and safety.

Mr Rees-Mogg is blessed with some everyday political skills, including a quick wit. When David Dimbleby, a broadcaster, ribbed him for having gone to Eton, he shot back that he had been there with Mr Dimbleby's son. He is a good phrasemaker. He is also preternaturally polite. Confronted with a group of protesters who called him "despicable", he calmly explained that "just because you disagree with somebody that doesn't make them a bad person." But his greatest political skill is his ability to play up his personal foibles. Most upper-class people who end up in politics moderate their accents and mainstream their views. Mr Rees-Mogg has chosen the opposite strategy.

The danger of this is that it turns you into a caricature—even a grotesque. Mr Rees-Mogg is not so much a person as a collection of foibles. He speaks with an Edwardian accent. His idea of business casual is a two-piece suit. He uses words such as floccinaucinihilipilification in parliamentary debates. The father of six children (the youngest of whom is called Sixtus), he admits that he has never changed a nappy.

But turning himself into a caricature has brought Mr Rees-Mogg two big advantages. It has allowed him to stand out from the crowd, like a peacock in a coop of battery chickens. He likes to present himself as an anachronism—"the honourable member for the 18th century", as some nickname him—but in many ways he is a post-modern politician who, rather like Donald Trump, understands that the best way to attract attention in a world of babble is to turn yourself into a freak. The second is that it has allowed him to master the current mood of anti-politics. The Blair-Cameron era saw politicians of all parties conforming to a particular type, wearing sensible suits, spouting sensible views and smugly explaining that "there is no alternative". The era also saw all politicians labelled liars and frauds. Mr Rees-Mogg is popular on the right for the same reason that Mr Corbyn is popular on the left: voters read their refusal to become part of the blob as proof of their authenticity and unbending commitment to the truth.

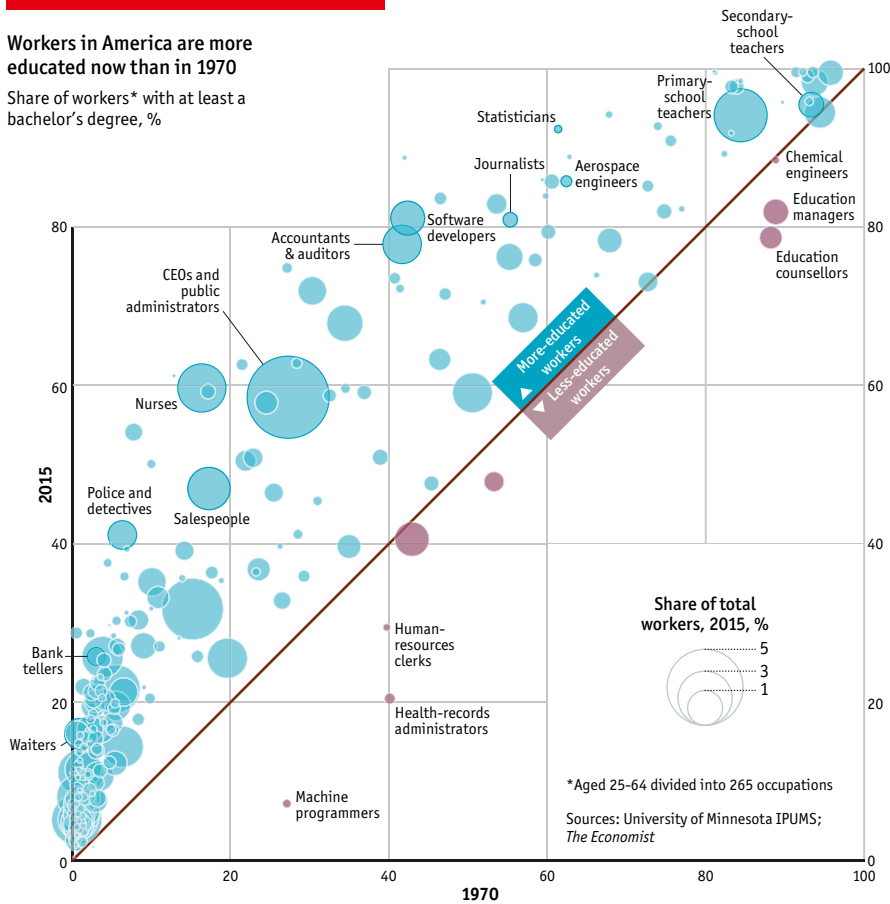
The meaning of Mogg

There is one striking difference between Mr Corbyn's authenticity and Mr Rees-Mogg's, though. Mr Corbyn's is much closer to the spirit of modern Britain. A successful investor, Mr Rees-Mogg lives in a manor house, cushioned by a fortune of more than £100m (\$140m). A committed Catholic, he says that he obeys "the hierarchy of the Roman Catholic church, not the whips' office" and opposes abortion even in cases of rape. He even took the family nanny with him when campaigning in a safe Labour seat (though, out of deference to local opinion, he drove his mother's Mercedes rather than his own Bentley).

Most MPs know that a Rees-Mogg-led Conservative Party would be crucified in an election. But they also know that if Mrs May's leadership is challenged, Mr Rees-Mogg might just emerge from the resulting scrum as the man holding the ball, since party members make the final choice. Fear of such a calamity is doing as much as anything to keep Mrs May safe in Downing Street. ■

Workers in America are more educated now than in 1970

Share of workers* with at least a bachelor's degree, %



workers, it seems plausible that more will need to be well-educated. And a degree is an obvious way for bright youngsters from poor families to prove their abilities.

But comparisons between countries provide little evidence of these links. Richer countries have more graduates, but that could be because there is more money to spare, and less urgency to start earning. Rich economies grow more slowly, but that is probably because they have fewer easy ways to raise productivity, not because education depresses their growth.

A truth universities acknowledged

The main piece of evidence cited by policy-makers is the “graduate premium”—the difference between the average earnings of someone with a degree and someone with no more than a secondary-school education, after accounting for fees and the income forgone while studying. This gap is often expressed as the “return on investment” in higher education, or the annualised boost to lifetime earnings from gaining a degree. Research by the New York Federal Reserve shows that the return on investment in higher education soared between 1980 and 2000 in America, before levelling off at around 15% a year. In other words, an investment equal to the cost of tuition and earnings forgone while studying would have to earn 15% annual interest before it matched the average value over a working life of gaining a degree.

The World Bank has produced estimates of this return for 139 economies. It varies from place to place, but is substantial everywhere. *The Economist’s* analysis of the data finds that returns are linked to the share of people with degrees, and the range of earnings. Returns in Britain and Germany are similar to those in America. In sub-Saharan Africa, where degrees are scarce and the least-educated workers earn little, they are around 21% a year. In Scandinavia, where wages are less unequal and two-fifths of adults have degrees, they are around 9%.

But as a guide to school-leavers considering going to university—and to policy-makers considering expanding access to higher education—the graduate premium is flawed. Even within countries the average conceals wide differences. Most students know that a degree in mathematics or finance is likely to be more lucrative than one in music or social work. What fewer realise is that the graduate premium overstates the financial benefit of embarking on a degree if their school grades barely qualify them for entry, no matter what they study.

In a comparison of the earnings of people with degrees and people without them, those who start university but do

Higher education

All must have degrees

SEOUL

Going to university is more important than ever for young people. But the financial returns are falling

IN A classroom in Seoul a throng of teenagers sit hunched over their desks. In total silence, they flick through a past exam paper. Stacks of brightly coloured textbooks are close to hand. Study begins at 8am and ends at 4.30pm, but some will not go home until 10pm. Like hundreds of thousands of South Koreans, they are preparing for the *suneung*, the multiple-choice test that will largely determine whether they go to a good university or a bad one, or to university at all.

Over the course of a single generation in South Korea, degrees have become close to ubiquitous. Seventy per cent of pupils who graduate from the country’s secondary schools now go straight to university, and a similar share of 25- to 34-year-olds hold degrees, up from 37% in 2000. Students scramble to gain admittance to the most prestigious institutions, with exam preparation starting ever younger. Sought-after private nurseries in Seoul have long waiting lists.

South Korea is an extreme case. But other countries, too, have seen a big rise in the share of young people with degrees. In the OECD club of 35 countries, 43% of 25- to 34-year-olds now have degrees (see chart 1 on next page). In America the figure is 48%.

Between 1995 and 2014 government spending on higher education in the OECD rose from 0.9% of GDP to 1.1%, while private spending rose from 1.2% to 1.5%. As government subsidies for tuition fees flow through to institutions they have helped inflate costs. Since 1990 fees for American students who do not get scholarships or bursaries have risen twice as fast as overall inflation.

Policymakers regard it as obvious that sending more young people to university will boost economic growth and social mobility. Both notions are intuitively appealing. Better-educated people should surely be more likely to come up with productivity-boosting innovations. As technological change makes new demands of

An interactive version of the chart above can be found on our website, at economist.com/ReturnstoEducation

▶ not finish are lumped in with those who never started, even though they, too, will have paid fees and missed out on earnings. Their numbers are considerable. In America 40% of college students fail to graduate with four-year degrees within six years of enrolling. Drop-out rates across the developed world average around 30%. It is the students admitted with the lowest grades who are least likely to graduate.

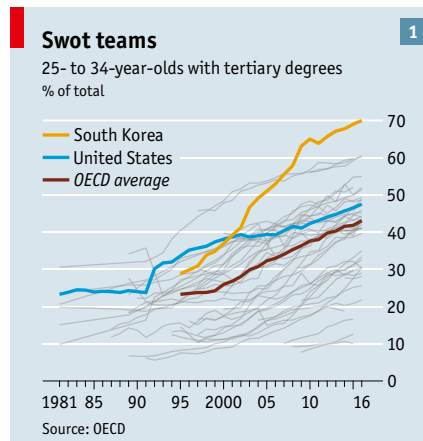
Including dropouts when calculating the returns to going to university makes a big difference. In a new book, “The Case Against Education”, Bryan Caplan of George Mason University argues that the low graduation rates of marginal students, and the fact that, for a given level of qualification, cleverer people tend to earn more, mean that the return on a four-year degree in America ranges from 6.5% for excellent students to just 1% for the weakest ones.

Part of that difference is because the weakest students attend the worst universities, where drop-out rates are highest. When they make it into better institutions, the returns may be higher. In a study published in 2014 Seth Zimmerman of the University of Chicago compared the earnings of school-leavers in Florida whose grades were close to the minimum for admission to a good state university. Those just above the cut-off were much more likely than those just below to start courses in good institutions. They graduated at a rate similar to that of the broader student population. They went on to earn considerably more than those just below the cut-off, and their return on investment was substantial.

Overstating the graduate premium is not the only reason policymakers overestimate the wider benefits of increasing the share of young people who go to university. The usual way to calculate the social returns of higher education is to sum up all the graduate premiums and subtract any public subsidies. But degrees are in part a way to access a “positional good” that benefits one person at the expense of another. Part of the premium comes from gaining an advantage over others in the competition for a good job, rather than the acquisition of productivity-boosting skills and knowledge. A complete calculation would include not just gains to graduates, but losses to non-graduates.

Degrees are also signalling devices. The premium includes the income-boosting effects of personal characteristics that are more likely to be held by those with degrees, not because they acquired them at university, but because they possessed them on admission.

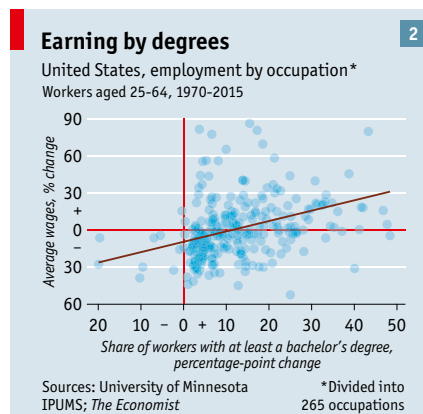
As degrees have become more common, their importance as signalling devices is rising. Recruiters, who pay none of the cost of jobseekers’ higher education, are increasingly able to demand degrees in order to screen out the least motivated or competent. A recent study by Joseph Fuller



and Manjari Raman of Harvard Business School found that companies routinely require applicants to have degrees, even though only a minority of those already working in the role have them. This increases the graduate premium—but by punishing non-graduates rather than boosting the absolute returns to degrees.

Analysis by *The Economist* of American census data finds that between 1970 and 2015 the share of workers aged 25-64 with at least a bachelor’s degree increased in 256 out of 265 occupations (see previous page). Some of these are intellectually demanding jobs that changed a lot over that period, such as aerospace engineer or statistician. Others are non-graduate jobs such as waiting tables. Sixteen percent of waiters now have degrees—presumably, in most cases, because they could not find a graduate job. But other jobs that are mostly done by graduates, such as journalism, nursing and teaching in primary schools, used to require only shorter training, often received while working. Today, having a degree is usually an entry requirement.

The Economist has produced a measure of over-education by defining a graduate job as one which was staffed mostly by degree-holders in 1970. We find that just 35% of graduates work in such occupations today, down from 51% 45 years ago. Judging by job titles alone, 26.5m workers in America—two-thirds of those with degrees—are



doing work that was mostly done by non-graduates a half-century ago.

That calculation exaggerates the trend. Advances in technology have doubtless made some of these jobs more demanding. But not all of them, at least judging by pay. We find only a weak link between higher shares of graduates in an occupation and higher salaries (see chart 2). For around half of the occupations that employ higher shares of graduates now than a half-century ago, real wages have fallen.

Andreas Schleicher, the head of education research at the OECD, reckons that “countries have skills shortages, not degree shortages”. The way universities have come to monopolise higher education, he says, is a problem in part because universities do not suit all kinds of learners. And university dropouts tend to see little in the way of financial benefit from the part of their course that they have finished.

One promising development is that of “micro-credentials” or “nano-degrees”—short vocational courses, often in computing and IT. Udacity, an online education company, offers a variety, including one in self-driving cars approved by Uber and Mercedes-Benz, and another on digital marketing approved by Facebook and Google. EdX, a collaboration between MIT, Harvard and other leading universities, offers similar courses free. Students can take exams to prove their mastery of the material for a few hundred dollars.

Boot campus

For now, such courses are mostly add-ons to degrees, rather than replacements. Three-quarters of edX’s students already had a bachelor’s degree upon enrolling. But the collaboration with sought-after employers makes it more plausible that they could eventually become established as a stand-alone testament to a job applicant’s worth.

In the meantime the decision not to go to university remains risky, even though many graduates will end up doing work that used to be done by non-graduates—or struggle to find a job at all. Around half of unemployed South Koreans now have degrees. For them, the very concept of a “graduate premium” may seem a mockery. Kim Hyang Suk, a recruiter in South Korea, says that half the applicants for customer-service jobs at her firm are graduates, even though only a secondary-school education is specified.

She would prefer school-leavers with experience, says Ms Kim, to inexperienced graduates whom she will have to train. She is not looking for swots, but people who are “engaging, good on the phone”. But when few employers are this open-minded, most young people will want a degree. It may not boost their earnings as much as they had hoped, but without one, they will probably fare even worse. ■



Digital health (1)

Surgical intervention

The world's biggest technology firms are poised to transform health care. That could mean empowered patients, better diagnoses and lower costs

THE past decade has seen the smartphone become a portal for managing daily life. Consumers use their pocket computers to bank, buy and befriend. Now this array of activities is expanding into an even more vital sphere. Apple has spent three years preparing its devices and software to process medical data, offering products to researchers and clinical-care teams. On January 24th it announced the result. The next big software update for its iPhone will include a feature, Health Records, to allow users to view, manage and share their medical records. Embedded in Apple's Health app, the new feature will bring together medical data from participating hospitals and clinics, as well as from the iPhone itself, giving millions of Americans direct digital control of their own health information for the first time.

Apple's fellow tech giants are also on the march into medical services. On January 30th Amazon announced a partnership with Berkshire Hathaway and JPMorgan Chase to create a not-for-profit health-care company for their own employees that promises to employ technology to provide cheaper care than conventional health insurers offer. For the past year, the e-commerce giant has also been exploring a venture to use its logistical prowess to start selling drugs online.

Alphabet, Google's parent, has just launched a third health-care firm, Cityblock Health, to operate alongside Verily, a

subsidiary based in San Francisco, and DeepMind Health, an arm of its London-based artificial-intelligence (AI) firm (a fourth company, Calico, is working to extend human lifespans, but does not provide health-care services). Alphabet already claims to be able to use AI to predict possible deaths of hospitalised patients two days earlier than current methods, for instance, allowing more time for doctors to intervene. Facebook and Microsoft are preparing to add health care to their core businesses of social networking and software.

Until now the tech giants' foray into health care has not gone much beyond wearable devices to track fitness or the provision of cloud-computing services to incumbent providers. In future they aim to deliver real medical services that directly affect individual patients. All five firms have secretive health-care skunk works, are hiring medical talent and are buying or backing external health-care startups. Undeterred by recent claims that their own products may be harmful to mental health, they want not only to be indispensable in customers' lives but to prolong them, too.

The revenues of the industries they could disrupt are enormous. Health-care costs make up about a tenth of any country's GDP on average, worth in total \$7trn in 2015, according to Deloitte, a consultancy. Two insurers, UnitedHealth Group and CVS Health, are among America's largest firms by revenue, bringing in \$185bn and

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Schumpeter is away

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Economist.com/business-finance

\$178bn respectively in 2016. That is more than any tech firm except Apple. Shares in the two insurers fell by 4% on the news of the new Amazon-led health venture.

Apple and Alphabet, however, are likely to have the biggest impact in the near term. Amazon's three-headed health-care venture will cover roughly 1m employees in the first instance, whereas Apple and Alphabet have the potential to generate or enable valuable health insights for hundreds of millions of users, collecting a small slice of that value in return.

There are two broad routes into health care. The first is doing business with hospitals and health-care companies in the existing system. Alphabet provides software services to hospitals, for example; Apple sells smartphones, tablet computers and wearables to medical professionals and hospitals. A second route is for tech firms to use their various platforms to create entirely new channels through which medical care can be delivered to patients. Such channels include watches that use machine-learning algorithms to monitor the wearer's health, phones through which clinical trials can be run and apps that provide medical-grade care to people managing chronic conditions such as diabetes.

Deploying bedside manner

Start with the existing system. Alphabet's business here comes through Verily and DeepMind, and has focused on Britain's National Health Service, which offers a single, standardised market. DeepMind has partnerships with four large hospital groups, to which it provides an app called Streams. This uses the hospitals' data to generate alerts that draw doctors' attention to the potential deterioration of patients. In May, meanwhile, Verily switched on data processing for a hospital—the NHS Heywood, Middleton and Rochdale Clin-

cal Commissioning Group, near Manchester. It crunches through the hospital's pseudonymised patient records, looking for patterns that suggest the emergence of long-term diseases like diabetes and alerting doctors if they are found. (In September Microsoft started a health-care division in Cambridge, which will devise medical algorithms of its own.)

None of this is straightforward. Health records generated in conventional clinical settings are immensely valuable—no amount of smartwatch accelerometer data is going to take the place of an MRI or an X-ray. Such records are increasingly available in digital form (see chart) but they are often messy and hard to process. DeepMind has had to spend months cleaning up data flows from a British hospital, the Royal Free, for instance, and has not yet delivered any AI-driven insights.

Apple's approach is more focused on hardware. It is working to make its devices into trusted, secure channels through which medical data can flow. Third parties, rather than Apple itself, then build useful health services on top. Putting patients' health records on iPhones will make these far more effective.

Millions of people around the world have already joined medical studies using this infrastructure, participating through iPhones. Hints are emerging of the power of the approach. An app called mPower, built by Sage Bionetworks, a non-profit research organisation, studies Parkinson's disease by getting iPhone users to perform tasks and measuring the tremor in their hands using the phone's internal accelerometer. The data so far suggest that Apple's platform may soon enable medics to spot Parkinson's digitally, over the internet, before it is symptomatic in a patient.

All this makes money for Apple by increasing the perceived value of its devices, says Anurag Gupta, a health-care analyst at Gartner, an IT research firm. The firm also hopes that clinicians and insurers will buy and use Apple devices in their work.

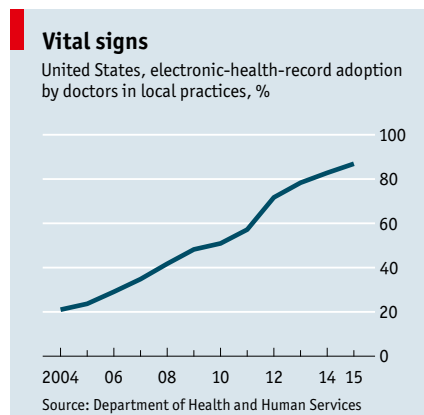
Algorithms v arrhythmia

Delivering medical services through brand-new channels—the second route into the industry—holds equal promise. The new non-profit venture from Amazon, Berkshire Hathaway and JPMorgan Chase fits into this category. Details are scarce, but the three firms might, for instance, use Amazon's data-processing skills to build tools to monitor and care for patients outside hospitals and surgeries. Some speculate that the firms might build an app that makes booking a doctor's appointment as easy as reserving a table at a restaurant. Whatever is built for their own employees, it seems likely that the services will end up being made available to the public, too.

Another recent innovation is Alpha-
bet's Cityblock Health. Its mission to care

for low-income city-dwellers in their own homes does not rely on existing health infrastructure at all. It plans to send its own health-care professionals to the homes of people needing care, with the visits paid for by insurance, often Medicaid, the social-insurance system that covers America's poorest. Cityblock Health will trawl data to spot where care is needed. It plans to hire some 55 people over the next six months, including data scientists, software engineers and a lead physician, as well as a team to interact directly with patients.

Smartphones and watches are channels for new services in their own right. In this realm, Apple would become a direct provider of actual care to patients. It holds patents to turn its phones into full medical devices, using a bundle of sensors around



the camera to let users measure their blood pressure, body fat and heart function by pressing a finger to the screen, for instance. Other patent filings envisage putting sensors into both phones and smartwatches to collect electrocardiograms to monitor heart health more precisely, and even doing biometric monitoring through AirPods, the firm's wireless headphones.

Apple has also tinkered with sensors which gauge stress or measure blood oxygenation, and is reportedly working on ways to measure blood glucose through its watch, helping it get a handle on diabetes. Late last year it said it would join up with Stanford University to develop algorithms to spot irregular patterns in heartbeat data gathered by its watch. This research could produce what is known as a "digital therapeutic", which goes through a full regulatory approval process (see next story).

Verily's eclectic range of ventures includes building new kinds of surgical robots in a joint venture with Johnson & Johnson, a drug firm. It is also working on cutlery containing self-stabilisation technology, to help those with tremors to eat. The firm has two joint ventures to try to tackle diabetes, one with Dexcom, a medical-device-maker, and another with Sanofi, a drugs company. Verily also seeks to organise health information so that it can

be queried for useful insights. Project Baseline, a research study, will gather data from 10,000 people over four years to do this.

Facebook's work in the field has been discreet and focused on two areas—mental health and clinical trials. In November the firm said it had started to use AI to monitor its users' online behaviour for patterns which indicate depression, and to reach out in an effort to prevent suicide. The photos a user posts on Instagram may signal depression, for example, depending on the colours they contain, the times at which they are posted and whether they show faces. Google is trying something similar.

Facebook is also hoping to formalise and monetise an activity which is already common on its platform—namely, groups of patients discussing their symptoms. One plan is to help drug companies recruit people from these online gatherings for clinical trials, and to manage groups of patients who sign up, presumably in return for payment from the drug firms.

This time may be different

It is worth remembering that the prospect of technology firms transforming health care has been heralded in the past, only to disappoint. Google started a health-records initiative in 2008, but shut it down by 2011, citing poor adoption. Microsoft made similar efforts with similarly low take-up. Yet ten years on, the centrality of the smartphone, with its potential to give patients access to their data whenever they want and wherever they are, changes the game.

So too does the inexorable logic of the data economy. Data sets that contain information about human health are hugely valuable. At a time when health-care budgets around the world are stretched, payers are desperate for insights that might enable them to cut costs while maintaining quality. The more data the tech firms can handle, the more they will learn about human health, and the better the services they can offer will become.

That raises some familiar concerns. Privacy is an obvious one: the tech world's mindset of "move fast and break things" works less well when it comes to health data. And the same competition issues that dog Google's search business and Facebook's social-networking service would arise in health care, too, if a particular AI diagnosis platform, say, were to become dominant. DeepMind's work in Britain is already on the radar of the EU's competition watchdogs. Meanwhile, Amazon's partnership with Berkshire Hathaway and JPMorgan Chase will lure in huge quantities of patients' data, leading to continual improvement of its services and, potentially, fears about dominance.

Apple's entry into the field offers some answers to these worries. Its efforts in health so far have been cautious. The only patient data it processes now come from its ►►

► partnership with Stanford University, and in future the firm is likely only to analyse medical information from those patients whose trust it has fully secured. Its services will be opt-in; patients who find themselves in hospitals working with Alphabet's DeepMind, by contrast, are offered opt-out consent mechanisms.

Earlier attempts by Google and Microsoft to offer patients a home for their digital records obliged people to consider whether they trusted the two companies enough; many decided the answer was no. If they only have to decide whether their own iPhone is sufficiently secure, many will believe that it is. Apple has so far lagged behind other technology giants in earning revenues from the booming market for data. It may yet strike gold in the most sensitive personal-data category of all. ■

Digital health (2)

Pill crushers

Regulated health apps are starting to compete with conventional drugs

LUANN STOTTEMYER has had diabetes for 23 years, but it was only in 2016 that her doctor prescribed a treatment that changed her life. It has allowed her to bring her blood-sugar levels under control and lose weight. Yet this miracle of modern science is not a new pill. It is a smartphone app called BlueStar.

The program is one of a growing number of apps that America's Food and Drug Administration (FDA) has approved to treat everything from diabetes to substance abuse. The FDA has encouraged firms to join a scheme that aims to streamline the regulatory process for such treatments. There are many candidates: at least 150 firms globally are developing some form of "digital therapeutic" ("digicetical" in the lingo), says Mark Sluijs, who advises Merck, a big American drugmaker.

Unlike other sorts of digital health apps, digicetals have been tested for efficacy, approved by regulatory agencies such as the FDA and are prescribed by a doctor. Most gather data, either by asking patients for information or by using sensors, and provide real-time guidance. Diabetes apps, for instance, work with connected monitors and use the information to manage symptoms. Apps that help users to stop smoking combine a breath sensor with coaching on how to quit. Addiction-fighting apps can be based on cognitive behavioural therapy.

Most apps are developed by startups, many of which are based in and around Boston. One such, Pear Therapeutics, has a

pipeline of treatments at various stages of development, much like a conventional pharmaceutical firm. These apps are aimed at treating a range of conditions: opioid addiction, schizophrenia, anxiety, insomnia, post-traumatic stress disorder (PTSD), depression and chronic pain. Pear's RESET app, for instance, which treats disorders involving the misuse of alcohol, cocaine and other stimulants, has been approved for sale and should be on the market in early 2018. The app will be more effective than conventional treatments, claims Corey McCann, Pear's chief executive. It carefully trains patients to recognise daily triggers and cravings and to monitor and track these with their doctor.

Another area of attention is medication for attention-deficit hyperactivity disorder (ADHD), on which Americans spend \$14bn annually. Akili Interactive, another startup, recently completed a trial showing that a computer game it has developed to treat ADHD can improve attention and inhibitory control in children. If approved, the game would be the first digital therapeutic for this disease. As well as competing with existing drugs, it may also appeal to parents who are reluctant to medicate their children for ADHD.

Some digicetals will work better alongside conventional drugs, rather than on their own—opening up possibilities for alliances between tech and pharma firms. Voluntis, a startup, develops companion software for specific medications or medical devices. These programs can monitor side-effects, help manage symptoms and connect patients with doctors and nurses.

Pharma firms and venture capitalists remain cautious, however. Only a few drugmakers have invested in startups, and VCs are waiting to see what happens with the current crop of businesses, says Nikhil Krishnan of CB Insights, a data provider. One reason for the reluctance is a lack of rules for prescribing and paying for these apps—a problem that a new lobbying group, the Digital Therapeutics Alliance, wants to tackle. Cultural hurdles have to be overcome, too: many patients will find it hard to believe that software can be as effective as a pill. Analysts estimate that the market for digicetals will be worth a modest \$9bn by 2025.

Once accepted, however, digicetals should take off and may well be created by large pharma and tech firms as well. The apps make it possible both to measure whether patients are adhering to their treatment, and to collect evidence on outcomes. Barriers to entry for startups are lower than for drugmakers, which need access to costly laboratories and manufacturing facilities. So many apps will compete to treat the same disease, which should spark very rapid innovation—a rare phenomenon in medicine—and perhaps even to lower prices, a rarer one still. ■

Wynn Resorts

Losing streak

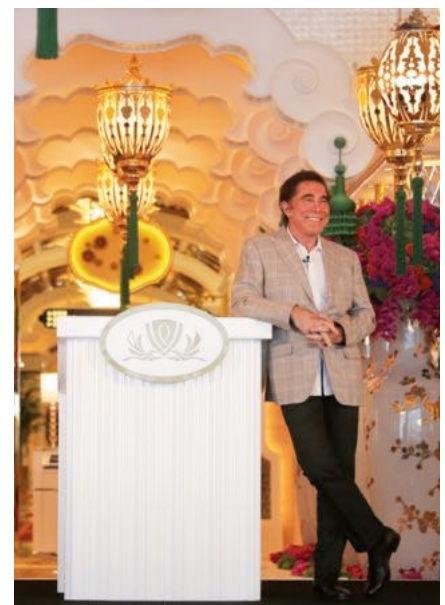
Sexual-misconduct allegations against Steve Wynn hurt his casino empire

EVEN in a business where the house always wins, Steve Wynn is used to winning more than anyone else. The casinos that the billionaire has built, from The Mirage and Bellagio to Wynn Macau and Wynn Palace, helped transform Las Vegas and Macau from seedy gambling joints into luxury high-roller destinations. His fiercest rivals heaped praise on him as a visionary and perfectionist. His company, Wynn Resorts, enjoyed a "Wynn premium" from analysts and investors.

Now he could lose control of his empire. On January 26th the *Wall Street Journal* published an investigation detailing numerous allegations that would amount to a decades-long pattern of sexual misconduct by Mr Wynn. The board of Wynn Resorts has announced an inquiry by a special committee into the reports, the veracity of which Mr Wynn denies.

He has resigned as finance chairman of the Republican National Committee. Gaming commissioners in Nevada, Macau and Massachusetts are conducting their own inquiries. He could yet be pushed to step down as chairman and chief executive of the firm he founded, in which he holds a 12% stake. The market value of Wynn Resorts, which had more than doubled in just under a year to \$20bn, has fallen by 15% since the report.

The *Wall Street Journal* reported that, without informing his board, Mr Wynn ►



Rien ne va plus

▶ paid a \$7.5m settlement to a manicurist who told others that Mr Wynn forced her to have sex at his Wynn Las Vegas casino in 2005, and whose supervisor had reported the incident to human resources. The newspaper reported allegations that Mr Wynn exposed himself to massage therapists and other women and made unwanted advances. According to the newspaper, women would hide in lavatories when Mr Wynn was said to be on his way to a salon where they worked. Mr Wynn, in a written statement, said, “The idea that I ever assaulted any woman is preposterous.” He also accused his ex-wife, Elaine Wynn, of instigating the allegations as part of a long-running legal battle, which she has denied.

Mr Wynn is the first boss of a big public company to face sexual misconduct accusations in the #MeToo era. As with Harvey Weinstein and The Weinstein Company, Mr Wynn’s control over Wynn Resorts is viewed as near-absolute. His signature is the company’s logo. Depending on the outcome of the firm’s inquiry, its board and senior executives may come under intense scrutiny from both investors and regulators over whether they failed to hold the boss to account.

His empire-building may come to a halt before then. Regulators in three jurisdictions are considering the impact on the company’s fitness to hold casino licences. Mr Wynn has a new project under construction in Las Vegas, is planning an expansion in Macau and is building a casino in Massachusetts. The \$2.4bn Wynn Boston Harbour, scheduled to open next year, is projected to be hugely profitable since it would have an effective local monopoly. But the greatest financial exposure for Wynn Resorts is in Macau, an autonomous region of China, where its two casinos provided 75% of the company’s \$1.7bn of earnings before interest, taxes, depreciation and amortisation last year. The company holds a concession from the Macau government that is up for renewal in 2022.

If Mr Wynn steps aside, the firm would become vulnerable. Competitors are sizing up its assets. “Everybody’s moving quickly,” says an executive close to one of Wynn Resorts’ rivals. Suitors include Caesars Entertainment; Blackstone, a private-equity group with a casino in Las Vegas; and MGM Resorts International, which already owns the Mirage and Bellagio, having swallowed up Mr Wynn’s previous casino company, Mirage Resorts, in a hostile takeover 18 years ago. The prospect of yet another forced sale is a remarkable turnaround in fortunes. Analysts from JPMorgan Chase, in a note following the news of the allegations, said that Wynn Resorts has long had “the single largest individual CEO dependency” of any gaming company the investment bank covers, and that investors have rewarded the firm with a premium. But a big bet on one boss carries risks. ■



The beverage business

Tall drink of soda

The \$18.7bn takeover of Dr Pepper Snapple highlights a secretive family’s plans

EUROPE is home to some extraordinary wealth creators who often try to hide their success. Ingvar Kamprad, a Swedish farmer’s son, constructed IKEA, a seller of flat-pack furniture that became a global giant with annual revenues of €38bn (\$47bn). He died at the age of 91 on January 27th, after a famously frugal life. Amancio Ortega, the Spanish son of a railway worker, founded Inditex, a fast-fashion giant, and shuns any media attention. Then there is the reclusive Reimann family of Germany, members of which reportedly take a vow at the age of 18 not to talk publicly about their business, JAB Holding, a Luxembourg-based investment group.

Yet JAB’s habit of gulping down big, famous firms at a frenetic pace is making it hard for it to stay in the shadows. On January 29th it said it will pay \$18.7bn in cash (plus some shares) to buy Dr Pepper Snapple, the world’s fifth-biggest maker of soft drinks, which has roots dating back to 1885. It will be combined with Keurig Green Mountain, an American coffee producer that JAB bought in 2016 for \$14bn. In the past few years most of its targets have been in the coffee business, so a maker of ice-cold beverages is a departure. As it has done with Keurig, JAB plans to squeeze costs and pay down hefty debt, while winning market share.

JAB’s focus on consumer-goods firms in America, especially coffee producers, could suggest it hopes to rival giants such as Nestlé and Starbucks. In the past couple of years it also paid \$1.35bn for Krispy Kreme, a maker of doughnuts and coffee, and \$7.5bn for Panera Bread, a bakery

chain with over 2,000 outlets. That deal was touted as one of the biggest in the global restaurant industry. An earlier plan to emulate Europe’s luxury groups, such as France’s LVMH, in building collections of brands has been dropped. Last year JAB offloaded Jimmy Choo, a maker of shoes, for \$1.2bn. It hopes also to sell Bally, another luxury firm.

The change of focus looks astute. Consumers, readier to pay more for experiences rather than just products, show an ever-growing fondness for pricey shots of strong coffee, especially those squirted via plastic pods. A survey last year found that 41% of American adults drink “speciality” coffee (industry jargon for pricier stuff) daily, up from just 9% in 1999. Many of these are quaffed at home. Next, firms want to encourage consumers to down cold drinks—perhaps Dr Pepper or Snapple for starters—using similar pod systems.

Being sure of what JAB plans for the future is tricky. It is managed by professionals, but decisions on what to buy are taken by the Reimann family. The legal descendants of Ludwig Reimann, a chemist and industrialist, their wealth has variously been valued at €16bn–33bn. As JAB grows, analysts increasingly liken it to 3G, a feared Brazilian investment group that snaps up makers of consumer products like Kraft Heinz before slashing costs and jacking up returns. JAB claims to have a different philosophy, emphasising the long term. Given its secretive owners and previous turns of strategy, however, it is hard to know whether to take that notion seriously.

The music business

Banding together

Collaborations are becoming ever more common in popular music

FEW who have given an address at Harvard Business School have a CV like that of Khaled Mohamed Khaled, who spoke there in 2016. The 42-year-old music producer began his career as a record-store clerk and radio host. Today DJ Khaled, as he is known to fans, is one of the world's most successful hip-hop artists. Although critics may disagree on the merits of Mr Khaled's music, his selling strategy—bringing together the hottest pop stars of the moment—is worthy of any business-school classroom. America's music industry is increasingly following his formula.

Collaborations like those assembled by Mr Khaled are nothing new. Ever since the hip-hop group Run-DMC teamed up with Aerosmith, a rock band, to record "Walk This Way" in 1986, record labels have recognised that combining the fan bases of multiple artists can be a boon to record sales. The practice has spread. According to data from the *Billboard* Hot 100, a weekly ranking of the most popular singles in America, collaborations now represent more than a third of hit songs (see chart). Of the top ten songs on the current Hot 100 chart, half are credited to more than one artist.

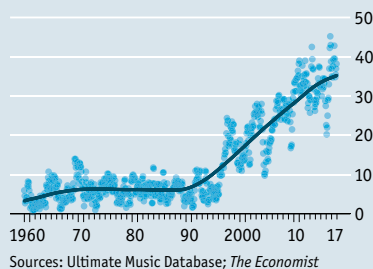
Many of them are songwriters. Today's pop songs are manufactured by an assembly line of writers and producers, in what Larry Miller, director of New York University's Steinhardt Music Business Programme, calls an "industrial song-writing machine". It takes an average of nearly four songwriters to craft a hit song, up from two in the 1980s. Bruno Mars's "That's What I Like", which was named song of the year at the 60th annual Grammy awards on January 28th, credits no fewer than eight.

Hip-hop's growing influence has meanwhile brought more guest artists into the recording studio. Nielsen, a market-research firm, calls R&B/hip-hop America's most popular genre. It has a culture of collaboration. The best representation of this might be the "posse cut", a style of song in which as many as half a dozen rappers take turns delivering a verse. Hip-hop artists continue to collaborate at higher rates than peers. Hit Songs Deconstructed, a music-analytics firm, estimates that 64% of hip-hop tracks that reached the *Billboard* top ten in 2017 featured more than one artist, compared with 40% of pop songs.

Streaming services may also be encouraging popular artists to jump on each other's tracks. Although radio stations remain highly segregated, based on what Nate

No small feat.

Share of monthly *Billboard* Hot 100 songs that are collaborations, %



Sources: Ultimate Music Database; *The Economist*

Sloan, a musicologist and co-host of the "Switched on Pop" podcast, calls "mostly fictitious categories devised by marketing executives", services like Spotify and Apple Music blur the lines between genres. A Spotify user who searches, for example, for Kendrick Lamar, a hip-hop artist, may find tracks featuring Maroon 5 and Imagine Dragons, groups rarely heard on conventional hip-hop radio stations.

It may be tempting to dismiss DJ Khaled-style pop songs as contrived and inauthentic. But new research suggests that listeners are attracted to the familiar yet distinctive sound often found in collaborative tracks. Using a database of nearly 27,000 songs that appeared on the *Billboard* Hot 100 charts between 1958 and 2016, Noah Askin of INSEAD, a French business school, and Michael Mauskopf of Columbia Business School find that the most successful songs tend to be different but not too different, a sweet spot the authors refer to as "optimal differentiation". Collaborations that combine a familiar artist with a newcomer, or a mainstream act with an edgier one, may yield precisely the kind of music that listeners want. ■



DJ Khaled has some wild thoughts

Engro

Thar's coal in the desert

ISLAMABAD

Pakistan's biggest private-sector firm is betting on a fabled coal mine

PAKISTAN'S enormous mineral wealth has long lain untapped. Since a 1992 geological survey spotted one of the world's largest coal reserves in Thar, a scrubby desert in the southern province of Sindh, prospectors have hardly dug up a lump. Among those to flounder is a national hero. Samar Mubarakmand, feted for his role in Pakistan's nuclear-weapons programme, has just shut the coal-gasification company he founded in 2010, when he vowed on live television to crack Thar.

Environmentalists, many from abroad, argue the reserve's 175bn-ton bounty should remain underground. They point out the coal is lignite—dirty, poor-quality stuff that, in adding to carbon emissions, increases the risk of climate change for Pakistan. Other critics note that by locking itself into coal, Pakistan may miss out on the plummeting price of solar energy.

To such qualms, the government offers three rejoinders. First, severe power shortages have long blighted the nation, and renewable sources cannot offer the daylong, year-round power it needs. Second, coal accounts for less than 1% of current generation, compared with 70% in neighbouring India and China. And third, domestic coal would allow the country to forgo expensive imports of the fuel for newly built power stations, a drain on fast-dwindling foreign-exchange reserves.

Enter Engro, Pakistan's largest private-sector conglomerate. The firm's reputation as a canny risk-taker dates to 1991, when employees bought out its parent company, Exxon, an American energy giant, in the first transaction of its kind in Pakistan. Today, as is common, a single family—the Dawood clan—has a controlling stake. But it has not lost what analysts describe as its "saviour complex", a desire to address national shortcomings through managerial talent and a balance-sheet plumped by sales of \$633m-worth of stakes in its fertiliser-and-food businesses in 2016. Lately that has meant a redoubled focus on energy and in particular on the puzzle of Thar.

Eight years ago Engro bought the rights to one of Thar's 13 blocks, containing 1% of the reserve (more than enough given the gargantuan size of the mine). To work on extraction, it formed the country's biggest ever public-private partnership, the Sindh Engro Coal Mining Company (SECMC), in which Engro digs and the state provides infrastructure. Relying on the state can break strong firms. Engro itself almost went ▶▶

▶ bankrupt in 2012 after the government refused to honour a sovereign guarantee to provide gas to one of its fertiliser plants. Yet without similar government support, no other Thar block-owners have secured financing, leaving Engro's diggers, which began work last year, to move ahead.

The endeavour benefits from being in the group of infrastructure projects that make up the \$62bn China Pakistan Economic Corridor, a hoped-for trade route. Western banks shook their heads when approached about a coal project, so Engro has relied on Chinese financing. Analysts note an irony in China's promotion of coal abroad as it withdraws from the fuel at home. Handling the extraction at Thar is the China Machinery Engineering Corporation, a state-owned firm with expertise beyond Pakistan's reach.

Around 126 metres below the sands of Thar, with just 20 more to go, Engro's diggers can now almost touch their prize. When the coal is reached, as is expected in mid-2018, it will feed a pit-mouth power station constructed by Engro, and, in time, three others owned by partners in the SECMC. These stations will furnish around a fifth of the country's electricity for the next 50 years. The financial rewards could be vast. "All my richest friends are jumping up and down [because they did not get there first]", says the boss of one big multinational construction business.

Hurdles remain, not least complaints from nearby villagers about the disposal of the vast quantities of wastewater from the mine on their ancestral grazing lands in the form of a reservoir. In reply, Engro stresses its social work in the surrounding district of Tharparkar, the poorest in Sindh, which includes the construction of several free schools. More self-interestedly, it is training locals to drive so they can man the dump



Engro's national mission

trucks that trundle day and night around the mine. According to Shamsuddin Shaikh, chief executive of Engro Powergen, the conglomerate's energy division, Engro also has its sights on Reko Diq, a gargantuan and long-stalled copper mine in Balochistan, the least developed of Pakistan's provinces. To tap one of the country's two largest and most niggardly mines is hard enough. Imagine cracking them both. ■

Telegram

Crypto for the masses

An encrypted messaging app plans the largest ever initial coin offering

IN A few years, millions of people will use a messaging app to make instant payments to friends across the globe or in a digital marketplace. But instead of state-backed money, they will use a cryptocurrency, the Gram, denoted by a gemstone emoji. They will be able to pay to store data—and perhaps to view content—securely and away from governments' prying eyes. All of this will take place on a single platform, TON, or "The Open Network", built by Telegram.

This is the vision that Telegram's founders, the brothers Pavel and Nikolai Durov, are flogging to investors ahead of their initial coin offering (ICO). A "presale" round to institutional investors is under way, with a wider sale of Grams to retail investors expected in a few weeks. Reports suggest the offering could raise as much as \$1.2bn, making it by far the largest ICO.

Compared with other firms selling tokens on the back of vague promises, Telegram has lots going for it. Its encrypted messenger app, particularly popular with the global crypto crowd, is already used by nearly 200m people. With such a captive audience, the Durovs' ambition of bringing virtual money to the masses over the next year or so does not sound so far-fetched. WeChat in China has already integrated payments into its messaging app (albeit without its own currency).

The ICO offers a way to monetise Telegram, which has so far been funded by Pavel Durov, and which, by the firm's estimate, needs \$400m to fund its expansion over the next three years. Mr Durov struck gold with VKontakte, a Russian social-networking site, though he was later forced out of both the company and the country after clashing with the government over data privacy. Nikolai is regarded as the technical brains behind Telegram.

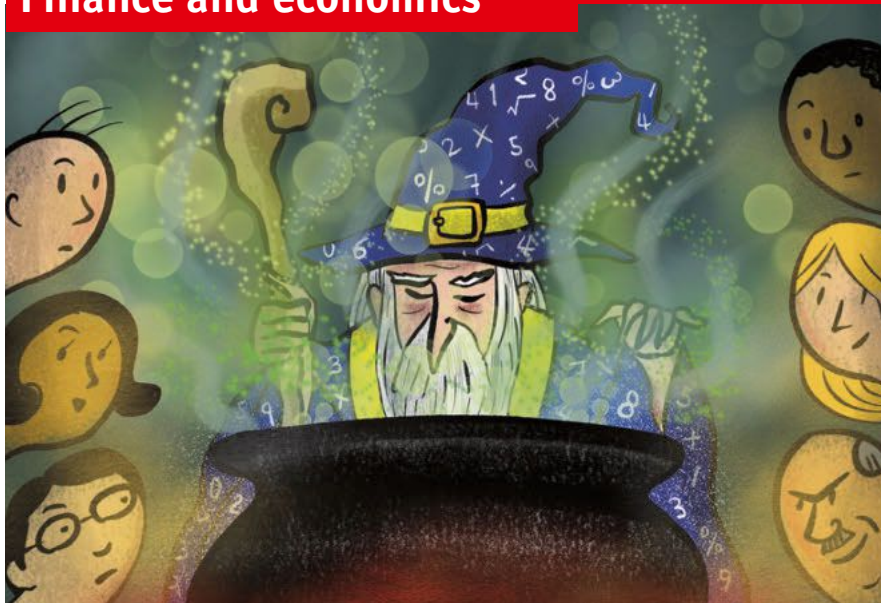
Unsurprisingly, given the crypto-craze, the presale is rumoured to be significantly oversubscribed. Many Silicon Valley ven-

ture capitalists sat on the sidelines as ICOs took off last year. But Telegram, with its established brand and the Durovs' pedigree, gives them an opportunity to join the fray, says Kyle Samani, who runs Multicoon Capital, a hedge fund dedicated to cryptocurrencies. A discount to early investors is probably helping to stoke demand. Yet some investors, including Mr Samani himself, remain unconvinced. Even if the Durovs' thesis that a mass-market cryptocurrency will take off is right, their bold ambitions could still fail to be realised.

One potential obstacle is technology. Unlike other projects funded by ICOs, which rely on existing technology, Telegram plans to build a new blockchain, a type of decentralised ledger, with a new architecture, notes Lex Sokolin of Autonomous, a research firm. That is entirely achievable; Filecoin, for example, has already done so for data storage. But the Durovs are betting that they can solve many of the hard problems that other blockchain programmers have already given up on, says Yannick Roux, who runs Token Economy, a widely read crypto-currency newsletter. Telegram claims that TON will be able to process millions of transactions per second, far faster than happens in bitcoin, through painful-sounding processes like "infinite sharding" and "hypercube routing". Research into both was abandoned years ago by other developers.

Even if the technological hurdles are surmounted, regulation may prove a bigger obstacle. Telegram sells itself as being beyond the reach of the state. But it is under pressure to block all forms of extremist content on its app. Islamic State is believed to have used it to plan attacks in Berlin and Istanbul; the Russian authorities claim that terrorists used Telegram to plan an attack last year on St Petersburg's metro. In a speech at the World Economic Forum in Davos last week, Britain's prime minister, Theresa May, described the app as a "home to criminals and terrorists" and said it should co-operate with authorities.

And crypto-currencies in general are attracting far more flak from regulators. This week America's Securities and Exchange Commission halted an ICO by AriseBank, which claimed to have raised \$600m, alleging investor fraud; and regulators in South Korea cracked down on allegedly illegal foreign-exchange deals carried out using crypto-currencies. Even Facebook this week announced a ban on ads promoting ICOs and crypto-currencies (although Mark Zuckerberg, the firm's founder, has expressed an interest in digital currencies). Ministers also plan to discuss a global regulatory framework for crypto-currencies at a G20 summit in March, aimed at protecting investors and preventing illicit activities such as money-laundering. Raising money should be easy for Telegram. Shutting out the state will be far more testing. ■



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Trends in investment

Maxing the factors

The trillion-dollar search for a magic market-beating formula

RETAIL investors tend to dream of finding a wonder stock—a Netflix or Apple that will multiply their savings many times over. But institutional investors cannot commit too much capital to one individual company. Instead, they hope to pick the right kind of stocks, a broadly based group that will beat the market.

Two or three decades ago, fund managers would have attempted this feat by favouring one industry over another. They might, say, have bought energy stocks in the hope that the oil price would rise, while avoiding retailers because of fears about consumer spending. But in these days of computers and algorithms, there are more systematic approaches to beating the market. The aim is to find stocks with characteristics or “factors” that make them outperform. In the industry jargon, funds tracking these factors are known as “smart beta”. The money allocated to smart-beta exchange-traded funds has reached \$658bn; all told, more than \$1trn is invested in an explicitly factor-based fashion.

Definitions vary, but there are four or five long-established factors that seem to make shares perform differently from the rest of the market: size, value, yield, low volatility and momentum. The first of these is based on the fact that small companies have tended to outperform large ones. “Value” refers to companies that look cheap relative to their assets, which have tended to beat those that look expensive. “Yield” means shares with a high dividend

yield, which do better than those with a low yield (though that may be just another version of the value effect). “Low volatility” means those shares that move less violently than the overall market, which also tend to perform better than the average. Finally, “momentum” seeks to profit from the observation that shares which have risen in the past continue to do so.

Research by Elroy Dimson, Paul Marsh and Mike Staunton of the London Business School has shown that these factors have achieved superior returns in numerous countries over many decades (see chart). But they are not wholly reliable. Sometimes the factors can underperform the market for long periods. s&P Dow Jones, an index provider, monitors 17 different factors. It found that only five beat the s&P 500, its main benchmark, last year.

Just as Molière’s Monsieur Jourdain was amazed to learn he had been speaking prose all his life without knowing it, any one equity investor is exposed to these factors but may not know it. Research by MSCI, another index provider, found that more than half the performance of active fund managers can be explained with reference to the most common factors.

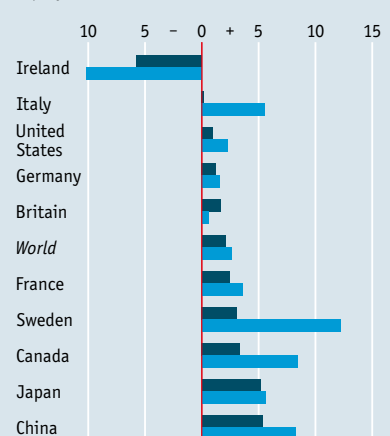
“Smart beta” funds, which focus on one or more factors, are subtly different from conventional index funds that track a benchmark. They hope to beat the market, like active managers, but at lower cost. These are dangerous waters. Fund managers have plenty of incentives to find anom-

alies that appear to work, to entice money from clients. Run enough data tests, and some strategies will appear to outperform. A paper by Kewei Hou and Lu Zhang of Ohio State University and Chen Xue of the University of Cincinnati found 447 stock-market anomalies in the academic literature. Their attempt to replicate the findings showed that nearly two-thirds lacked statistical significance; on a more conservative approach, the failure rate rises to 85%.

Still, the best-known factors have been too successful for too long for it to be a statistical quirk. Broadly, there are two possible explanations. One is that higher returns compensate for some form of risk. Smaller stocks are less liquid and more expensive to manage, for example. Value stocks look cheap because the firms’ businesses genuinely are more risky. Though they believe in efficient markets, with no

The why factor

Factor investing, average annual premium from investing in value stocks, selected countries % per year



Source: Elroy Dimson, Paul Marsh and Mike Staunton, “Factor-Based Investing: The Long-Term Evidence”, Journal of Portfolio Management, 2017

easy ways to outperform, Eugene Fama and Kenneth French, two leading academics, have backed Dimensional Advisors, a fund-management company that uses size and value factors to pick investments.

A second explanation relies on behavioural explanations. Momentum may play a role when investors are slow to realise that a company's fortunes have changed for the better; a few cotton on early, driving up the share price, and then others follow suit. The low-volatility effect may be because investors instinctively prefer to buy high-volatility stocks which they believe will produce excess returns, leaving low-

volatility stocks comparatively cheap.

Another puzzle with anomalies is why they are not arbitrated away. If some assets deliver higher returns, why do investors not pile into them and drive the price higher? A recent paper from Sushil Wadhvani and Michael Dicks of Wadhvani Asset Management found that such "crowding" may have reduced the returns from the "carry trade", a popular strategy involving borrowing low-yielding currencies and investing in higher-yielding ones. At a London Business School event in November, René Stulz of Ohio State University suggested that, as more investors took a factor-

based approach, excess returns would indeed decline, though not disappear. But Cliff Asness of AQR Capital Management, a fund manager, argued that valuations did not suggest factor exposures were particularly overcrowded at the moment.

An easy, obvious way of beating the market can, by definition, never be found. Everyone would follow it, so it would generate the average return. But the financial markets are a statistician's delight, with thousands of companies and price data that change every second. People will keep crunching the numbers in search of the magic factor that makes their fortune. ■

Buttonwood | Buck loses its fizz

A weaker dollar has wider implications for the market

AT THE start of 2017, just before Donald Trump was inaugurated as president, a survey of fund managers by Bank of America Merrill Lynch (BAML) found they believed that being positive on the dollar was "the most crowded trade". It turned out they were right to be cautious. On a trade-weighted basis, the currency has fallen by 9% against other major currencies in the past year.

It is not clear what the Trump administration thinks about this. At the recent World Economic Forum in Davos, Steven Mnuchin, the treasury secretary, said: "Obviously a weak dollar is good for us as it relates to trade and opportunities." Although the rest of his statement was more nuanced, it is unusual for anyone in his position to depart from a "strong dollar" line. The greenback duly fell in price.

Mr Trump then followed up with a statement in favour of a strong dollar in the long term, which caused a rebound. Since it was only last April that the president talked about the dollar being "too strong", the markets can be forgiven for being confused. Never mind singing from the same hymn-sheet, the American authorities are using different tonal systems.

Adding to the puzzle is the administration's focus on eliminating the trade deficit. The recent package of tax cuts, by boosting demand, is likely to suck in imports and widen the deficit. The trade deficit tends to fall during a recession, but that is not a desirable outcome. So it may need a big decline in the value of the dollar to bring about a cut in the deficit, while keeping the economy buoyant.

If the dollar is poised to experience one of its long periods of weakness, as in the late 1980s or the early 2000s (see chart), what would that mean for the financial markets? Much may depend on the reason the dollar is weak. If the weak-

ness is related to bad news about the American economy, then that is usually bad for equities and good for government bonds. The reverse applies if the weakness reflects a boom in emerging markets; that would be a sign of investors taking advantage of exciting opportunities elsewhere.

Current dollar weakness seems to be linked to a rebound in the global economy. That also helps explain why stockmarkets have started 2018 in a buoyant mood. A weaker dollar helps American multinationals, as Mr Mnuchin suggested. Not only does it make their exports more competitive, but their overseas earnings are also worth more in dollar terms. BAML says that, in the fourth quarter, 68% of companies with high foreign sales beat analysts' forecasts of profits and sales. Only 39% of companies with no foreign exposure managed to do so.

Although equities have been performing strongly, Treasury-bond prices have been falling (in other words, yields have been rising). This may suggest that foreign investors need a higher return to persuade them to put their money in a depreciating currency. Another explanation is that

American bond investors think stronger economic growth will eventually lead to higher inflation and are demanding higher yields to compensate (see next story).

What about the rest of the world? A weak dollar means a strong euro and thus, all else being equal, tighter financial conditions in Europe. Mario Draghi, the president of the European Central Bank, made some pointed remarks on January 25th about disorderly movements in exchange rates, and their adverse implications for financial and economic stability. He took a more doveish tone on monetary policy than investors expected; the ECB will not want the euro to rise too far. Government-bond yields in Europe have also been rising, so financial conditions are already tightening.

Life tends to be easier for economic policymakers in developing countries when the dollar is falling than when it is rising. The Asian financial crisis, for example, occurred during the dollar surge of the late 1990s. Many countries peg their currencies, formally or informally, to the greenback; if the dollar is rising, they may be forced to tighten monetary policy in order to maintain the link. A weaker dollar gives countries scope to cut interest rates, boosting growth.

Of course, all these trends may go into reverse if they go too far. If a lot of money flows into emerging markets, economies can overheat and an overvalued currency can make exporters uncompetitive, leading to an eventual crisis. If Treasury-bond yields rise far enough, that will prompt capital to flow back into the dollar. Furthermore, a sharp rise in bond yields will put the squeeze on economic growth. Investors do not mind a bit of dollar weakness; they just don't want too much of it.



The American economy

Powell position

WASHINGTON, DC

Could higher interest rates spoil America's economic boom?

AMENDING a famous metaphor, Janet Yellen once said that the Federal Reserve would “keep refilling the punch bowl until the guests have all arrived”. This week investors began to wonder if Jerome Powell, who will shortly succeed Ms Yellen at the top of the Fed, might at last deem the party full. On January 29th the ten-year Treasury yield reached 2.7%, the highest since early 2014. The prospect of tighter money caused stockmarkets to sneeze. On January 30th the S&P 500 fell by 1.1%, its biggest decline since August, before recovering a tiny bit the next day. With unemployment low and tax cuts pending, investors are wondering whether inflation and interest rates might soon surge.

The economy grew by 2.5% in the year to the fourth quarter of 2017. According to Okun's law, a rule of thumb relating unemployment to GDP, falling joblessness explains almost half of this growth. (The unemployment rate fell from 4.7% to 4.1% over the same period.) Early in the year inflation fell short, suggesting that fast growth could continue unabated. But pressure on prices has begun to build. Quarterly core inflation, which excludes volatile food and energy prices, was only just below the Fed's 2% target at the end of 2017. Markets have recently come to believe rate-setters who say that they will tighten policy three times in 2018 (see chart), as happened in 2017.

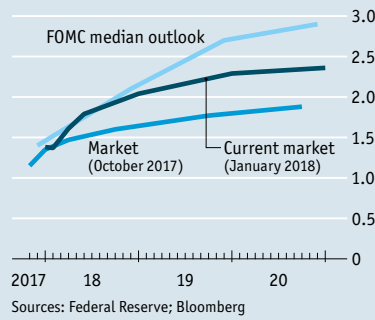
The prospect of higher rates has bears worried, for three reasons. First, they think asset markets are not ready for higher rates. On January 29th, before the market wobble, an index of financial conditions compiled by Goldman Sachs, which falls as conditions loosen, touched an all-time low. Postponed rate rises have propelled asset prices in recent years; surprisingly tight policy could have the reverse effect.

The second worry is that consumers are unduly exuberant. In October consumer confidence touched highs not seen in over a decade (it has since fallen back slightly). Purchases of vehicles and parts alone contributed 0.4 percentage points to growth in the fourth quarter. Yet it is not wage growth that is fuelling the spending spree, other than in a few low- and middle-income sectors of the economy. Instead, it is that consumers are saving less. In December the personal-saving rate was just 2.4%, the lowest it has been since September 2005. Were falling asset prices to puncture consumers' optimism, growth might suffer.

The final worry concerns corporate

Looking up

Fed-funds rate, forecasts, %



debt. Last April the IMF warned that indebted firms were exposed to higher borrowing costs. Firms accounting for 10% of corporate assets, they noted, were already struggling to service their debt.

Are these worries reasonable? Asset-price falls are fearsome when people have borrowed too much. But regulatory reforms over the past decade have deterred risky lending. Households may not be saving much, but their balance-sheets are much stronger than before the financial crisis. Corporate debt is a likelier source of trouble, but a rising oil price has eased pressure on indebted energy firms, the most likely to falter. And with bond yields rising globally, the Fed need not worry a strong dollar will destabilise the world economy.

In fact, if Mr Powell can manage the transition to higher interest rates, they will be welcome. The Fed would have more scope to loosen policy during the next recession before rates hit zero. After all, the worst thing that can happen to a party is for the punch bowl to run dry too soon. ■

Cancer investing

Hunting for a cure

Growing demand for cancer treatments prompts an investment boom

CANCER is a grim sort of growth market. By 2030 there will be over 22m new cases a year, up from 14m in 2012, according to the International Agency for Research on Cancer. But as the world marks World Cancer Day, on February 4th, scientists are speaking of a revolution in the battle to beat it. Money managers' ears have pricked up. Oncology investing is “hot”.

The most straightforward way to invest in treating cancer is through shares in companies that sell blockbuster drugs. Alternatively, biotech indices track a basket of companies, of which typically 40% are oncology-related. Big Pharma now buys

rather than builds much of its innovation. So backing oncology startups can be an especially lucrative (if risky) approach. According to CB Insights, a research firm, equity investment in cancer-therapeutics startups has grown from \$2bn in 2013 to \$4.5bn in 2017. Take Juno Therapeutics, founded in Seattle in 2013 to develop immunotherapy drugs. It was acquired on January 22nd by Celgene, a Biotech giant, for a whopping \$9bn.

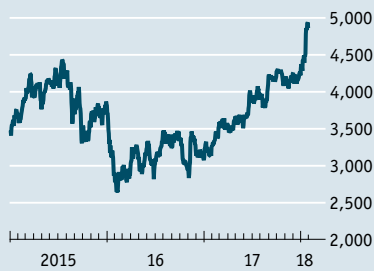
Eric Schmidt of Cowen, an investment firm, believes that oncology offers “the highest returns on investment of any therapeutic category”. Three developments explain the frenzy. First, demand for cancer treatments is rising as prevalence increases and the world's middle classes—who can afford insurance—expand. Between 2012 and 2016 the global costs of cancer-related treatments grew from \$91bn to \$113bn, according to IQVIA, a health-data firm. They are expected to rise to \$147bn by 2021.

Second, scientific progress, particularly around manipulating genes and cells, has been astonishing. The pipeline of oncology drugs in clinical development has expanded by 45% over the past decade. Immuno-oncology (IO), whereby the patient's own immune system is used to attack cancerous cells, is particularly in vogue. Goldman Sachs, a bank, values the IO market at around \$140bn and, despite calling the field “overhyped”, predicts it could grow by another \$100bn.

Third, cancer enjoys faster regulatory approvals than other diseases. As Christiana Bardon, of Burrage Capital, puts it, “patients are dying and they are dying now”, so regulatory hurdles are lower.

But as with any hot commodity, the line between well-founded excitement and unfounded giddiness is thin. Andy Smith, from Edison Investment Research, points out that it is still early days for treatments like CAR-T (a specific type of IO). He worries about an “implied halo”, comparable to the one that now benefits cryptocurrencies. Investments in oncology and in biotech more generally can also resemble cryptocurrencies in their wild price swings (see chart on next page). Another risk is that new treatments, however brilliant, may never be cheap enough to sell. CAR-T could well be game-changing but only a handful of treatments (which cost around \$500,000 per patient) have reportedly been sold.

Iain Foulkes, director of research at Cancer Research UK (CRUK), a charity, worries that much of the welcome inflow of capital into cancer research is chasing similar opportunities. Rarer types of cancer may get neglected. Partnerships between investors and research institutes can help overcome this. A recently announced tie-up between Merck, a pharmaceutical giant, and CRUK is an example. The drug company will have the right to develop ►►

Shock therapyNYSE Arca Biotechnology Index
October 18th 1991=200

Source: Bloomberg

▶ products from any discoveries made; CRUK will share in profits and royalties.

A surge in “ethical” investment, blending financial returns with doing good, will also help. One initiative is a \$550m Healthcare Innovations Fund, from Deerfield, an investment firm, a good chunk of the profits from which goes to underserved research areas. Another is a \$470m Oncology Impact Fund, raised in 2016 by UBS, a bank, for early-stage oncology research. A sizeable share of the profits go to neglected research areas and to improving access to cancer treatment in poor countries. Already, early successes have allowed the fund to “give back” \$2.5m. Its greatest potential lies in future royalties from drugs that make it to market.

Mark Haefele of UBS thinks drug companies should consider similar structures. He notes a desire among clients for more than just financial returns. But he adds that it starts with a compelling investment opportunity—and “few fields are as compelling right now as early-stage oncology.” ■

NAFTA**Rule brakers****The car industry may decide the future of North American trade**

ROBERT LIGHTHIZER, the United States Trade Representative, wants renegotiation of the North-American Free Trade Agreement (NAFTA) to speed up. When the sixth round of talks ended on January 29th with only three chapters agreed, he griped: “We owe it to our citizens, who are operating in a state of uncertainty, to move much faster.” But given the changes he wants, any more speed risks a crash.

One of the biggest fights is over Mr Lighthizer’s desire to rewrite NAFTA’s rules about cars. Seen one way, the deal has been a boon for the industry. Trade in vehicles and their parts accounts for a quarter

of America’s two-way trade with Mexico and Canada. But NAFTA’s critics see it as a big reason for America’s trade deficit with Mexico, and for its falling share of car assembly (see chart). Rules riddled with holes should be rewritten, they think, to yank back American jobs.

Any amendments would be to NAFTA’s rules of origin, which define what counts as a North American car—ie, one that can take advantage of zero tariffs. If the rules are too strict, car companies face a nasty choice between overhauling supply chains or absorbing the non-NAFTA tariffs of 2.5% for cars and 25% for light trucks. Too lenient, and foreign parts-producers will sneak their wares into North American cars, benefiting from tariff-free access that their governments did not negotiate.

The current rules specify that at least 62.5% of a car must come from within the region, excluding costs such as marketing or shipping. Tougher standards apply to parts on a special “tracing” list, such as axles, brakes and tyres. For them, only the regional value-added can contribute to the 62.5%. Items left off this list are easier to count as North American, as only minor processing will be enough for them to be deemed as originating from the region.

The Trump administration wants three big changes: a higher regional-content requirement of 85%; a new requirement that 50% of content is American; and a vast expansion of the tracing list to include everything. The higher content requirements should shelter local component-makers from foreign competition, and could encourage companies like Toyota, Nissan and Volkswagen to source more of their parts regionally. Updating the tracing list to include steel and electronic components, which are mostly made in Asia, should also encourage regional sourcing. The American-content requirement is supposed to ensure that any returning jobs do not flow to Mexico, where wages are lower.

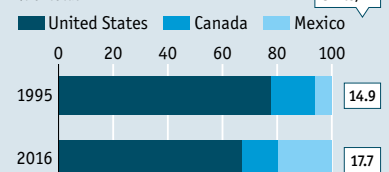
Canada and Mexico have greeted these proposals with derision. An America-specific content requirement is politically impossible. And including all of a car’s thousands of components in the tracing list would be a bureaucratic nightmare and is “absolutely unrealistic”, says Eduardo Solis, president of the Mexican Association of the Automotive Industry. For components where the car industry makes up only part of overall demand, as with lithium-ion batteries, extracting the necessary information from suppliers could be tough. Flavio Volpe, president of the Canadian Automotive Parts Manufacturers’ Association, an industry group, points out that it could lead to “absurd” questions. “Is the raw material petroleum? Or do you have to know where the dinosaurs died?”

Ramping up regional-content requirements quickly would wreak havoc on the industry’s supply chains, especially given

**Spot the American job**

how tight the existing rules are. The costs of compliance already mean that 20% of drive-axles and 25% of radiators by value of imports move within the region without NAFTA benefits they are in theory entitled to. A severe tightening would make it harder for North American carmakers to compete with Asian exporters, who were responsible for 15% of American car sales in 2014. American-negotiated deals since NAFTA have involved less stringent rules.

Keen to keep the talks moving, the Canadian side at the sixth round suggested the “creative” solution of expanding the scope of regional content to include things like research and development. By drawing high-value-added investments to the region (and probably to America) that could entice good jobs. But Mr Lighthizer rejected this gear shift as “the opposite of what we are trying to do”. He warned that by allowing new things to count towards the regional-content requirement, the old criteria could become less onerous, making it easier for Chinese exporters to suck away North American jobs. He later added that he was “always one to talk”. With such high-level disagreements remaining, progress towards sealing a deal this year is, in effect, parked. ■

Detroit’s demiseNorth America, light-vehicle assembly
% of total

Sources: WardsAuto; Federal Reserve Bank of Chicago

A safe asset for the euro area

Breaking the doom loop

A proposal to end banks' dangerous reliance on domestic sovereign bonds

THESE are bright days in the euro area. Preliminary figures say that the currency zone's GDP grew by 2.5% last year, the fastest since 2007. But many of the fault-lines in the zone's financial system, as revealed by the financial crisis, remain. A proposal published on January 29th by a group reporting to the European Systemic Risk Board, a prudential supervisor, may mend one of the more troubling flaws.

Euro-area banks favour their home countries' debt. A sample of 76 lenders examined by supervisors last year had exposures of €1.7trn (\$1.9trn) to euro-area governments, of which €1.1trn was lent to their home states. That exceeded the banks'

common equity tier-1 capital, their cushion against losses, of €1trn. The fortunes of states and banks are thus bound in a "doom loop". Suppose an economic shock raises the risk of a sovereign default. Banks' balance-sheets start to crumble. They need propping up by the already wobbly state. And as they cut lending, the real economy weakens, worsening the fiscal woe. That, more or less, is what happened in the zone's sovereign-debt crisis.

One way of breaking the loop is for euro-area governments to issue or guarantee bonds jointly. But that runs the risk that the prudent pay for the profligate. This week's proposal—for a new asset, sovereign-bond-backed securities (SBBS)—both leaves states responsible for their own debts and encourages banks to diversify sovereign risk. Issuers of SBBS, which could be public- or private-sector entities, would buy euro-area government bonds at market prices, and repackage them. Buyers of SBBS would be paid interest and principal (and be exposed to default) as if they owned the underlying bonds.

SBBS would be divided into three tranches. Buyers of the lowest slice, making up 10% of the total value, would suffer the first loss in a default. The top layer, accounting for 70%, would be about as safe as German government bonds, says the group's report. In senior SBBS banks would thus have a low-risk asset that would diversify their exposure across the whole zone. The doom loop would be broken.

To get SBBS going, regulation would have to change. Capital rules treat government bonds as risk-free, so that banks need hold no equity against them, but senior SBBS would incur a charge, though in fact they are no riskier. And as things stand, the European Central Bank (ECB) could not accept SBBS as collateral. The European Commission is due to propose helpful changes in the law in the first quarter of this year.

One possible worry is that, if successful, SBBS may cause liquidity for some sovereign bonds to dry up. Bonds bought by SBBS issuers would in effect be "frozen" on their balance-sheets. On the other hand, SBBS could actually make sovereign-bond markets more liquid by providing alternative means of collateral, hedging and arbitrage. Judging by the ECB's quantitative-easing programme, under which the central bank has amassed €1.7trn of national debt, the report reckons that any freezing effects would be limited, at least for an SBBS market of similar size.

SBBS are an ingenious way of strengthening the euro area's financial structure. But more needs doing. Another recent report, by a team of French and German economists, lists six proposals to stabilise the system and encourage macroeconomic prudence. A new safe asset is just one, alongside common deposit-insurance, revised fiscal rules, and more. There is lots to do. Best to start before trouble returns. ■



Private equity

Barbarians inside the gate

How private-equity megadeals have changed since the crisis

THE financial crisis a decade ago brought the glory days of private equity to a screeching halt. The debt-fuelled megadeals on which the industry had built its fame (or notoriety) seemed over. But on January 30th a group of investors led by Blackstone, the world's largest private-equity firm, announced a \$17bn deal to carve out Thomson Reuters' financial and risk business (F&R), a financial-data provider. The deal would be Blackstone's largest since the crisis. But if the megadeal is making a comeback, it is in a new guise.

In the mid-2000s, huge transactions abounded. Deals from 2006 and 2007 alone account for nine of the ten largest ever. But, looking purely at value, the only true drought in big deals was from 2008-12. Every year since 2013 has seen at least one buy-out of more than \$10bn, according to the private-equity database of Thomson Reuters F&R itself.

But in many of these deals private-equity firms have taken the unfamiliar role of companions to corporate acquirers. In a \$23.5bn deal in 2013 to acquire Heinz, Berkshire Hathaway, a conglomerate, split ownership equally with 3G Capital, a Brazilian private-equity firm. Even private-equity led acquisitions are today much more likely to involve institutional investors or corporations, rather than other private-equity firms. The

consortium that Bain Capital cobbled together last year to buy Toshiba's chip-making unit, in a ¥2tn (\$18bn) deal, involved half a dozen technology firms, including Apple and Dell.

The new deal is part of this trend. Blackstone's partners include GIC, a Singaporean sovereign-wealth fund, and the Canada Pension Plan Investment Board, that country's largest pension fund and an avid direct investor in its own right. Thomson Reuters is retaining fully 45% of ownership in the carved-out entity, a rare arrangement before the crisis, but increasingly common now.

Blackstone may nonetheless bring certain hard-to-replicate advantages. Given its heft on Wall Street, for example, it may be better placed than other investors to cajole big banks to switch to Thomson Reuters's financial-data service from the competing, ubiquitous Bloomberg terminals.

If megadeals do become more common, it may be for a prosaic reason: too much money chasing too few opportunities. Private-equity funds are sitting on \$970bn in "dry powder", or cash yet to be invested, according to Preqin, a data provider. Facing pressure to produce attractive returns for their investors, private-equity firms may find the new era of megadeals both less racy and more desperate than the previous one.



Chinese economy

No ordinary Zhou

SHANGHAI

China's formative central banker is about to retire, but his influence will live on

WHEN Zhou Xiaochuan took the helm of China's central bank 15 years ago, the world was very different. China had just joined the World Trade Organisation and its economy was still smaller than Britain's. Foreign investors paid little heed to the new governor of the People's Bank of China. He seemed safe to ignore: another black-haired, bespectacled official whose talk was littered with socialist bromides.

Mr Zhou is widely expected to retire in the coming weeks. He leaves with China far stronger and his own role much more prominent. No one person can take credit for the flourishing economy. But Mr Zhou, who is 70, deserves more than most. He helped forge the monetary environment for China's growth. He also went a long way to dragging the financial system out of the mire of central planning, even if reforms fell short of his own wishes.

His achievements are surprising. China makes no pretence of having an independent central bank. The People's Bank is under the State Council, or cabinet. But with political acumen and a command of economics, Mr Zhou carved out power for himself. As the years silvered his hair, his decision to leave it undyed, rare among high-ranking cadres, marked him out as different, even a bit daring.

It did not hurt that, as the son of Zhou Jiannan, a senior Communist official, he enjoyed the privileged status of "princeling". From his early career in the 1980s, he advocated a more market-based economy. He helped design the "bad banks" that freed Chinese banks of their failed loans and paved the way for a boom. As stock-

market regulator, he was nicknamed "The Flayer" for trying to root out corruption. Mr Zhou was not a radical but, by China's standards, a staunch economic liberal.

When party leaders chose Mr Zhou as central-bank governor in 2002, they made him the point-man for financial reform. Over time he also became the face of Chinese economic policy in global markets, much liked for his jovial manner and straight talk. At the last big shuffle of government personnel five years ago, he was old enough to retire. A former aide says that Mr Zhou hoped to return to his other love, music. Sent to work on a farm during the Cultural Revolution, he kept a contraband collection of classical-music records; in the 1990s, when he was a banker, he wrote a book about musicals on the side. But when Xi Jinping became China's leader in 2012, he asked Mr Zhou to stay on. The Flayer had come to be seen as a wise elder, an indispensable guide for the financial system through a dangerous period.

His first big move as central banker, back in 2005, was to unpeg the yuan from the dollar. China's currency remains tightly managed, but it has not stood still. It rose by a third against the dollar in the decade after unpegging. Mr Zhou also steered China towards a system in which banks set interest rates themselves, rather than merely follow government diktats. Frustrated by the torpor of China's other regulators, he oversaw the creation of a vibrant exchange for "medium-term notes", a bond market in all but name. Rather than big-bang reforms, with all their attendant dangers, these were small changes that added up to

something bigger.

Yet Mr Zhou craved more. He wanted to open China's financial system to the world, believing that only with true competition would it be possible to curb wasteful investment. As a vehicle for this he lighted on internationalising the yuan. Politically, it was an easy sell—leaders liked the idea of having a powerful currency. Economically, it proved complex, requiring China to open its sheltered financial system to more risks. When cash flooded out of the country in 2016, the central bank retreated, ratcheting up capital controls.

Criticism has come from opposite sides. Some economists, mostly in China, feel that Mr Zhou pushed too hard for market forces, especially in his drive to internationalise the yuan. One former adviser, a more conservative economist, calls him "relentless". The other criticism, more often heard abroad, is that Mr Zhou did too little to cure China's financial ills. Debt levels soared on his watch, a threat to stability that the government is trying to reduce.

Neither criticism is entirely fair. The project to make the yuan global was never just about the currency. Mr Zhou knew that opening the capital account would reveal financial shortcomings in China and press the government to crack on with reform. To some extent this is now happening, with officials more focused on risks. As for the debt explosion, Mr Zhou could do little to restrain it. Given that the government was committed to ambitious growth targets, the central bank had to provide supportive monetary policy. But it has not let things get out of hand: inflation has remained generally low and stable.

Legacy systems

Mr Zhou is well aware that reputations change. He started his term as central-bank governor when Alan Greenspan was seen as the Federal Reserve's "maestro", not yet as a villain of the 2008 global financial crisis. Over the past half-year Mr Zhou issued several warnings that debts were too high and that, without stricter regulation, China could face serious trouble. To some it looked as if he was trying to protect his legacy, since, if financial turmoil erupts, he cannot be accused of failing to foresee it.

The front-runners to replace him are Guo Shuqing, China's most senior banking regulator, and Jiang Chaoliang, party chief of Hubei, a central province. Whoever gets the job will have less personal clout than Mr Zhou. And with decision-making more centralised under President Xi, the central bank itself may play a diminished role. Yet in one respect its next governor will start from a much stronger position. China's financial reforms are far from finished, but the system as a whole is much more advanced than 15 years ago. As an architect, Mr Zhou never saw his vision fully realised, but he designed solid foundations. ■

Free exchange | Negative justice

Sub-zero interest rates are neither unfair nor unnatural

DENMARK'S Maritime Museum in Elsinore includes one particularly unappetising exhibit: the world's oldest ship's biscuit, from a voyage in 1852. Known as hardtack, such biscuits were prized for their long shelf lives, making them a vital source of sustenance for sailors far from shore. They were also appreciated by a great economist, Irving Fisher, as a useful economic metaphor.

Imagine, Fisher wrote in "The Theory of Interest" in 1930, a group of sailors shipwrecked on a barren island with only their stores of hardtack to sustain them. On what terms would sailors borrow and lend biscuits among themselves? In this forlorn economy, what rate of interest would prevail?

One might think the answer depends on the character of the unfortunate sailors. Interest, in many people's minds, is a reward for deferring gratification. That is one reason why low interest rates are widely perceived as unjust. If an abstemious sailor were prepared to lend a biscuit to his crewmate rather than eating it immediately himself, he would deserve more than one biscuit in repayment. The rate of interest should be positive—and the sharper the hunger of the sailors, the more positive it would be.

In fact, Fisher pointed out, the interest rate on his imagined island could only be zero. If it were positive, any sailor who borrowed an extra biscuit to eat would have to use more than one biscuit in the future to repay the loan. But no sailor would accept those terms because he could instead eat one more piece from his own supply, thereby reducing his future consumption by one, and only one, piece. (A sailor who had already depleted his supplies, leaving him with no additional hardtack of his own to eat today, would be in no position to repay borrowed biscuits either.)

That was bad news for thrifty seafarers. But worse scenarios were possible. If the sailors had washed ashore with perishable figs rather than imperishable hardtack, the rate of interest would have been steeply negative. "[T]here is no absolutely necessary reason inherent in the nature of man or things why the rate of interest in terms of any commodity standard should be positive rather than negative," Fisher concluded.

Two years ago, when the Bank of Japan (BOJ) began charging financial institutions for adding to their reserves at the central bank, its negative-rate policy was harshly criticised for unsettling thrifty households, jeopardising bank profitability and killing growth with "monetary voodoo". Behind this fear and criticism was perhaps a gut conviction that negative rates upended the natural order of things. Why should people pay to save money they

had already earned? Earlier cuts below zero in Switzerland, Denmark, Sweden and the euro area were scarcely more popular.

But these monetary innovations would have struck some earlier economic thinkers as entirely natural. Indeed, "The Natural Economic Order" was the title that Silvio Gesell gave to his 1916 treatise in favour of negative interest rates on money. In it, he span his own shipwreck parable, in which a lone Robinson Crusoe tries to save three years' worth of provisions to tide him over while he devotes his energies to digging a canal. In Gesell's story, unlike Fisher's, storing wealth requires considerable effort and ingenuity. Meat must be cured. Wheat must be covered and buried. The buckskin that will clothe him in the future must be protected from moths with the stink-glands of a skunk. Saving the fruits of Crusoe's labour entails considerable labour in its own right.

Too many Crusoes

Even after this care and attention, Crusoe is doomed to earn a negative return on his saving. Mildew contaminates his wheat. Mice gnaw at his buckskin. "Rust, decay, breakage...dry-rot, ants, keep up a never-ending attack" on his other assets.

Salvation for Crusoe arrives in the form of a similarly shipwrecked "stranger". The newcomer asks to borrow Crusoe's food, leather and equipment while he cultivates a farm of his own. Once he is up and running, the stranger promises to repay Crusoe with freshly harvested grain and newly stitched clothing.

Crusoe realises that such a loan would serve as an unusually perfect preservative. By lending his belongings, he can, in effect, transport them "without expense, labour, loss or vexation" into the future, thereby eluding "the thousand destructive forces of nature". He is, ultimately, happy to pay the stranger for this valuable service, lending him ten sacks of grain now in return for eight at the end of the year. That is a negative interest rate of -20%.

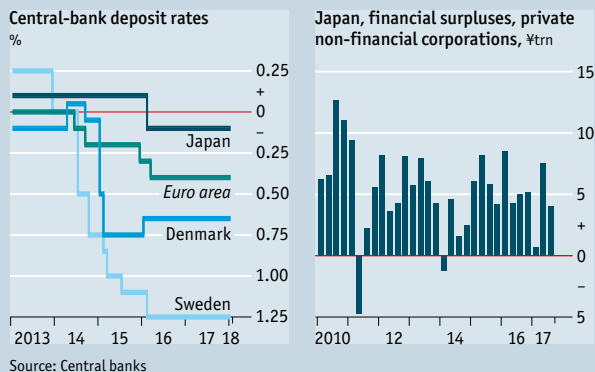
If the island had been full of such strangers, perhaps Crusoe could have driven a harder bargain, demanding a positive interest rate on his loan. But in the parable, Crusoe is as dependent on the lone stranger, and his willingness to borrow and invest, as the stranger is on him.

In Japan, too, borrowers are scarce. Private non-financial companies, which ought to play the role, have instead been lending to the rest of the economy (see chart), acquiring more financial claims each quarter than they incur. At the end of September 2017 they held ¥259trn (\$2.4trn) in currency and deposits.

Gesell worried that hoarding money in this way perverted the natural economic order. It let savers preserve their purchasing power without any of the care required to prevent resources eroding or any of the ingenuity and entrepreneurialism required to make them grow. "Our goods rot, decay, break, rust," he wrote, and workers lose a portion of their principal asset—the hours of labour they could sell—"with every beat of the pendulum". Only if money depreciated at a similar pace would people be as anxious to spend it as suppliers were to sell their perishable commodities. To keep the economy moving, he wanted a money that "rots like potatoes" and "rusts like iron".

The BOJ shuns such language (and, in the past, has at times seemed determined to keep the yen as hard as a ship's biscuit). But in imposing a negative interest rate in 2016 and setting an inflation target three years before, it is in effect pursuing Gesell's dream of a currency that rots and rusts, albeit by only 2% a year. ■

Diminishing returns



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The opportunity for Indonesia to become an innovation-led economy is clear. Yet the government has been slow to improve the country's weak education system, clarify opaque regulations and invest in key areas to spur innovation.

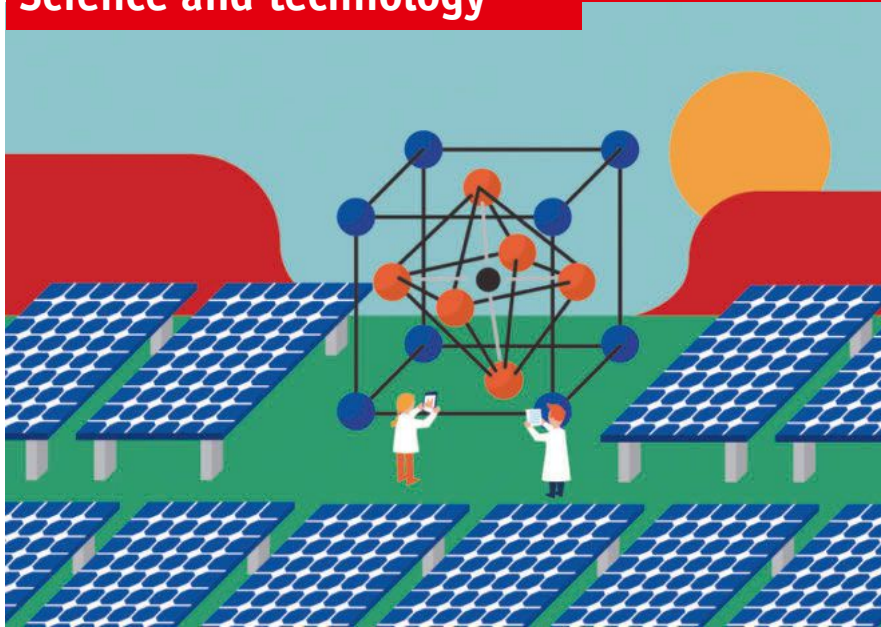
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Solar energy

Helios's crystal

Solar cells made from perovskites are coming to the market

SOMETIMES it takes a while for the importance of a scientific discovery to become clear. When the first perovskite, a compound of calcium, titanium and oxygen, was discovered in the Ural mountains in 1839, and named after Count Lev Perovskii, a Russian mineralogist, not much happened. The name, however, has come to be used as a plural to describe a range of other compounds that share the crystal structure of the original. In 2006 interest perked up when Tsutomu Miyasaka of Toho University in Japan discovered that some perovskites are semiconductors and showed particular promise as the basis of a new type of solar cell.

In 2012 Henry Snaith of the University of Oxford, in Britain, and his colleagues found a way to make perovskite solar cells with an efficiency (measured in terms of how well a cell converts light into electric current) of just over 10%. This was such a good conversion rate that Dr Snaith immediately switched the direction of Oxford Photovoltaics, a firm he had co-founded to develop new solar materials, into making perovskites—and perovskites alone. Progress has continued, and now that firm, and also Saule Technologies, a Polish concern founded in 2014 to do similar things, are close to bringing the first commercial perovskite solar cells to market.

Today 10% is quite a modest efficiency for a perovskite cell in the coddling conditions of a laboratory. For lab cells values

above 22% are now routine. That makes those cells comparable with ones made from silicon, as most of the cells in solar panels are—albeit that such silicon cells are commercial, not experimental. It did, however, take silicon cells more than 60 years to get as far as they have, and the element is probably close to its maximum practical level of efficiency. So, there may not be much more to squeeze from it, whereas perovskites could go much higher.

Perovskite cells can also be made cheaply from commonly available industrial chemicals and metals, and they can be printed onto flexible films of plastic in roll-to-roll mass-production processes. Silicon cells, by contrast, are rigid. They are made from thinly sliced wafers of extremely pure silicon in a process that requires high temperature. That makes factories designed to produce them an expensive proposition.

Racing with silicon

On the face of it, then, perovskites should already be transforming the business of solar power. But things are never that simple. First, as with many new technologies, there is a difference between what works at small scale in a laboratory and at an industrial scale in a factory. Learning how to manufacture something takes a while. Also, perovskites as materials are not without their problems—in particular, a tendency to be a bit unstable in high temperatures and susceptible to moisture, both of which

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can cause the cells to decompose. Such traits are uncondusive to the success of a product that would be expected to last two or three decades in the open air. Researchers are beginning to solve those shortcomings by making perovskites that are more robust and waterproof.

But even if they succeed, there is a third consideration. This is that these newfangled cells will have to go up against an incumbent solar-power industry which invested \$160bn in 2017 and is familiar with silicon and how to handle it.

What perovskites need, then, is a record which would provide that industry with the confidence to use them. To do this, both Oxford Photovoltaics and Saule are teaming up with large companies to ease the new materials into the market quite literally on the back of established products.

In the case of Oxford Photovoltaics those established products are existing silicon solar cells. The idea behind the resulting so-called tandem cells is that together the two materials involved can mop up more of the spectrum and turn it into electricity. This is done by tweaking the perovskite upper layer to absorb strongly at the blue end of the spectrum and leaving the lower silicon layer to capture those wavelengths falling towards the red end. That boosts the efficiency of the combined panel by 20-30% says Frank Averdung, Oxford Photovoltaics' boss. Tandem cells of this sort would allow solar-panel producers to offer a performance beyond anything silicon alone might achieve. Such panels would, of course, cost more to make—but the boost in performance will not, Mr Averdung says, increase the cost per watt and in time may reduce it.

Oxford Photovoltaics is now building a production line in Germany to start making tandem cells next year with what it describes as standard industrial processes. ►►

▶ The factory will be used to demonstrate the technology, which will then be licensed to other manufacturers. Some of the details are still secret, because the company is working with a large but unnamed solar-energy firm.

The tandem approach lowers the barrier to perovskites entering the market, and allows the new materials to be shown to meet various industry standards. It is, though, intended only as a halfway house. Eventually, Mr Averdug believes, perovskites will act as stand-alone cells—and not just in conventional panels. Because they are semi-transparent, perovskite films could also be used to turn windows into solar generators, by capturing part of the incoming sunlight while permitting the rest to pass through.

Saule, meanwhile, is using inkjet printing to produce its own perovskite cells on thin plastic sheets. At present it can turn these out in A4 size (210mm by 297mm), but it is scaling up the process to manufacture versions with an area of one square metre. Saule's sheets have an efficiency of 10%, so are not yet a match for the sorts of silicon panels found in solar farms. But Artur Kupczunas, a co-founder of the company, says that in combination with the cheapness, flexibility and lack of weight of perovskite sheets, an efficiency of 10% is enough to justify applying those sheets to the exteriors of buildings. The established products that Saule is hoping to ride on the back of are thus the components used to construct those exteriors.

The power of the press

To this end, Saule has granted Skanska, one of Europe's biggest construction groups, the right to incorporate perovskite printed sheets into some of its components, such as those used to make façades. This would let the walls generate electricity, thus lowering a building's carbon footprint and making it more self-sufficient. Skanska plans to test the sheets on an office block, possibly in Poland, later this year.

As the sheets would be added to their substrates off-site, there would, Mr Kupczunas points out, be no additional installation costs. In time, he expects sheets' efficiencies to increase towards the 26% which the company has achieved in laboratory conditions. The printing process also makes it easy to produce sheets of different sizes for different applications. They should function better than silicon in low light, which means they would generate more electricity on cloudy days.

Perovskites are thus now serious challengers to silicon solar cells. That does not mean they will succeed. The history of technology, in this area and in others, is littered with ideas that looked good (and, indeed, were often technically superior to existing alternatives) but nevertheless fell by the wayside. The power of incumbency

should not be underestimated. And the price of silicon-based solar power has dropped markedly over the past decade, particularly as a consequence of enormous investment by the Chinese.

Nevertheless, as Sam Stranks, who leads an optical-electronics research group at the University of Cambridge, observes, the demand for renewable power is such that a huge ramp-up in production will be needed. He believes perovskites have every chance of sharing in this, both because they are cheap and because he thinks that one more turn of the technological ratchet will improve their efficiency in a way that

silicon cannot match.

Because many chemical combinations result in a perovskite crystal structure, and each of them has different optical properties, choosing the chemistry of a cell also means choosing what part of the spectrum it absorbs, as Oxford Photovoltaics is doing already with its tandem silicon-perovskite cells. Dr Stranks thinks that in time silicon could be cut out of the loop by making tandem cells entirely out of layers of perovskites. This, he reckons, could push efficiency levels up to around 36%. And if that happens, it really might drive silicon solar cells into the shadows. ■

A Severn barrage

The wheel turns

An old idea might at last be made practical by an old idea

COMPARED with solar and wind energy, which are booming, tidal power is an also-ran in the clean-energy stakes. But if you did want to build a tidal power station, there are few better sites than the estuary of the River Severn, in Britain. Its tidal range, the difference in depth between high and low tides, of around 15 metres is among the largest in the world.

Engineers and governments have been toying with the idea since at least 1925. But none of the proposed projects has materialised. Price is one objection. A study by Britain's National Infrastructure Commission, published last year, reckoned that tidal energy might cost between £216 and £368 (\$306-521) per MWh of electricity by 2025, compared with £58-75 for seagoing wind turbines and £55-76 for solar panels. Environmentalists also worry that any plant would alter the tides it was harnessing, making life harder for wildlife.

As he describes in a paper just published in the *Proceedings of the Royal Society*, though, an engineer called Rod Rainey thinks he has a way around both problems. He proposes to replace the conven-

tional turbines of previous planned schemes with a much older technology. Specifically, he plans to span the estuary with a line of breast-shot water wheels. This is a design that dates back to the early days of the Industrial Revolution. Examples can be found fixed to the sides of picturesque old watermills.

But there would be nothing old-fashioned about Mr Rainey's wheels. Thirty metres high and 60 wide, they would be made, in shipyards, from ordinary steel. Two hundred and fifty of them, along with the necessary supporting structures, would be floated into place and secured to the seabed, creating a line 15km long. Together, they could supply power at an average rate of 4GW. That is about as much as two bigish nuclear power stations would manage. Substituting one of the wheels with a set of locks would provide a shipping channel about twice the width of that through the Isthmus of Panama, permitting upstream ports such as Avonmouth and Cardiff to continue operating.

On paper, at least, Mr Rainey's scheme looks attractive. Some of its advantages are environmental. The "breast" in a breast-shot water wheel is a structure on the riverbed (or, in this case, the seabed) that forms a near-watertight seal with the vanes on the bottom of the wheel. This means that if a motor is used to reverse the direction in which the wheel is turning, it will act as a pump instead of a generator. By pumping at the right points in the tidal cycle, such a system could minimise the impact on water levels behind it, helping preserve wetlands and other desirable habitats. Conventional turbines turn quickly, mincing any fish that come too close. Mr Rainey's water wheels, by contrast, would revolve ▶▶



▶ at a comparatively stately three metres a second. This is slow enough, he reckons, to permit fish to swim through easily.

There could be financial benefits, too. Existing tidal-power schemes, such as the one on the Rance estuary in France, funnel their water through tapered concrete channels, because the turbines used in them work best when water is flowing fast. Water wheels are quite happy with slower currents, eliminating the need to build expensive channels. Also, steel is cheaper than the concrete used in other schemes. Comparing the amount of steel in his water wheels with the amount used in offshore wind turbines (for which it is a significant cost) has convinced Mr Rainey that his scheme could be competitive. One of his wheels would contain about half as much steel again as does a modern wind turbine, but it would produce five times more power.

So far, so hard-headed. The final advantage of Mr Rainey's scheme, though, is pure poetry. Water wheels powered the early stages of the Industrial Revolution, but were eventually replaced by coal. There is a pleasing symmetry to the idea of fighting the planet-heating side-effects of fossil fuels with the help of an energy source they had supposedly made obsolete. ■

Motion sickness

The upchuck wagon

How not to feel queasy in a self-driving motor car

EXPECTATIONS are high, among those boosting the idea of self-driving cars, that people will be able to do other things, such as reading, working on a laptop or having a nap, when riding in such a vehicle. But for many that is an unlikely prospect. Apart from those who have no intention of even getting into an autonomous car, which currently amounts to some 23% of Americans, another 36% would be willing to ride but would not take their eyes off the road, according to a study published in 2014 by the University of Michigan. Some of those people will be looking out of the window because it helps to avoid nausea, dizziness and vomiting, particularly if they are among the 5-10% of the population who regularly experience the unpleasant symptoms of motion sickness.

Help, though, is at hand. The selfsame authors of the Michigan study, Michael Sivak and Brandon Schoettle, who both work for the university's Transportation Research Institute, have just been awarded a patent for a device that could act as a countermeasure against the malady.



The genetics of divorce

Family values

A study of adopted children shows that genes play a role in divorce

THAT the children of divorced parents are more likely, when they grow up, to get divorced themselves is well known. What is not known is how much this tendency is the result of nurture (with children manifesting, in later life, behaviours learned from their parents), and how much it is caused by nature (with children inheriting from divorced parents the sorts of genes that lead to marriage-breaking behaviour). That genes are important has, though, now been confirmed by a study published in *Psychological Science* by Jessica Salvatore and Kenneth Kendler of the Virginia Institute for Psychiatric and Behavioural Genetics.

To explore the role of genes Dr Salvatore and Dr Kendler turned to the Swedish national registries. These databases store, for all residents of Sweden, information on sex, year of birth, year of death, marital status, criminal activity, education and alcohol abuse. They also contain details of both the biological and the adoptive parents of adopted children.

Using these data, the researchers set about the daunting task of analysing the marriages of 19,715 adopted children, to see how often these ended in divorce and whether that divorce rate bore any rela-

tionship to divorces among their adoptive and biological parents. This analysis showed that such children were 20% more likely to divorce if their biological parents had divorced than if those parents had stayed together, but no more (and no less) likely to do so if their adoptive parents had split up.

With this result under their belt, Dr Salvatore and Dr Kendler then looked at adopted and biological siblings brought up in the same households. As expected, they found that individuals showed a similar tendency to divorce to that of their biological siblings but not to that of their adopted siblings. They also discovered that if one biological sibling divorces, the others are 20% more likely to do so than would otherwise be the case. This is not true for adoptive siblings.

All of these results strongly suggest, Dr Salvatore and Dr Kendler argue, that genetic factors play an important part in the "transmission" of divorce across generations—and that this needs to be taken into consideration when offering psychological support and relationship counselling to people whose parents have split up, even if those people never knew the parents in question.

Motion sickness is caused by a conflict between signals arriving in the brain from the inner ear (which forms the base of the vestibular system, the sensory apparatus that deals with movement and balance, and which detects motion mechanically), and from the eyes, which detect motion optically. If someone is looking at a stationary object within a vehicle, such as a magazine, his eyes will inform his brain that what he is viewing is not moving. His inner

ears, however, will contradict this by sensing the motion of the vehicle. The resulting confusion, at least according to one theory, leads his brain to conclude that he is hallucinating because he has ingested poison. Hence the need to throw up, to rid the stomach of any toxins.

The idea that Dr Sivak and Mr Schoettle have come up with is to arrange for an array of small lights to appear in the periphery of a potential sufferer's field of view, ▶▶

▶ meaning that these lights can be seen regardless of what the person in question is looking at. Such lights, most probably small panels of LEDs, could be fitted into a headset, a hat or onto the frame of a pair of glasses. They would be controlled by various motion sensors and blink on and off in a way that is designed to mimic the velocity, rolling, pitching and other movements of a vehicle.

For the wearer of such kit, the effect would be to provide a visual response that corresponds to the movements the inner ear is detecting. So, for instance, a panel of LEDs positioned at the side of each eye might flash from the front to the back when a vehicle is moving forward but stop when it is braking. Similarly, the lights could blink in sequence towards the left if the car was turning left. The speed of the flashing and the brightness of the lights could be tuned to match the intensity of the movement, such as the vehicle's rate of acceleration. Dr Sivak and Mr Schoettle think the light ar-

rays could also be fitted to various parts of vehicles' interiors, such as their door pillars, sidewalls and seats. That way a passenger would be aware of them without having to don special equipment.

The Michigan team are making a prototype and the university, which hopes to commercialise the idea, is in discussions with carmakers and automotive suppliers. The system could, of course, also be used by passengers who feel sick in cars with a driver at the wheel—a fate to which children seem particularly susceptible, for reasons that remain obscure. It might also help with other forms of motion sickness, such as airsickness or seasickness, although the ways aircraft and boats move are different from the movement of cars. For many, helping people feel well in cars would be enough. And for taxi companies like Uber and Lyft, which are planning to offer autonomous vehicles that can be summoned by an app, the flashing lights could save a fortune in cleaning bills. ■

of scales were found in a raid conducted at Entebbe airport in Uganda. Between 2010 and 2015 there were 1,270 seizures of pangolins or parts of pangolins around the world, in 67 countries and territories.

Cracking down on poachers and traders is difficult, particularly in poor places. Even when governments are willing, conservation agencies often lack the resources, such as vehicles (and, indeed, the fuel to put in them) needed to patrol forests and investigate trafficking networks. And willfulness is not always there. Such anti-poaching and antitrafficking laws as do exist frequently go unenforced.

Part of the blame lies with ignorance. Awareness of pangolins is patchy. They are nocturnal and shy, and thus rarely feature on tourists' tick-lists. That makes them a low priority, even to game-management authorities who know they are there. Often, though, those authorities do not. Uganda, for example, is home to all four African species of pangolin. But until last year, when a pangolin-awareness initiative, run by the Tikki Hywood Foundation, a Zimbabwean charity, began explaining the animals to local wildlife rangers, many of those rangers did not know what a pangolin was or what to do if they found one in someone's possession.

The Hywood Foundation's initiative is part of a larger effort in Uganda, sponsored by the Uganda Wildlife Authority (UWA), the government's conservation agency. Now that pangolins are on the UWA's radar, it has stepped up intelligence and investigative work on poachers and traffickers of the animal. Sniffer dogs, trained with support from the African Wildlife Foundation, a Kenyan charity, have also been deployed at Entebbe. Dogs can detect pangolins, as well as ivory, rhino horn and other contraband wildlife products.

At the consumption end of the trafficking routes, too, things are starting to happen. In China, for example, Jackie Chan, a film star who was instrumental in bringing about that country's recent ban on the sale of elephant ivory, has thrown his weight behind the pangolin. A video he made last year, which depicts him training animated pangolins to fight poachers, has been viewed more than 12m times.

In theory, eating pangolin meat (along with that of many other wild species) is already illegal in China—not for conservation reasons, but as a reaction to the outbreak of SARS, a fatal respiratory disease, that happened there in 2002. In practice, the law is ignored. But if the authorities chose to enforce it then the market for pangolin flesh would shrink a lot.

Persuading people to stop using the animals' scales may be harder. The ivory ban does suggest Chinese attitudes towards wildlife are changing. But how long such changes will take to trickle down to the unfortunate pangolin remains to be seen. ■

Conserving pangolins

A problem of scale

KAMPALA

Some of nature's strangest mammals are also some of the most threatened

PANGOLINS are a smuggler's dream. For defence, and when asleep, they roll themselves up into spheres, scales on the outside, to thwart any predator. That makes them easy to handle and pack. And handled and packed they have been, in enormous numbers. The International Union for Conservation of Nature, a worldwide wildlife-preservation organisation, reckons that more than 1m pangolins were traded illegally from their African and Asian homelands over the decade to 2014. That may be a conservative estimate. A paper published last year in *Conservation Letters* calculates the number of pangolins hunted in central Africa alone as between 400,000 and 2.7m a year. Based on statistics such as these it seems likely that pangolins, of which there are eight species, four African and four Asian, are the most trafficked type of animal in the world.

Some are consumed locally. That is not necessarily illegal, for laws vary from place to place. International trade, though, is a different matter. Early in 2017 CITES, the Convention on International Trade in Endangered Species, listed all eight pangolins as part of what is known as Appendix 1. This means signatories to the convention (which most countries are) cannot permit them to be imported or exported.

Most of those that are, nevertheless, exported illegally from their homelands end

up in China and Vietnam. In these countries pangolins' meat is a treat and their scales are used in folk medicine, even though those scales are made of keratin, the same substance as hair and fingernails, and thus have no medicinal value. Pangolin scales fetch as much as \$750 a kilogram in China. A 12-tonne stash of them, the world's biggest seizure, was found last summer by the authorities in Shenzhen. That alone represents 20,000-30,000 animals. And the African end of the operation is equally big business. In 2015 two tonnes



No hiding place

Literary lives

Creatures of the deep

A quarter of a century ago Charles Sprawson wrote what may be the greatest book about swimming. Then he was forgotten

“I WRITE slowly,” Charles Sprawson said last summer, explaining why the sequel to his celebrated debut was not yet finished, “so my books take a long time ... Of course, then I got ill.” He was smartly dressed, his hair a wing of white above his broad forehead. “It’s desperate, really. I expected to be here for a few days. It’s been...” He screwed up his face, then continued: “...months.” Now and then he raised his deep, patrician voice to drown the shouts of a patient in the next room.

Mr Sprawson, who is now 76, was in a secure hospital ward in west London for elderly people with mental-health problems. Most of his fellow patients were wheelchair-bound and speechless. The television in the communal room was always on, the volume high. Mr Sprawson longed to be back in his nearby flat, among his books. His memory was smudged around the edges, but he recalled his years of literary glory, a quarter of a century ago, with sparkling clarity. “The problem is,” he said, “all the really good people I knew are dead now.”

His first and (so far) only book, “Haunts of the Black Masseur”, will be reissued later this year. When it was first published, in 1992, it enjoyed the kind of critical and commercial success that most debut authors only dream about. It has inspired and influenced homages and imitations. Mr Sprawson was feted—then forgotten. The story of his career since that triumph exemplifies the caprices of literary celebrity and the indignities of old age. It points to a deeper issue, too: what, in the end, defines a person’s life?

In Byron’s wake

Mr Sprawson was born in Pakistan, the son of a headmaster, went to school in Kent and briefly taught classics in the Middle East. He married, settled in Gloucestershire and raised a family. He became an itinerant art dealer, specialising in Victoriana. On visits to the Channel Island of Jersey, his car loaded with oil paintings, he stayed at the Prince of Wales hotel in Greve de Lecq: it was on the beach and he could swim before breakfast. Along with books, swimming was at the heart of his life.

“Haunts of the Black Masseur” came out of these twin obsessions. The *London Magazine* commissioned him to write a piece on literary swimmers in 1988; the article was vivid and crammed with learn-



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ing. Afterwards Mr Sprawson worked the piece into what may be the finest book about swimming ever written. It ranges across the windswept beaches of English seaside towns, Niagara Falls, the landings at Gallipoli (“a swimmer’s war”) and Leni Riefenstahl’s film of the Berlin Olympics in 1936. Its most memorable passages lace between the exploits and reflections of great swimming writers—Rupert Brooke, Lord Byron, André Gide, Jack London—and the author’s own waterborne life.

He tells of the time he heroically swam the Hellespont, and of the (less heroic) time he was picked up by the naval police while attempting to cross the Tagus estuary in Lisbon. He describes childhood dives amid the sunken Greek ruins of Cyrene in Libya:

On Christmas Day we made a ritual of bathing in a natural rock pool, long and rectangular, its sides encrusted with molluscs and anemones, where once Cleopatra and the Romans reputedly swam. The waves broke against one end, and beyond them, beneath the surface, lay most of the remains of the classical city... When we dipped our masked faces into the water there emerged on the corrugated sand mysterious traces of the outline of ancient streets and colonnades, their sanctity disturbed by the regular intrusion of giant rays that flapped their wings somnolently among the broken columns as they drifted in from out of the shadowy gloom of deeper water.

J.G. Ballard said “Haunts” was “an exhilarating plunge into some of the deepest pools inside our heads.” Part memoir, part literary and social history, part personal credo, it gave birth to a whole subgenre of swimming literature. Mr Sprawson recognised something important that animated both his literary heirs and the current vogue for wild swimming: that immersion in water offers a particularly sublime form of escape, out of the material world and into nature. Plunging into it, for him, was at once an adventure in an alien element and a solace, “a return to the security and irresponsibility of the womb”. Recent books from authors such as Philip Hoare, Jenny Landreth, Joe Minihane and Victoria Whitworth could not have been written without Mr Sprawson’s model.

That he was once such a bold swimmer and an exquisite writer makes his later trajectory all the more poignant. After the success of “Haunts” he separated from his ▶▶

▶ wife and became a man of letters. He contributed to the *Spectator* and the *Observer* and was commissioned to write a second book, this time about extreme swimmers. He flew to Slovenia to interview an athlete who had swum the Amazon. But he never completed it.

His ensuing decline is, at a simple level, a familiar tale of the trials of age. He contracted throat cancer; then, says Clare Burleigh, one of his daughters and an artist who drew the sketches that open each chapter of “Haunts”, he began to show signs that something else was wrong. “It was little things at first, just forgetfulness,” she says, “then it suddenly became much worse. He couldn’t stay in his flat any more.” That flat is a small, book-filled bachelor pad up a stairway so steep it is almost a ladder. At the end of 2016 he picked up an infection that led to hallucinations. He has been marooned in hospital since.

“All he wants”, says Ms Burleigh, “is to be back in his flat, writing again.” To pay for the home care needed to spring him from what he calls his “incarceration”, his remaining friends tried to secure a grant from the Royal Literary Fund, a 200-year-old benevolent organisation established to help writers in financial difficulty. Its representatives visited him in hospital but, in the end, they turned him down—because he had published only one book, and “quantity is a consideration as well as quality”.

This idea—that leaving behind only a single book, if a beautiful one, is not enough—poses interesting questions about literary posterity. Emily Brontë, Harper Lee and J.D. Salinger suggest a lone classic is indeed sufficient to secure a reputation. But it also points to the difficulty of distilling the essence of a life. Mr Sprawson always saw himself as a writer, and still does, “Haunts” being only the outward evidence of that identity. Others saw him the same way, but only for a while.

Still afloat

Since last year Mr Sprawson has been moved to another ward. His room is underground and looks onto a sunken courtyard. Some of the other patients are able to talk. “They’re really quite interesting, some of them,” he says. Mr Sprawson himself, though, has grown worse. He is still visited by his daughters and by Margaret Vyner, his lover for the past 15 years. But he has stopped reading. He spends much of his time wandering the corridors looking for a swimming pool, opening broom cupboards in the hope that one will reveal the dapple of shimmering water.

He remains desperate to go home, to return to the manuscript of his second book, which is half-finished and sits submerged in a drawer in his flat. “I’m tired at the moment,” he says, looking out at the wintry view. “Much too tired to write. But I’m getting better.” ■



Reinventing opera

Rope, knife, rose

A radical opera director strives to invigorate an embattled form

GIRL meets boy, they fall in love, girl dies: the morbid plots of many operas are an obvious target for feminist revisionism. A new production of “Carmen”, in Florence, duly ends with the exasperated heroine fatally shooting her jealous lover (instead of being stabbed to death herself). For Barrie Kosky, an Australian director whose own “Carmen” opens at the Royal Opera House in Covent Garden on February 6th, that approach is far too literal. “Opera is the ritualisation of emotion through the human voice,” he says, “which has nothing to do with realism.” He insists that “Carmen” is not merely a retrograde celebration of machismo. Rather, it is “a tango between Eros and Thanatos”; Carmen herself “wants to self-destruct, to meet her death”.

Mr Kosky sees opera as the art form that brings audiences closest to the theatre of the ancient Greeks—if it is presented with sufficient intensity and visual restraint. The stage for his “Carmen” will be stripped back to bare essentials: a huge staircase and just three props (a rope, a knife and some rose petals). “I love empty space,” he says, “because with singers the stage is never empty.” If his taste in sets is austere, however, in other respects it is exuberant. In his crazily stylised production of Handel’s “Saul”, soon to be revived at Glyndebourne, the biblical monarch emerged as a superderanged King Lear.

Brought up in Melbourne, the son of Jewish immigrants, Mr Kosky has cultivated the image of (in his words) a “gay Jewish kangaroo”; as the intendant of Berlin’s Komische Oper he has an influential power base. Everything he directs

is in some way extreme. His production of Rameau’s “Castor et Pollux” for the English National Opera (ENO) outraged purists. Its most abiding image involved a young woman lying on a dunghill and working herself to orgasm with the aid of a disembodied hand. He describes his production of Shostakovich’s surreal comedy, “The Nose”—to be revived in Sydney later this month—as “a phantasmagoria of paranoia and eroticism”. It featured a tap-dancing chorus-line of giant schnozzles.

Yet an acute political awareness underpins his pranks. In his view Vienna is “still full of unexorcised Nazi ghosts”. In Berlin he staged a version of “West Side Story” in which the star-crossed lovers were a German and a Turk. With his final show at the Komische Oper in 2022 he intends to realise a long-held ambition: “I want to do an operetta, in Yiddish, in Berlin.” When his contract expires he is likely to stay in Germany, which—with its generous subsidies and low seat prices—is opera’s utopia. “Going to the opera in Berlin can cost less than going to a film,” he notes. “That deals with the elitism charge in one fell swoop.”

In America, with its unfillable 4,000-seat houses, opera’s condition is “catastrophic”. In London, meanwhile, the ENO’s future is precarious. How can such struggling houses recover? “You have to be really radical,” Mr Kosky reckons. “Take things round the country in a big circus tent.” In his view only Philip Glass and Andrew Lloyd Webber have recently composed anything truly new in the genre. “I want a brilliant jazz composer to come to me and say he wants to do an opera,” Mr Kosky pleads.

New fiction

Fallen in love

The Only Story. By Julian Barnes. *Jonathan Cape*; 224 pages; £16.99. To be published in America by Knopf in April; \$25.95

“ALL happy families are alike,” Tolstoy famously wrote; “each unhappy family is unhappy in its own way.” The opening lines of “Anna Karenina” are so famous, in fact, that their assumptions are broadly accepted. Write with conviction, and some people will believe anything. Julian Barnes plays on that suggestibility in his new novel. “Most of us have only one story to tell,” his narrator, Paul, says on the opening page, foisting another bold premise on the reader. “I don’t mean that only one thing happens to us in our lives: there are countless events, which we turn into countless stories. But there’s only one that matters, only one finally worth telling.”

Paul’s story is that of his love affair with Susan. He is 19 when they meet and a student at Sussex University; she is a married woman, nearly 30 years his senior, the mother of two grown daughters, stuck in a loveless marriage. “The time: more than fifty years ago. The place: about fifteen miles south of London. The milieu: stockbroker belt, as they called it—not that I ever met a stockbroker in all my years there.” (Mr Barnes’s very first novel, “Metroland”, published in 1980, had a similar setting.)

One day at the local tennis club Paul finds himself in a mixed-doubles pair with Susan and offers her a lift home. Their rela-

tionship will consume his life, and is the subject of this deceptively simple book.

Mr Barnes is a master of the novel that unfolds cleanly before the reader and yet interrogates itself as it is told. His previous book, “The Noise of Time”, was a fictionalised biography of Dmitri Shostakovich. In it the Soviet composer recognises that it is “impossible to tell the truth here and live”. “I’m not trying to spin you a story,” Paul insists in “The Only Story”. “I’m trying to tell you the truth.” But over and over again, he says that he can’t remember, or that he can’t be bothered to tell us, or remarks that he is simply incurious about some aspect of his life or the lives of those around him. He doesn’t even remember when he and Susan first kissed.

And so, as the novel shifts between the first, second and third person—Paul, looking back on his life, is sometimes “I”, sometimes “you”, sometimes “he”—this “only story” slips away like sand between the fingers, as does the object of Paul’s desire. Susan is a curiously elusive presence, evoked in a series of repeated phrases and images. The narrative voice remains resolutely focused on itself: “When I am with Susan, I’m not thinking what it’s like to love her; I’m just being with her. And maybe that ‘being with her’ is impossible to put into any other words.”

Some might view this as an imaginative failure on the novelist’s part, particularly in the era of #MeToo. But, as the tale spools out, the effect is a vivid and awful dramatisation of the narcissism of obsessive love. Paul claims a solemn “duty” to remember Susan as she was when they first met—a quick-witted, charming woman in a tennis dress—but finally this lover’s allegiance is to himself, and himself alone. ■

Turmoil in Ukraine

Dark mirror

The Ukrainian Night: An Intimate History of Revolution. By Marci Shore. *Yale University Press*; 320 pages; \$26 and £25

REVOLUTIONS are inherently intellectual. Often powered by ideologies, they are also, at bottom, imaginative leaps: demands for a different life, premised, says Marci Shore, on a faith that “at any moment everything could change”. “The Ukrainian Night” is her account of the pro-democracy uprising in Ukraine in 2014 and its aftermath, turmoil that was at once visceral and peculiarly cerebral, involving various languages, religions, ethnicities, versions of history and visions of the future.

Ms Shore, a historian at Yale University, briskly describes Ukraine’s blood-soaked past and the relevant modern events: the failure of the Orange revolution of 2004; the gangsterish presidency of Viktor Yanukovich; the terror he unleashed against protesters and his flight to Russia; the annexation of Crimea and the war Vladimir Putin hallucinated into reality in the Donbas. But this is not conventional history or reportage. Ms Shore was not on the Maidan, Kiev’s Independence Square and the epicentre of the revolution, and does not visit the front. Instead, in short, meditative chapters that mimic her subjects’ fractured experiences, she captures the feelings of people drawn into the convulsions.

One of them, Slava Vakarchuk, is the lead singer of Okean Elzy, a pop group, and famous in Ukraine; others are lesser-known students and teachers. They and she habitually refer to philosophers and authors, above all Russian writers such as Akhmatova, Dostoyevsky and Gogol, the shared intellectual inheritance of Russians and Ukrainians (the book’s title comes from a poem by Mayakovsky). These interviews sketch the psychological stages of revolution. They evoke an aura of solidarity in which “the borders that normally existed between people dissolved”, individuality seeming at once fulfilled and subsumed by the crowd. They describe an imperative, now-or-never moment of choice, and the way, on the Maidan, time seemed to collapse.

Finally comes a numb willingness to die—and, in some cases, to kill. One young man comes to understand that “the moment he had desired [the deaths of his enemies] was in some sense the moment of his own death as well.” After one near-fatal confrontation, he and his friends find themselves in a café. “Since they were still alive,” Ms Shore says, “they ordered tea,” a line that might have come from Chekhov, ►►



▶ another of her points of reference.

This is an enlightening method. It pungently conveys the ecstasy of collective action, the experience of violence, as both victim and perpetrator, and the way ordinary people can find themselves in wild predicaments. The second half of the book portrays businessmen, historians and physicists who headed east to combat the Russian-backed separatists. This war, Ms Shore writes, was a “theatre of the absurd”. She recounts a typically bizarre scene, on Lenin Square in Donetsk, in which an Orthodox pensioner christens a Muslim Chechen mercenary, “to aid his battle against

Ukrainian Nazis...who did not exist.” The fight is as much over time as space, the rebels evincing a “cocktail of nostalgias” for “saints and tsars and Bolshevik leaders”. The timelines, however, are scrambled, “the pre-modern intersected surreally with the post-modern: warlords were using Twitter.”

Ms Shore identifies the surrealism exemplified in the war as an enduring cultural divide. In the West people tended to believe that “there were constraints on reality”, whereas “eastern Europeans knew that anything was possible.” One fear that stalks this short, powerful book is

that this distinction is breaking down, and not as the revolutionaries intended—that Ukraine, with its saturating propaganda and warped identity politics, might be a vision of the West’s future rather than the other way round.

Ms Shore notes that Ukraine’s far right, the focus of so much external angst, performs worse in elections than its counterparts in France or Austria. “It was as if Freud’s ghost were haunting Europe,” she observes, with other nations “gazing at Ukraine through the lens of projection, attributing to others what they could not accept in themselves.” ■

Johnson | High tones

A debate about the origins of creoles stretches back to slavery

IN AN airy first-floor study, Eldred Jones, who is 93, takes a break from his Braille Bible to talk about how he first left Sierra Leone to study at Oxford. Later he became principal of west Africa’s oldest university, Fourah Bay College in Freetown. During a long, donnish life he also found time to co-write the only dictionary for Krio, the lingua franca of Sierra Leone.

Krio can sound like broken English. *Aw de bodi?*, the most common greeting, literally means “How’s the body?” Other popular questions are *Aw yu slip?* (“How did you sleep?”), and *Aw de wok?* (“How’s the work?”). But Krio is not broken anything. It is a fascinating mix of English, African, Portuguese, French and other influences, reflecting a unique history of imperialism, slavery and migration.

Sierra Leone’s Creoles, who created the language named after them, came to the country in three main waves. Former slaves in America arrived via Nova Scotia, free Jamaican “Maroons” were descended from slaves, and west Africans were freed on the high seas after Britain banned the international slave trade in 1807. The proto-Krio mix thus combined early African-American English, Jamaican Patois and west African languages such as Yoruba. Other languages contributed, too. *Pikin*, meaning “child”, comes from the Portuguese *pequenino* for “very small”, and goes back to the Portuguese role in the early slave trade.

Creoles are the world’s newest languages. Instead of evolving over many centuries, most emerged in a relative heartbeat. On slave plantations, speakers of different languages came together in the harshest possible conditions. In the traditional account of this process, a creole most often arose from a pidgin: a simple, improvised argot drawing most of its words from the (usually European) lan-



guages of the masters. As children learned the pidgin as a native language, it became a creole—stabler and more grammatically elaborate than the pidgin.

But some challenge this account. A statistical study of creoles published last year in *Nature* concludes that they are really just blends of their parent languages. It questions the existence of the pidgin stage, a break in language transmission before rebuilding into the creole. Since “ordinary” languages also blend (English owes much to its conquerors’ Old Norse and French), this makes creoles unexceptional.

There is more to the argument. The traditional idea that creoles come from pidgins may be fascinating, but it risks seeming condescending—by positing that creoles have simpler grammars as a result. In fact, they often contain complex features. Krio, like Yoruba, is tonal. In high tones, *koko* means a hard lump of flesh. Said in low tones, it is a small hut or hiding

place. Such tones are hard to learn, suggesting Krio was not merely an emergency language cobbled together in adversity.

Still, John McWhorter of Columbia University, a defender of the traditional pidgin-to-creole hypothesis, argues that by and large, creole grammars really are the world’s simplest. They usually lack the many word-endings that make Latin or Russian tricky, and often dispense with French-style grammatical genders, even when their parent languages have them. He points to a creole called Palenquero that melds Spanish and Kikongo and is spoken by Afro-Colombians. Both parent languages require lots of words to agree in gender and number—but Palenquero does not. Both distinguish between an animate direct object and an inanimate one. Palenquero does not. Mr McWhorter argues that in this simplicity Palenquero is a typical creole, not an outlier.

Whoever is right, neither side believes that creoles are rudimentary languages for simple-minded people. All grammars have more complexity than they need; creoles merely dispense with some of it, while still being perfectly usable to say anything that needs saying. Who could resist the charming ways in which Krio uses old-fashioned words little heard today in English? A lovers’ quarrel is a *palava* (palaver), and a common expression is *Ah de vex buku pan yu*, meaning “I’m very angry [vexed] with you.” The *buku* is from French *beaucoup*.

Mr Jones’s dictionary, “a labour of love”, took 30 years to write. It was one of the first works dedicated to his country’s de facto national language. Those unfamiliar with creoles, thinking them mere patois, argot or vernacular, are missing a glorious display of the ingenuity of those speakers who turned old languages into something brilliantly new.

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Economic data

% change on year ago

| | Gross domestic product | | | Industrial production | Consumer prices | | Unemployment rate, % | Current-account balance | | Budget balance | Interest rates, % | Currency units, per \$ | |
|----------------|------------------------|------------------------|-------------------|-----------------------|-----------------|--------|------------------------|-------------------------|------------------------|----------------|---------------------|----------------------------|----------------------------|
| | latest | qtr* 2017 ⁱ | 2017 ⁱ | | latest | latest | | 2017 ⁱ | latest 12 months, \$bn | | | % of GDP 2017 ⁱ | % of GDP 2017 ⁱ |
| United States | +2.5 Q4 | +2.6 | +2.3 | +3.6 Dec | +2.1 Dec | +2.1 | 4.1 Dec | -452.5 Q3 | -2.4 | -3.5 | 2.70 | - | - |
| China | +6.8 Q4 | +6.6 | +6.8 | +6.2 Dec | +1.8 Dec | +1.6 | 3.9 Q4 [§] | +121.6 Q3 | +1.2 | -4.3 | 3.85 ^{§§} | 6.29 | 6.88 |
| Japan | +2.1 Q3 | +2.5 | +1.7 | +4.2 Dec | +1.1 Dec | +0.5 | 2.8 Dec | +198.0 Nov | +4.0 | -4.5 | 0.07 | 109 | 113 |
| Britain | +1.5 Q4 | +2.0 | +1.6 | +2.5 Nov | +3.0 Dec | +2.7 | 4.3 Oct ^{††} | -118.1 Q3 | -4.5 | -2.9 | 1.51 | 0.70 | 0.79 |
| Canada | +3.0 Q3 | +1.7 | +3.1 | +4.7 Nov | +1.9 Dec | +1.5 | 5.7 Dec | -45.8 Q3 | -3.0 | -1.7 | 2.29 | 1.23 | 1.30 |
| Euro area | +2.7 Q4 | +2.3 | +2.3 | +3.2 Nov | +1.3 Jan | +1.5 | 8.7 Dec | +438.7 Nov | +3.2 | -1.2 | 0.70 | 0.80 | 0.93 |
| Austria | +3.2 Q3 | +1.4 | +2.8 | +3.4 Nov | +2.2 Dec | +2.1 | 5.3 Dec | +8.5 Q3 | +2.1 | -1.0 | 0.80 | 0.80 | 0.93 |
| Belgium | +1.9 Q4 | +2.0 | +1.7 | +6.2 Nov | +1.7 Jan | +2.2 | 6.3 Dec | -3.9 Sep | -0.3 | -1.7 | 0.92 | 0.80 | 0.93 |
| France | +2.4 Q4 | +2.5 | +1.8 | +2.5 Nov | +1.4 Jan | +1.2 | 9.2 Dec | -28.7 Nov | -1.4 | -2.9 | 0.97 | 0.80 | 0.93 |
| Germany | +2.8 Q3 | +3.3 | +2.5 | +5.7 Nov | +1.6 Jan | +1.7 | 3.6 Dec [†] | +282.8 Nov | +7.9 | +0.6 | 0.70 | 0.80 | 0.93 |
| Greece | +1.3 Q3 | +1.2 | +1.3 | +0.9 Nov | +0.7 Dec | +1.1 | 20.7 Oct | -1.0 Nov | -0.5 | -0.7 | 3.73 | 0.80 | 0.93 |
| Italy | +1.7 Q3 | +1.4 | +1.5 | +2.2 Nov | +0.9 Dec | +1.3 | 10.8 Dec | +56.1 Nov | +2.7 | -2.3 | 2.02 | 0.80 | 0.93 |
| Netherlands | +3.0 Q3 | +1.6 | +3.2 | +4.4 Nov | +1.3 Dec | +1.3 | 5.4 Dec | +80.7 Q3 | +9.6 | +0.7 | 0.73 | 0.80 | 0.93 |
| Spain | +3.1 Q4 | +2.8 | +3.1 | +4.7 Nov | +0.6 Jan | +2.1 | 16.4 Dec | +23.0 Nov | +1.7 | -3.0 | 1.43 | 0.80 | 0.93 |
| Czech Republic | +4.7 Q3 | +1.9 | +4.5 | +8.5 Nov | +2.4 Dec | +2.5 | 2.4 Dec [†] | +0.9 Q3 | +0.7 | +0.7 | 1.80 | 20.3 | 25.0 |
| Denmark | +1.4 Q3 | -1.9 | +2.2 | -1.1 Nov | +1.0 Dec | +1.1 | 4.2 Dec | +26.2 Nov | +8.4 | -0.3 | 0.73 | 5.97 | 6.88 |
| Norway | +3.2 Q3 | +3.0 | +2.1 | -4.1 Nov | +1.6 Dec | +1.9 | 4.1 Nov ^{††} | +21.1 Q3 | +4.9 | +5.2 | 1.92 | 7.68 | 8.23 |
| Poland | +5.1 Q3 | +4.9 | +4.6 | +2.7 Dec | +2.1 Dec | +2.0 | 6.6 Dec [§] | +1.5 Nov | +0.1 | -3.3 | 3.62 | 3.33 | 4.00 |
| Russia | +1.8 Q3 | na | +1.8 | -1.6 Dec | +2.5 Dec | +3.7 | 5.1 Dec [§] | +40.2 Q4 | +2.5 | -1.5 | 8.13 | 56.3 | 60.1 |
| Sweden | +2.9 Q3 | +3.1 | +2.7 | +6.5 Nov | +1.7 Dec | +1.9 | 6.0 Dec [§] | +21.1 Q3 | +4.5 | +1.0 | 0.93 | 7.85 | 8.74 |
| Switzerland | +1.2 Q3 | +2.5 | +0.9 | +8.7 Q3 | +0.8 Dec | +0.5 | 3.0 Dec | +66.4 Q3 | +9.6 | +0.8 | 0.10 | 0.93 | 0.99 |
| Turkey | +11.1 Q3 | na | +6.3 | +6.9 Nov | +11.9 Dec | +11.0 | 10.3 Oct [§] | -43.8 Nov | -5.0 | -1.9 | 11.78 | 3.75 | 3.78 |
| Australia | +2.8 Q3 | +2.4 | +2.3 | +3.5 Q3 | +1.9 Q4 | +2.0 | 5.5 Dec | -22.2 Q3 | -1.7 | -1.5 | 2.82 | 1.24 | 1.32 |
| Hong Kong | +3.6 Q3 | +2.0 | +3.7 | +0.4 Q3 | +1.7 Dec | +1.5 | 2.9 Dec ^{††} | +14.8 Q3 | +4.3 | +4.2 | 2.03 | 7.82 | 7.76 |
| India | +6.3 Q3 | +8.7 | +6.6 | +8.4 Nov | +5.2 Dec | +3.5 | 4.9 Dec | -33.6 Q3 | -1.5 | -3.3 | 7.43 | 63.6 | 67.8 |
| Indonesia | +5.1 Q3 | na | +5.1 | +5.0 Nov | +3.6 Dec | +3.8 | 5.5 Q3 [§] | -13.3 Q3 | -1.6 | -2.8 | 6.19 | 13,389 | 13,353 |
| Malaysia | +6.2 Q3 | na | +5.8 | +5.0 Nov | +3.5 Dec | +3.9 | 3.3 Nov [§] | +9.2 Q3 | +2.6 | -2.9 | 3.94 | 3.90 | 4.43 |
| Pakistan | +5.7 2017** | na | +5.7 | -2.0 Nov | +4.6 Dec | +4.1 | 5.9 2015 | -15.2 Q4 | -4.8 | -5.9 | 8.50 ^{†††} | 111 | 105 |
| Philippines | +6.6 Q4 | +6.1 | +6.6 | -8.1 Nov | +3.3 Dec | +3.2 | 5.0 Q4 [§] | -0.5 Sep | -0.2 | -2.1 | 6.21 | 51.3 | 49.8 |
| Singapore | +3.1 Q4 | +2.8 | +3.5 | -3.9 Dec | +0.4 Dec | +0.6 | 2.1 Q4 | +57.4 Q3 | +18.5 | -1.0 | 2.20 | 1.31 | 1.41 |
| South Korea | +3.0 Q4 | -0.9 | +3.1 | -6.0 Dec | +1.0 Jan | +2.0 | 3.3 Dec [§] | +81.3 Nov | +5.5 | +0.9 | 2.77 | 1,068 | 1,162 |
| Taiwan | +3.3 Q4 | +4.2 | +2.4 | +1.2 Dec | +1.2 Dec | +0.6 | 3.7 Dec | +74.1 Q3 | +13.2 | -0.1 | 1.04 | 29.1 | 31.4 |
| Thailand | +4.3 Q3 | +4.0 | +3.6 | +2.3 Dec | +0.8 Dec | +0.7 | 1.0 Dec [§] | +49.3 Q4 | +11.7 | -2.4 | 2.40 | 31.3 | 35.2 |
| Argentina | +4.2 Q3 | +3.6 | +2.9 | +0.8 Nov | +25.0 Dec | +25.2 | 8.3 Q3 [§] | -26.6 Q3 | -4.1 | -5.8 | 3.70 | 19.6 | 15.9 |
| Brazil | +1.4 Q3 | +0.6 | +0.9 | +4.7 Nov | +2.9 Dec | +3.4 | 11.8 Dec [§] | -9.8 Dec | -0.7 | -8.0 | 8.63 | 3.17 | 3.15 |
| Chile | +2.2 Q3 | +6.0 | +1.4 | +0.2 Dec | +2.3 Dec | +2.2 | 6.4 Dec ^{§††} | -4.6 Q3 | -1.3 | -2.7 | 4.50 | 601 | 646 |
| Colombia | +2.0 Q3 | +3.2 | +1.6 | +0.3 Nov | +4.1 Dec | +4.3 | 8.6 Dec [§] | -11.1 Q3 | -3.6 | -3.3 | 6.33 | 2,830 | 2,918 |
| Mexico | +1.8 Q4 | +4.1 | +2.0 | -1.5 Nov | +6.8 Dec | +6.0 | 3.4 Dec | -16.1 Q3 | -1.7 | -1.9 | 7.62 | 18.6 | 20.8 |
| Peru | +2.5 Q3 | +5.5 | +2.7 | -2.5 Sep | +1.4 Dec | +2.8 | 6.9 Dec [§] | -1.8 Q3 | -1.8 | -3.0 | na | 3.21 | 3.28 |
| Egypt | na | na | +4.2 | +27.1 Nov | +21.9 Dec | +26.8 | 11.9 Q3 [§] | -12.2 Q3 | -6.9 | -10.9 | na | 17.7 | 18.7 |
| Israel | +1.9 Q3 | +3.5 | +3.0 | +1.6 Nov | +0.4 Dec | +0.2 | 4.0 Dec | +10.5 Q3 | +3.4 | -2.0 | 1.73 | 3.41 | 3.77 |
| Saudi Arabia | -0.7 2017 | na | -0.7 | na | +0.4 Dec | -0.2 | 5.8 Q3 | +12.4 Q3 | +2.7 | -8.9 | na | 3.75 | 3.75 |
| South Africa | +0.8 Q3 | +2.0 | +0.8 | +2.1 Nov | +4.7 Dec | +5.4 | 27.7 Q3 [§] | -7.3 Q3 | -2.5 | -3.9 | 8.47 | 11.9 | 13.5 |

Source: Haver Analytics. *% change on previous quarter, annual rate. ⁱThe Economist poll or Economist Intelligence Unit estimate/forecast. [§]Not seasonally adjusted. [†]New series. ^{**}Year ending June. ^{††}Latest 3 months. ^{†††}3-month moving average. ^{§§§}year yield. ^{††††}Dollar-denominated bonds.

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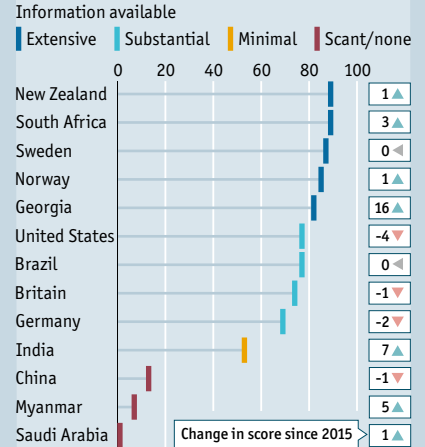
Markets

| | Index Jan 31st | % change on | | |
|---------------------------|-------------------|-------------|----------------------------|------------------------|
| | | one week | in local currency terms | Dec 30th 2016 in \$ |
| United States (DJIA) | 26,149.4 | -0.4 | +32.3 | +32.3 |
| China (SSEA) | 3,645.8 | -2.2 | +12.2 | +23.9 |
| Japan (Nikkei 225) | 23,098.3 | -3.5 | +20.8 | +29.1 |
| Britain (FTSE 100) | 7,533.6 | -1.4 | +5.5 | +21.4 |
| Canada (S&P TSX) | 15,951.7 | -2.0 | +4.3 | +14.1 |
| Euro area (FTSE Euro 100) | 1,250.1 | -0.8 | +12.4 | +32.8 |
| Euro area (EURO STOXX 50) | 3,609.3 | -0.9 | +9.7 | +29.5 |
| Austria (ATX) | 3,594.3 | -2.1 | +37.3 | +62.1 |
| Belgium (Bel 20) | 4,111.7 | -0.8 | +14.0 | +34.7 |
| France (CAC 40) | 5,481.9 | -0.2 | +12.7 | +33.2 |
| Germany (DAX)* | 13,189.5 | -1.7 | +14.9 | +35.7 |
| Greece (Athex Comp) | 878.8 | -0.6 | +36.5 | +61.3 |
| Italy (FTSE/MIB) | 23,507.1 | -0.5 | +22.2 | +44.3 |
| Netherlands (AEX) | 560.5 | -1.0 | +16.0 | +37.0 |
| Spain (IBEX 35) | 10,451.5 | -1.1 | +11.8 | +32.0 |
| Czech Republic (PX) | 1,130.9 | -0.7 | +22.7 | +54.9 |
| Denmark (OMXC B) | 921.4 | -2.5 | +15.4 | +36.1 |
| Hungary (BUX) | 40,188.5 | -1.9 | +25.6 | +47.8 |
| Norway (OSEAX) | 909.0 | -3.2 | +18.9 | +33.3 |
| Poland (WIG) | 66,048.1 | -1.9 | +27.6 | +59.9 |
| Russia (RTS, \$ terms) | 1,282.4 | -0.8 | +11.3 | +11.3 |
| Sweden (OMXS30) | 1,593.2 | -2.3 | +5.0 | +21.5 |
| Switzerland (SMI) | 9,335.4 | -2.2 | +13.6 | +24.2 |
| Turkey (BIST) | 119,528.8 | -0.1 | +53.0 | +43.4 |
| Australia (All Ord.) | 6,146.5 | -0.4 | +7.5 | +20.4 |
| Hong Kong (Hang Seng) | 32,887.3 | -0.2 | +49.5 | +48.2 |
| India (BSE) | 35,965.0 | -0.5 | +35.1 | +44.1 |
| Indonesia (JSX) | 6,605.6 | -0.1 | +24.7 | +25.5 |
| Malaysia (KLSE) | 1,868.6 | +1.7 | +13.8 | +31.0 |
| Pakistan (KSE) | 44,049.1 | -2.3 | -7.9 | -13.0 |
| Singapore (STI) | 3,534.0 | -2.1 | +22.7 | +35.4 |
| South Korea (KOSPI) | 2,566.5 | +1.1 | +26.6 | +43.2 |
| Taiwan (TWI) | 11,103.8 | -0.4 | +20.0 | +32.7 |
| Thailand (SET) | 1,826.9 | -0.7 | +18.4 | +35.4 |
| Argentina (MERV) | 34,938.6 | nil | +107 | +66.6 |
| Brazil (BVSP) | 84,912.7 | +1.5 | +41.0 | +44.9 |
| Chile (IGPA) | 29,419.8 | +0.9 | +41.9 | +58.1 |
| Colombia (IGBC) | 12,113.3 | -1.6 | +19.9 | +27.1 |
| Mexico (IPC) | 50,436.2 | -0.6 | +10.5 | +22.5 |
| Venezuela (IBC) | 3,667.8 | +47.3 | 11,467 | na |
| Egypt (EGX 30) | 15,042.4 | -0.8 | +21.9 | +25.1 |
| Israel (TA-125) | 1,408.5 | +0.5 | +10.3 | +24.5 |
| Saudi Arabia (Tadawul) | 7,650.1 | +2.3 | +5.7 | +5.7 |
| South Africa (JSE AS) | 59,506.1 | -3.4 | +17.5 | +35.3 |

Open budget index

Progress towards greater financial transparency has stalled, according to the latest “open budget index” from the International Budget Partnership, an advocacy group. The index measures the amount, level of detail and timeliness of budget information that is publicly available in 115 countries. The average score fell by two points between 2015 and 2017, to 43 out of 100. Sub-Saharan Africa is to blame: the continent’s average score fell by 11 points (in part because countries published fewer documents). Global budget transparency is still greater than it was a decade ago. Georgia is a bright spot: its score has risen by 48 points over the past decade, supported by reforms that began with the revolution in 2003.

Selected countries, 2017, 100=maximum score



Source: International Budget Partnership

Other markets

| | Index Jan 31st | % change on | | |
|---------------------------------|----------------------|-------------|----------------------------|------------------------|
| | | one week | in local currency terms | Dec 30th 2016 in \$ |
| United States (S&P 500) | 2,823.8 | -0.5 | +26.1 | +26.1 |
| United States (NAScomp) | 7,411.5 | nil | +37.7 | +37.7 |
| China (SSEB, \$ terms) | 344.8 | -0.4 | +0.9 | +0.9 |
| Japan (Topix) | 1,836.7 | -3.4 | +20.9 | +29.2 |
| Europe (FTSEurofirst 300) | 1,554.0 | -1.3 | +8.8 | +28.5 |
| World, dev'd (MSCI) | 2,214.1 | -0.8 | +26.4 | +26.4 |
| Emerging markets (MSCI) | 1,247.6 | -0.9 | +44.7 | +44.7 |
| World, all (MSCI) | 541.5 | -0.8 | +28.4 | +28.4 |
| World bonds (Citigroup) | 963.8 | -0.2 | +9.0 | +9.0 |
| EMBI+ (JPMorgan) | 829.4 | -0.2 | +7.4 | +7.4 |
| Hedge funds (HFRX) | 1,313.1 [§] | +0.1 | +9.1 | +9.1 |
| Volatility, US (VIX) | 14.1 | +11.5 | +14.0 (levels) | |
| CDSs, Eur (iTRAXX) [†] | 44.3 | +1.2 | -38.5 | -27.4 |
| CDSs, N Am (CDX) [†] | 47.3 | +1.5 | -30.2 | -30.2 |
| Carbon trading (EU ETS) € | 9.3 | -2.0 | +40.0 | +65.4 |

Sources: IHS Markit; Thomson Reuters. [†]Total return index. [‡]Credit-default-swap spreads, basis points. [§]Jan 29th.

Indicators for more countries and additional series, go to: Economist.com/indicators

The Economist commodity-price index

2005=100

| | Jan 23rd | Jan 30th* | % change on | |
|--------------------------------|----------|-----------|--------------|-------------|
| | | | one month | one year |
| Dollar Index | | | | |
| All Items | 151.1 | 153.4 | +1.7 | +3.2 |
| Food | 150.4 | 153.7 | +2.8 | -4.0 |
| Industrials | | | | |
| All | 151.8 | 153.1 | +0.6 | +11.9 |
| Nfa [†] | 142.6 | 138.8 | +0.6 | -6.7 |
| Metals | 155.7 | 159.3 | +0.5 | +20.9 |
| Sterling Index | | | | |
| All items | 196.0 | 197.7 | -2.2 | -8.1 |
| Euro Index | | | | |
| All items | 152.8 | 153.7 | -1.3 | -10.2 |
| Gold | | | | |
| \$ per oz | 1,337.3 | 1,340.4 | +2.1 | +10.6 |
| West Texas Intermediate | | | | |
| \$ per barrel | 64.5 | 64.5 | +6.8 | +22.1 |

Sources: Bloomberg; CME Group; Cotlook; Darmann & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. ^{*}Provisional [†]Non-food agricultural.





Freedom's blast

Hugh Masekela, trumpeter, songwriter and apartheid-fighter, died on January 23rd, aged 78

THE parcel arrived by courier post. It was big, rectangular, and had come all the way from America, where 17-year-old Hugh Masekela knew nobody except the folk, like Glenn Miller or the Andrews Sisters, whose music rang out of the family's wind-up gramophone. He tore off the paper, flicked the clasps, and found—a used F.X. Huller trumpet sent by Louis Armstrong. Wild with joy, he leapt out into the dusty streets of his township outside Johannesburg, where the worn-down people stopped to stare at him. He was waving his horn like a weapon. And so it became.

It was not his first trumpet. That had been bought for him by Trevor Huddleston, his school chaplain, after he had promised to make no more trouble if he had one. Ever since seeing “Young Man With a Horn”, a film about the trumpeter Bix Beiderbecke, he knew what he wanted to do. He already tooted all his spare hours with the Huddleston Jazz Band in the carpentry shop. But with Satchmo's trumpet, also sent on a hint from Huddleston, he could take on the world, or at least start to loosen up his own godforsaken land.

On this horn he raised the roof in 1959 on the tour of “King Kong”, the first multi-racial musical in South Africa. Round it he formed the Jazz Epistles, who cut the first record ever made there by a black band.

When they played the Ambassadors in Cape Town all races filled the hall, and even white girls threw themselves at him. He was hot, but so harassed as a bloody *kaffir* that he appealed to friends to get him a scholarship abroad. The breaking point was the Sharpeville Massacre of 1960, when 69 African protesters were killed by white police, and public gatherings of more than ten blacks were banned. Live music vanished. He left for the Manhattan School of Music and, for three decades, lived in America. At college his beloved trumpet was found to be so leaky and full of gunk that it was declared unplayable.

Dancing in work boots

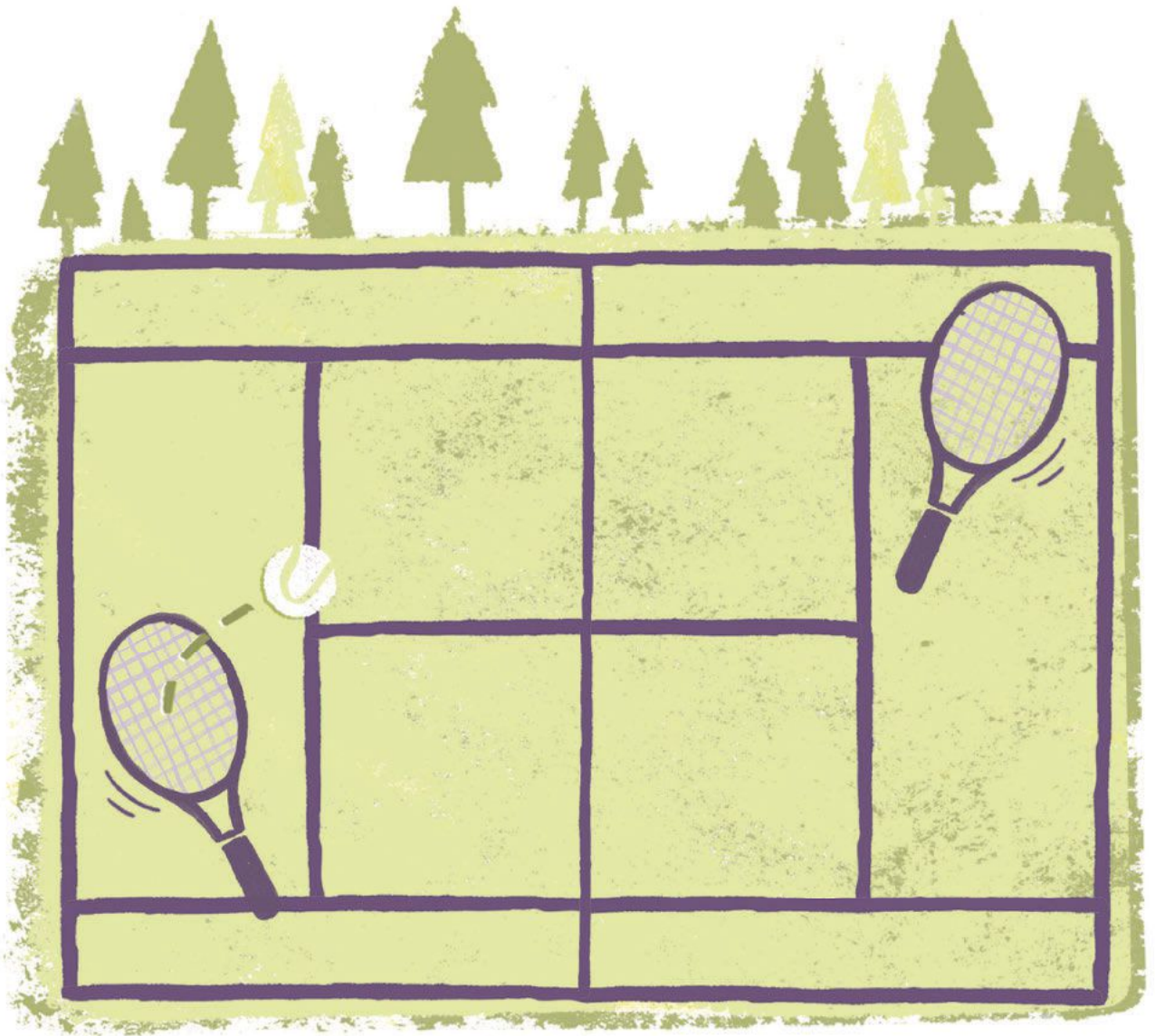
He never meant to leave Africa for so long. It lay at the heart of his playing, in tribal chants and folk songs and especially in *mbaqanga*, the music of the illegal bars or shebeens where miners in the townships would go after work to get stuporous on sorghum beer. His grandmother ran one, and when small he was her lookout, watching for the police. *Mbaqanga* was played on acoustic guitars and double-basses, with girls singing close harmony while the miners danced in rubber work boots, stamping away their sorrow. He combined this with American bebop and the horn style he liked best: lazy phrasing

and long notes to show off his fat, beautiful tone, singing and playing in much the same register. In time he added samba and calypso grooves, a bit of rock, a bit of rap, a pot pourri from the whole African diaspora. “Jazz” did not begin to cover it. Miles Davis, his idol among trumpeters, had urged him to be different anyway: “Nobody knows the shit that you know.”

The balance was hard to strike in America. If his music was too African, in that land of apartheid in a different hat, it didn't please audiences. If it was too poppy or west-coast, it didn't please him. He was miserably homesick, and would wander into Central Park just to talk township slang to himself. At his moment of greatest success in America, with “Grazing in the Grass”, at the top of the charts for three weeks in 1968, he was so dazed with booze, blow, pot and sex that he could hardly function. Trips to west and central Africa in the early 1970s turned into another shambles of self-destruction, relieved only by partnerships with famous local musicians. This was Africa, but he was still not home.

Home was where the music was. Rhythms of Zulu, Xhosa, Tswana; lyrics of township romances, girls sashaying to get water, rowdy shebeens. The songs kept coming across the Atlantic like a tidal wave. “Stimela” (Coal Train) described black miners digging and drilling in the belly of the earth to bring wealth to glittering Johannesburg, eating mush from iron plates, living in filthy barracks, torn from their loved ones by the screaming train. “Soweto Blues”, searingly sung by his sometime lover, sometime wife, Miriam Makeba, marked the killing of hundreds of young protesters by the police in 1976: “just a little atrocity”, deep in the City of Gold. His horn lamented that he could not return, even to bury his mother; that his records were banned there, and that in 1980 he could get no nearer than Botswana, where he set up a studio and music school. Paul Simon's “Graceland” album of 1986 seemed to do as much for African music as he had, pushing towards freedom. But his trumpet always gave him a sharper edge. The next year he was singing “Bring back Nelson Mandela” with raised fist, his anthem for the anti-apartheid struggle.

His eventual return to Johannesburg was like a dandy's, in expensive half-coats, scent and shiny shoes, for he had always enjoyed good clothes, and now he was a star. He had a fine trumpet too, a Vincent Bach, which had cost him \$150 in New York when he had sadly put Satchmo's aside. With this he could bring audiences in concert halls to their feet. But Bra Hugh was just as pleased to play to a barefoot crowd among the shacks of Alexandra Township outside the city, giving them a taste of his undiminished joy, and showing what one poor black boy could do. ■



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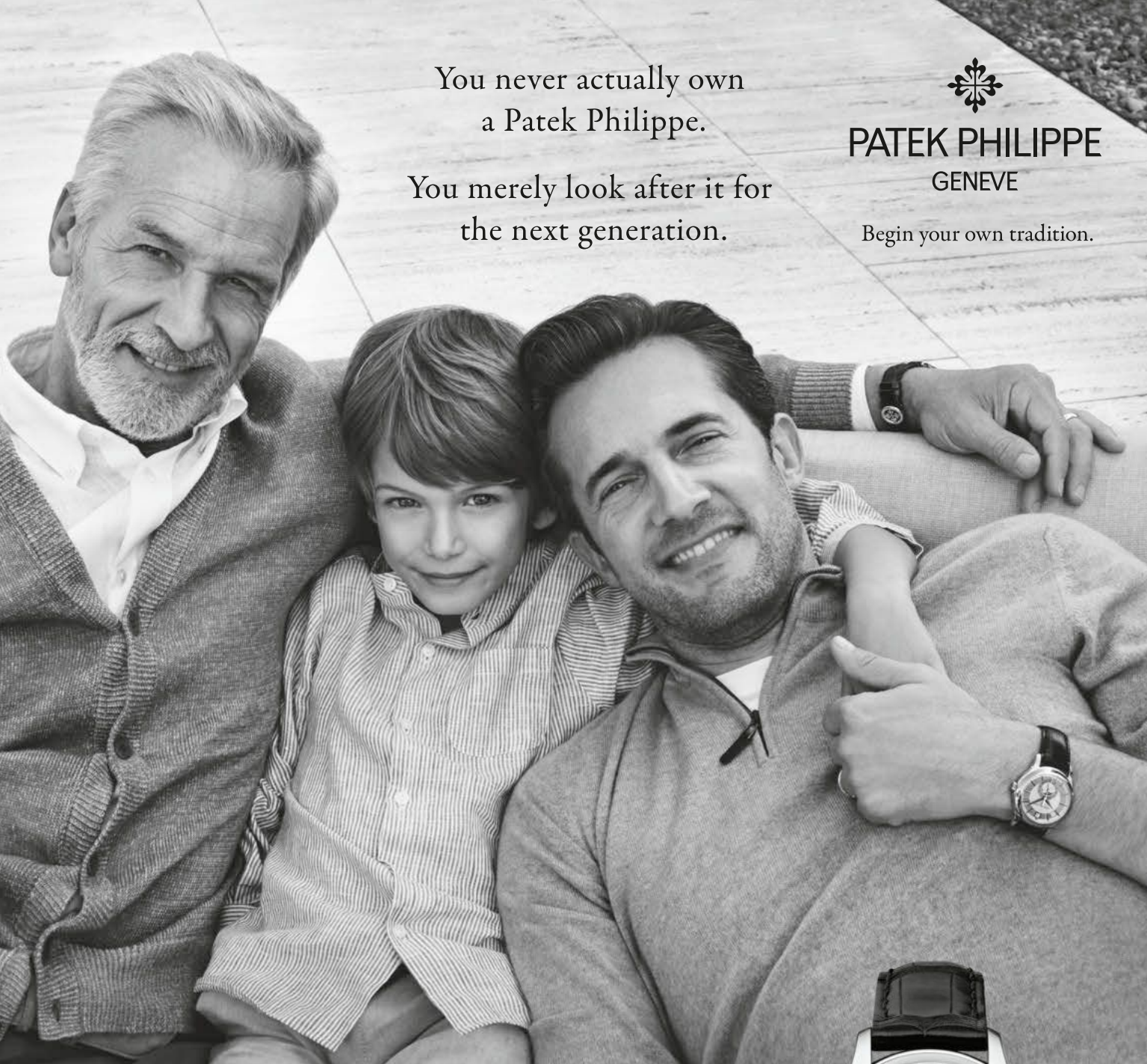
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