

# The Economist

The fall of Aleppo

Psychoanalysing Park Geun-hye

The uselessness of management theory

Inside DeepMind

DECEMBER 17TH-23RD 2016

# China's digital dictatorship

An experiment in social control





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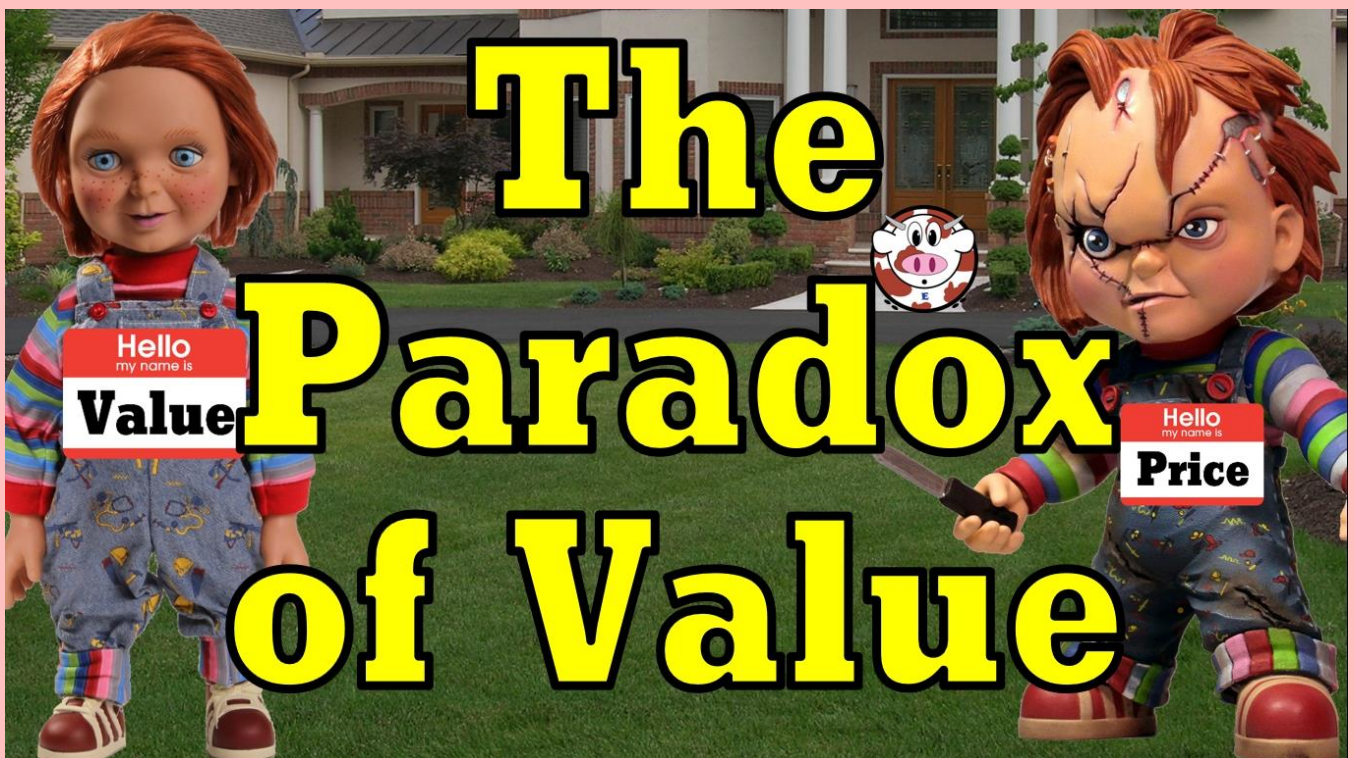




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## Politics



Syrian rebels inside **Aleppo**, who have been reduced to holding just a sliver of the city, were reported to have surrendered. But a deal under which they would be allowed to leave for the province of Idlib promptly ran into difficulties, and fighting resumed. Anywhere from 50,000 to 100,000 civilians are still trapped inside the tiny remaining enclave.

A bomb at a Coptic Christian church in **Cairo** killed at least 25 worshippers, two days after two bomb attacks targeted police in the Egyptian capital.

America said it would limit its arms sales to **Saudi Arabia**, following concerns about the high number of civilians being killed by Saudi air strikes in Yemen aimed at Houthi rebels.

The president of **Gambia**, Yahya Jammeh, retracted his earlier concession of defeat and challenged the result of an election on December 1st, which he lost. Leaders of neighbouring states have been pressing him to stand down with threats of sanctions and the use of force against him.

Muhammadu Buhari, the president of **Nigeria**, proposed a budget that will increase government spending by 20% in a bid to restart growth in an economy that has slumped into recession.

Nana Akufo-Addo, the leader of **Ghana's** opposition New Patriotic Party, won the presidency. It was the country's seventh more-or-less peaceful poll since the return of multi-party democracy in 1992.

António Guterres was sworn in as **UN secretary-general**. The former Portuguese prime minister and head of the UN refugee agency is taking over from Ban Ki-moon.

### A Russian attack

The CIA confirmed that **Russia** had tried to influence the result of the presidential election by hacking and leaking sensitive Democratic e-mails. The allegations were rubbished by Donald Trump's team. America's spooks are sure that Russia did try to intervene in the election; some are less certain than the CIA about the intent behind its actions.



Mr Trump nominated Rex Tillerson as **secretary of state**, a surprise choice given that the chief executive of ExxonMobil has no experience of formal diplomacy, though he does have friendly ties with Russia. Rick Perry, a former governor of oil-rich Texas, is to head the Department of Energy, which he once fought he wanted to abolish.

### There have been so many

Paolo Gentiloni was sworn in as **Italy's** new prime minister following Matteo Renzi's resignation after his defeat in a referendum on political reforms. Mr Gentiloni's new cabinet got to work as Mr Renzi retreated to his home in Tuscany. He may not be gone for long. He signed off with: "Back in touch soon, friends."

In Turkey a bombing outside a football stadium in **Istanbul** killed at least 44 people and left scores wounded. The Kurdistan Freedom Falcons claimed responsibility, the second attack it has carried out in the city this year.

A **Dutch** court convicted Geert Wilders, a populist politician, for inciting racial discrimination in a speech from 2014 in which he asked, "Do you want more or fewer Moroccans?" Mr Wilders described the decision as "a great loss for democracy and freedom of expression". He leads the polls for next year's election.

### Park drive

**South Korea's** National Assembly voted to impeach Park Geun-hye, the president. The Constitutional Court now has six months to review the charges against her.

In **Indonesia** the governor of Jakarta, Basuki Tjahaja Purnama (known as Ahok), went on trial for insulting Islam. The case has thrown open the election for governor.

Rodrigo Duterte, the president of the **Philippines**, told a group of businessmen that he had personally killed suspected criminals in an effort to encourage vigilantism while mayor of the city of Davao.

**Japan's** parliament passed a bill to overturn a ban on casinos, taking a punt that rich gamblers can be lured away from Macau and Singapore.

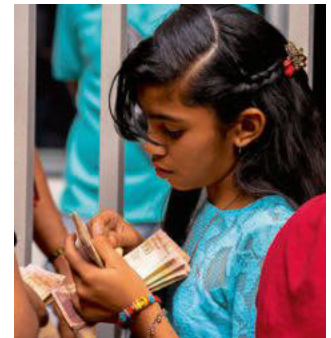
Donald Trump angered **China** by challenging the "one China" policy. Some Taiwanese are glad that the idea of "one China" has been questioned—they disagree with China's assertion that Taiwan is part of it. Some also fear, however, that their island may become a bargaining chip.

A US think-tank reported that China appeared to have put anti-aircraft systems on the seven artificial islands it has built in the **South China Sea**. The Asia Maritime Transparency Initiative used satellite imagery to track their construction. China has always denied that the islands were built for military purposes.

**Hong Kong's** unpopular chief executive, Leung Chun-ying, said he would not run for a second term. His successor will

be chosen in March by a 1,200-strong committee packed with loyalists of the Communist Party in Beijing.

### Copying India



**Venezuela** withdrew the 100-bolívar bill, its highest-valued banknote, from circulation. It represented 77% of the country's cash. Savers formed hours-long queues to deposit the nearly worthless bills in banks.

Justin Trudeau, the prime minister of **Canada**, struck a deal with the leaders of 11 provinces and territories to start a carbon-pricing scheme nationwide. If implemented, it would put the country on track to meet its emissions targets under the Paris agreement.

### Just in time for Christmas

Consumer prices in **Britain** rose to 1.2% in November, a two-year high. The increase, driven mainly by the higher cost of petrol and clothing, puts inflation at more than twice the level it was at in June, when Britain voted to leave the EU. With pay stagnant, inflation is eating into real wages. Meanwhile, the government said that it would not publish its Brexit plan until February.

A **strike** by train drivers on one of Britain's busiest railway networks gave commuters the winter blues. Those trying to get away from it all will have to contend with industrial action called by British Airways' cabin crews. But Post Office workers could deliver some festive cheer. They are also threatening to strike, so any future union ballots might get lost in the post before they do more damage to the economy. ►►

## Business

The Federal Reserve lifted the range for its benchmark **interest rate** by a quarter of a percentage point to between 0.5% and 0.75%. It was the first rise in a year and only the second since June 2006, and comes as the short-term prospects improve for growth in the American economy. The Fed forecasts that it will increase rates three times over the course of next year.

### It has to end some time

At its meeting on December 8th, the **European Central Bank** decided to extend quantitative easing for a further nine months to December 2017, but also to reduce the monthly pace of bond-buying from €80bn (\$85bn) to €60bn beginning in April. Investors tried to figure out whether this marked the start of a tapering of its stimulus programme.

With the clock ticking on an end-of-year deadline, **Monte dei Paschi di Siena**, Italy's most-troubled bank, prepared a last-ditch attempt to raise the €5bn (\$5.3bn) in new capital it needs to stay afloat. Italy's government was on standby to intervene if the bank falls short of raising the cash on the markets.

**UniCredit**, the only Italian bank deemed to be a risk to global markets if it goes bust, published its turnaround plan. It includes a €13bn (\$14bn) share issue to begin next year; reworking almost €18bn-worth of bad loans and selling them to two investment firms; and more job cuts.

There was some good news for one European bank at least when shareholders in **Bank of Cyprus** approved its plan to list on the London Stock Exchange. During the euro crisis three years ago the bank was on its knees and was rescued through a contentious "bail-in", converting savers' deposits to equity.

As a reminder that the euro crisis is not entirely over, the euro zone's finance ministers

cancelled short-term debt relief measures for **Greece**, after the government boosted pensions for the poor without consultation. The second review of the current Greek bail-out is stuck; the IMF recently ran a blog post criticising the European approach.

### Test flight

In the first multibillion commercial contract since 1979 between Iran and an American company, **Boeing** signed an agreement to deliver 80 aircraft to **Iran Air** for \$17bn. Airbus is close to securing a similar contract. The deals have been made possible by the lifting of sanctions since a nuclear deal was signed with Iran, but Republicans in Congress, and the incoming Trump administration, are opposed to that accord and could scrap the contracts. Speaking the Trump language, Boeing plugged the benefits of its deal for "tens of thousands" of American workers.

Five years after a first takeover attempt failed amid public anger at the hacking scandal at his British newspapers, **Rupert Murdoch** launched another bid to buy **Sky**, Britain's biggest pay-TV network. Mr Murdoch's 21st Century Fox said it had reached an agree-

ment to acquire the 61% of Sky it does not already own for around \$14bn. But the offer is not yet formal. Making it official could trigger a referral by the government to the competition regulators, and some politicians remain opposed to Mr Murdoch's ambitions.

**Vivendi** said it had bought a 12% stake in **Mediaset**, an Italian broadcaster controlled by Silvio Berlusconi, a colourful former prime minister, and that it intended to increase its holding to 20%. The purchase was unsolicited, prompting Mediaset to describe it as a hostile takeover attempt.

**Yahoo** discovered another breach of its security systems. A cyber-attack in 2013 accessed the passwords and other information of more than 1bn users, twice the number of a similar hack of Yahoo's systems that took place in 2014. The revelation could affect Verizon's planned takeover of the struggling internet company.

**Asahi**, Japan's biggest beer-maker, will become Europe's third-largest brewer following its acquisition of east European assets that **SABMiller** is selling as part of its amalgamation with Anheuser-Busch InBev. The deal, worth €7.3bn

(\$7.8bn), includes the Pilsner Urquell brand produced in the Czech Republic. Earlier this year Asahi bought the Grolsch and Peroni brews from SAB.

### Santa's little helper



Amazon made its first commercial delivery of goods to a customer by **drone**, transporting a TV device and popcorn to a farmhouse near the English town of Cambridge. Britain was the prime choice for Amazon to mark its achievement as regulators there have imposed fewer restrictions on drone tests than in America. The drone flew two miles over open country in 13 minutes carrying a package weighing less than 2.2kg (5lb). Sceptics think drones will be a niche service, at best, and won't work in urban areas.

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



# China's digital dictatorship

The Communist Party is experimenting with new means of social control



WHEN communism crumbled in the Soviet Union, 25 years ago this week, the Chinese Communist Party seemed to many to be heading irreversibly downwards. Yes, the tanks had left Tiananmen Square after crushing a revolt in 1989, but the war appeared lost. Even China's breakneck growth, which took off a year after the Soviet collapse, looked likely only to tear the party further from its ideological bedrock. In 1998 President Bill Clinton intimated that he foresaw an inevitable democratic trajectory. He told his Chinese counterpart, Jiang Zemin, that China was "on the wrong side of history".

Yet, while the West has suffered from the financial crisis and the fallout after a failed attempt to implant democracy in the Middle East, China's Communist Party has clung on to its monopoly of power. Its leaders behave as if China will never have to undergo the democratic transformation that every rich country has passed through on the way to prosperity. Instead they seem to believe that the party can keep control—and some officials are betting that the way to do so lies in a new form of digital dictatorship.

## A party apart

Under its leader, Xi Jinping, the party looks from the outside to be stronger than at any time in decades. Since Tiananmen, stale apparatchiks have been replaced by bright technocrats—and even entrepreneurs. Citizens enjoy freedoms unimaginable a generation ago—to do business, to travel abroad and to pursue freewheeling lives. Using Western techniques of public relations, the party reminds ordinary Chinese how everyone, thanks to mass consumerism, is having a jolly good time.

And yet the party is still profoundly insecure. During the past few years it has felt the need to impose a fierce clamp-down on dissidents and their lawyers. It is bullying activists in Hong Kong who challenge its authority and is terrorising restless minorities. Rapid economic growth has created a huge new middle class who relish the opportunity to get rich, but who are also distrustful of everything around them: of officials who ride roughshod over property rights, of a state health-care system riddled with corruption, of businesses that routinely peddle shoddy goods, of an education system in which cheating is the norm and of people whose criminal and financial backgrounds are impossible to assess.

The party rightly worries that a society so lacking in trust is unstable. So it is experimenting with a striking remedy. It calls this a "social-credit system" (see page 20). It says the idea is to harness digitally stored information to chivvy everyone into behaving more honestly, whether fly-by-night companies or tax- and fine-dodging individuals. That sounds fair enough. But the government also talks about this as a tool of "social management": ie, controlling individuals' behaviour. This is a regime that already tries to police how often people visit their parents. How much further could it go? Citizens' ratings are to be linked with their identity-card numbers. Many fear that bad

scores might result in sanctions, such as being denied a bank loan or permission to buy a railway ticket, even for political reasons. They have reason to worry. The government decreed this year that the system should record such vaguely defined sins as "assembling to disrupt social order".

In the West, too, the puffs of data that people leave behind them as they go about their lives are being vacuumed up by companies such as Google and Facebook. Those with access to these data will know more about people than people know about themselves. But you can be fairly sure that the West will have rules—especially where the state is involved. In China, by contrast, the monitoring could result in a digital dystopia. Officials talk of creating a system that by 2020 will "allow the trustworthy to roam everywhere under heaven while making it hard for the discredited to take a single step."

So far, the scheme is only experimental, in about 30 areas. The government itself seems unsure how far to take it. There has been much debate about how to ensure that citizens can challenge their ratings. Indeed, attempts to use the system to give the party more muscle are meeting opposition. Official media have reported misgivings about one experiment in which citizens visiting government offices to complain about miscarriages of justice were punished with poor scores. The media have even quoted critics comparing such tactics to the Japanese handing out "good citizen" certificates to trusted Chinese during the imperial army's hated wartime occupation.

That the party has given publicity to such concerns suggests it may heed some of them. But it is just as likely that the experiments mark the beginning of something bigger and more sinister. They are of a piece with China's deep-seated bureaucratic traditions of coercion and paternalism. The government feels that it has a right to intrude on citizens' lives. Public resentment has made no difference to brutal, ill-judged efforts to dictate how many children families can have. Whenever Mr Xi is challenged, his instinct always seems to be to crack down. The routine succession of threats any government faces is more likely to lead to oppression than to a free, informed debate or a decision that the state should forsake the digital tools available.

## Turn the spotlight on the rulers, not the ruled

Instead of rating citizens, the government should be allowing them to assess the way it rules. Vast digital systems are not needed for that. For all democracy's weaknesses, the ballot box can still work. Too much to ask for in China, perhaps? Not if the government is to be taken at its word. Its outline of the social-credit scheme grandly calls for "complete systems to constrain and supervise the use of power" and steps to "broaden channels for public participation in government policymaking". That sounds a lot like democracy.

Sadly, Mr Xi shows little interest in experiments of that kind. Witness the thugs who were recently deployed outside the home of a Beijing citizen who dared to try to stand in a local election without the party's permission. Instead Mr Xi continues to develop digital tools and systems for controlling people. That will fuel anger and resentment towards the government. In the long run it will prove that Mr Clinton was right. ■

## War in Syria

# The fall of Aleppo

Vladimir Putin's victory; the West's failure; and a warning of what happens when interests triumph over values



and schools; its citizens have been shelled, bombed, starved and gassed (see page 39). Nobody knows how many of the tens of thousands who remain in the last Sunni Arab enclave will die crammed inside the ruins where they are sheltering. But even if they receive the safe passage they have been promised, their four-year ordeal in Aleppo has blown apart the principle that innocent people should be spared the worst ravages of war. Instead, a nasty, brutish reality has taken hold—and it threatens a more dangerous and unstable world.

To gauge the depth of Aleppo's tragedy, remember that the first protests against Syria's president, Bashar al-Assad, in 2011 saw Sunnis marching cheerfully alongside Shias, Christians and Kurds. From the start, with extensive help from Iran, Mr Assad set out to destroy the scope for peaceful resistance by using violence to radicalise his people. Early on, his claim that all rebels were "terrorists" was outrageous. Today some are. There were turning-points when the West might have stepped in—by establishing a no-fly zone, say; or a haven where civilians could shelter; or even a full-scale programme of arming the rebels. But, paralysed by the legacy of Iraq and Afghanistan, the West held back. As the fighting became entrenched, the need to intervene grew, month by bloody month. But the risk and complexity of intervening grew faster. As Mr Assad was about to topple, Russia joined the fray, acting without conscience and to devastating effect. Aleppo's fall is proof that Mr Assad has prevailed and of Iran's influence. But the real victory belongs to Russia, which once again counts in the Middle East.

Likewise, the defeat is not just a blow to Mr Assad's opponents, but also to the Western conviction that, in foreign policy, values matter as well as interests. After the genocide in Rwanda in 1994, when Tutsis were slaughtered as the world turned its back, countries recognised that they have a duty to constrain brute force. When members of the UN accepted responsibility to protect the victims of war crimes, wherever they are, conventions against the use of chemical weapons and the reckless killing of civilians took on a new relevance. The desire to promote freedom and democracy was not far behind.

## Dust and ashes

This ideal of liberal intervention has suffered grievously. The American-led campaigns in Afghanistan and Iraq demonstrated that even the most powerful country in history cannot impose democracy by force alone. The tragedy of Aleppo is less conspicuous, but just as significant. Confronted by Mr Assad's atrocities, the West has done no more than rehearse diplomatic phrases. By failing to stand up for what it is supposed to believe in, it has shown that its values are just words—and that they can be ignored with impunity.

Plenty of people share the blame. After Mr Assad drenched his people in nerve gas, crossing an American red line, Britain's parliament voted against taking even limited military action. As millions of people fled to Syria's neighbours, including Lebanon and Jordan, most European countries looked the other way—or put up barriers to keep refugees out.

Particular blame falls on Barack Obama. America's president has treated Syria as a trap to be avoided. His smug prediction that Russia would be bogged down in a "quagmire" there has proved a historic misjudgment. Throughout his presidency, Mr Obama has sought to move the world from a system where America often acted alone to defend its values, with a few countries like Britain riding shotgun, to one where the job of protecting international norms fell to all countries—because everyone benefited from the rules. Aleppo is a measure of how that policy has failed. As America has stepped back, the vacuum has been filled not by responsible countries that support the status quo, but by the likes of Russia and Iran which see the promotion of Western values as an insidious plot to bring about regime change in Moscow and Tehran.

## Welcome to the bazaar

In theory, the next American president could seek to reverse this. However, Donald Trump embodies the idea that liberal intervention is for suckers. The nomination of his new secretary of state, Rex Tillerson, the boss of ExxonMobil (see page 33), only reinforces his campaign message: as president, Mr Trump wants to notch up deals, not to shore up values.

Striking deals is an essential part of diplomacy—especially with adversaries like Russia and Iran and competitors like China. But a foreign policy that lurches from deal to deal without a strategy or being anchored in values poses grave risks. One is that allies become bargaining chips. Mr Trump has already dangled his support for democratic Taiwan, which China claims as a renegade province, as something to be traded in exchange for help cutting America's trade deficit with China (see page 29). A grand bargain that Mr Tillerson brokers with his friends in Russia and which, for instance, pulls American troops back from NATO's front-line states in exchange for concerted diplomatic action against Iran or China would leave the Baltic states exposed to Russian aggression. An unparalleled network of alliances is America's great strength (see page 50). Mr Trump must care for his allies, not trade them away.

An order based on deals also risks being unpredictable and unstable. If Mr Trump fails to strike his bargain with Russia, the two countries could rapidly fall out—and never would Mr Obama's cool head be more missed. When might is right, small countries are locked out or forced to accept poor terms while the great powers strut their stuff. Without a framework to bind them in, deals require frequent renegotiation, with uncertain outcomes. Complex, transborder problems such as climate change are even harder to solve.

The world has seen what happens when values cannot hold back the chaos and anarchy of geopolitics. In tragic, abandoned Aleppo the fighting has been merciless. The people who have suffered most are the poor and the innocent. ■



## South Korean politics

## Decide and rule

Lawmakers have impeached the president. They must now get down to policy, not politicking



FOR South Korea, a democracy not yet three decades old, the impeachment on December 9th of its unloved president, Park Geun-hye, was the culmination of a remarkable few weeks of participatory politics. As Ms Park sank ever deeper into an influence-peddling scandal involving a former confidante, millions joined protests and called on their MPs to oust her. Four-fifths of South Koreans demanded her eviction; four-fifths of parliamentarians gave them what they wanted.

The result suspends Ms Park's powers, over a year before her term ends (see *Banyan*). But already the consensus that produced it is cracking. The verdict has riven Ms Park's Saenuri party—half of whose MPs were among the 234 who voted to impeach her. Saenuri's floor leader abruptly resigned this week; the party may split as it tries to reinvent itself. The opposition, which controls parliament, wants to ditch deals made by Ms Park's conservative administration, and threatens to hobble the unpopular prime minister and acting president, Hwang Kyo-ahn. That would be a mistake. Instead, politicians need to put policy ahead of politicking.

## Unfit for a Kim

Both parties are in turmoil as they gear up for a possible early presidential election, with no clear front-runner. But a decision on Ms Park's permanent removal, which rests with the Constitutional Court, could take up to six months. A vote for her successor would take place within 60 days if six of the nine justices agree to impeach her. But they may not: two justices will soon retire, and Mr Hwang is unlikely to replace them. Five of the seven who would remain have a conservative bent.

South Korea's mess will only grow worse if impeachment is

rejected. The country cannot afford to drift without a hand on the tiller. Ms Park should resign straight away, and fresh elections should be held. Even then, it will take time to form a new government, so parliament must step up.

The priority is security. Donald Trump takes office in America in late January, when South Korea will almost certainly find itself without an elected president. He has made vague threats to withdraw troops from the South even as Kim Jong Un in North Korea tests missiles and bombs with new gusto. Mr Kim likes to test new leaders (the North's third underground nuclear explosion came two weeks before Ms Park took office). So the South Korean opposition should not delay the deployment of an American-funded missile-defence system, called THAAD (Terminal High-Altitude Air Defence), as it is threatening to do. Nor should lawmakers scrap a vital military-intelligence-sharing deal with Japan, approved last month. This month's three-way summit of leaders with China and Japan will now not take place; South Korean envoys should quickly reassure both that nothing fundamental has changed.

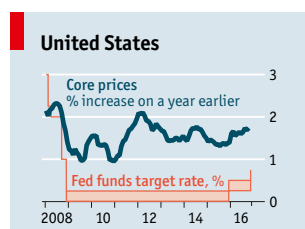
The country's lawmakers should also pass some of the many pending bills aimed at energising the sagging economy, which may barely grow by 2% next year. Three hitherto contentious ones deserve their attention: one to boost its unproductive service industry; another to cut regional red tape; plus a package of reforms to loosen the rigid labour market, including provisions for pay to be tied to merit rather than seniority. These would help create jobs—especially for the young, a fifth of whom are neither studying nor in work.

The finance minister was among those whom Ms Park tried but failed to replace last month after the opposition refused to confirm her new appointee. Mr Hwang was another. For liberal MPs both are political adversaries, but if they help them govern, MPs would be making good on their pledge, when they impeached Ms Park, to be working for the people. ■

## The Federal Reserve

## Janet's job

The Fed was right to raise rates this week. It should be cautious about its next move



again, to a target range of 0.5-0.75%. The delay reflected both a wobbly world economy and the Fed's realisation that the structural forces keeping rates low, such as slow productivity growth, are more powerful than it had previously thought.

The Fed was right to sit on its hands for a year. After a few

soggy quarters of growth, America's economy is now much the stronger for the pause. It grew at an annualised rate of 3.2% in the third quarter of the year. Unemployment has fallen to 4.6%, the lowest since August 2007. The labour-force participation rate for 25- to 54-year-olds, which tumbled after the recession, has recovered about a third of its decline, after its fastest growth spurt since 1985. Inflation, too, is slowly gathering speed. Core prices, which exclude food and energy, are 1.7% higher than a year ago, still below the Fed's 2% target, but up from 1.4% when it first raised rates. In September markets' inflation expectations began to pick up, too. All of this is welcome. Monetary policy is still relaxed, even if the Fed has withdrawn a quarter-point of stimulus. The issue is what happens next. ►►

► The complexion of the central bank's task has altered since the election of Donald Trump. Stockmarkets in America have rallied, the dollar has surged and Treasury yields have jumped in anticipation of fiscal stimulus. Such a stimulus would imply, all else being equal, that the Fed should now raise interest rates more quickly. The political backdrop is more complicated, too.

### Fed up. Now what?

During his campaign, Mr Trump attacked Janet Yellen, the Fed's chair, for keeping rates low. Her image was used in a TV advert in which he denounced "global special interests". The incoming president will have opportunities to put his stamp on the central bank: two of seven Fed governorships are vacant. Ms Yellen's term is up in 2018, as is that of her vice-chair, Stan Fischer. Daniel Tarullo, the de facto vice-chair for bank supervision and a vocal proponent of regulation, is unlikely to be confirmed in that position. If all three of these individuals were also to resign as governors, Mr Trump could pack the central bank's board with his picks.

The best way for the Fed to avoid interference is to stay out of political debates, whether over the right amount of fiscal stimulus or over its own mandate. And the best way for the Fed

to set monetary policy is to stick with the cautious, data-dependent approach of the past year.

The Fed's rate-setters know that they still face an asymmetry of risks: should they raise rates too quickly, they cannot cut them by a lot if the economy sours. By contrast, the Fed can always tighten policy as much as it likes. It would thus be unwise to react hastily to the mere prospect of fiscal easing. Nobody yet knows how soon, by how much and to what effect Mr Trump will cut taxes (see page 60), or how his trade policy will work. And if the dollar, up by nearly 5% since September, goes higher, emerging markets with dollar-denominated debts will look even more fragile than they do today. Weak growth abroad would wash back up on America's shores. Financial conditions are already tighter, thanks to the dollar's strength and higher bond yields. If after years of undershooting, inflation surpasses the Fed's 2% target, that would not be a disaster.

How many rate rises are needed in 2017 depends on the balance of risks. The Fed's forecast of three is probably a maximum. Over the past year a strong dollar, fragile emerging markets and the risk of over-tightening have stood in the way of rapid rate rises. Today the economy is stronger and the labour market a bit tighter, but the case for caution is much the same. ■

### The trial of Geert Wilders

## In defence of hate speech

### Governments that try to ban offensive speech only empower bigots



**G**EERT WILDERS, a Dutch politician, says some horrible, inflammatory things. He has called Islam a "fascist ideology" and referred to Muhammad, Islam's prophet, as "a devil". He is no friend of free speech, either: he wants to ban not only

the Koran but also preaching in any language other than Dutch. *The Economist* deplores his views; but he should be allowed to express them.

### Wild thing, you make my heart sink

Prosecutors in the Netherlands have reached a different conclusion. On December 9th a court found him guilty of insulting and inciting racial discrimination against Dutch Moroccans. At issue was a nasty line from a speech in 2014. "Do you want more or fewer Moroccans?" Mr Wilders asked supporters of his anti-immigrant Party for Freedom (PVV). The crowd replied: "Fewer! Fewer! Fewer! Fewer!" Mr Wilders smiled and said, softly: "We'll take care of that." The audience chuckled.

The court decided not to impose a fine, arguing that the conviction itself was punishment enough. Some punishment. Three months before an election, Mr Wilders can pose as a victim of an illiberal law and a politically correct elite who, he claims, are letting Islam undermine Dutch civilisation. Mr Wilders's image as a martyr is further enhanced by the fact that Islamist radicals have threatened to kill him for his words.

All this makes him stronger. His party leads the polls, with the support of a third of voters. The PVV will probably not win control of the country—mainstream parties will club together to keep it out of office. But using the law to attempt to silence

Mr Wilders enhances his malign influence over Dutch politics and makes it more likely that he will one day wield real power.

The Netherlands is far from the only democracy to criminalise "hate speech" that denigrates racial, religious or other groups. Such laws have widespread support, but they are misguided. Free speech is the oxygen of democracy—without it, all other political freedoms are diminished. So the right to free expression should be almost absolute. Bans on child pornography and the leaking of military secrets are reasonable. So, too, are bans on the deliberate incitement of violence. But such prohibitions should be narrowly drawn.

Standing outside a mosque shouting, "Let's kill the Muslims!" qualifies. Complaining that your country has admitted too many migrants of a particular nationality does not. People should be free to debate immigration policy. Advocates of a liberal approach, such as this newspaper, should try to persuade those who disagree with them, not lock them up.

Proponents of hate-speech laws argue that they foster social harmony by forcing people to be more polite to each other. The opposite is more likely to be true. Criminalising something as subjective as the giving of offence encourages more people to say they are offended, so they can use the law to suppress views they dislike. This enrages those who are silenced; hardly a recipe for social tranquillity.

Such laws also provide an excuse for autocrats to censor their critics. China uses laws against inciting ethnic hatred to trample on Tibetans who demand autonomy. In Saudi Arabia and Pakistan anti-blasphemy laws are used to terrorise minorities and settle private scores. In all these cases censorious governments cite similarly worded Western laws as precedents. Enough. Governments should stop trying to police politeness. It stifles debate and helps bigots like Mr Wilders. ■

### A tax on oil companies

It was surprising to see *The Economist* repeat, uncritically, claims made by green activists and a trade union with an industrial axe to grind, that a “gas-extraction tax is bringing in less revenue than expected” (“Poor credit”, November 26th). The tax in question, the petroleum resource rent tax, is just one of many taxes paid by the oil and gas industry. For almost 30 years, Australia has used the PRRT as a super-profits tax. It encourages investment by only taxing projects when upfront costs have been recovered and profits exceed a modest benchmark rate. However, when these conditions are met, the PRRT, in conjunction with the company tax, applies an effective tax rate of 58 cents on every dollar of profit. When projects are not profitable, usually because prices are depressed or upfront costs have not been recovered, Australia still applies a 30% company tax to revenue.

As indicated in your article, the profits-based PRRT has encouraged \$200bn through investment which will deliver far more revenue, over the investment cycle, than would be likely to occur with a crude royalty.

MALCOLM ROBERTS  
Chief executive  
Australian Petroleum Production and Exploration Association  
Canberra, Australia

### Immigrants in Hong Kong

Your briefing on China's view of ethnicity and nationhood painted a generally accurate picture of China's Han-centred order (“The upper Han”, November 19th). That has been the case for thousands of years, mainly because the Han people are by far the majority and Han culture has proved to be resilient despite many challenges. But in decrying the low numbers of immigrants naturalised in China compared with other countries, you overlooked the important role that Hong Kong, under “One Country, Two Systems”, contributes to

China's ethnic diversity.

In accordance with a rule adopted by the National People's Congress Standing Committee in May 1996, Hong Kong's Immigration Department is authorised to handle all nationality applications in accordance with China's nationality law on behalf of the central government. From July 1997 to the end of December 2010, the Immigration Department approved 10,975 nationality applications from a wide diversity of potential entrants from different ethnic and national backgrounds. The number of nationality applications approved in Hong Kong continues to rise.

This is another good example of how Hong Kong contributes to the diversity and modernisation of China.  
REGINA IP  
Member of Hong Kong's  
Legislative Council

### Why Trump should go green

As you pointed out, many of the incentives to invest in low-carbon technologies in America are at the state or business level (“The burning question”, November 26th). Earlier this year, governors from 17 states, both Republicans and Democrats, agreed to co-operate on rolling out and cutting the cost of clean energy and transport technologies. Indeed, many renewable-energy federal incentives are backed by many Republicans. The solar- and wind-tax credits were recently renewed for five years by a Republican-led Congress. This isn't just because renewables are fast coming down in cost, they have also become important industries in Republican strongholds such as North Carolina, which invested \$7bn in the technology in 2015, and Texas, where over 100,000 people are employed in the renewables industry.

As the cost of green technologies continues to come down, the size of the American clean-energy industry continues to grow and the export market for low-carbon goods and services becomes increasingly significant. “Making America great

again” may require Team Trump to think twice before turning its back on the climate agenda.

NICK MOLHO  
Executive director  
Aldersgate Group  
London

### Bold thinking on refugees

Europe's populists are obsessed with migration (Charlemagne, November 26th). But it is the UN convention on refugees that underpins Europe's crisis. It was drafted in the aftermath of the second world war and is outdated. It should be scrapped and replaced with something better. No single country would risk being ostracised by abandoning the convention on its own, but the EU as a whole has the diplomatic and moral heft to succeed. Apart from taking back the initiative from the populists it would also be in the interest of refugees. Instead of granting asylum to anyone who reaches its shores, Europe could focus on those most in need of protection but lacking the means to make the journey.

If one really wants to rub it in the face of Marine Le Pen et al, there should be a Europe-wide referendum on the issue.  
ANDERS LONNFALT  
Olofstrom, Sweden

### Trees a crowd

The chart in “For peat's sake”, (November 26th) suggests that tree-cover loss is the same as deforestation. It is not. Trees grow back when sustainably harvested or after forest fires. The tree-cover loss is only temporary. The chart indicates that Canada lost 7.3% of its tree cover between 2000 and 2014. But sites that were harvested and replanted in 2000 are now covered in trees that are four metres or taller. The Canadian Forest Service reports that the deforestation rate in Canada is 0.02% a year, or less than 0.3% between 2000 and 2014.

PHILIP GREEN  
Chief executive  
First Resource Management Group  
New Liskeard, Canada

### Science trek



The paradox in Roger Shawyer's EMDrive is easily explained (“Ye cannae break the laws of physics”, November 26th). There would be an axial component of radiation pressure on the conical walls of the chamber, not just on the flat ends. This invention is a benign piece of whimsy.

More worryingly in my own field, energy conservation, flawed science is routinely used to peddle bogus products. Vendors claim that combustion can be improved by passing fuel through magnetic fields, that refrigeration circuits can be made more efficient by injecting heat and that multiple layers of reflective foil enhance the effect of insulation quilt, to name but three spurious technologies.

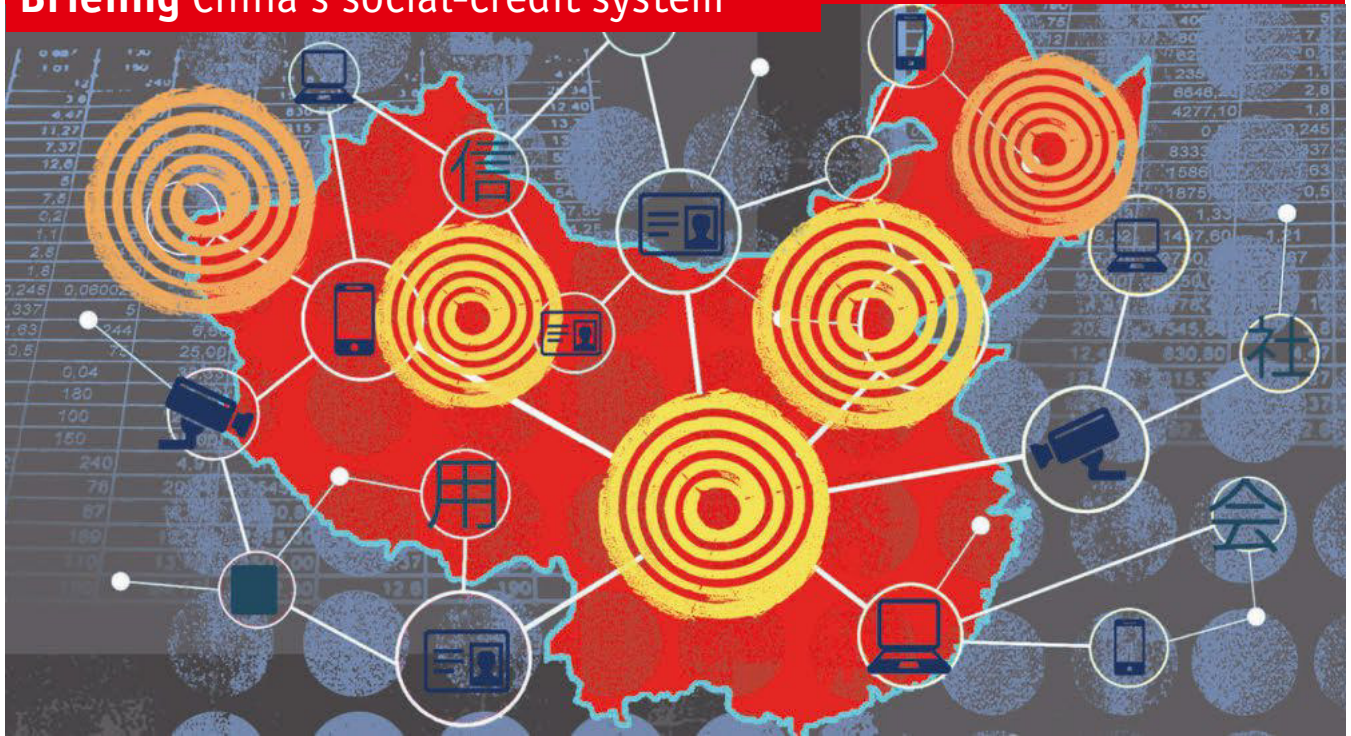
Sadly, as well as post-truth politics, we are entering an era of post-science engineering.  
VILNIS VESMA  
Director  
Vesma.com  
Newent, Gloucestershire

### Classifying economists

You asked, what is the most appropriate collective noun for a group of economists (Free exchange, November 26th)? At least for those of us doughtily ploughing the rough terrain of macroeconomics, the answer is clear: an aggregate.

PROFESSOR MICHAEL BEN-GAD  
Department of Economics  
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## Creating a digital totalitarian state

BEIJING

### Big data gives Chinese rulers new ways to monitor and control citizens

GARY SHTEYNGART'S novel of 2010, "Super Sad True Love Story", is set in a near future when the Chinese yuan is a global currency and people all wear an "apparat" around their neck with RateMe Plus technology. Personal details are displayed in public on ubiquitous Credit Poles, posts on street corners with "little LED counters at eye level that registered your Credit ranking as you walked by." The protagonist's are summed up thus:

LENNY ABRAMOV. Income averaged over five-year span, \$289,420 yuan-pegged... Current blood pressure: 120 over 70. O-type blood... Thirty-nine years of age, lifespan estimated at eighty-three... Ailments: high cholesterol, depression... Consumer profile: heterosexual, nonathletic, non-automotive, nonreligious... Sexual preferences: low-functioning Asian/Korean... Child abuse indicator: on... Last purchases: bound, printed, nonstreaming Media artifact" [ie, book].

The novel is a fictional dystopia about the destruction of privacy. China's Communist Party may be on its way to inventing the real thing. It is planning what it calls a "social-credit system". This aims to score not only the financial creditworthiness of citizens, as happens everywhere, but also their social and possibly political behaviour. It is not yet clear how extensive the system will be, nor whether it will work,

nor how far it will withstand the criticism ranged against it in the state-controlled media. But an outline is complete and some of the building blocks are in place. The early signs are that China is starting on the most ambitious experiment in digital social control in the world.

A pilot scheme in Suining county, in Jiangsu province north of Shanghai, gives clues about what such a system might mean in practice. Starting in 2010, the local government awarded people points for good behaviour (such as winning a national honour of some kind) and deducted points for everything from minor traffic offences to "illegally petitioning higher authorities for help". Those who scored highest were eligible for rewards such as fast-track promotion at work or jumping the queue for public housing.

The project was a failure. The data on which it was based were patchy. Amid a public backlash, a report in *China Youth Daily*, a state-owned newspaper, criticised the system. It said "political" data (such as petitions) should not have been included, declaring that "people should have rated government employees and instead the government has [rated] the people." Another state-run newspaper, *Beijing Times*, even compared the scheme with the "good citizen" certificates issued by Japan during

its wartime occupation of China.

But the party and government seem undaunted, issuing outline plans for the social-credit system in 2014 and more detailed guidelines this year. About 30 local governments are collecting data that would support it. The plan appears hugely ambitious, aiming explicitly to influence the behaviour of a whole society. By 2020, Chinese officials say, it will "allow the trustworthy to roam everywhere under heaven while making it hard for the discredited to take a single step."

The project is a response to the party's biggest problems: the collapse of confidence in public institutions, and the need to keep track of the changing views and interests of China's population (without letting them vote). It seeks to collect information on the honesty of ordinary citizens, public officials and companies alike.

### A question of trust

Despite years of economic growth, popular discontent at widespread corruption has grown stronger. A series of scandals about everything from shoddy housing to out-of-date vaccines has led to public cynicism about companies and the government's ability to enforce rules. Social-credit scoring aims to change that by cracking down on the corrupt officials and companies that plague Chinese life. And it aims to keep a closer track on public opinion. In a society with few outlets for free expression, big data might paradoxically help make institutions more accountable.

But it could also vastly increase snooping and social control. In other countries there have been many scare stories about Big Data leading to Big Brother. Most have ▶▶

proven false. But China is different. It is a one-party state, with few checks on its power, a tradition of social control and, in President Xi Jinping, a leader even more prone to authoritarianism than his immediate predecessors. The extent of social-credit scoring will depend on what the government intends, whether the technology works and how the party responds to public concerns.

Start with intent. The “planning outline” published in 2014 said the government “pays high regard to the construction of a social-credit system”—suggesting the project has the imprimatur of Mr Xi and Li Keqiang, the prime minister. Social credit, it declared, “is an important component ... of the social-governance system”: in other words, it is part of governing the country.

The paper did not set out how the system would work but was clear about its aims. They are to strengthen confidence in the government by improving its efficiency through big data; to crack down on companies that cheat and sell unsafe goods; and to “encourage keeping trust and punish breaking trust...throughout the entire society”. Social credit, it concluded, would be “an important basis for...building a harmonious socialist society”.

**Getting to know you**

Such thinking is in keeping with the party's long record of using bureaucratic tools to restrict freedom and invade privacy in the name of public order. Almost everyone has a *hukou* (household registration) document that determines where citizens can get public services. Most people once had a *dang'an* (personal file) containing school and work reports, and salary details. Both controls have been relaxed, notably the *dang'an*. But both still exist.

Increasing numbers of people in government, state-owned firms and universities are required to hand over their passports “for safe keeping”. Holders of passports in some parts of the restless regions of Xinjiang and Tibet have also been told to hand them over to the police.

Punishments and rewards for behaviour are woven into the government's activities. The one- (now two-) child policy remains the extreme example of a supposed greater good trampling over private interests. But it is not the only one. The Elder-care law of 2013 requires all adult children, on penalty of fines or jail, to visit parents over 60 “often” (the courts define what counts as often). A few people have been fined under the law and one official said their offences might be entered onto their *dang'an*, though there is no sign that this has been done.

China has “an administrative rewards system” in which hundreds of thousands of people a year receive honours and titles, such as “outstanding cadre”, “spiritually advanced individual” and “civilised vil-

lage”. Winners get money, a higher pension, better health insurance and the right to jump the queue for public housing. The honours system is valued by the leadership. Last year, all seven members of the country's highest decision-making body, the Standing Committee of the Politburo, attended the awards ceremony of the National Model Worker programme.

Wholesale surveillance, increasingly of the digital sort, is a central pillar of Chinese communist rule. A system of block-by-block surveillance called “grid management” is being set up in several parts of the country: police and volunteers keep tabs on groups of a few hundred people, supposedly to ensure the rubbish is collected and disputes resolved. It is part of a tradition of self-policing that stretches back to the Song dynasty in the 11th century.

Newer forms of monitoring involve the ubiquitous use of closed-circuit television cameras. In 2009 China had 2.7m of them; now it may have overtaken America as the country with the largest number of CCTV devices. According to Jack Ma, head of Alibaba, China's largest internet firm, the company's home town of Hangzhou has more surveillance cameras than New York, a somewhat larger city.

As internet use has grown (see chart), so have China's comprehensive controls in cyberspace—from the Great Firewall, the system that blocks access to tens of thousands of websites (Economist.com among them); to the Golden Shield, an extensive online surveillance system; and the Great Cannon, a tool to attack hostile websites. China's cyber-censors can suspend internet or social-media accounts if their users send messages containing sensitive terms such as “Tibetan independence” or “Tiananmen Square incident”.

The scale of the data-collection effort suggests that the long-term aim is to keep track of the transactions made, websites visited and messages sent by all of China's

700m internet users. That would be enormously ambitious but probably not impossible. According to leaked documents, America's National Security Agency can collect 42bn internet records a month and 5bn mobile-phone location records a day.

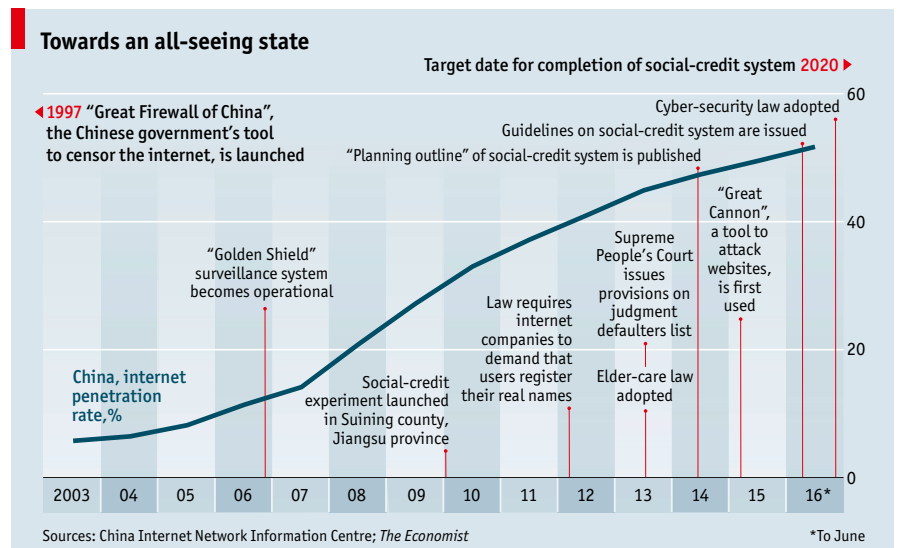
To make such surveillance work, the government has to match the owners of devices with the digital footprints they leave. So laws passed in 2012 and 2016 require internet firms to keep their customers' real names and other personal information. But there are lots of fake registrations. And it is unclear how censors plan to tackle virtual private networks, which mask a user's IP address.

**Who's naughty and nice**

The emerging social-credit system builds on this history of monitoring and control of people's private lives. Lists are central to the project: you need lists of identities to order the data you gather. And lists are a Chinese speciality. China's tourist authority keeps a no-fly list for ill-mannered travellers, who can be banned from going abroad for up to ten years. The Cyberspace administration keeps a “white list” of favoured media firms that may sell their articles to other outlets. And so on.

The list at the heart of the social-credit system is called the “judgment defaulter's list”, composed of those who have defied a court order. If two people or companies have a contract dispute, or if couples are fighting over a divorce or child support, the parties can go to a civil court for judgment. If the losing party then defaults on payment, he, she or it is put on the list. Names of offenders are displayed on an electronic crawl outside court houses. According to the supreme court, there were 3.1m defaulters on the list at the end of 2015.

All countries have problems enforcing civil judgments in financial cases, so the list may not look unusual. But it is. It is exceptionally long, and made available to ▶▶



dozens of government departments and party organisations, all of which can apply their own sanctions to defaulters. People on the list can be prevented from buying aeroplane, bullet-train or first- or business-class rail tickets; selling, buying or building a house; or enrolling their children in expensive fee-paying schools. There are restrictions on offenders joining or being promoted in the party and army, and on receiving honours and titles. If the defaulter is a company, it may not issue shares or bonds, accept foreign investment or work on government projects. By August 2016 defaulters had been stopped from buying airline tickets about 5m times. This goes far beyond normal legal enforcements.

### Sins with Chinese characteristics

From blacklisting debt-defaulters the system could be expanded a bit, say, to keep track of companies that sell poisoned milk or build shoddy houses. Yet guidelines issued in May and September suggest it could go much further. They call the defaulters list “an important component of social-credit information”, implying that it is part of a larger system, and that financial offences are only one category of wrongdoing. Other sorts of “untrustworthy behaviour” meriting attention include: “conduct that seriously undermines...the normal social order...seriously undermines the order of cyberspace transmissions”, as well as “assembling to disrupt social order [and] endangering national defence interests”. Such broad categories imply the system could be used to rate and punish dissent, expressions of opinion and perceived threats to security.

Although not spelled out clearly, the guidelines could, on the face of it, allow the state to integrate its many databases: everyone's *hukou* and *dang'an*, information from electronic surveillance, the tourist blacklist, the national model-worker programme and more. Even regulations on video games published in December say that firms and gamers that violate the rules could be blacklisted and inscribed in the social-credit database. At worst, the social-credit project could become a 360-degree digital-surveillance panopticon.

That may sound like scaremongering. After all, Google, Facebook, data-brokers and marketing companies in Western countries—even American presidential-election campaigns—all hold vast quantities of personal information without causing serious harm to civil liberties, at least not so far.

But China treats personal information differently from the West. In democracies, laws limit what companies may do with it and the extent to which governments can get their hands on it. Such protections are imperfect everywhere. But in China they do not exist. The national-security law and the new cyber-security law give the gov-

ernment unrestricted access to almost all personal data. Civil-liberty advocates who might protest are increasingly in jail. And, according to America's Congressional Research Service, companies that hold data, such as Alibaba, Baidu (China's largest search engine) and Tencent (which runs a popular social-messaging app) routinely obey government demands for data.

Big-data systems in democracies are not designed for social control. China's explicitly would be. And because its leaders consider the interest of the party and society to be the same, instruments of social control can be used for political purposes. Earlier this year, for instance, the party asked China Electronics Technology Group, one of the country's largest defence contractors, to develop software to predict terrorist risks on the basis of people's job records, financial background, consumption habits, hobbies and data from surveillance cameras. Sifting data to seek terrorists can easily morph into looking for dissidents. It is telling that Western intelligence agencies have tried to use data-mining schemes to identify individual terrorists, but failed because of an excess of “false positives”.

So can a vast social-credit system work? The Chinese face two big technical hurdles: the quality of the data and the sensitivity of the instruments to analyse it. Big-data projects everywhere—such as the attempt by Britain's National Health Service to create a nationwide medical database—have stumbled over the problem of how to prevent incorrect information from fouling the system (this undermined the Suining experiment, too). Problems of bad data would be even more onerous in a country of 1.3bn people. Vast treasuries of data would also give big incentives for cyber-

criminals to steal or change information.

How to analyse the data would be equally problematic. The feature of the social-credit system that has attracted the most attention and alarm is the notion of ascribing “credit scores” (points) to social and political activity. Here, the model seems to be America's marketing industry. Companies work out credit scores that predict people's patterns of consumption based on things such as job security, health risks and youth delinquency. But errors abound. The World Privacy Forum, a non-profit organisation, says credit scores are based on hundreds of data points with no standards of accuracy, transparency or completeness. As the report concluded, “error rates and false readings become a big issue.” Garbage in, garbage out.

### What could go wrong?

The government is well aware of these difficulties. It has allowed an unusual amount of discussion on them in state-run media, suggesting it may be testing the waters before deciding how far to plunge in. A recent high-level “social-credit summit” in Shanghai, for example, talked about how scores can be checked, and mistakes rectified; many argued that legal protections needed to be improved. Zhang Zheng, director of the China Credit Research Centre at Peking University, said multiple problems remain unsolved, and that the administration needed to be reined in.

A commentary in *Beijing Times* complained about plans to punish people who do not pay their electricity bills by limiting foreign travel and bank borrowing. “I have never opposed the establishment and improvement of a credit-information system,” wrote the author, Yang Gengshen. “I am only against using credit to expand the power of the strong and further compress the space for civil rights.”

Much about the social-credit system remains unclear. The government has not yet determined whether it wants the system mainly for cracking down on crooks or to go the full Big Brother. It is uncertain about how much of the information it holds should be incorporated into the system. The surveillance technology is largely untested at the vast scale of China. And the fragmentation of China's intelligence agencies would have to be overcome.

But the government is creating the capacity for a long-tentacled regime of social control. Many of the elements are ready: the databases; the digital surveillance; the system of reward and punishment; and the we-know-best paternalism. What remains is to join the pieces together. If and when that is done, China would have the world's first digital totalitarian state. As another character in “Super Sad True Love Story” writes to a friend: “This is what happens when there's only one party and we live in a police state.” ■





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## Democracy in India

# The do-nothing Lok Sabha

DELHI

Everyone is talking about demonetisation—except parliament

**E**ARLY in November India's government took a momentous decision by abruptly voiding 86% of the cash in circulation. The effects have been painful: businesses cannot pay workers or suppliers; day-long queues stretch outside banks as citizens jostle for new notes that cannot be printed fast enough to meet demand. The government said the trouble would be over by year's end. It is clear now that the hurt will last far longer. Few in India can talk about anything else—yet India's parliament has barely managed to discuss it at all.

In any other parliamentary democracy, such a glaring bungle would have prompted a strong legislative response. To cause a sharp slowdown in a perfectly healthy economy would invite fierce questions and perhaps a vote of no confidence. Governments have fallen for lesser goofs.

But in the world's biggest democracy, things are different. True, India's bicameral parliament did convene in mid-November for its month-long winter session, and opposition MPs loudly attacked "demonetisation". Yet nothing like a formal parliamentary debate has taken place. Narendra Modi, the prime minister, has neither explained his policy nor faced questions on it in either the 545-member Lok Sabha or in the 245-seat upper house, the Rajya Sabha.

In fact, only two minor bills have been debated and passed in the parliamentary session that is due to conclude on Decem-

ber 16th. Instead, MPs spent much of their time shouting at each other about demonetisation, obliging the speakers of both houses to suspend proceedings repeatedly. Both Mr Modi and the most prominent opposition leader, Rahul Gandhi, who is vice-president of the Congress Party, comically chorused charges that neither one was allowing the other to speak, even as their parties traded blame over the legislative logjam. And to make matters even worse, both the government and its opponents took their fight outside parliament, mutually leaking news stories that appeared to implicate their opponents in corruption.

Sadly, the parliament's failure to address such a crucial issue is not unusual. In

other years, entire month-long sessions have passed with no business getting done at all. Mr Modi's Bharatiya Janata Party (BJP) blames its foes for resorting to "disruption", but when in opposition it did exactly the same thing. And whereas rowdy parliaments are common enough, an additional problem with India's is that its two houses meet only rarely. In the 1950s, soon after independence, their three annual sessions typically added up to 140 days a year, not unlike the parliaments of, say, Britain or Canada. The average is now closer to 60 (see chart).

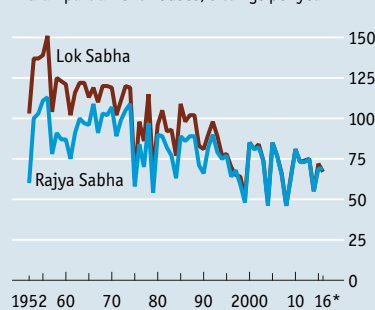
India's many state legislatures are even lazier: most of them meet for fewer than 30 days a year. The assembly in one state, Haryana, met for just 12 days on average in 2011-2015, says M.R. Madhavan, the president of PRS Legislative Research, a privately funded watchdog in Delhi. Haryana's debates are so perfunctory that its legislators managed to pass 14 bills in just 90 minutes at one point this year.

There are many reasons for the creakiness of India's democratic institutions. One of them is a constitution that puts more power in the hands of executive and judicial branches than in other democracies, where legislatures tend to be more powerful. It is no coincidence that whereas America's Congress grandly occupies Capitol Hill, the palatial residence of India's figurehead president, built for a British viceroy, looks down from the hill it shares with the main ministries upon the lowly houses of parliament (pictured).

As in the days of the Raj, it is India's government that summons parliament and determines how many days it will sit. When it is not in session, the government can pass ordinances that have the force of law, which provides an incentive to keep MPs idle. Parliament must approve ordi- ▶▶

### Bums off seats

Indian parliament houses, sittings per year



Source: PRS Legislative Research

\*To December 9th

nances within six months, but governments can sometimes get around this. Four times Mr Modi's government has renewed an ordinance perpetuating the confiscation of "enemy property", in spite of opposition from the Rajya Sabha and even though Indian citizens have won title to such inherited properties in court. Indian governments can also sign foreign treaties without parliamentary approval.

The rules of the parliament itself diminish its democratic role. Prime ministers are under no obligation to answer questions themselves; they can delegate someone else. Unusually, too, a constitutional amendment from the 1980s gives immense power to party whips: it provides that MPs who vote against their own party may lose their seat. "Party leaders love the anti-defection rule," says Mr Madhavan, "but it means MPs have no choice but to follow orders—they represent neither their own conscience nor constituents."

Shashi Tharoor, a Congress MP, says the rule makes sense when weak coalition governments are trying to hold together, but is counterproductive when, as now, the

ruling party has a strong outright majority. "I have always argued the first priority is to represent voters," says Mr Tharoor, "but there are many MPs who see their job as performers in a theatre, since the outcome of voting is anyway preordained."

In the rumpus over demonetisation, the BJP repeatedly rejected the opposition's demand that a debate should be held with Mr Modi present and under rules that require a vote. That may have saved Mr Modi embarrassment, but it has pushed back a crowded legislative agenda, including debate over how to apply a unified sales tax whose passage the BJP had hailed as its biggest achievement of the previous parliamentary session.

And how was that important bit of legislation passed? One jaded, neutral MP says it was a combination of two things. "We functioned well last session because Mr Modi got off his high horse, and also because some opposition people were persuaded it was in their interest to get on board." The persuasion, it seems, was a whiff of scandal such as the tales of corruption that are now surfacing. ■

ten, bar membership fees, donations and the funding political parties receive from the government. The law allows the government to freeze the KMT's assets while a committee assesses whether the party is the rightful owner, and to seize them if it judges otherwise. The KMT will only be able to reclaim assets it can prove it obtained legitimately.

In late November the committee decided that the KMT should hand over two big holding companies, worth NT\$15.6bn (\$490m). One of them owns the party's headquarters. In September, it had already frozen the party's bank accounts, after KMT officials attempted to withdraw NT\$520m. To pay staff in September and October, the KMT's leader, Hung Hsiu-chu, was forced to take a personal loan of NT\$90m. Half came from the ageing mother of Terry Gou, who heads Foxconn, the world's largest contract manufacturer of electronic goods (it makes iPhones, among other things) and half from an anonymous donor. The KMT, which argues that the committee is unconstitutional, found itself in the humiliating position of begging it to release some funds so that the party could pay taxes, among other things.

At the end of November the committee relinquished just enough money to allow the KMT to provide the severance pay required to lay off more than half its staff. The party has launched a frantic fund-raising drive among its 300,000-odd members. It says the DPP is on a politically motivated "witch hunt"; it is attempting to have the confiscations overturned in the courts.

But even the KMT concedes that its wealth is doing it more harm than good and that it needs to make amends for the way it enriched itself. A spokesman says it would consider making donations to charity as a form of restitution. Polling suggests that a little over half of Taiwanese see the new law as justified; only a third see it as a political ploy.

The KMT is out of step with voters in other respects, too. As part of its fund-raising drive, it is offering donors a copy of the original registration form of its forbear, the Chinese Revolutionary Party, founded by Sun Yat-sen in 1914. Such gestures do not resonate with most ordinary Taiwanese, particularly the young, who increasingly feel they have a unique Taiwanese identity that is distinct from the rest of China. For much the same reason, the KMT is struggling to attract young leaders, for whom its Chinese roots do not appeal. Ms Hung, during the presidential election campaign, had talked about eventual reunification with China. Her stance was so abhorrent to most voters that the KMT dumped her as its candidate. The KMT says its lack of funds is preventing it from acting as a proper opposition and monitoring the conduct of the government. But that may not be the only problem. ■

## Taiwanese politics

# From riches to rags

TAIPEI

**What was once Taiwan's most powerful party is suddenly broke and adrift**

THE Kuomintang (KMT) was once reputed to be among the world's richest political parties. Its leaders fled mainland China in 1949 with shiploads of loot, including an estimated 138 tonnes of gold and the finest treasures of Beijing's Forbidden City (see picture). The party then absorbed state property and other government assets that had been handed over by Taiwan's departing Japanese colonial administrators in 1945. During the Kuomintang's long single-party rule, which lasted until 1987, it amassed a vast business empire, complete with banks and television stations. So the fact that it is laying off 428 of its 738 employees for lack of money to pay them is, to say the least, a reversal.

At elections in January the independence-minded Democratic Progressive Party (DPP) won a majority in Taiwan's parliament for the first time, as well as the presidency. The DPP, naturally, thinks the KMT's wealth gives it an unfair advantage in elections. Its staff, before the lay-offs, was five times bigger than the DPP's. Moreover, the DPP considers the KMT's wealth illegitimate, in that it stems from the party's unfettered authority and the blurring of state and party assets during Taiwan's 40-year dictatorship. Most of the

KMT's assets, the DPP believes, should be returned to the state, or in some cases to people or companies from which they were expropriated.

In July the DPP passed a law that assumes that all the KMT's property is ill-got-



Patrimony or party money?



## The economy of Turkmenistan

## A stan, a plan, a cabal

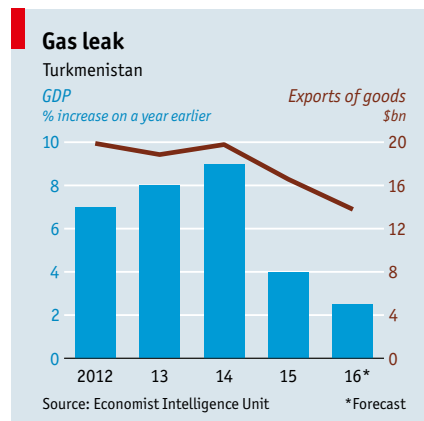
## A fanciful development scheme in a Central Asian despotate

WHEN the price of natural gas was high, Turkmenistan raked in \$10bn a year from exports—a tidy sum for a country of 5m people. Most of it went on the grandiose schemes of Gurbanguly Berdymukhammedov, the authoritarian president and self-proclaimed “Protector”, or was distributed to his cronies. But the economy nonetheless grew at an average annual rate of 11% between 2010 and 2014, according to official statistics.

The price of natural gas has since halved, however, with dire consequences. Gas accounted for a quarter of GDP and half of all government revenue. The low price means the economy has slowed markedly (see chart), and the budget has swung from a surplus of nearly 10% of GDP in 2012 to a projected deficit of 3% this year. Dwindling foreign-exchange reserves equate to just nine months of imports.

For ordinary people, life is getting tougher. The government has raised the prices of subsidised electricity, gas and water. The devaluation of the manat, the currency, has pushed up already-high inflation: food prices rose by 28% in 2015. There are shortages of basic goods, such as flour, in some provinces. Bosses at state-owned firms, which dominate the economy, have ordered mass lay-offs. Even farming is state-controlled. Foreign analysts estimate that as many as 60% of workers are in effect unemployed. For many of those who do still have jobs, wages are said to be months in arrears.

Recent sackings of high-level government officials suggest that the president is trying to deflect growing public frustration over the deteriorating state of the economy. He also continues to foster a cult of personality: he has added books he claims to have written to the national curriculum, for example, and erected a gold statue of himself in the middle of the capital, Ashga-



bat, after dismantling one put up by his predecessor. Although widespread unrest is unlikely—Turkmenistan is a police state—Mr Berdymukhammedov doubtless wants to restore at least a semblance of economic stability before the next stage-managed election in February. (In the most recent election, in 2012, he ran against six other candidates, but still managed to attract 97% of the vote.)

Stabilising the economy will be difficult. Russia, which once imported 40bn cubic metres of Turkmenistani gas a year, called off all purchases in January. The lifting of Western economic sanctions against Iran, another important buyer of the coun-

try's gas, might allow it to develop more of its own vast gasfields, and thus import less. Unhelpful or unstable neighbours block most export routes (see map), leaving China as the only other customer for Turkmenistan's gas. But it is uncertain how much cash it earns from those sales: much of the gas it sends to China serves as payment in kind for billions of dollars in loans it has received since 2009.

Mr Berdymukhammedov's answer is to develop a different industry: tourism. In September a new, falcon-shaped airport opened in Ashgabat. It reportedly cost \$2.4bn to build and is the largest in Central Asia, with a capacity of 17m passengers a year. The government is also spending \$5bn on a marble-clad sports complex that will host the Asian Indoor and Martial Arts Games next year. The Avaza region in the west is being transformed into a “Turkmen Las Vegas”, replete with big casino resorts, according to the foreign ministry.

The Central Asian despotate makes an unlikely tourist magnet. It has one of the most restrictive visa policies in the world. Those who manage to obtain a tourist visa must still hire a guide, who doubles as a government minder. There is not much in the way of spectacular ruins, pristine beaches or pulsing nightlife. There is no shortage of spectacular white elephants, however. ■

## Race relations in Singapore

## With reservations

SINGAPORE

## A play, an election and an illiberal but effective approach to race

ON A side street in the centre of Singapore, a Muslim-American lawyer beats his wife bloody, only to be treated to rapturous applause. The lawyer is Amir Kapoor, the central character in Ayad Akhtar's play “Disgraced”, which recently completed a run at the Singapore Repertory Theatre (SRT). The play centres on a heated argument about identity, assimilation and stereotypes among Amir, his white wife and two friends, an African-American lawyer and a Jewish art dealer.

Though Mr Akhtar's play has been performed around the world, it was surprising to see it in Singapore, where the government has long been touchy about race and religion. Around 74% of Singaporeans are of Chinese ethnicity, 13% Malay, 9% Indian and the rest “other”. The government sees the country's laudably harmonious multiculturalism as fragile, to be nurtured and guarded by policies such as ethnic quotas in housing, guaranteed minority-group representation in parliament and limits on

free speech.

“Wounding the religious or racial feelings of any person” and “promoting enmity between different groups on the ground of religion or race” are both punishable by up to three years' imprisonment. On Racial Harmony Day, observed every July 21st since 1997 in commemoration of a deadly communal riot in 1964, students come to school in their traditional ethnic dress and try each other's food. During this year's celebration Lee Hsien Loong, the prime minister, cautioned Singaporeans against taking good race relations for granted.

Gaurav Kripalani, who played Amir and is the SRT's artistic director, believes that even five years ago Singapore's Media Development Authority (MDA), which regulates theatres—the existence of such a government agency is telling—would not have allowed “Disgraced” to be performed. Its approval this year came with two conditions: only people over 18 could watch the play, and the actors had to host a ▶▶





The old way of ensuring racial harmony

▶ discussion of its themes after the show. Although the discussion was voluntary, most people stayed, and the conversation was lively. On a recent night one audience member castigated the play for being racist, while another praised it for “talking about things most people don’t really say out loud”. Mr Kripalani, a native Singaporean, believes these discussions and the MDA’s approval of the play show that “we are growing up.”

But Singapore’s paternalism has not gone away. In early November the government announced that only ethnic Malays would be permitted to run for president next year. The constitution will be amended to mandate that presidential elections be reserved for members of a certain ethnic group if nobody from that group has served as president for the past five terms.

Until 1993 parliament chose the president—a largely ceremonial post. Since Singapore began electing its presidents directly, two Chinese-Singaporeans and one Indian-Singaporean have served. The last Malay president was Singapore’s first, Yusof Ishak, who held office from 1965 to 1970. Possible candidates in next year’s election, which must be held before August, include Halimah Jacob and Abdullah Tarmugi, the current and previous Speakers of Parliament. Mr Lee has said the move will ensure that every citizen will “know that someone of his community can become president and in fact, from time to time, does become president”.

Yet some Malays have decried what they see as shallow tokenism. Others have noted that the rule bars Tan Cheng Bock, a former minister who is critical of the government and nearly won the previous presidential race, from running (he is Chinese). A spokesman for the government

Rodrigo Duterte

## A liar or a killer

SINGAPORE

The president of the Philippines boasts about personally killing drug suspects

THE tough-talking president of the Philippines, Rodrigo Duterte, boasts of killing people, ordering executions or wanting to kill someone about as often as Donald Trump boasts of being rich. But as with Mr Trump, it is hard to know how much to trust Mr Duterte’s boasts. At best, that makes the boss of the Philippines’ police and prosecutors not only a liar, but a cheerleader for extra-judicial killings. At worst, it makes him a criminal who should be in prison, not the presidential palace.

During the many years Mr Duterte was mayor of Davao, the biggest city in the southern part of the country, a vigilante group known as the Davao Death Squad gunned down drug suspects and others whom the gunmen thought were criminals. Mr Duterte has at times seemed to admit involvement in the group and at others denied its existence. In September a former member of the outfit testified to a congressional committee that, as mayor of Davao, Mr Duterte had ordered him and others to kill. Mr Duterte, through a spokesman, denied the accusation.

As a candidate, Mr Duterte promised to “end crime” within six months of

taking office by tossing the bodies of criminals into Manila Bay to fatten the fish—a vow so swaggering that it seemed comical at the time. Yet since he became president in June, around 6,000 suspected drug dealers and users have in fact been killed without the benefit of a trial. He has also threatened to kill suspects’ lawyers and human-rights advocates who oppose his bloody but popular war on drugs.

This week he crossed a new Rubicon: he admitted to having killed people himself. “In Davao I used to do it personally,” he told a group of businessmen, “just to show the guys if I can do it, why can’t you?...I was really looking for a confrontation so I could kill.”

Did he really kill anyone? Who can say? Just a few hours before this admission, he protested, “I am not a killer.” Mr Duterte’s spokesman has grown adept at walking back or reinterpreting his Grand Guignol statements.

Even if Mr Duterte has killed suspected criminals, would anyone dare bring charges against him? It is unlikely. No prosecutor wants to find himself suddenly out of office, missing or bobbing lifelessly in Manila Bay.



The president wants the opposite

has dismissed the idea that such a basic motive played any part in its decision as “factually false”.

Kenneth Paul Tan of the National University of Singapore sees a simpler explanation: the bleak realism of Singapore’s government, which believes that “racial feelings are such that you have to design things around them, rather than trying to transform them.” Singapore’s government

may trust its citizens to analyse racial stereotypes in the comfort of a theatre, but the ballot box is another story.

Condemning such an approach as patronising or illiberal is easy. Condemning it as ineffective—particularly in comparison with Malaysia, Singapore’s neighbour, from which it split in 1965 and which is racked by toxic racial and religious politics—is much harder. ■

# Banyan | The daughter in the Blue House

South Korea's first woman president seemed a path-breaker. In fact, she is haunted by the past



OVER the past two months, as the weekly candlelit protests along Sejongno, Seoul's main boulevard, swelled from a few thousand participants to 2m, the calls bouncing off the high-rises for Park Geun-hye to step down are said to have become audible even in the Blue House, the president's official residence and office, a short distance to the north, where Ms Park had cloistered herself away. The protests look set to continue, despite Ms Park's impeachment by the National Assembly on December 9th. The Constitutional Court has six months to rule on her fate. While she waits, Ms Park has been stripped of her powers. But the protesters will not be satisfied until she is gone for good.

Aspects of Ms Park's downfall verge on soap opera. The president, by her own admission, has long been close to a woman, Choi Soon-sil, who seems to have dictated or at the least influenced her decisions on everything from handbags to affairs of state. Ms Choi has been indicted on charges of extortion, abuse of power and possession of classified documents. Of particular outrage to ordinary Koreans are accusations that she secured educational preferment for her daughter and that she held an almost Rasputin-like power over the president.

Perhaps none of this would have come into the open had not Ms Choi fallen out with a toyboy over his inattentiveness to her daughter's puppy. Ms Choi, he claims, arrogantly upbraided him for heading off to play golf, leaving the puppy alone. Embittered, he began collecting evidence against her.

The president's downfall has been swift and spectacular. But for all the jubilation on Seoul's streets—the protests, after all, brought on the impeachment—there is something sobering in Ms Park's predicament. Her story encompasses all the elements of Greek tragedy, including the downfall and suffering of a flawed but in many ways admirable person. The only element that is missing is the pity of the audience.

It is no coincidence that the Blue House, whose walls are now witness to Ms Park's despair, was also her childhood home. In 1961, when she was nine, her father, Park Chung-hee, an officer trained in the Imperial Japanese Army, seized power in a coup, ending a short-lived period of democratic rule. His strongman presidency ushered in a period of breakneck growth and development, but also harsh working conditions in South Korean

sweatshops and increasing repression by the state.

In 1974 a North Korean sympathiser failed to assassinate the dictator but shot and killed his wife, Yuk Young-soo. Motherless, Ms Park became the Blue House's first lady, accompanying her father during official engagements. Five years later he too was assassinated, over a meal of whisky, sliced beef and *kimchi*, by his intelligence chief, Kim Jae-gyu. That was when she first left the Blue House, which she will have to do again, perhaps sooner than she expected.

## Blue period

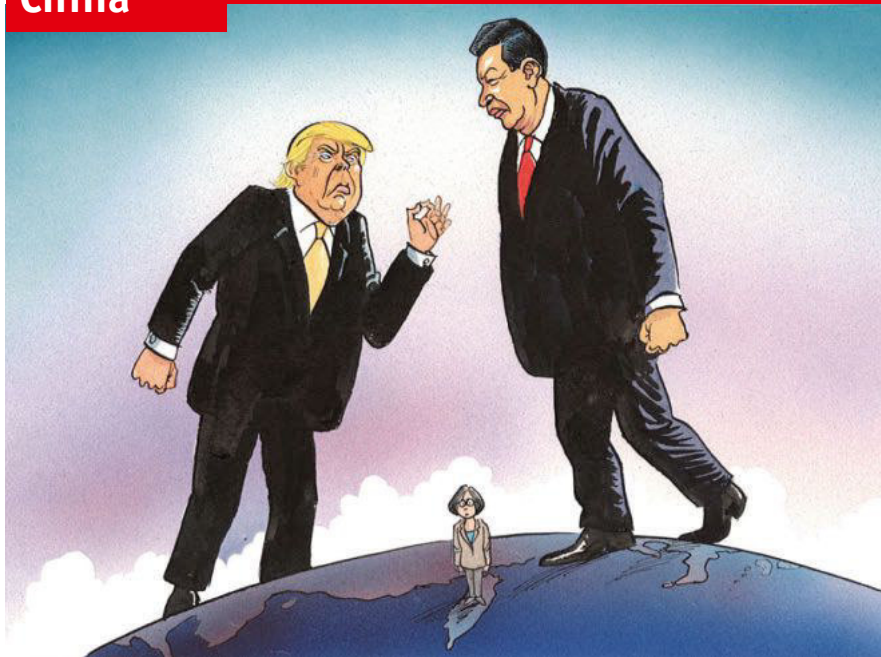
It was after Yuk's death that a vulnerable Ms Park fell under the sway of a cult leader—part shaman, part pseudo-evangelist—called Choi Tae-min. He seems to have convinced Ms Park that he could contact her late mother. Kim Jae-gyu claimed at his trial that one of his motives for killing the president was concern about Choi's hold over Ms Park. Choi Soon-sil, now in jail awaiting trial, is Choi Tae-min's daughter, and has retained his influence.

Loneliness opens up chasms. At 64, Ms Park has never married. She is estranged from her younger sister and brother—so as to be immune to nepotism, she has said. She long relied on courtiers, mainly yes-men who had advised her father, but they are now trickling away—and three of her close aides have been indicted for corruption and related offences. She last met a foreign dignitary more than a month ago. She is said to eat dinner alone, a dish of self-pity and despair. "In my life's scale," she wrote in her autobiography in 1993, "the worthwhile times have never outweighed painful ones."

Duty more than desire seems to have propelled her bid for the Blue House. In the words of a former aide, "South Korea was her country, built by her father. The Blue House was her home. And the presidency was her family job." To Ms Park's critics, it is all of a piece: she is imperial, aloof and out of touch. This first hit a public nerve more than two years ago, when the president disappeared from view for seven hours on the day of a national disaster, the sinking of a ferry, the *Sewol*, in which 300 people died, many of them schoolchildren. One of the theories aired in recent days—and only partially denied by the Blue House—was that she spent an hour and a half of that period getting her hair done.

South Koreans have fought hard and spilled much blood for their democracy. There have been several spells of tumult since the second world war. This one, admirably, is ending without violence. Many, perhaps most, of Seoul's protesters sense a system, of education and employment, unfairly rigged against them, and of a ruler who has only reinforced the inequities. Those are sentiments that Western fans of individualism and freedom would easily recognise.

Harder to grasp, but nonetheless essential, is the disappointment that many other, particularly older, South Koreans feel. They voted for Ms Park because her presidency to them offered to reinstate an older and more certain Korean hierarchy, emblematic of her father's rule, in which everyone had their place in an organic whole—a hierarchy without shame. In this Korean imagining, which the government avidly propagates in North Korea, the leader is the parent-in-chief, whose virtues define the nation. Ms Park never became that parent-in-chief—a matter of glee in the North's propaganda and a source of great shame to South Koreans who backed her. It was always a tall order. Surrounded by the photographs and relics of her parents, she never could grow out of the predicament of being the lonely child. ■



Also in this section

30 A race, of sorts, in Hong Kong

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The one-China policy

## Caught in the middle

BEIJING AND TAIPEI

**Donald Trump's challenge to a hallowed principle of Chinese nationhood has reopened a dangerous sore**

**B**Y THE end of this month, say Chinese officials, work will be completed on a big upgrade of facilities at a monument to one of the scariest moments in the recent history of relations between China and the United States: an upsurge of tensions in the Taiwan Strait in the mid-1990s that saw the two nuclear powers inching towards the brink of war. The structure is a concrete tower on an island in the strait, just off the Chinese coast. Atop it more than 100 generals watched a mock invasion of Taiwan by China's army on a beach below. "Unite the motherland, invigorate China", says a slogan in gold characters down the side of the building. The meaning of these words at a place where tanks and troops once stormed ashore with warplanes streaking overhead is: we want Taiwan back, by force if necessary.

The building work involves an expansion of the tower's car park, improvements to the road up to it and other changes to make the place on Pingtan Island in Fujian province more tourist-friendly. The timing may be fortuitous. On December 11th America's president-elect, Donald Trump, in an interview with Fox News, questioned what China regards as a sacred underpinning of its relationship with America: the principle that there is but "one China" (which, decoded, means that the government of Taiwan is illegitimate). China, bristling with rage, may well seek to re-

mind its citizens, as well as America, of what happened when that principle was last challenged by the United States with a decision in 1995 by its then president, Bill Clinton, to allow his Taiwanese counterpart, Lee Teng-hui, to pay a private visit to America. Handy, then, that Pingtan will be able to handle extra busloads of visitors to that hilltop where China's brass surveyed the pretend assault.

Relations between China and America are far less precarious than they were during those tense months, when China fired dummy missiles near Taiwan and America sent two aircraft-carrier battle groups close to the island to warn China not to attack it. China, though enraged by Mr Trump's remarks (and a congratulatory call he took from Taiwan's president, Tsai Ing-wen, on December 2nd), is unlikely to take retaliatory action unless Mr Trump continues to challenge the notion of one China after his inauguration on January 20th.

### The chip is down

Taiwan has been in the doghouse anyway since Ms Tsai took office in May. China has cut off channels of communication with the island to show its displeasure with her own refusal to embrace the one-China idea. But Ms Tsai may have reservations herself about the way Mr Trump phrased his one-China scepticism. "I don't know why we have to be bound by a one-China

policy unless we make a deal with China having to do with other things, including trade," he said. Mr Trump listed ways in which America was being "badly hurt" by China, such as by the fall in the value of its currency and its island-building in the South China Sea. He accused China of "not helping us at all with North Korea".

Many Taiwanese worry that this could mean their island will be treated by Mr Trump as a bargaining-chip. Memories are still fresh in Taiwan of secretive dealings between America and China during the cold war, which resulted in America severing diplomatic ties with the island in 1979. Ms Tsai's government has avoided direct comment on Mr Trump's remarks. Apparently to avoid raising tensions with China, she has also avoided public crowing over her phone call with Mr Trump.

Mr Trump's remarks would have riled the Chinese leadership at any time. But they are particularly unwelcome at this juncture for China's leader, Xi Jinping. He is absorbed by preparations for crucial meetings due to be held late in 2017 at which sweeping reshuffles of the Politburo and other Communist Party bodies will be announced. Those trying to block his appointments would be quick to seize on any sign that he is being soft on America over such a sensitive matter as Taiwan. Should Mr Trump persist in challenging the one-China idea, the risk of escalation will be even greater than usual in the build-up to the conclaves—all the more so, perhaps, given Mr Xi's insistence that differences between China and Taiwan "cannot be passed on from generation to generation". Hawkish colleagues may say that it is time to settle the issue by force.

Street protests in China against America or Taiwan would also make it more difficult for Mr Xi to compromise: he would ►►

▶ fear becoming a target himself of Chinese nationalists' wrath. But the risk of this may be low. Since Mr Xi took over in 2012 there have been no major outbreaks of nationalist unrest, partly thanks to his tightening of social and political controls (including locking up ever more dissidents). Sun Zhe of Tsinghua University says people are unlikely to demonstrate over Taiwan "because they understand the new rules, the new emphasis on political discipline in the last few years." He says a lot of people in China still admire Mr Trump for his wealth and his unexpected political success. They think that "he wants to make a deal with China."

In Taiwan, some take comfort in the difficulty Mr Trump would face in changing the terms of America's relations with Taiwan, such as by announcing a permanent end to arms sales. These are guaranteed by

the Taiwan Relations Act, which was passed by Congress in 1979 to reassure Taiwan that America still had an interest in the island's defence, despite the severance of official ties. Many Republicans sympathise with Taiwan and would be reluctant to support any change to that law (itself a challenge to the one-China idea with which China has—very grudgingly—learned to live).

They might also take solace in what appears to be a change in the Chinese government's tone since the war games 20 years ago. In April *Global Times*, a newspaper in Beijing, published a poll showing that 85% of respondents supported unifying China with Taiwan by force, and that 58% agreed the best time would be within the next five years. It was reportedly chastised by China's internet regulator for "hyping sensitive events" by running such a survey. ■

### Hong Kong's leadership

## Any colour, as long as it's red

HONG KONG

**Leung Chun-ying's surprise decision not to run for a second term has cheered many people. But will a new leader make a difference?**

CHIEF executives of Hong Kong have never basked in public adoration. The first one under Chinese rule, Tung Chee-hwa, resigned after a massive public outcry against his policies. The second, Donald Tsang, ended his term with allegations swirling around him of improper conduct (he denies them). Now the third, Leung Chun-ying, has said he will not stand for another five-year term. Though he cites family reasons, his rock-bottom popularity may well have been a factor. Nearly 20 years after taking back Hong Kong, the Communist Party in Beijing may be wondering whether it can ever pick a winner to lead the former colony.

It had been widely assumed that, despite Mr Leung's low opinion-poll ratings, the party would give him tacit backing in a race getting underway for the post of chief executive. The choice will be made in March by the 1,200 members of an election committee stuffed with the party's supporters in Hong Kong. It only takes a nod from leaders in Beijing to swing votes in favour of the party's preferred candidate.

But on December 9th Mr Leung told reporters at a hastily arranged press conference that he would not join the race in order to protect his family from the "intolerable stress" of it. It is likely that officials in Beijing had cold feet because of public contempt for him. He is often called "the wolf"—a reference to his aloof and cunning demeanour and a play on his surname, which sounds like the Chinese

word for the animal. During the "Umbrella Movement" of 2014, when busy commercial areas were disrupted by weeks of sit-ins, protesters demanded his resignation, as well as free elections. The party was doubtless pleased by his resolute refusal, in line with its own, to countenance such concessions. But it must also have worried that keeping Mr Leung in place for another term would goad demonstrators back onto the streets and risk plunging Hong Kong into yet more unrest. A day after Mr Leung's announcement, hundreds of his



No crying for the wolf

opponents joined a demonstration in central Hong Kong. Some held up placards attacking him (see picture).

The party, however, is doing a good job itself of riling Hong Kongers. Its opposition to full democracy, which many thought they had been promised when China took over, has fuelled a small but growing pro-independence movement which worries the party even more. With the help of a constitutional ruling by China's national parliament, it has supported recent efforts by Hong Kong's government to get several independence-leaning and other pro-democracy lawmakers disbarred from the Legislative Council, or Legco, on the grounds that they took their oaths improperly. Two have been excluded and cases involving another four are being considered by Hong Kong's High Court.

Officials in Beijing will now be wondering who best can pursue the seemingly impossible task of containing pro-independence and pro-democracy sentiment, while at the same time winning the support of Hong Kongers. So far only two people have declared their intention to stand. One is Woo Kwok-hing, a retired judge who has little hope of gaining the party's backing. The other is Regina Ip, a former security minister who is now a member of Legco. She threw her hat in the ring on December 15th. Mrs Ip is best known for helping with a failed attempt to push through a security law in 2003. Public opposition to it dealt a huge blow to the popularity of Mr Tung, the first chief executive, and led to Mrs Ip's resignation. She says she would "definitely go ahead" with efforts to revive the bill should she win.

Another possible is John Tsang, Mr Leung's former finance minister. Mr Tsang resigned from that post on December 12th, fuelling speculation that he wants to stand. Some analysts believe that a job he once held as private secretary to Hong Kong's last British governor, Chris Patten, may rule him out: the party regards Mr Patten as the font of Hong Kong's post-colonial ills.

The party may prefer Carrie Lam, who has served as head of the civil service under Mr Leung. Mrs Lam had said she would retire next year, but now says she has had "no choice" but to reconsider following Mr Leung's announcement. There is unlikely to be a pro-democracy candidate. The election committee is mostly made up of representatives of businesses and occupations that tend to be pro-government. In polls held by such groups on December 11th to fill election-committee seats, supporters of greater democracy took more than 320, up from around 200 in 2011. But the pro-democracy camp does not want to appear to legitimise the gerrymandered election process by proffering a candidate. Mr Leung's critics are resigned to a successor who is all but certain to be as faithful to the party as he has been. ■




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**Russian interference**

## The plot against America

NATIONAL AIRBORNE OPERATION CENTRE

**The election result was not decided in the Kremlin. But the response to Russian hacking shows how partisan division has weakened the country**

**W**HY is it unsettling to see Republicans and Democrats squabbling afresh about Russian meddling in last month's presidential election? After all, the allegation being debated has been known for months: namely, that in 2015 and again in 2016 at least two groups of hackers with known links to Russian intelligence broke into the computer systems of the Democratic National Committee, as that party's national headquarters is known, and into the private e-mail system of such figures as John Podesta, the chairman of Hillary Clinton's presidential campaign, then released a slew of embarrassing e-mails to WikiLeaks. Before the election a joint public statement by the director of national intelligence and secretary of homeland security said that intelligence agencies were "confident" that the Russian government directed the hacking.

All that has changed is that—thanks to reporting by the *Washington Post* and *New York Times*—we now know that the CIA briefed senior members of Congress before and after the election that, in the consensus view of intelligence analysts, the Russians' motive was not just to undermine confidence in American democracy, but to seek Mrs Clinton's defeat. Outside Washington, Americans (who mostly dislike President Vladimir Putin according to polls) seem to have shrugged off the news. President-elect Trump was cheered by

spectators when he turned up in Baltimore to watch the Army-Navy football game, an annual pageant of patriotism.

And that is what is, or should be, so unsettling. Russian interference in elections across the Western world is a nasty virus (see next story). Normally, America is protected by powerful, bipartisan immune responses against such a menace. It also boasts some of the world's most sophisticated intelligence and cyber-defences, and when spooks tell the Republicans and Democrats who lead Congress and sit on the House and Senate intelligence committees of hostile acts by a foreign power, love of country generates a unified immune response. It is not kicking in this time.

### Active measures

The problem is not that all Republicans dismiss the claim that Russia tried to meddle in the election. Committee chairmen have promised urgent hearings. "We cannot allow foreign governments to interfere in our democracy," said Representative Michael McCaul, a Texas Republican and chairman of the Homeland Security Committee. Senator John McCain of Arizona, chairman of the Senate Armed Services Committee, told reporters: "Everybody that I know, unclassified, has said that the Russians interfered in this election. They hacked into my campaign in 2008; is it a surprise to anyone?" The chairman of the

House Intelligence Committee, Representative Devin Nunes of California, said that he believes Russia is guilty, but then turned his fire on the Obama administration, blaming the president's desire for a reset of relations with Moscow.

Yet Republicans are not conceding a more incendiary idea: that, in what seems to be the CIA's view, the authoritarian, anti-American government of Russia tried to help Mr Trump. Mr Nunes, a prominent Trump supporter, calls that "innuendo" based on "lots of circumstantial evidence, that's it." Others are taking the view that it is all very complicated and murky. "All this 'news' of Russian hacking: it has been going on for years," Senator John Cornyn of Texas, a member of Republican leadership, tweeted. "Serious, but hardly news." According to unnamed officials quoted in the *Post*, some Republican members agreed that Russia was a hostile actor, but then argued that logically this meant the government in Moscow would be more likely to want Mr Trump defeated.

Democratic leaders, who are in the minority in both chambers of Congress, have responded by trying to embarrass Republicans into taking a bipartisan approach. The incoming Senate minority leader, Senator Charles Schumer of New York, called it "stunning and not surprising" that the CIA should charge Russia with trying to elect Mr Trump. "That any country could be meddling in our elections should shake both political parties to their core," Mr Schumer said in a statement. Others have thanked Mr Obama for ordering an investigation into what is known about Russian meddling, and expressed hopes that as much as possible of the probe would be made public before the next president's inauguration on January 20th.

The reasons for this partisan stand-off ►►

are not mysterious. Mr Trump has declared that the allegations of Russian hacking are simply unproven, and launched an attack on the credibility of the intelligence agencies that he will soon command without obvious precedent. Interviewed recently by *Time* magazine, Mr Trump said of the hacking: "It could be Russia. And it could be China. And it could be some guy in his home in New Jersey." Asked about his desire for a reset of relations with Mr Putin—precisely the strategy held against Mr Obama by Republicans—Mr Trump is unapologetic. "Why not get along with Russia?" he asked *Time*. The Russians are "effective" and "can help us fight ISIS." Still more remarkably, a statement from the Trump transition office mocked American intelligence agencies. "These are the same people that said Saddam Hussein had weapons of mass destruction," it read. John Bolton, auditioning for a job in the next administration, questioned whether the hacking was carried out by America's government to smear Mr Trump.

Many elements of Mr Trump's policies make thoughtful Republicans queasy to the point of misery, from his fondness for Mr Putin to his willingness to pick up the telephone and bully company bosses, as if he were a Gaullist French president. But many of those Mr Trump brought into the party are Trump voters more than they are Republicans, and they frighten and cow members of the party that he now heads.

Some grass-roots conservatives also see much to like in a Russian-style approach to fighting Islamic terrorism, if that means an unsqueamish willingness to back secular autocrats in the Middle East, and attack targets in Syria with indifference to who is underneath. Mr Trump is clearly tempted to do a deal with Mr Putin in which America applauds as Russian warplanes carry out a campaign promise to "bomb the shit out of ISIS". The bet in Trump Tower is that the other side of any such deal, perhaps involving the lifting of sanctions on Russia, or a promise not to back any further enlargement of NATO, will be greeted by the American public with a yawn.

There is of course no evidence of collusion between Mr Trump and Russia. Mr Putin's fierce dislike of Mrs Clinton, who as secretary of state questioned the validity of the 2011 elections in Russia, is more than enough motive to want her defeated. It seems unlikely that last-minute leaks of Democratic e-mails changed the result. Most straightforwardly, a close election is over and Democratic leaders are not questioning the result. Does the squabble matter then? Yes. When the next president of America takes his oath of office in January, officers of Russian intelligence will think they pulled off a historic win. That this fact has divided rather than uniting the two parties that run the world's great democracy should unsettle anyone. ■

## Interference past

# Substandard subversion

**Russia has often tried to influence elections, with little success**

IN January 1984, Soviet KGB spooks reaffirmed a priority that was set by the Kremlin after the second world war. "Our chief task is to help to frustrate the aggressive intentions of American imperialism... We must work unweariedly at exposing the adversary's weak and vulnerable points." As Vasili Mitrokhin, a KGB archivist who defected to the West with a large number of KGB files, explained, "exposure" in the parlour of the KGB meant disinformation fabricated by service A, the active-measures branch of the First Chief Directorate of the KGB. This unit was charged with foreign disinformation, which it spread through a network of officers outside Russia.

At the height of the cold war, service A numbered some 15,000 officers who engaged in psychological warfare and disinformation. Their operations included planting stories about John F. Kennedy being killed in a secret CIA plot, AIDS being a virus developed by the Pentagon and sending fake letters from Ku Klux Klan to the Olympic committees of African countries. "We are opposed by a monolithic and ruthless conspiracy that relies primarily on covert means for expanding its sphere of influence," Kennedy warned in 1961, "on infiltration instead of invasion, on subversion instead of elections." In 1968, in an attempt to head off the election of Richard Nixon, the Kremlin offered to subsidise the

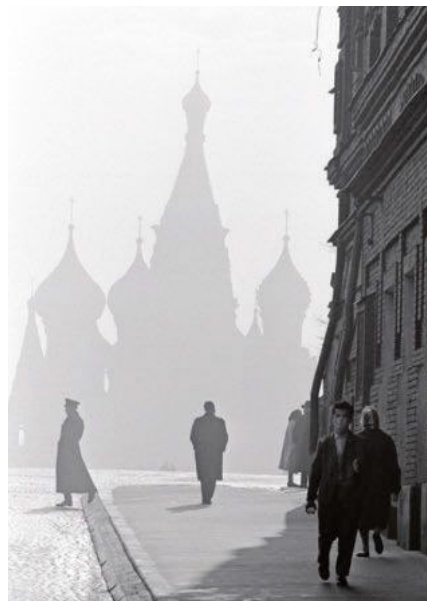
campaign of his Democratic rival, Hubert Humphrey. (Nixon's impeachment over Watergate caused dismay in the Kremlin, which used dirty tricks and eavesdropped on journalists as a matter of routine).

In November 1984 the Kremlin tried to stop Ronald Reagan from being re-elected. As part of its active-measures programme, Moscow promoted the slogan "Reagan Means War!" To discredit him, Russia propagated stories about Reagan's militaristic adventurism, rising tensions among NATO allies, discrimination against ethnic minorities and corruption. In the end, Reagan won a landslide victory, exposing the limits of Soviet power. A student of the Andropov Academy, Vladimir Putin would almost certainly have undergone training in active measures. In a book of interviews, Mr Putin described how he used these techniques against dissidents at home, spoiling and hijacking their events.

It is hardly surprising that Mr Putin—who used disinformation in his war against Ukraine, who has targeted European countries, including Germany, who uses cyberweapons against his enemies in Russia—should try backing Donald Trump, who ran against establishments of all stripes, by hacking into both parties' computers but only leaking Democratic e-mails to the media. What is probably more surprising, to Mr Putin at least, is that Mr Trump actually won. Firmly convinced that all elections get rigged one way or another, he might also have been surprised by the government's inability to fix the vote in Hillary Clinton's favour.

But if Russian interference to boost Mr Trump is now beyond doubt, this does not mean that Russia caused his victory. "While the correlation is clear, the causation is not," says Peter Pomeranzev, an expert on Russia's disinformation. Had Mr Trump lost the election, Russian active measures would have been deemed no more successful than those of the Soviet KGB in 1984. By blaming Mrs Clinton's defeat on Russia, her allies risk echoing Mr Putin's allegations that a wave of protests against his third presidential term in 2012 were the result of an American conspiracy.

The main reason Mr Putin appears a victor in America as well as in Europe, where nationalism is on the rise, is that he identified right-wing populist movements as potential winners from the start. But it is Mr Trump's affinity with Mr Putin, rather than Russia's active measures, that helped him win. As George Kennan, a diplomat, observed in 1946, the ability to rebuff Russia's disinformation, "depends on health and vigour of our own society. World communism is like a malignant parasite which feeds only on diseased tissue". There were enough American voters who, like Mr Trump, believed that the country is a "hellhole, and we're going down fast". Mr Putin no doubt agrees. ■



Laboratory of democracy



The next secretary of state

## Oily diplomacy

Rex Tillerson could be one of the more competent members of the next cabinet

“A DIPLOMAT that happens to be able to drill oil.” That is how Reince Priebus, Donald Trump’s incoming chief of staff, described Rex Tillerson, the boss of ExxonMobil, who was nominated this week as America’s next secretary of state. In fact, Mr Tillerson, 64, is an oil driller through and through, has spent 41 years furthering the ambitions of one of the world’s largest companies, and has sometimes sidelined the American government because he felt ExxonMobil was better able to look after world affairs itself.

Yet Mr Tillerson also has a reputation for dependability and small-town Texan values that has enabled him to stand up to, and win respect from, some notoriously slippery world leaders. Making someone with no experience of government service secretary of state is a risk. But unusual is better than incompetent. Depending on what his confirmation hearings reveal about his views on Russia when not serving Exxon’s shareholders, and assuming he severs his financial ties to the company, Mr Tillerson could be one of just two or three members of Mr Trump’s cabinet whom it is possible to see serving in a normal administration.

For a leader of the world’s corporate elite, Mr Tillerson has parochial roots. Born in Wichita Falls, Texas, he grew up as a Boy Scout, went to the University of Texas, and rides horses in a cowboy hat in his spare time. He has worked at ExxonMobil since

### Tiny colleges

## Small wonders

MARLBORO, VERMONT

Small colleges are struggling to stay that way

VISITORS stand out at Marlboro College’s bucolic campus in the woods of Vermont, but not because they are special or even unexpected. With 190 matriculated students and just a few dozen faculty and staff, everyone knows everyone. The student-faculty ratio is five to one, about the lowest in the country. The college administration has worked hard to stay small: the student population has rarely topped 350. But in the years since its founding after the second world war, Marlboro has often skirted financial ruin. In 1993 it had only a few payrolls left in the bank. It was rescued by a foundation. Today it is looking for ways to save itself and already seeing some success.

Marlboro is not alone in facing revenue and enrolment pressures. Burlington College (70 students), also in Vermont, shut its doors over the summer. Sweet Briar, a well-regarded women’s college in Virginia, nearly closed to its 245 students last year. A last minute bout of fundraising by alumni saved it, for now. Moody’s, a credit-ratings agency, said in 2015 that the pace of closures and mergers will accelerate and could triple from an average of five per year over the next few years. Dennis Gephardt of Moody’s says closures and mergers will be concentrated among the smallest colleges.

Part of the problem, at least for small liberal arts institutions, is that parents and would-be students are questioning the value of the liberal arts. They want a solid return, in the form of a well-paying job, for their four-year investment. There are still an awful lot of small places: about 40% of degree-granting colleges have fewer than 1,000 students. But

1975, never lived for long outside America, and speaks with a drawl. Jack Randall, a friend from university who is also an oil-industry veteran, recounts how Mr Tillerson still spends time after work fixing up the decking on his lakeside home, despite having numerous employees who would do it for him. “He’s a regular guy who has lived the American dream,” he says. “He’s a Texan, an engineer and a Boy Scout. That is where his values come from.”

Yet as an oilman and ExxonMobil’s chief executive since 2006, he has run operations in some of the most inhospitable parts of the world, from ice-encrusted Sakhalin in the Russian Far East, to poverty-stricken Chad. That has meant dealing with populist strongmen, from Vladimir Putin to Venezuela’s late leader Hugo Chá-

vez, without bargaining away his principles on the importance of markets and the sanctity of oil contracts.

In a book on ExxonMobil, “Private Empire”, Steve Coll recounts Mr Tillerson’s early dealings with Mr Putin during efforts to rein in an unruly Russian partner, Rosneft, on the Sakhalin development. When Mr Putin offered to write an executive order pushing ahead with the project, Mr Tillerson refused, saying that the Russian president lacked the legal authority to live up to his company’s standards. Though Mr Putin “blew his stack”, he gave in to Mr Tillerson’s demands.

enrolment at these institutions has fallen by more than 5% since 2010, while the student population has increased overall. To attract students, some colleges are reducing their sticker price, but this is not sustainable for colleges without healthy endowments. According to the National Association of College and University Business Officers (NACUBO), 49% of independent colleges and universities give discounts, up from 38% a decade ago. Alice Brown, a former head of the Appalachian College Association, a network of tiny colleges in the Appalachian Mountains, thinks more must merge or close. The Berklee College of Music (4,371 students) and the Boston Conservatory (730 students) merged in June. Small colleges often share accountants or laboratories already.

Is there still a place for the tiddlers? “That’s an unequivocal yes,” says Bob Shea of NACUBO, “but do there need to be mergers and acquisitions? That’s an unequivocal yes as well.” Many small colleges serve niche markets, including a large faith-based one. “Many students wouldn’t go to college at all or would be lost in a large one,” says Ms Brown.

Some tiny colleges rely on donations to save the day. Alumni are concerned about the value of their own degree if the college closes, but donors can grow weary. Marlboro, meanwhile, is using its endowment to offer scholarships to one student from each state in an effort to expand its usual pool from New England and to open up new student pipelines. It saw success straight away. It increased its student population by 6% this academic year, after years of falling enrolment.

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In a later oil era, in 2011, ExxonMobil and Rosneft struck a deal to develop oil in Russia’s Kara Sea, which Mr Putin said could lead to a whopping \$500bn of Arctic ▶▶



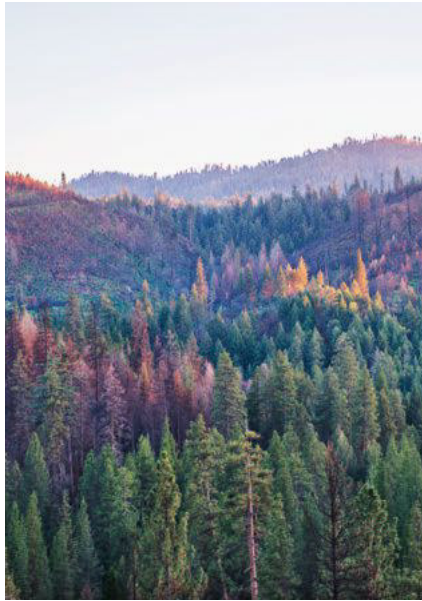
▶ co-developments. In 2013 Mr Putin awarded Mr Tillerson Russia's Order of Friendship. The Arctic deal was scuppered because of American sanctions against Russia, following its annexation of Crimea in 2014, which were opposed by Mr Tillerson. James Henderson, an expert on Russian oil at the Oxford Institute for Energy Studies, says the Kremlin came to respect ExxonMobil under Mr Tillerson because, although it was uncompromising about ensuring all deals were above board, it was also "dependable".

Mr Tillerson's ties to Mr Putin are likely to complicate his confirmation hearings, especially after Russian hackers interfered with America's presidential election to help Mr Trump. But decades of business in the country mean he is almost bound to understand the way it works better than some of his predecessors at the State Department. Moreover, his defenders are adamant about his integrity. "The chances are better that Mother Teresa was stealing money from her charity than Rex Tillerson will do anything with Putin that is not in the best interests of the United States," says Mr Randall, the friend from college.

What is less clear is how he will deal with America's traditional allies, such as Europe, who fear Russian meddling in Ukraine, for example. His appointment will rekindle suspicions that American diplomacy is about securing oil and other scarce resources. NGOs allege that ExxonMobil has a poor record of promoting human rights in countries where it operates, and has flip-flopped on climate change.

Yet as well as having an oilman's resource-hungry mindset, he could also bring useful industry traits to the State Department and to a Trump presidency. Finding and drilling oil requires elaborate modelling—both of underground geologies and messy aboveground geopolitics—to make money over the long-term. Reputedly his engineering background makes him a stickler for evidence-based decision-making. He is also considered "patient and unemotional" on ExxonMobil's side of the negotiating table.

Such traits would make him very different from Mr Trump, who lives by the gut. "Rex is not a guy who wets his finger and puts it up in the air to see which way the wind is blowing, and he'll tell Mr Trump what he thinks," Mr Randall says. In some respects his opinions differ from Mr Trump, too. Though once a climate-change denier, he now believes mankind has helped cause global warming. This year ExxonMobil applauded the Paris agreement on climate change. In the past he has strongly rebuffed calls (recently supported by Mr Trump) to make America energy independent. With luck, he will not only have the tactical skills to further America's interests abroad. He will also have the integrity to talk sense into his boss. ■



### Environmental policy

## Fetch the chainsaws

SANTA BARBARA

**Removing small trees leaves water for bigger trees and dwindling reservoirs**

**I**N THE early 1900s, an average forested acre in California supported fewer than 50 or so trees. After a century of efforts to fight wildfires, the average has risen to more than 300 (albeit mostly smaller) trees. Some might reckon such growth wonderful, but it is a problem far more serious than, say, the fact that horses can no longer trot through areas where they once could. The extra fuel turns today's wildfires into infernos hot enough to devastate the landscape, torching even the big older trees that typically survived fires in the old days. Beyond this, the extra trees are worsening California's driest ever drought.

"Like too many straws in a drink," trees suck up groundwater before it can seep into streams that feed reservoirs, says David Edelson of The Nature Conservancy. The project director for the Sierra Nevada range, source of 60% of California's consumed water, notes that as a warmer climate lengthens the growing season, trees' thirst will only increase. This has led to a push for large numbers of trees to be cut or burned down. Overgrown forests catch more snow and rain on leaves and needles, where wind and sunlight increase the amount of moisture lost to evaporation.

To reduce what Tim Murphy, a Forest Service ecologist, considers an excessive number of trees in forests, the service thinned 600 square miles of California's watershed in the year to October, up from 367 the previous year. By burning or re-

moving about 40% of tree and plant-life in these areas, the Forest Service wants to do more than put extra water in reservoirs. The goal is also to reduce the severity of wildfires and to get water into the bigger trees left standing—more than five years of drought have killed more than 66m trees in California, aerial surveys show.

Thinning efforts are off to a great start but must accelerate, says Timothy Quinn, head of the Association of California Water Agencies. Five times as much forest should be thinned every year, estimates Roger Bales, a hydrologist at the University of California, Merced. To find out how much extra water a thinned watershed produces, the university has placed sensors in thinned and control plots in the Stanislaus-Tuolumne Experimental Forest north of Yosemite National Park. Depending on landscape and precipitation, thinned areas shed 10-40% more water into streams, Mr Bales estimates.

More accurate numbers will be available next year. The hope, says Eric Knapp, a Forest Service ecologist in Redding, is that a new thinning technique will prove to produce even more water when flow volumes from next spring's snowmelt are known. Some plots are not thinned evenly, but rather by clear-cutting gaps with a diameter one or two times the height of surrounding trees. The idea is to clear an area big enough for a good snowpack to form, but small enough for shade to reduce evaporation and extend the melting season.

California's governor recently signed a bill that facilitates thinning watersheds. But some environmentalists resist "cutting any tree for any reason", as the Forest Service's Mr Murphy puts it. And some think thinning doesn't produce meaningfully more run-off. That's the opinion of Chris Frissell of Frissell & Raven Hydrobiological and Landscape Sciences, a consultancy in Polson, Montana. Thinning has become popular in the state, but, he says, it disturbs soil, generating silt that harms aquatic life.

Clearing trees with fire is cheap if all goes to plan but only makes sense in certain areas. Thinning with big chainsaws on wheels can cost up to \$650,000 per square mile. This could be recouped with timber revenue if big trees are felled. But the chainsaws are usually only let loose on smaller trees, so taxpayers must cough up.

One solution would be to get water utilities or hydropower producers to fund the thinning. AMP Insights, a consultancy which has estimated the value of water flowing out of the Sierra Nevada, reckons the extra flow would defray the cost of removing trees by 20% and, in wet years, by 60% or more. Denver Water agreed in 2010 to pay the Forest Service \$16.5m for thinning and other watershed work in the Rocky Mountains. The Forest Service is checking to see where other such "Forests to Faucets" schemes might be set up. ■

The trial of Dylann Roof

## Mother courage

CHARLESTON

The perpetrator of a racist massacre faces the jury

SCRATCHING his ear, sipping water, sometimes chatting with his defence team, Dylann Roof looks for all the world like an ordinary human being, more sullen adolescent than monster. Yet, almost astonishingly, the slight, pockmarked figure who slouches into his chair in the federal courtroom in Charleston—his face averted from the relatives of his victims—is, by his own admission, the man who killed nine people at the Emanuel African Methodist Episcopal Church on June 17th last year. Mr Roof's culpability is not in doubt; the harder question, as often with monsters, is how far he reflects broader pathologies in the society that spawned him.

He has been tried on 33 federal charges because prosecutors rejected his offer to plead guilty in exchange for life imprisonment. Thus far the proceedings may not have bolstered his chances of avoiding a death sentence. The court has heard how, in a delinquent pattern that echoes the online radicalisation of would-be jihadists, his hateful white supremacism was fuelled by an internet search for “black on White crime”. He seems to have completed his own deranged manifesto, in which he described African-Americans as “stupid and violent”, on the afternoon of the atrocity. The jury watched the cold, even flippant confession he made the following day. “Well, I killed them, I guess,” he said.

The absence of “regret or remorse”, says Andrew Savage, a lawyer for three survivors of the shooting and some of its victims' relatives, has made some less asser-

tive in their support for a life sentence. Initially, he says, Mr Roof's age (he is now 22, but looks younger), plus a hunch that he could not have acted entirely alone (as he appears to have done) inclined them to mercy; so did their faith, which informed the superhuman forgiveness many extended in the crime's immediate aftermath. Still, their stance has challenged advocates of capital punishment, just as Mr Roof's savagery has challenged its critics. The federal government sought the death penalty, thinks Mr Savage, on the basis that, “if not in this case, when?” (Mr Roof is due to face a separate capital trial in state court, though the outcome of the federal one may obviate it.)

The grace of the relatives after the tragedy, and subsequent shows of unity from the city at large, suggested that, far from igniting the race war about which Mr Roof fantasied, its effect would ultimately be therapeutic. Outside Mother Emanuel, as the church is known, beside the Christmas wreaths and lights that contrast starkly with its beautiful pale façade, a sign reads: “We thank you for your many acts of kindness”. Yet, in truth, tensions and grievances persist, not least because, on the eve of Mr Roof's appearance, a deadlocked jury resulted in a mistrial in the case of a white police officer who, in an encounter caught on camera, fatally shot a black man as he ran away. Opinion polls indicate that, in the wake of the church massacre, white South Carolinians have a far rosier view of race relations in the state than do blacks.

And, although the Confederate flag—with which Mr Roof liked to pose—was removed from the statehouse grounds, it still flies from porches and is emblazoned on pick-up trucks. It was on display, occasionally, at rallies held by the president elect; it is beloved by some members of the newly infamous alt-right movement. Meanwhile, although Mr Roof's view of American history was morbidly extreme, his conviction that whites are the country's real victims (“White people are being murdered daily in the streets”), and that black suffering is exaggerated, is hardly unique. As it happens, a planned African-American museum in Charleston aims to address such misconceptions. Perhaps, speculates Michael Moore, the project's boss, Mr Roof might have acted differently, “if he had a broader sense of the humanity of the people in that room.”

### 88 bullets

The jury was set to consider its verdicts soon after *The Economist* went to press. The last witness to be called, Polly Shepard, described how Mr Roof said he would let her live to tell her story. The first, Felicia Sanders, recalled the trickling of her son's blood as she desperately shielded her granddaughter from the carnage. The second part of the trial, which will determine Mr Roof's punishment, is expected to begin in January. He has opted to represent himself in that phase, which explains the repeated efforts of his distinguished lawyers to bring up his disrupted home life, and troubled state of mind, while they could. Mr Roof may yet retain them (he previously asked to dispense with his lawyers altogether); but if he sticks to his plan, Mr Savage says his clients will appreciate the chance to look Mr Roof in the eye.

For their part, the prosecutors traced the steps that culminated in his driving into Charleston with a list of six black churches and magazines loaded with 88 bullets, a number that, to neo-Nazis, symbolises “Heil Hitler”. Intermittently they removed the pistol he used from its evidence bag in the centre of the courtroom. Because he had admitted possession of a narcotic earlier in the year, Mr Roof ought to have been disqualified from buying it. But, owing to a glitch in the FBI's background-check system—now the subject of civil lawsuits by the survivors and relatives—he was able to.

In dry testimony that was nevertheless heart-wrenching in its way, and which was central to another of the case's broader lessons, the manager of the gun store he visited, in April 2015, outlined the process. Since the FBI did not respond within the allotted three-day period, he said, they went ahead with the sale. Most shops would have done the same, he reckoned. Eventually he did receive a call instructing him to turn Mr Roof away. That was on June 29th, 12 days after the slaughter. ■



The accused

# Lexington | The Obama way of war

Our columnist travels with America's outgoing defence secretary to Afghanistan and Iraq



**T**O AMERICANS who despise Barack Obama—and even to some who admire him—it is jarring to hear the 44th president refer to himself as commander-in-chief. Mr Obama leaves office with critics convinced that he is a passive observer of a chaotic world. That notion is enthusiastically advanced by Donald Trump, who charges that a soft Obama administration has stupidly—and he has even hinted, treasonously—refused to keep the country safe, notably by attacking Islamic State (IS).

Mr Trump promises to end nation-building overseas and start spending money on American roads, bridges and airports. He pledges to be more self-interested, obliging feckless allies to pay for their own security. Above all Mr Trump, a skilful storyteller, has a tale to tell patriotic Americans about why the country they love has been fighting terrorism worldwide for 15 years without winning. His story involves elites (and he includes President George W. Bush in this group) who naively toppled autocrats—“foreign regimes that we know nothing about, that we shouldn’t be involved with,” as he puts it—when they should have been hunting down terrorists with pitiless, single-minded violence.

Mr Trump’s yarns about hand-wringing Mr Obama fire up his supporters, who long to hear that with a more ruthless president in the Oval Office America will instantly become safer. But his tales are a distortion of the real Obama military doctrine. If parts of the world are drenched in bloody, tragic chaos, as in Syria, the softness of the outgoing president is not the cause.

Mr Obama is no nation-builder. As the years passed he became coldly pragmatic about working with far-from-democratic leaders. He is intently focused on American national interests. Mr Obama broods about possible unintended consequences when he hears calls to intervene. His focus on domestic politics makes him wary of putting American boots on the ground. He has issued strict executive orders about avoiding civilian casualties. But he is no pacifist. Mr Obama is willing to order enemies killed, whether by drone strikes, special forces, local allies or ideally a combination of all three.

The Obama way of war can be seen with unusual clarity at Qayyarah West, a fortified air base newly risen from the Iraqi desert 35 miles south of Mosul, where as many as 5,000 IS fighters are engaged in brutal combat with Iraqi forces. Lexington visited this

base on December 11th with the outgoing defence secretary, Ashton Carter, during a two-week, 25,000-mile farewell tour of the world. “Moon dust” is one American soldier’s description of the fine beige dirt on which the base is built. As a cold winter sun sets, the otherworldly atmosphere is enhanced by freshly installed concrete blast walls that block all views of the country beyond. “Q-West”, as the Pentagon calls it, was IS-held territory as recently as July. Back then it was a “dot on the map”, as Mr Carter reminds troops there, spotted as a potential base for co-ordinating the fight in Mosul. To repair a runway blown up by IS fighters American engineers trucked in 1.9m pounds of cement, welcoming their first fixed-wing aeroplane in late October.

The base betrays the casualty aversion of the Obama doctrine. Mr Carter and his party are driven around within the base in mine-proof armoured vehicles. Just under 900 coalition troops, most of them American, sleep in two-man bunks made of thick concrete slabs, within tents made a bit less austere by sporting banners and children’s drawings and, outside, a Christmas tree made of green webbing round a pyramid of heavy chains. Behind another ring of blast walls an anonymous tent houses a Combined Joint Operations Centre, manned by Iraqi officers and earnest American troops with laptops at long plywood desks. When journalists are not present, large screens show live streaming video from unmanned aerial vehicles and other intelligence platforms. A whiteboard bears the label “Open Strike Requests”.

A clinical calm conceals a machine for delivering violence from the sky. That involves some risks for American advisers near the front lines, who can call in air strikes and artillery fire and offer guidance on ground movements. It involves grave risks for Iraqis fighting block-by-block, who—according to American officers—have so far taken back between a quarter and a third of eastern Mosul and killed or seriously wounded 2,000 IS fighters. Pinning medals on soldiers and black-clad members of the Iraqi Counter-Terrorism Service, an elite unit, Mr Carter notes that they have braved snipers, mortar fire and car-borne improvised explosive devices. Asked when Mosul might fall, he hedges: “It’s a war: the answer is, as soon as possible.”

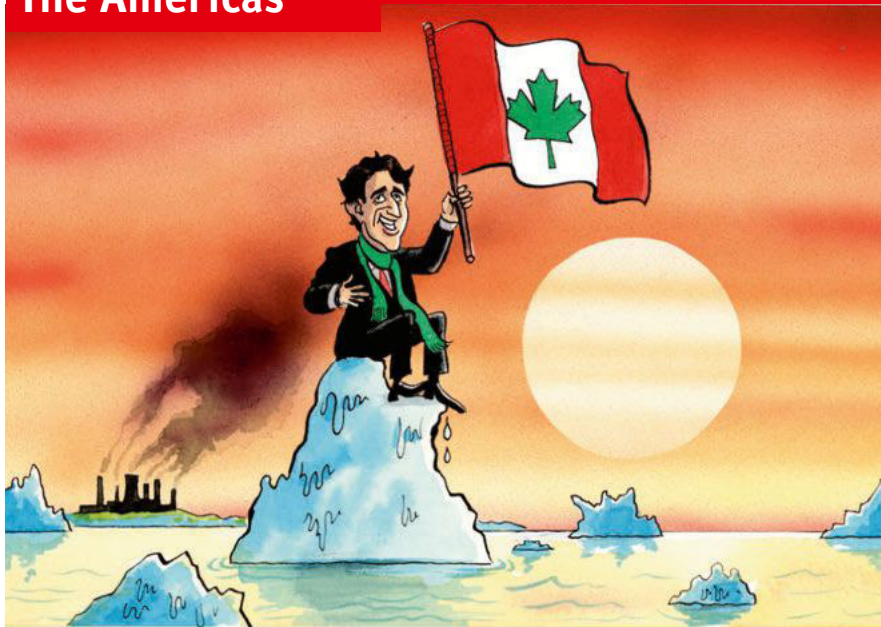
## No we can’t

When Mr Trump denounces the waste of hundreds of billions of dollars in Iraq and Afghanistan on ambitious nation-building, he is both correct and out of date. Interviewed on December 9th, just before visiting Afghanistan, Mr Carter describes today’s narrow American objectives for that unhappy country: “To make sure that a 9/11 never emerges again from Afghanistan and to have a stable counter-terrorism platform there.” The Obama doctrine also includes pressure on others to take more of the burden. If Americans substitute for local forces, Mr Carter argues, that might cause local people to “sit on the sidelines or even fight the coalition”. Sending Americans as infantry among foreign populations squanders America’s advantages in air power, intelligence-gathering and special forces. Finally, he says, it invites the question of who will govern territory taken back from IS.

President Trump may be less squeamish than his predecessor. Expect him to downplay the importance of civilian casualties, for instance. Mr Trump says he plans to work with Russia against IS, even though to date Russian talk of fighting terrorists is mostly cover for backing the Assad regime in the Syrian civil war. But Mr Obama’s military doctrine is already unsentimental. In that, the two men may be more similar than they care to admit. ■

Also in this section

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Canada's climate deal

# Walking the walk

OTTAWA

**Justin Trudeau has secured the support of most provinces for a national carbon-pricing scheme. He may need more carrots to keep them on side**

TALK is cheap. Since 1997 Canada has signed five global climate deals pledging to lower its greenhouse-gas emissions. However, it has never implemented a national climate plan. Instead, its ten provinces and three territories have mostly been free to do their own thing.

Provinces rich in hydropower, such as Quebec and Ontario, made big strides, and British Columbia (BC) even introduced a carbon tax. However, big fossil-fuel producers such as Alberta sat on their hands. The results were predictably disappointing. In 1990, the base year for the Kyoto accord, national emissions were 613m tonnes. By 2014 they had risen to 732m tonnes, the world's ninth-highest total. Canada withdrew from Kyoto in 2011 after deciding that its targets were unattainable.

But following nearly two decades of inaction, Canada may have reached a turning point. On December 9th Justin Trudeau, the prime minister, and 11 of 13 provincial and territorial leaders announced that they had agreed on a national climate framework. The deal combines disparate provincial efforts, and overlays them with two federal imperatives: by 2018 each province must have in place either a carbon tax or a cap-and-trade scheme that puts a minimum price on carbon of C\$10 (\$7.63) a tonne, rising to C\$50 a tonne by 2022; and by 2030 coal will no longer be used to generate electricity. If implemented, the plan would put the coun-

try on track to hit its 2030 target, set out in 2015 in the Paris accord, of 523m tonnes.

The most immediate reason for Canada's about-face was Mr Trudeau's election. His Conservative predecessor, Stephen Harper, was a big fan of fossil fuels. By the 2015 election, his attitude proved out of step with public opinion. Mr Trudeau made tackling climate change a central plank of the Liberal Party's platform, and was rewarded with a surge in turnout from young green voters. This October two out of three respondents told Abacus, a pollster, that Mr Trudeau was on the right track in promising a national carbon price.

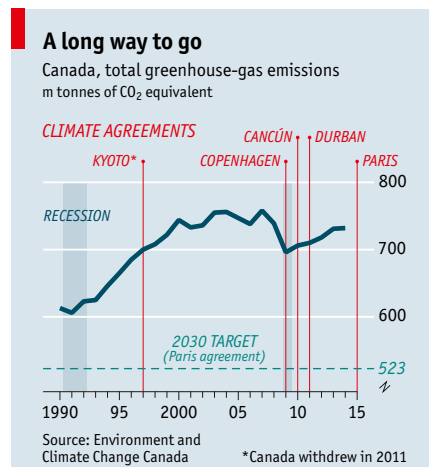
However, Canada is highly decentral-

ised, and no national plan would be politically viable without the assent of the provinces—many of which rely on polluting industries. One stroke of luck for Mr Trudeau was that in 2015 Alberta, home of the carbon-belching tar-sands oil patch, elected a premier from the left-wing New Democratic Party, ending 44 years of unbroken rule by the centre-right Progressive Conservatives. That removed what was likely to be a strong source of opposition.

Even then, it took Mr Trudeau a year to herd the fractious premiers towards the deal. Both BC and Alberta had longstanding requests for the federal government to approve oil and gas projects, including one to export liquefied natural gas from northern BC, and another to transport Albertan crude to a port near Vancouver. The public favours these initiatives: three out of four respondents to the Abacus poll said they would accept more approvals. However, environmentalists and indigenous groups threatened to block construction.

Even though the new infrastructure would yield more fossil-fuel production and carbon emissions, Mr Trudeau has authorised three big projects. According to Paul Boothe, a former deputy environment minister, that decision may well have brought Alberta and BC on board. "They needed to be assured they can develop their resources," he says. "It was a very important part of the political calculus." Mr Trudeau also allowed Nova Scotia to continue burning coal for electricity after 2030, so long as it cuts other emissions by an offsetting amount.

Two provinces are still holding out. Manitoba is expected to join, assuming it can extract a satisfactory increase in health-care funding. But even though provincial governments are free to spend the revenue raised by a carbon tax or emissions-credit sales however they wish, Brad



▶ Wall, the premier of Saskatchewan, remains unconvinced. He fears that a carbon price will hinder the energy, mining and agriculture industries, and particularly harm companies that compete with American firms that do not have to pay for their emissions. He is also concerned that Donald Trump may reverse Barack Obama's environmental efforts, and argues that Canada's climate policy should not get too far ahead of its largest trading partner's.

Mr Trudeau could probably tudge ahead without Saskatchewan, which generates just 4% of Canada's GDP. However, other provinces would surely look askance

if Saskatchewan were seen to be free-riding on their sacrifices. And any more defections might prove fatal. For now, the federal government has only secured handshake commitments from the premiers, leaving their successors free to reverse course. BC will hold an election in May. Ontario, Quebec, New Brunswick and Nova Scotia all follow in 2018. Although the federal government says it has the right to impose a carbon tax unilaterally on recalcitrant or backsliding provinces, that power has not been tested in court.

For now, nothing besides the fear of a flip-flop binds the premiers to their word.

So Mr Trudeau will have to work fast to fill in details that require provincial agreement, and to encourage the provinces to pass the necessary laws promptly. To grease the wheels, the federal government is offering at least C\$49bn in green hand-outs, for everything from public transport to helping provinces link their electricity grids. It is also deciding how much money to give the provinces for their health-care systems, an unrelated issue that might sway wavering premiers. Mr Trudeau's charm is formidable. But it could take some old-fashioned bribery to turn his vision of a green Canada into a reality. ■

## Bello | Viva la ignorancia!

### A small act of national suicide in Peru

FOR most of this century, Peru's economy has shone: income per person has doubled in the past dozen years. But education failed to keep up. In 2012 Peru ranked last among the 65 countries that took part in the Programme for International Student Assessment (PISA), which tests the reading, maths and science proficiency of 15-year-olds.

Fortunately, Peru then found an outstanding education minister. Jaime Saavedra, an economist whose mother was a teacher, spent ten years at the World Bank, rising to be vice-president for poverty reduction. Appointed three years ago to the education portfolio, he was the only minister to keep his job when Pedro Pablo Kuczynski replaced Ollanta Humala as Peru's president in July. He has generalised a previous pilot plan to link teachers' pay to performance, overhauled teacher training and school management and begun a crash programme of repairing dilapidated school buildings. He has also championed a law passed in 2014, which for the first time subjected universities to minimum standards for probity and educational outcomes.

Mr Saavedra's stewardship has brought results. Performance in national tests has risen sharply. The latest PISA figures, which were released on December 6th, confirmed this trend: Peru was the fastest improver in Latin America and the fourth-fastest in the world. Far from celebrating this achievement, the following day the opposition majority in Peru's Congress subjected Mr Saavedra to an 11-hour interrogation, conducted with the manners of a playground bully. On December 15th it was due to vote to sack him.

The ostensible reasons were a delay in preparations for the Pan-American games to be held in Lima in 2019 (the education ministry handles sport) and alleged cor-



ruption in the purchase of computers by the ministry. Mr Saavedra convincingly denied knowledge of these problems and responsibility for them. So why is Popular Force, the main opposition party, so hostile to him? Many commentators ascribe this to the links several of its legislators have to universities that are lucrative businesses but offer poor value to students and face new scrutiny under the law regulating them (though that also applies to some pro-government lawmakers).

The congressional hearing was remarkable for its mixture of ignorance and bad faith. One legislator claimed that the PISA tests, which are organised by the OECD, a club of mainly rich countries, were a "smokescreen" and a "business" paid for by Mr Saavedra's ministry. Others said the PISA tests were "adulterated" or an exercise in psychological warfare. This is bosh: even the harshest serious critics of PISA accept that it is properly conducted.

The censure of his best minister on such spurious grounds is a frontal challenge to Mr Kuczynski, less than five months after he took office. It lays bare the weakness of his mandate. He beat Keiko Fujimori, Pop-

ular Force's leader, by just 50,000 votes out of 18m, after her campaign was hit by a last-minute scandal. Her surprise defeat stung; she has not talked to Mr Kuczynski since the election. He only reached the run-off after two other candidates were disqualified on questionable grounds. His party has just 17 of the 130 seats in Congress, while Popular Force has 72.

Mr Kuczynski could have turned Mr Saavedra's future into an issue of confidence in the cabinet as a whole. Lose two such votes, and Peru's constitution gives the president the right to dissolve Congress and call a fresh legislative election. But this has never been tested, and Popular Force hinted that it would hit back by declaring the presidency vacant. On December 13th Mr Kuczynski announced that he had rejected this course, calling for dialogue with the opposition. He could seek a coalition with Popular Force, inviting them to take cabinet posts. But that would appal many of his own supporters, who voted for him purely to stop Ms Fujimori, whose father controversially ruled Peru as an autocrat in the 1990s and is serving jail sentences for corruption. The alternative may be to submit to years of harassment from Congress by an opposition intent on showing its power.

As for Mr Saavedra, his likely departure illustrates the vicious circle that makes sustaining good policies so difficult in Latin American democracies. Popular Force has too many chancers who see a state that long failed to provide proper public services as a vein to be mined for private profit. That the party represents so many Peruvians is in part an indictment of the country's educational backwardness. Better education is no guarantee of a better-quality democracy, but it certainly helps. And it is essential if Peru is ever to grow truly prosperous.

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Syria  
**Last rites for Aleppo**

The fate of up to 100,000 trapped civilians is terrifyingly unclear

WHEN members of the Muslim Brotherhood rose up against the Syrian government in 1982, killing hundreds of soldiers in the city of Hama, the regime's response was swift and brutal. Under orders from President Hafez al-Assad, government warplanes and artillery pounded the city for weeks. By the time the army's bulldozers had finished flattening entire districts, the regime had killed as many as 25,000 people.

In 2011, almost 30 years after the Hama massacre, Hafez's son, Bashar, faced his own revolt when peaceful protests against his rule erupted across Syria. Some believed that the soft-spoken ophthalmologist would show more restraint than his blood-drenched father. But after more than five years of war no one thinks that any more. Mr Assad junior has systematically starved, bombed and shot his own people, laying siege to civilians in rebel-held areas while bombing their hospitals, markets and schools. His scorched-earth tactics have killed the vast majority of the war's 400,000-plus dead and driven millions of Syrians abroad as refugees. The massacre his father oversaw in Hama seems small and local in comparison.

These tactics, along with Russian air power and Iranian military expertise, now appear to have propelled Mr Assad to his greatest victory so far. Pro-regime forces,

spearheaded by Iranian-backed Shia militias from Iraq and Lebanon, have cornered rebel forces in a tiny sliver of territory in the east of Aleppo, the country's largest city before the war.

On December 13th, as part of a deal brokered by Russia and Turkey, the rebels agreed to surrender. A ceasefire followed as buses prepared to evacuate rebel fighters and civilians to opposition-controlled territory west of the city. Residents gathered in the bitter cold and driving rain as

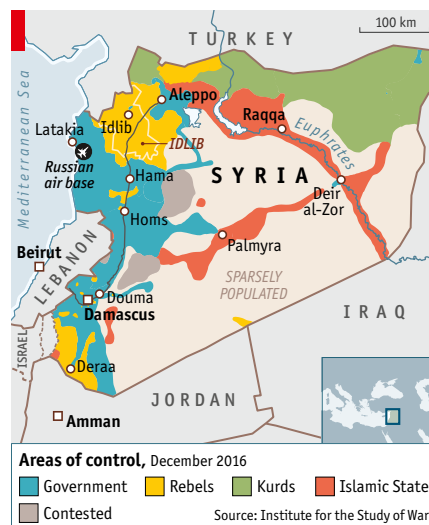
they prepared to leave. Some burned possessions they could not carry, rather than see them fall into the regime's hands.

But the evacuation, which was scheduled to begin at 5am on December 14th, failed to happen. By midday, warplanes were back in the skies above Aleppo, bombarding neighbourhoods in the tiny rebel pocket as tanks and artillery guns shelled the area once again. Russia announced that the regime had captured yet another district. Terrified residents desperately sought shelter. Some described seeing bodies lying in the streets as they ran. Others said the bombardment was too intense to rescue the wounded. In one field clinic bodies lay in rows on the floor where they had been left for days, their relatives too scared to collect the corpses.

The deal broke down mainly because Iran, which supports a number of Shia militias fighting alongside Mr Assad's troops, imposed new conditions, including an evacuation of Shias from two rebel-besieged villages. As *The Economist* went to press on December 15th, there was renewed hope that the evacuation might soon begin; but local disagreements could all too easily delay or scupper it.

The failure of the world to act means that what happens next to the remaining population of east Aleppo, numbering anywhere between 50,000 and 100,000 people, could be atrocious. In recently captured neighbourhoods, pro-regime troops have begun to slaughter civilians inside their homes, according to reports received by the UN and sources inside the city.

In what it described as a "complete meltdown of humanity" inside Aleppo, the UN said reports suggested that at least 82 civilians, including 11 women and 13 children, have been murdered in recent days. ▶▶



▶ Government forces have also detained hundreds of men, the UN said; others have been conscripted into the Syrian army.

The remaining trapped civilians are petrified. “Some are hiding, waiting to know their fate. Others are fleeing to the regime’s part of the city. Imagine a family fleeing to its killers. That’s the only option now: to flee to their killers,” said Ammar al-Selmo, the head of the city’s White Helmets, a volunteer rescue service. Evacuation, if it happens, will take many days.

### After the fall

Terrible though the situation in Aleppo now is, the city’s fall will not end the war. Mr Assad has repeatedly vowed to reclaim the entire country. Though the capture of Aleppo will leave the government in control of all Syria’s main population centres, including its four largest cities, large swathes of territory remain beyond the regime’s authority.

Islamic State (IS), which retook the ancient city of Palmyra on December 10th, still rules wide tracts of (sparsely populated) land in the east. Rebel forces control the province of Idlib, parts of Deraa in the south, a large chunk of the border with Jordan and a few pockets of territory around the capital, Damascus. Turkish and Kurdish rebels have also carved out enclaves in the north of the country.

Once Aleppo is secured, Mr Assad will probably turn his attention to those pockets of rebellion that remain around the capital, while securing the main highway that leads from Homs to Aleppo. He will then want to go after rebel forces in Idlib, where he has corralled much of Syria’s insurgency. The province is dominated by a hardline Islamist group, Ahrar al-Sham, as well as militants from Jabhat Fatah al-Sham, a jihadist group with ties to al-Qaeda. The regime is calculating that their presence will dampen any Western support for the rebels holding out in Idlib, allowing it a free hand.

It is difficult to see how the opposition can bounce back. America’s president-elect, Donald Trump, has threatened to withdraw already limited support for Syria’s moderate opposition and concentrate instead on defeating IS. This would suit both Mr Assad and his Russian backers, swinging the course of the war even further in the dictator’s favour.

“The crushing of Aleppo, the immeasurably terrifying toll on its people, the bloodshed, the wanton slaughter of men, women and children, the destruction—and we are nowhere near the end of this cruel conflict,” the UN’s High Commissioner for Human Rights, Zeid Ra’ad al-Hussein, said on December 13th. “What is happening with Aleppo could repeat itself in Douma, in Raqqqa, in Idlib. We cannot let this continue.” For now, though, there seems little to prevent further tragedies unfolding.

Yet Mr Assad’s ambition to reassert his control over the entire country is unrealistic. The recapture of Palmyra by IS is an indication of the difficulties Mr Assad still faces. His priority over the next few months is therefore likely to be to consolidate his recent gains in what he calls “essential Syria”, the urbanised spine of the country between Aleppo and Damascus.

He should also not assume that the Trump administration will be unalloyed good news for him. Andrew Tabler of the Washington Institute for Near East Policy reckons that “big changes are coming.” What most distinguishes Trump appointments, such as retired Marine General Jim Mattis as defence secretary and retired General Mike Flynn as national security adviser, is their conviction that Iranian influence in the region must be confronted and rolled back. Handing victory to Mr Assad also means handing victory to the mullahs in Iran, something they will be loth to do. The one country that has real influence

over Iran, especially in Syria, is Russia.

The overarching question about Syria’s future could therefore hinge on America’s relations with Russia, which Mr Trump has said he wants to put on a more co-operative footing. It also depends on the extent to which Russia’s and Iran’s goals in Syria may differ. Russia says it is committed to UN Security Council resolution 2254, which is designed to reunify the country following an 18-month transition period after which democratic elections would be held under a new constitution. Iran, by contrast, wants above all to preserve the Assad regime. Its aim is a rump Syria as a client state, and an arc of Shia dominance running through it from Iraq to Lebanon.

Given Mr Trump’s transactional approach to international relations, Russia’s president, Vladimir Putin, will want to know what kind of deal the new administration will offer him to part company with his Iranian ally. After the fall of Aleppo, he will surely demand a high price. ■

### Israel’s settlers

## The Amona remainers

AMONA

The prime minister is backing plans to “regularise” illegal settlements

THE fate of 42 Israeli families, living on a windswept hilltop in the West Bank half an hour’s drive north of Jerusalem, could change the rules of Israel’s 49-year-old occupation of the area. The settlement was built in 1995 on what was in fact privately owned Palestinian land. The settlers claim they were not aware of this—which may be true, as land records in the West Bank are not always clear or complete, dating as many of them do back to Ottoman times. Despite a High Court order to evict them by December 25th, and repeated government offers of alternative housing nearby, the settlers are refusing to budge from what they see as their homes in historically Jewish territory. They have promised not to use violence when the security forces come to remove them, but large signs like “On Amona we will go to war”, and the dozens of young settlers who have already arrived as reinforcements, suggest the opposite.

This puts Prime Minister Binyamin Netanyahu’s coalition in a bind. Members of the hard-right Jewish Home party are threatening to leave the coalition if Amona is forcibly cleared, which could cost Mr Netanyahu his slender Knesset majority. (Jewish Home has eight members; the prime minister’s majority is only six.) The government is struggling to make a deal with the settlers as the clock ticks down.

But even if the Amona row is defused, to get this far Mr Netanyahu has been forced to placate his hardliners by endorsing a proposed “Regulation Law” for settlements built under similar circumstances. Its purpose is to legalise retroactively the supposedly inadvertent expropriation of privately owned land in the West Bank, on which some Jewish settlements have al- ▶▶



We’re here because we’re here

ready been built, and oblige the legal owners to accept either financial compensation or alternative land. The law will not affect Amona, which is specifically excluded, but it could affect more than 2,000 buildings, some in tiny “outposts” and others in larger urban settlements. It is seen by settlers as a big achievement.

Naftali Bennett, the leader of Jewish Home and a supporter of the settlers, made his motives clear last week, when he said the law is a step towards formally annexing parts of the West Bank, a long-term goal of many hardliners. This contradicts Mr Netanyahu’s stated position of favouring a deal to recognise two separate states for Israelis and Palestinians. Israel applies its laws to the eastern part of Jerusalem, captured from Jordan in the Six Day War of 1967; but it has so far refrained from annexing other parts of the West Bank.

The Geneva Convention says that an “Occupying Power shall not deport or transfer parts of its own civilian population into the territory it occupies.” Israel says this does not apply to the West Bank, which did not belong to a sovereign state as the territory was not officially part of Jordan. It also says the convention doesn’t apply to Jewish settlers who are there voluntarily, rather than having been deported or transferred. Most international lawyers reject this interpretation. Even Israel’s closest allies, including America and Britain, regard the settlements as illegal.

Some see the Regulation Law as marking the first time that Israel is openly exercising sovereignty over the West Bank. “The law is effectively a measure of annexation of the West Bank, contrary to Israel’s long-held claim that it’s not engaged in annexation,” explains Professor Yael Ronen of the Sha’arei Mishpat Centre for Law and Science. “It is a law that expressly states its aim is to develop the settlements in Judea and Samaria.” Others disagree. They insist that regularising settlements does not imply annexing the land they are built on; it merely lets the settlers live without fear of eviction—for now. If ever a peace deal is reached between Israel and Palestine, many of the isolated settlements would doubtless have to be abandoned, with or without forcible eviction.

Mr Netanyahu, although forced by political constraints to tell his whole coalition to vote for the law, is clearly concerned about its legal and diplomatic ripples. Governments around the world have condemned it in advance. So far, it has passed only its first reading. Even if it passes the remaining two votes, as yet unscheduled, it could well be struck down as unconstitutional by the High Court. The attorney-general says he will refuse to defend it in court. Mr Netanyahu is trying to avoid fights with the settlers, his coalition, the court and his foreign allies. But right now he is on a collision course with all of them. ■

## Mayhem in Egypt

# Murder in the cathedral

CAIRO

## Terrorism in Egypt compounds the president’s problems

SECURITY and order have always been the priority for Abdel-Fattah al-Sisi, Egypt’s president and self-proclaimed protector. Since toppling a democratically elected but unpopular Islamist government in 2013, Mr Sisi, a former general, has attempted to stabilise the country with draconian laws and a crackdown on dissent. Without his firm hand, Egypt would look like its blood-soaked neighbours, say

his supporters.

One problem with this argument is that Egypt itself looks increasingly volatile. On December 9th a bomb targeting a police vehicle in the city of Kafr al-Sheikh killed a civilian and injured three policemen. On the same day another bomb killed six policemen on the road to the pyramids in Cairo, breaking months of relative calm in the capital. Two days later, yet another tore through Cairo’s Coptic cathedral during Sunday mass, killing at least 25 worshippers, mostly women and children.

Disgruntled Islamists have been blamed for the violence—and have taken some credit for it. A shadowy group called the *Hasm* (decisiveness) movement claimed responsibility for the bomb near the pyramids. It has staged several attacks in revenge for Mr Sisi’s bloody suppression ▶▶

## Saudi Arabia’s calendar

# The prince’s time machine

RIYADH

## Hauling Saudi Arabia into the 21st century

THE kingdom presented its shift from the Islamic to the Gregorian calendar as a leap into modernity. In April the dynamic deputy crown prince of Saudi Arabia, Muhammad bin Salman, chose to call his transformation plan Vision 2030, not Vision 1451 after the corresponding Islamic year as traditionalists might have preferred. Recently his cabinet declared that the administration is adopting a solar calendar in place of the old lunar one. Henceforth they will run the state according to a reckoning based on Jesus Christ’s birth, not on the Prophet Muhammad’s religious mission.

But puritans in Islam’s birthplace are wincing at their eviction from control first over public space, and now of time. Guardians of the Wahhabi rite, who seek to be guided by Muhammad’s every act, ask whether they are now being required to follow Jesus. A slippery slope, the clergy warn, to forgetting the fasting month of Ramadan altogether; the authorities are rewinding the clock to the *jahiliyyah*, or pre-Islamic age of ignorance. The judiciary, a clerical bastion, still defiantly insists on sentencing miscreants according to the old calendar.

The clerical unease has been matched by that of government employees. Under his transformation plan, the prince has already docked their perks and slashed pay. To add to their misery, they now complain they will have to work an extra 11 days each year. Yet another example, they gripe, of globalisation favouring rulers at the expense of the ruled.

A lunar calendar made sense when the moon was the simplest way of count-



ing passing days. But for measuring years it is a poor approximation. It loses some 11 days a year, ensuring that Islamic holy days rotate round the seasons every 32 years. The Saudi administration, hopes one official, should now be more orderly and in step with the rest of the world. But having spent a lifetime learning dates from the year Muhammad fled from Mecca to establish the first Islamic state in Medina (622 in the Gregorian calendar), counting from Jesus’s birth is likely to leave many scratching their headscarves.

Still, Saudi Arabia is not alone in wrestling with ancient calendars. It is 1395 in Iran, 2628 in Kurdistan, and 5776 in Israel’s Knesset. Nor is it just the Middle East that is out of sync with the times. It is 2559 in Thailand, though only year 28 (of the Heisei era) in Japan.



► of the Muslim Brotherhood, the Islamist group that led the ousted government (and which claims to be peaceful). Islamic State (IS) has claimed responsibility for the cathedral attack. But the interior ministry says exiled Brotherhood leaders directed it, sending the bomber to train with jihadists linked to IS in the northern part of the Sinai peninsula.

It is not clear how much co-ordination there is between the Sinai-based militants, mostly drawn from among the local Bedouins, and groups like the *Hasm* movement, which are active in Egypt proper. For several years the army has tried to beat back an insurgency in Sinai, adopting scorched-earth tactics. But this has not deterred the rebels, who have carried out several hundred attacks in the area since 2012. Last month they killed eight soldiers with a car bomb; in October they claimed the assassination of an Egyptian general. The most active insurgents have pledged their loyalty to IS and declared their region to be a “province” of the so-called caliphate.

In claiming the Coptic bombing, IS vowed to continue its “war against apostates”. Egypt’s Christian Copts, who make up about 10% of the country’s population, are a common target. They have long faced persecution by the Muslim majority. Many have supported Mr Sisi, believing he would protect them—even when Islamists attacked dozens of Coptic churches and homes after his coup. But his gestures, such as briefly attending Christmas mass, have done little to ease the tension. And there are signs that Coptic support for the president is fading. “The people demand the downfall of the regime,” shouted those gathered outside the cathedral after the bombing. Television presenters seen as supportive of the president were pushed away by the crowd.

These are difficult times for Mr Sisi, who is also dealing with a moribund economy. Egypt has struggled to lure back investors and tourists who fled after the revolution of 2011. The plummeting value of the Egyptian pound and inflation, which is at an eight-year high, have caused the public much pain. After years of delaying, the government has finally begun to implement some economic reforms, thereby securing a \$12bn loan from the IMF. But these reforms, which include floating the currency and cutting subsidies, are likely to compound Egyptians’ pain in the short term.

The risk is that Mr Sisi will respond to the pressure in all the wrong ways—for example, by cracking down harder on dissent and delaying or rescinding economic reforms. The parliament, which supports the president, has already called for changes to the penal code that would curtail civil liberties. The foreign ministry has used the violence as an excuse to attack NGOs. The government seems intent on storing up yet more trouble for the future. ■

## Gambia and Ghana

# You say goodbye and I say hello

**Gambia’s despot refuses to leave as Ghana welcomes a new government**

**M**OTORCADES are not an unusual feature of African political life. But a hush fell in Serekunda, Gambia’s largest town, as the presidents of Ghana, Liberia, Nigeria and Sierra Leone sped by in black Rolls-Royces. Gambians hoped the region’s other heads of state would persuade their own erratic president to step down. Yahya Jammeh, who has ruled the tiny West African nation for 22 years (and once said that, if Allah decreed it, he would continue for a billion), decided that, in fact, he wanted to remain in power despite unexpectedly losing an election two weeks ago.

Having gracefully conceded defeat and promised to step down after the votes were counted, he changed his mind and challenged the result, encouraged perhaps by the foolhardy pledges of some of the opposition to arrest him for his many abuses of human rights. The president-elect, Adama Barrow, refuses to say whether his government would prosecute Mr Jammeh.

The delegation of regional leaders, acting unusually firmly against a despot, nonetheless went home empty-handed. A deal “is not something that will happen in one day”, said Liberia’s weary-looking president, Ellen Johnson Sirleaf.

The inclusion of Ghana’s outgoing leader on the trip was no accident: John Mahama had conceded electoral defeat just three days earlier. There are no signs of him changing his mind, either—even after the victorious Nana Akufo-Addo promised a corruption probe.

Ghana’s peaceful vote was its seventh since the return of multiparty elections in 1992. Although the country’s democracy is far from perfect—politicians are wont to hand out rolls of banknotes hidden inside T-shirts at rallies and much of the country still votes along tribal lines—it is streets ahead of many others on the continent. Despite all the advantages of incumbency, Mr Mahama was ejected after just one term by voters fed up with how he had squandered Ghana’s new oil wealth and allowed the country to be blighted by double-digit inflation and a youth unemployment rate of almost 50%. And if Mr Akufo-Addo fails to deliver on promises like “one district, one factory”, voters are likely to punish him too.

In Gambia the vote was less about economics (although it too suffers from joblessness that prompts thousands of young people to take “the back way” to Europe) than it was a revolt against Mr Jammeh’s brutality. And fear of the mercurial dictator has yet to abate as he plots ways of clinging to the throne. Mr Jammeh has filed a petition with the Supreme Court, but it is not clear that it is even able to hear the case given that it has just one justice.

West African leaders still hope to hammer out a deal. But if diplomacy does not succeed by Gambia’s inauguration day on January 18th, military force is an option, an official of the Economic Community of West African States (ECOWAS) said. It is not clear that Gambia’s neighbours would, in fact, be willing to take tough action. But Gambia is casting a shadow over a region moving towards democracy: Senegal and Nigeria have experienced successful democratic transitions in recent years and Burkina Faso’s dictator was ousted after street protests in 2014. Asked whether he would return to Gambia again to mediate, Mr Mahama smiled: “I have my own transition to handle.” ■



The quickest billion years ever




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**Terror in Turkey**

## Semtex pretext

ISTANBUL

**A horrifying bombing helps the president grab more power**

THE first attacker, driving a car packed with up to 400kg (880lb) of explosives, struck near an Istanbul stadium after pulling up next to a riot-police vehicle. The second detonated his suicide vest less than a minute later, after a group of policemen surrounded him in a neighbouring park. The December 10th bombings, the latest in a wave of terror attacks that began in the summer of 2015 (see chart), killed at least 44 people, including civilians heading downtown on a Saturday night. The first blast was so powerful that firefighters were seen collecting body parts from the stadium's roof. A group called the Kurdistan Freedom Falcons, widely considered a front for the outlawed Kurdistan Workers' Party (PKK), claimed responsibility.

As enraged demonstrators took to the streets, Turkey's government pledged to destroy the PKK once and for all, something its predecessors have promised but failed to do since 1984, when the group launched an insurgency in the Kurdish southeast. Turkish jets struck PKK bases in northern Iraq. Police have detained over 500 people, some for sharing allegedly pro-PKK content on social media, as well as two parliamentarians from the pro-Kurdish Peoples' Democratic Party (HDP). Ten other HDP deputies, including Selahattin Demirtas, a former presidential candidate, have been in prison since early November.

Recep Tayyip Erdogan, Turkey's president, argues that the only way to solve Turkey's turmoil is to place all executive power in his hands. Hours before the bombing,

the prime minister, Binali Yildirim, unveiled a raft of constitutional amendments to do just that. The changes would do away with the office of prime minister, enshrine the presidency as the seat of executive power, and give Mr Erdogan the authority to appoint senior civil servants, declare a state of emergency, and issue decrees. They must clear parliament before being put to a popular referendum next spring.

Officials from the ruling Justice and Development (AK) party argue that the provisions would preclude turf battles between presidents and prime ministers. Critics say it is hard to imagine what such turf battles might be: Mr Erdogan already governs without many checks. The purpose of the constitutional changes, they say, is to formalise one-man rule. They would take effect in 2019 and could let Mr Erdogan rule

for two more five-year terms, to 2029.

In theory, the executive presidency should be within Mr Erdogan's reach. His alliance of Islamists and nationalists has become a magnet for those galvanised by the coup attempt in July. Mr Erdogan has fanned outrage over the failed coup and stoked fears of another to intimidate opponents and justify the arrests of up to 40,000 people, including about 100 journalists. Outside observers and the political opposition have recoiled at the scale of the crackdown. But nationalists and conservatives have embraced it, persuaded that Turkey faces an existential threat from plotters beholden to foreign powers. Some blame only the Gulen movement, an Islamic sect believed to have been involved in the coup; others add conspiracy theories involving Germany, America and Britain.

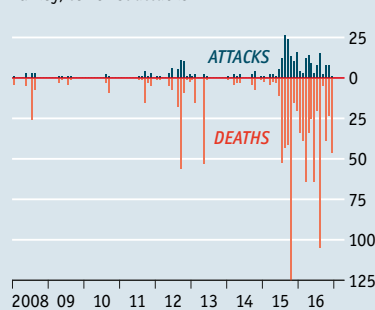
Yet Mr Erdogan is starting to face headwinds. The economy contracted by 1.8% in the third quarter, its worst performance since a recession in 2009. The lira is testing new depths; the government has asked people to defend it by selling dollars and euros. Support for the executive presidency hovers below 50%.

Mr Erdogan likes to cast himself as a cure for the chaos spreading across Turkey. Yet he is also one of its causes. Courting the nationalist vote, Mr Erdogan has ruled out peace talks with the PKK. Responding to PKK attacks against security targets in 2015, he inflamed the conflict by arresting Kurdish politicians, pulverising towns in the southeast, and displacing some 500,000 people. The offensive has dealt the PKK a hefty blow, but it has also pushed droves of desperate young Kurds into its arms.

Earlier this year, a PKK leader boasted that his group sought to topple Mr Erdogan's government. The threat now sounds hollow. Experience shows that Mr Erdogan's main enemies often turn out to be his most effective enablers. Turks and Kurds are left mourning their dead. ■

**Brutal surge**

Turkey, terrorist attacks



Sources: START, University of Maryland; press reports

## A landslide election in Romania

## Conviction politics

BUCHAREST

## The Social Democrats win despite a leader with a rap sheet

THE centre-left Social Democratic Party (PSD) entered Romania's parliamentary election on December 11th with what, in most countries, would be considered a handicap. Its leader, Liviu Dragnea, was convicted in 2015 of attempting electoral fraud three years earlier. But many see Mr Dragnea's conviction as politically motivated, and in Romania many parties are tainted by corruption. The PSD came first by a wide margin, winning 46% of the vote, well ahead of the centre-right National Liberal Party (PNL), which took just 20%.

The PSD's victory has led to worries that Romania's anti-corruption drive, a model for the region, may slow down. The country's independent National Anticorruption Directorate (DNA) prosecutes more than 1,000 people a year, and convicts most of them. Mr Dragnea is not the only PSD leader to fall foul of the DNA: a year ago Victor Ponta, then the prime minister, was forced to resign amid mass demonstrations. The DNA had charged him with forgery and conflicts of interest, and anger peaked after a blaze killed 64 people at a nightclub in Bucharest where inadequate fire-safety measures were blamed on graft.

Romania's president, Klaus Iohannis, has vowed not to appoint anyone convicted of corruption as prime minister. That could rule out Mr Dragnea, but several other PSD figures have been mooted. Any of them would probably form a coalition with the Liberal Democratic Alliance (ALDE), a small party that has attacked the anti-corruption agency and called for the resignation of its straight-arrow director, Laura Codruta Kovesi. And some see the victory of the PSD, which promised to raise the minimum wage and increase pension payments, as a sign that anger at cronyism is giving way to economic concerns. "It's a real test" of Romania's legislation, institutions and political parties, said Laura Stefan, an analyst at the Expert Forum, a think-tank in Bucharest.

Anti-corruption efforts have earned Romania praise from the European Commission, which reviews the country's governance each year as a condition of its accession to the European Union in 2007. On the corruption-perceptions index compiled by Transparency International, a watchdog, Romania improved its rank from 69th in the world in 2014 to 58th in 2015. Several other countries in the region have been getting dirtier. According to the

## Italy's new prime minister

## A new man in the ejector seat

ROME

## After Renzi's frenzy, a gentle Gentiloni

ITALY'S new prime minister, Paolo Gentiloni, could scarcely be less like his frenetic forerunner, Matteo Renzi. In place of a provincial toughie known as "The Demolition Man", Italy has acquired an affable Roman aristocrat with a preference for compromise. His inaugural speech to parliament on December 13th was memorable largely for its dullness.

Mr Gentiloni's cabinet, however, will be almost identical to that of his predecessor, who resigned after his plan to reform the constitution was rejected in a referendum. The composition of the new team suggested that the handover of power is more apparent than real, and that Mr Gentiloni is expected to keep the former prime minister's seat warm as Mr Renzi plots his return. Only one minister from the previous cabinet was dropped. Another, Maria Elena Boschi, who steered the reform bill through parliament, becomes Mr Gentiloni's under-secretary. That will give her control of the cabinet's agenda—and Mr Renzi a trusted associate at the centre of power. Angelino Alfano, the former interior minister, took Mr Gentiloni's place as foreign minister.

The new cabinet includes a minister for the south, which voted solidly against Mr Renzi in the referendum. Mr Gentiloni also refused a cabinet post to a band of conservative lawmakers who provided Mr Renzi with external support. That will make the new government a less easy target for critics (the right-wing group's leader has a conviction for aiding and abetting corruption). But it will be more vulnerable to parliamentary ambush. The government and its remaining allies have an assured majority in the lower house. But in the 320-member Senate they will be living from vote to vote.

Mr Gentiloni said his priorities would be creating jobs and tackling the damage



Two Italians walk into a palazzo

wrought by the earthquakes that have struck central Italy this year. Just as urgent are the problems of Italy's banks (see page 62), including the teetering Monte dei Paschi di Siena. But another immediate task is to pass a new electoral law.

Most of the opposition wanted a snap election after the referendum, as did Mr Renzi. But Sergio Mattarella, the president, who alone has the power to dissolve parliament, refused to call an election until the rules for the two houses were harmonised. The current law, passed in 2015 on the assumption the constitutional reform would succeed, only applies to the lower house. (The reform would have turned the Senate into an indirectly elected chamber.)

Mr Renzi needs an election before his momentum ebbs entirely. But electoral laws are incredibly difficult to agree on. It will take all Mr Gentiloni's conciliatory skills to frame a new one.

World Bank, Hungary has grown more corrupt under its prime minister, Viktor Orban, who has used cronyism to entrench his Fidesz party. Bosnia, Moldova and Serbia have stagnated or worsened. And there are worries about Poland, where the Law and Justice government embraces Mr Orban's populist model.

In Bulgaria, which joined the EU at the same time as Romania, the percentage of people who paid bribes doubled in the past five years, according to the Centre for the Study of Democracy, a think-tank in Sofia. After limited changes to the country's judiciary were passed by parliament in

2015, the justice minister, Hristo Ivanov, resigned in protest over their inadequacy. Judges marched in the streets in solidarity, some dressed in their court robes.

The European Commission's most recent review of Bulgaria urges the country to establish an independent anti-corruption body like Romania's. The president-elect, Rumen Radev, hinted during his campaign this summer that he might support such a move. That is unlikely to happen. The lesson many politicians have taken from Romania is that the more independent the prosecutor, the greater the likelihood they will land in jail. ■

Russia's Igor Sechin

# The oil boyar

MOSCOW

How a longtime aide to Vladimir Putin became an energy kingpin

“HELLO, you’ve called Rosneft,” goes a joke making the rounds in Moscow. “If you have an oil asset and you don’t plan to sell, press the hash key.” The Russian word for hash key, *reshetka*, also means “bars”, as in jail—where those who cross Rosneft’s head, Igor Sechin, tend to land.

Mr Sechin is one of the most feared men in Russia and an essential instrument of Vladimir Putin’s power. A major player among the *siloviki* (former and current members of the security services), he epitomises Russia’s nexus between political power and property. Despite being a target of American sanctions, earlier this month he succeeded in selling a 19.5% stake in Rosneft to Glencore, a commodities firm, and the Qatar Investment Fund, raising \$1bn. The deal, the biggest foreign investment in Russia since the start of the Ukraine crisis in 2014, pleased the Kremlin no end. “Putin needs that like he needs air,” says Olga Kryshantovskaya, a sociologist who studies the Russian elite.

Another boost to Mr Sechin’s prestige came with the nomination of Rex Tillerson, the boss of ExxonMobil, as America’s secretary of state. The two men’s long relationship was consummated by the deal they struck in 2011 for their firms to work jointly in the Arctic. Mr Sechin is now poised to become an intermediary between Moscow and Washington.

Mr Sechin has come a long way since the early 1990s, when he was the office coordinator for Mr Putin, then deputy mayor of St Petersburg. He owes his rise to his dogged work ethic, his loyalty to the president and his willingness to inflict pain on opponents. “When he first arrived in Moscow no one took him seriously,” says Stanislav Belkovsky, a pundit. “He showed everyone they were wrong.”

## Trusty sidekick

A native of Leningrad like Mr Putin, Mr Sechin studied at Leningrad University’s prestigious philology department. As a working-class child, he was “an outsider”, says a classmate. In the 1980s he went to Angola and Mozambique as a military translator (a common cover for intelligence agents, though Mr Sechin has never confirmed being one). He was “upset” when the Soviet Union collapsed, says Nikolai Konyushkov, a college friend.

After Mr Putin became deputy mayor in 1991, Mr Sechin ran his office, keeping a diary where he meticulously recorded the

contact details of visitors. “Igor is like that, he loves military discipline and subordination,” says Mr Konyushkov. When Mr Putin moved to Moscow, Mr Sechin trailed behind him at the airport, carrying a duffel bag. “He treated Putin as a god before Putin was a god,” says Konstantin Simonov, head of the National Energy Security Fund, a consultancy in Moscow.

Mr Sechin served as deputy head of Mr Putin’s presidential administration. “To see Putin, you had to go through Sechin,” says a former senior official. In 2004 Mr Putin appointed him head of Rosneft’s board. That is where Mr Tillerson, then an Exxon-Mobil executive, would first have seen him in operation. In 2003 ExxonMobil had been negotiating with Mikhail Khodorkovsky, the head of Yukos, Russia’s largest oil firm at the time, to buy 40% of the company. Instead Mr Khodorkovsky was arrested and jailed for ten years, and in 2004 Yukos was dismembered by the state, its assets swallowed by Rosneft. Mr Khodorkovsky claimed Mr Sechin was the driving force behind the attack.

The Yukos affair empowered the *siloviki* in the Kremlin. Unlike the oligarchs of the 1990s, who aimed to maximise their profits, the *siloviki* simply wanted control. And whereas Mr Sechin’s conflict with Mr Khodorkovsky was partly personal, Rosneft’s later takeover of Bashneft, a mid-sized oil producer, was pure business.



Burning bright

In 2014 Bashneft’s owner, Vladimir Yevtushenkov, was arrested after reportedly rebuffing Mr Sechin’s offer for the company. (Rosneft denies making any offers or having any involvement in the arrest.) Mr Yevtushenkov was released after he agreed to give up control. Initially Lukoil, Russia’s largest private oil firm, was seen as the most likely buyer; Alexei Ulyukaev, the economy minister, called Rosneft “unsuitable”. But Mr Sechin got Mr Putin’s support and paid \$5.3bn for the state’s stake in October. “The strongest one won,” says Leonid Fedun, Lukoil’s vice-president. The following month Mr Ulyukaev was arrested while allegedly accepting a bribe during a sting operation in Rosneft’s offices.

Rosneft’s links to Russia’s secret police, the FSB, work through “secondment”, a Soviet-era tradition restored by Mr Putin. Officers work undercover at important institutions, state or private. The operation against Mr Ulyukaev, for example, was led by Oleg Feoktistov, a senior FSB officer who became head of security at Rosneft.

## Oil spillover

Mr Sechin has been equally active abroad, where he sees Rosneft as a vehicle of geopolitical influence. “They’re trying to create a strong foundation, hence the consolidation inside Russia, from which to expand,” says James Henderson of the Oxford Institute for Energy Studies. Rosneft has signed partnerships with ExxonMobil, Eni, and Statoil. A \$270bn supply deal with China’s CNPC has helped resolve Rosneft’s cash-flow problem. More recently, Rosneft has invested in refineries in India; in natural gas in Egypt; and in a joint crude-processing venture in Venezuela. “He is looking at ExxonMobil and BP and Shell [as a model],” says a former Rosneft executive.

What matters to Mr Sechin is size, not value. His doctoral dissertation in 1998 on oil transport networks drips with contempt for market forces. Whereas market economies evaluate projects based on expected returns on investment, Mr Sechin praised the Soviet nuclear-weapons and space programmes, which he said operated on a different principle: “at any price necessary”.

Running Rosneft has made Mr Sechin a very rich man. His salary, including bonuses, ran to as much as \$11.8m in 2015. As stories about his allegedly lavish lifestyle have appeared in the Russian press, he has struck back. So far this year, Mr Sechin has won libel cases against the Russian publications *Vedomosti*, *Novaya Gazeta*, and *RBC*, a leading business publication. Mr Sechin is seeking to “become an untouchable topic, like the president’s family”, says Derk Sauer, a vice-president at Onexim, which owns *RBC*. “He feels himself to be a very important guy, a representative of the state, and anything you write can be perceived as an attack on the state.” ■

# Charlemagne | The sexiest job in Brussels

Europe's Brexit negotiators calmly prepare for disaster



“BREXIT is so fascinating!” exclaims a French official. Few Europeans wanted Britain to quit the European Union. But now that it is happening, foreign ministries and policy units across the EU are relishing the task ahead. As an intellectual exercise, managing the multifaceted complexities of Britain’s departure from the EU offers the kind of satisfaction rarely found in policy work. As a historic negotiation without precedent—no country has left the EU before, let alone one of Britain’s size and stature—it is a wonderful CV-builder. In Brussels, where the talks will take place, officials are scrambling to involve themselves with what one calls “the sexiest file in town”.

The preparations for Brexit on either side of the English Channel offer a Homeric parable of chaos and order. In Britain Theresa May, the prime minister, exudes swanlike calm, restricting her utterances on Brexit to warm banalities. But below the surface her government is paddling furiously to avoid being submerged by the awesome bureaucratic task bequeathed to it by Britain’s voters. One leaked note from a consultancy portrays a flailing government that needs up to 30,000 more civil servants to manage Brexit. Mrs May says she will notify the EU of Britain’s intention to leave under Article 50 of the EU treaty by the end of March 2017. That leaves barely three months to settle basic questions such as whether Britain should aim to stay in the EU’s customs union.

The contrast with the EU’s institutions, and the larger capitals, is striking. The 27 remaining EU countries quickly established a common line towards Britain on matters like the indivisibility of the EU’s single market. At a summit on December 15th, as *The Economist* went to press, they were due to issue a formal declaration outlining the format for the talks to come. The Brussels institutions have largely established their respective roles, bar a wobble from the European Parliament, and now spend their days in quasi-academic contemplation of trade models or security co-operation protocols as they wait for the games to begin. Officials everywhere insist that their priority will be preserving the interests of the EU, not keeping Britain happy. “This is a negotiation where we have to defend Europe, not undo it,” says Guy Verhofstadt, the European Parliament’s Brexit point-man.

European officials have refused to engage with Britain until Mrs May triggers Article 50. But they observe goggle-eyed the

spectacle unfolding across the Channel. Some British ministers appear to believe that the entire relationship can be recast, rather than merely the divorce settlement finalised, in the two-year period Article 50 allows. European negotiators who think it is essential to act as one are staggered to hear some ministers cling to the delusion that Germany’s need to sell cars to British motorists will ensure that Mrs May secures a good deal.

Gloom is thus descending on the European side. The EU will probably insist on settling the terms of Britain’s withdrawal before discussing future arrangements, and each is ripe for the fiercest of rows. Top of the list is the departure bill that the European Commission, which will lead the talks on behalf of the EU, will place before Britain. The commission puts the sum at up to €60bn (\$64bn), roughly equivalent to three-quarters of Britain’s projected budget deficit for 2016-17. Brexiteer diehards, and their allies in the pit-bull press, will transfer their fury from the domestic “Remoaners” they accuse of holding up Brexit to perfidious Europeans making outrageous demands. One EU official puts the chances of Britain walking out of the talks next year at 50%.

Even if catastrophe can be averted, the negotiations will offer endless opportunities for rancour. Take the question of what to do with the 2.8m EU citizens living in Britain and the 1.2m Britons in the rest of the EU. At first blush it seems simple: both sides agree to guarantee the ongoing rights of citizens who arrived before a given date—perhaps the notification of Article 50. Indeed, Mrs May has sought to strike such a deal before beginning the formal withdrawal talks (concerned that she was seeking to play divide-and-rule, her European counterparts rebuffed her).

But closer inspection reveals a never-ending string of complexities. Do governments have the administrative wherewithal to process applications for permanent residence? Will the children of EU citizens have the right to cheap university tuition? What about accrued pensions or other benefits? None of these questions is intractable. But each requires detailed negotiations and technical work. The same goes for other matters to be tackled in the withdrawal talks, from the pensions of British Eurocrats to the management of safety at Britain’s nuclear plants. Untangling a 43-year-old relationship, it turns out, is devilishly complicated.

## Triumph of the won’t?

This in turn explains why concluding a separation deal within two years will not be easy. (In fact the months needed for procedural matters and ratification will cut the negotiation time to around 15 months.) The scale of the task, and the economic thump many Europeans think is heading Britain’s way—inflation, diverted investment and swooning public finances—mean some still harbour a hope Brexit may be averted. But that misreads the British mood. If things turn sour the blame will be heaped not on Brexit, but on the obstructionist EU.

The ingredients for Brexit—a departing country confused about its leverage, a club distracted by other problems and determined to avoid more fractures, a procedure without precedent, a tight deadline—make a combustible mix. Yet both sides should feel the historic weight of these talks. Although Britain will be the first victim if things go wrong, a club assailed by crisis on all sides knows it cannot afford to oversee a Brexit debacle, however fascinating the exercise. For the EU, at least, that means placing hope in a British government that it fears may not warrant it. “From a rational point of view, we can’t fail,” says an official in Brussels. “But I’m not sure the rationality is there in the UK.” ■




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**Business and Brexit**

## When the red tape unravels

**Many British industries have been shaped by European Union law. They may find that much of it remains long after Brexit**

**A**NOTHER week, another EU regulation: number 1169/2011, to be exact, concerning “food information for consumers”. Like much that comes out of Brussels, it sounds innocuous, but has already had far-reaching and costly consequences. The new rules, which came into force on December 13th, specify font sizes on food labels, require details on allergens in prepared food and a lot more. They may improve safety, but they have forced producers to rejig their manufacturing processes once again.

The breadth of EU regulation in the food industry is extraordinary, covering everything from hygiene to storage, says Helen Munday, the chief scientific officer at the Food and Drink Federation, a lobby group. Conforming to these rules over the past four decades has shaped an industry that now employs 400,000 people in Britain. The Europe-wide regulations are a faff, but they allow British firms to trade on equal terms with other companies in the EU’s single market and maintain seamless supply chains across the continent, without lengthy inspections of imported Italian mushrooms at national borders.

Executives and lawyers are now scrambling to understand how Brexit, and the likely withdrawal of much EU regulatory oversight, will reshape British business. As the government prepares for divorce negotiations, firms must identify the pitfalls and opportunities presented by the coming

new regulatory order.

Those expecting a post-Brexit bonfire of paperwork may be disappointed. The government sensibly plans to import all existing EU rules into British law via a (misleadingly named) Great Repeal Bill; any unwanted regulations will be abolished only gradually. And if Britain wants to go on trading with its neighbours, its exporters will have to keep following their rules. Nearly half of Britain’s exports go to the EU. European countries will still demand compliance with their environmental, safety and other standards, so Britain may decide to keep many of these on the statute books.

Those industries that depend on complex supply chains and “just-in-time” deliveries will be most affected, says John Fingleton, a former competition regulator. British carmakers dread the bottlenecks at ports that could be caused by customs inspections and paperwork, holding up the imported parts that keep their factories going. “Lean manufacturing” requires them to hold little stock; a couple of days’ delay of one part could have greater knock-on effects. Remaining a member of the EU’s customs union would avoid this problem—though it would also prevent Britain from signing free-trade deals with third countries, a key aim of Brexiters.

The EU’s environmental regulations are among those most complained about by Brexiters. Take the End of Life Vehicles Di-

rective. As of last year, 95% of every new car sold in the EU has to be reusable or recyclable. In theory, Britain could opt out of such rules after Brexit, reducing carmakers’ costs. Yet it is unlikely to. One reason is to maintain the ability to export to Europe. The other is that Britain itself has been one of the strongest advocates in Brussels of stricter environmental laws.

Something similar is true in competition policy, where free-market Britain has been a big force behind beefing up EU law. Decisions on mergers and takeovers in telecoms are referred to the European Commission by Britain’s domestic regulator, Ofcom; on leaving the EU these powers will be repatriated. In practice, it may make little difference. In May, for example, the commission blocked the proposed takeover of O2, a mobile-phone operator, by Three, a rival—but this had already been recommended by Ofcom itself. “We wouldn’t see very different outcomes,” believes Andrew Griffith, an executive at Sky, a broadcaster and mobile operator which is the target of a takeover bid by 21st Century Fox (see page 55). He points to other transnational regulations—co-ordinating radio frequencies, for instance—which Britain will remain within.

There is more concern regarding the replacement of regulatory bodies. Britain’s life-sciences firms, which do nearly half their business with the EU, worry that if the European Medicines Agency ups sticks from London they will lose influence. Similarly, food companies fret that after Brexit they will lose access to the pooled expertise of the European Food Safety Authority. Setting up new domestic regulators will take time and money.

Public procurement, worth about £240bn (\$300bn) a year in Britain, has also been shaped by European regulations. ►►

▶ Central governments have to put out to competitive tender any contract worth over €135,000 (\$143,000). According to Ali Nikpay, a partner at lawyers Gibson Dunn, this obligation could be abandoned on Brexit, so contracts for supplying police cars, for example, could be awarded to domestic carmakers instead of foreign ones.

This could tempt the government into industrial policy by stealth, especially as the prime minister, Theresa May, has announced her interest in promoting an as yet ill-defined “industrial strategy”. State aid is subject to the World Trade Organisation’s anti-subsidy rules, but the government could choose to interpret those rules more loosely than Brussels has done.

Yet anti-competitive tendering would rip off taxpayers. Serco runs prisons, and

much else, for Britain’s government, but its boss, Rupert Soames, says that EU rules work in the public interest. It would be “utterly wrong in principle” to encourage monopolies at home, he says. Britain might have to set up its own body to monitor state aid, if it is to convince the EU that its firms are competing fairly for public authorities’ business in the EU, which is worth about 14% of the union’s GDP. And if Britain favoured its own firms at home, that could invite a tit-for-tat response from European governments, warns Mr Nikpay.

Britain’s business landscape has indeed been shaped by EU regulations. Yet it will find that leaving the union does not mean it can ignore them. The main difference after Brexit will be that Britain no longer has a say in how those rules are written. ■

17% across the rest of England and Wales. But in London the number of community-support officers, civilian staff used to bolster the police who are often the ones seen in the streets, has plunged from 3,832 in October 2011 to 1,480 today. Mr Smith is keen to make sure his BOGOF officers are out in Brixton. After dealing with an aggressive beggar in a Brixton coffee shop recently, they handed the case over to the local police to avoid being tied up in court for days.

With money for policing in short supply (the Met’s budget has been cut by almost a fifth since 2011), those paying for extra officers want to make sure they are exactly that—extra. Mr Smith checked Brixton’s policing numbers and rotas carefully before his officers started work. The Met is allowed to recall BOGOF officers in emergencies, such as riots, but they are not meant to replace normally funded police.

Such schemes raise some uncomfortable questions. What happens if the priorities of those paying for the officers do not align with those of the Met? Councils insist that no conflict has arisen so far, but the potential surely exists. Increasing the number of police in one area might result in crimes being displaced elsewhere. Gavin Hales of the Police Foundation, a think-tank, wonders if such schemes risk creating a two-tier police economy, with rich areas able to afford more officers, even if they need fewer.

Residents and community groups can theoretically hire their own BOGOF officers, though none has to date. In Hampstead, a posh bit of London, residents last year stumped up £210,000 in four weeks to pay for officers through the scheme. They were unable to get the idea off the ground after meeting some institutional resistance; Jessica Learmond-Criqui, one of those involved, reckons they were seen by some as wealthy types trying to get more protection. Expect more such arguments if the ranks of BOGOF bobbies grow. ■

## Police for hire

# BOGOF bobbies

### London’s police force offers a buy-one-get-one-free deal on officers

FROM the platform outside his office, high in a building made of chilly shipping containers, Michael Smith can gaze down upon the bright lights of Brixton. He is the director of the Brixton Business Improvement District, a group of local businesses keen on improving the area. In this part of south London, which has seen an extravagance of bars, clubs and restaurants appear in recent years, that includes making the streets safe. To do so, since August the organisation has been paying for two extra police officers through MetPatrol Plus, a scheme run through the London mayor’s office. As the police are squeezed, such ideas have growing appeal.

MetPatrol Plus has been in place since 2008 (a variation of it existed before then). It is dubbed “buy-one-get-one-free”, or BOGOF, policing; local authorities, business improvement districts and parish councils pay for police officers and the Met then matches their funding, meaning areas get two cops for the price of one. Prices range from £66,000 (\$84,000) a year for a constable to £95,000 for an inspector. Across 24 of London’s 32 boroughs 348 officers are currently funded in this way.

The extra coppers can be used to tackle particular local concerns. In Newham they accompany council officers to deal with dodgy landlords. Brent wants them to focus on dealing with gangs and violence against women and girls. In Brixton they work with nightclubs to crack down on drug-dealers and pickpockets. Mr Smith’s business organisation has provided its two officers with mobile phones so companies

can contact them directly.

Boosting police numbers might lessen Britons’ long-standing anxiety about their visibility. Changes in crime trends and policing methods, as well as budget cuts, mean fewer officers walk the streets. In June the head of the National Police Chiefs’ Council said the era of bobbies on the beat was ending. According to a poll in August by Ipsos MORI, a third of people said they had not seen a uniformed police officer in their local area in the past year.

The capital has lost fewer officers than other forces—just 4% between March 2010 and March 2016, compared with a fall of



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# Bagehot | The breaking of Boris Johnson

Theresa May is transforming the role of the cabinet



EVERYTHING in politics comes back to Machiavelli in the end. That much Friedrich Schiller understood. From the 18th century dramatist's pen flowed imperfect, squishily human characters who have read "The Prince" and know that to exert their will in the world they must become iron. Take "Mary Stuart", his play about the Queen of Scots, now on at the Almeida Theatre in London. Elizabeth I is loth to sign her cousin and rival's death warrant until, in a sylvan encounter, Mary fails to show due humility. Schiller depicts a side of Gloriana that England opts to forget: even dear Old Bess had to be cynical, sly and brutal to keep power in her society. She had to break people.

Bagehot would not reach for the comparison if Theresa May did not do so herself. The prime minister has named Elizabeth the historical figure with whom she most identifies: "She stood up for Britain...had a very clear vision about what she wanted to do." And there is something there: images of the munificent, nation-uniting leader (the prime minister's party is close to its highest poll numbers in decades) up against perfidious continentals mingle awkwardly with the brutality she patently feels she has to mete out to stay on top.

Consider Boris Johnson. The foreign secretary is no Queen of Scots. Mrs May would lose little sleep over finishing him off (politically, at least). Yet like Schiller's Elizabeth, she is intensely suspicious of prospective rivals, especially ones who do not defer to her authority and threaten to upset her plans. Mr Johnson ticks those boxes: routinely veering off message, issuing freelance policy announcements and flashing Eurosceptic ankle at Tory MPs who are destined to be disappointed by Mrs May's efforts in Brussels next year.

The prime minister has responded with jaw-dropping ferocity. When the man she made foreign secretary only five months ago (correctly) accused Saudi Arabia of conducting proxy wars in the Middle East he was publicly disowned: the comments were "not the government's position". This, after a torrent of prime ministerial mockery: "I seem to remember the last time he did a deal with the Germans he came back with three nearly new water cannon," she tweaked in the summer, when the two were rivals for the top job; in her October conference speech she feigned shock that he had stayed "on message for a full four days"; in Par-

liament on December 14th she allowed that her acronym for him was FFS ("Fine Foreign Secretary", she explained, though the hint was something else). Most striking was a joke last month in which—referring to an account of Michael Heseltine, a former deputy prime minister, strangling his mother's dog—she looked her foreign secretary in the eye and boomed: "Boris, the dog was put down...when its master decided it wasn't needed any more."

Notwithstanding a dry private wit, Mrs May is not the sort who takes humour lightly. Her mockery of Mr Johnson serves a purpose: control. This speaks to her statecraft, which differs substantially from that of David Cameron. Her predecessor ran what might be described as a liberal dictatorship. The major decisions were reached in a tight cabal containing the prime minister, George Osborne and their advisers. The cabinet made relatively few big, meaningful decisions. Yet day to day, individual ministers were mostly free to run their fiefs as they saw fit: Michael Gove to enact his education revolution, Iain Duncan Smith to try (and broadly fail) to overhaul the welfare system, Mrs May to run the Home Office as a sort of private fortress.

Under her premiership things could hardly be more different. The cabinet makes real decisions. Its subcommittees plunge into the details. Ministers are expected to know each other's patches. To rub it all in, the prime minister gave them a bound collection of past cabinet transcripts for Christmas: the cabinet is back, is the message. Individually, however, ministers are weak. David Davis, the Brexit secretary, has received the "not speaking for the government" treatment. Justine Greening, the education secretary, must bang the drum for new grammar schools despite her own doubts. Philip Hammond, though friendly with Mrs May and outspoken on Brexit, eschews the imperial ostentations of most of his recent predecessors. The prime minister has appointed her own economic adviser. She has also ordered the seizure of the phone and e-mail records of ministers suspected of leaking news to the press. The braver in their midst, and top civil servants, whisper of the U-turns and bottlenecks caused by the requirement that policies go through Nick Timothy and Fiona Hill, Mrs May's granitic chiefs of staff, and by the verbal invigilations the prime minister puts them through before approving things.

## Full throttle

This *Sturm und Drang* extends beyond the cabinet. Mrs May did not just dismiss Mr Osborne and Mr Gove when she took office; she gave each a dressing down in the process. Gavin Williamson, her parliamentary enforcer, lets a tarantula named Cronus (after the castrator of Greek myth) scuttle about his desk during meetings—supposedly to intimidate MPs. When Nicky Morgan, the former education secretary, made a snippy remark about a pair of leather trousers worn by the prime minister, Downing Street blew a gasket: "Don't bring that woman to No 10 again," stormed a text from Ms Hill to another former minister.

It pays to mark the limits of what one might call Mrs May's autocratic democracy. Mr Timothy is not, as some accounts put it, a "Rasputin". Ms Hill is neither truly "terrifying" nor "paranoid". And the prime minister did not "threaten to exterminate" Mr Johnson. Yet there is something of Elizabeth about Britain's still new and little-understood prime minister. She is severe and pugilistic, more so than her predecessor. Done right—as Schiller implied in "Mary Stuart"—this mastery of the will is the essence of power. Done wrong, Machiavelli warned, it leads to enemies, resentment and downfall. It's all in the execution. ■





### Pax Trumpiana

## Allies and interests

### America's friends are preparing for a bumpy ride

**S**URPRISED and shaken by Donald Trump's victory, America's allies are hoping for the best while desperately seeking guidance on what his presidency might mean for them. Mr Trump's statements on the campaign trail were contradictory and often disturbing. Many countries see the 70-year-old Pax Americana as a source of security and prosperity. That the president-elect might place little value on this system of alliances and rules is as incredible to many as it is alarming.

Since the election, Mr Trump has made some moves to calm such fears. Foreign leaders who have spoken with him report that he was friendly and largely reassuring. Before the election he had suggested that Japan, for example, should either pay America a lot more for its defence or build its own nuclear forces. But after meeting him on November 17th Shinzo Abe, Japan's prime minister, declared himself "convinced that Mr Trump is a leader in whom I can have confidence". Katsuyuki Kawai, a senior aide to Mr Abe, said that members of Mr Trump's transition team had told him that not all of the president-elect's pre-election remarks should be taken literally.

South Korea, too, was identified during the campaign as a free rider that could be left to defend itself from its nuclear-armed neighbour, north of the 38th parallel. But in a telephone call with its (soon-to-be-

ousted) president, Park Geun-hye, Mr Trump said that he would uphold America's security alliance with South Korea and maintain a "strong, firm" defence posture in the region.

Mr Trump had also described NATO as "obsolete" and suggested that America would come to the aid of a threatened member only if it had paid its dues. But in a call with the security alliance's secretary-general, Jens Stoltenberg (who diplomatically thanked him for having raised the issue of inadequate European defence spending), Mr Trump spoke of NATO's "enduring importance" and discussed how the alliance was adapting to new threats, in particular, countering terrorism.

The only one of America's big allies publicly to hint at disquiet has been Germany's chancellor, Angela Merkel. Before speaking to Mr Trump, she said that Germany and America were "bound by common values" such as democracy, freedom and respect for the rule of law. It was on that basis that the two countries, and leaders, could co-operate, she said. Her statement was interpreted by some as a willingness to champion those values, should Mr Trump fail to.

Amid all the mixed signals, the truth is that America's allies have no real idea what they are dealing with. What, for example, is India's prime minister, Narendra

Modi, to make of the call between Mr Trump and Pakistan's prime minister, Nawaz Sharif? America's relationship with Pakistan is severely strained by its security service's covert support for the Afghan Taliban and other jihadist groups. But according to the transcript published by the astonished Pakistanis, Mr Trump called Mr Sharif "a terrific guy", offered to come to his "fantastic country, fantastic place of fantastic people" and declared himself willing "to play any role you want me to play to address and find solutions to the outstanding problems". To Indian ears that sounded like a highly unwelcome proposal to mediate in the two countries' territorial dispute over Kashmir.

### The view from Trump Tower

Mr Trump's world view is shaped by a set of beliefs that he has held since the 1980s, argues Thomas Wright of the Brookings Institution, a think-tank in Washington. These are quite unlike those held by any American president since the second world war. "He believes that the US has been taken for a sucker by other countries because of trade deals and security commitments," says Mr Wright. By studying Mr Trump's public statements over the past 30 years, he concludes that the president-elect thinks that America has no strategic interest in military engagement in Asia or main- ▶▶

▶ taining troops in Europe. In the Middle East, he has talked about forcing Kuwait to hand over a quarter of its oil revenues as payment for its security and said that Saudi Arabia “would not be around” were it not for “the cloak of American protection”.

Presidents from Jimmy Carter to Barack Obama have lamented the failure of America’s allies to pull their weight. But there is a big difference between Mr Trump’s views on burden-sharing and those of his predecessors. Mr Obama would have been delighted if every other NATO member honoured its obligation to spend at least 2% of GDP on defence (only Britain, Estonia, Greece and Poland now do; see chart). But what Mr Trump seems to want is that America’s allies in the western Pacific and Europe write a cheque to cover the entire cost of keeping American forces on their territory, which he says amounts to “trillions of dollars” over the years.

Realistically, there is little likelihood of a Trump administration turning these ideas into policies. But a peculiarity of his campaign is causing great uncertainty for America’s allies, says Mike Green, a foreign-policy adviser to Mitt Romney during his presidential run who now works at the Centre for Strategic and International Studies (CSIS) in Washington. Usually, the transition from campaign to administration involves the candidate’s policy wonks working from his speeches to produce a coherent platform. But Mr Trump had no serious policy advisers before his election, and most of his instincts about foreign policy are “unexecutable”.

Mr Green thinks that the president-elect’s inner circle will strive to get as close to his “original intent” as possible, but the bureaucracy will push back. In past administrations, the ideologues whom presidents have brought into office with them have tended to disappear over time as their policy preferences collide with reality: Ronald Reagan got through six national-security advisers in eight years. And comfortingly for worried allies, Mr Trump’s pick for defence secretary, retired Marine General Jim Mattis, is a soldier-scholar with long experience of fighting alongside partners. He is utterly committed to America’s forceful engagement in upholding the liberal international order.

Against that, Mr Trump is showing no sign of being weighed down by the dignity of office. His appointment as national-security adviser, retired General Mike Flynn, is a prickly character given to conspiracy theories and Islamophobic rhetoric. And his choice of Rex Tillerson to be secretary of state, announced on December 13th, is disconcerting. The chief executive of ExxonMobil is well-travelled and a consummate dealmaker. But his personal ties with Vladimir Putin, long business relationship with Rosneft (Russia’s state-owned oil firm) and opposition to the sanctions im-

posed on Russia after its invasion of Ukraine are ringing alarm bells in the capitals of NATO members.

“Mr Trump’s approach will be ‘transactional,’” says Andrew Shearer, a recent Australian national-security adviser now at CSIS. “His narrative is very much about the cost of alliances. He will want to know how allies are helping US interests.” The biggest unknown, Mr Shearer thinks, is Mr Trump’s attitude to China. He clearly wants to go on the offensive on economic issues, but does he see a link between geopolitical assertiveness and the value of allies in helping America achieve its aims?

Will Mr Trump’s phone call with Taiwan’s president, Tsai Ing-wen, on December 2nd create trouble for allies in the region? Mr Trump appeared to question the “One China” policy (whereby America has long acknowledged that the governments in Taipei and Beijing both agree that there is only one China, even though neither recognises the other as ruler of it). China reacted furiously.

Will China now stop co-operating with America over sanctions relating to North Korea’s nuclear programme? And will Mr Trump proceed with his predecessor’s plans to base rotational forces in Vietnam and the Philippines as a deterrent to Chinese bullying in the South China Sea? Those were in jeopardy after Mr Obama criticised the murderous anti-drug campaign of Rodrigo Duterte, the Philippines’ president. But in a phone call, Mr Trump reportedly had only praise for Mr Duterte, whose utterances are even less restrained than his own. (Mr Duterte has called the pope a “son of a whore” and this week boasted of having personally killed suspected drug-dealers, though no one knows if he is bluffing.)

America’s allies can make some educated guesses about Mr Trump’s administration. Curbing jihadist terrorism will be a priority. With General Mattis at the Pentagon and General Flynn urging him on, a more muscular approach to destroying Is-

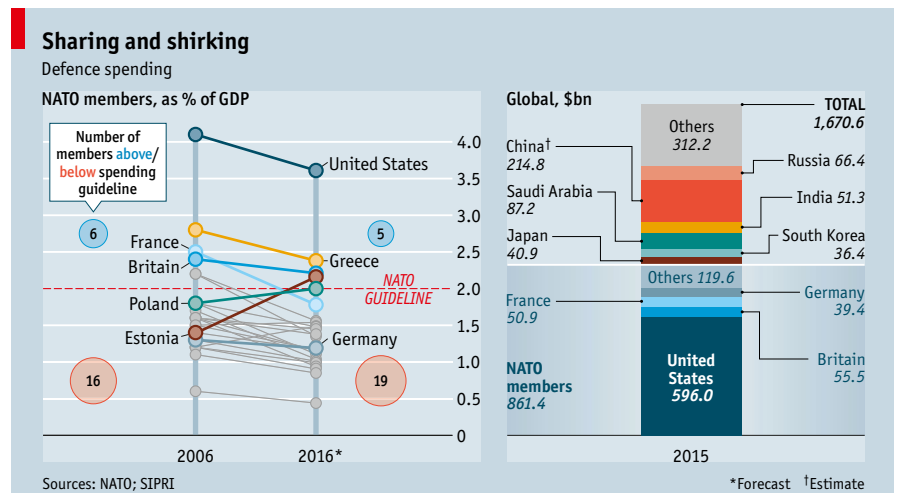
lamic State (IS) in Syria and Iraq is probable, although what will follow is a mystery. More troops are likely to be sent to Afghanistan to contain the Taliban, though no one knows how many or for how long. Afghans fret that Mr Trump’s views on their country have been wildly inconsistent. He once tweeted: “It is time to get out of Afghanistan. We are building roads and schools for people that hate us.” Later he said that American troops should “probably” stay because the state would “collapse about two seconds after they leave”. “No one can tell you [what’s going to happen],” says an Afghan official. “We’re very worried,” says another.

Mr Obama’s attempt to improve relations with Iran by encouraging would-be reformers is likely to be shelved. Although General Mattis thinks the nuclear deal struck in 2015 worth preserving, he was sacked by Mr Obama from running Central Command (which covers an area from Egypt to Pakistan) because he continued to see Iran as an unrelenting threat that had to be countered.

**Shouldering the burden**

Mr Trump will surely insist that America’s allies spend more on defence and more towards the cost of maintaining its forces in their countries. The Pentagon will get extra cash, which will go towards a bigger navy and modernised nuclear forces. Both are potentially positive for allies, says Mr Shearer, because they boost deterrence.

Despite Mr Trump’s remarks during the campaign, the allies who may have least to fear are Japan and South Korea. That is partly because they have a good story to tell, argues Mr Green: “Their defence budgets are growing and they want to do more.” Japan has loosened the restrictions that had been imposed by its pacifist constitution on contributing to missions that go beyond self-defence. It is playing a bigger role in regional maritime security. South Korea’s military spending is rising by 7% a year; it fields half a million well-▶▶



► equipped troops and is investing in a new missile-defence system. Both countries pay around 40% of the cost of hosting American forces (54,000 in the former and 28,500 in the latter). They are also hoping that their commitment to the alliance will be measured not just in dollars but by their willingness to take more risk and responsibility and to build military forces that can operate well with their American allies.

According to a South Korean official who has experience of negotiating with the Americans, when the current five-year financial-support agreement comes up for renegotiation in 2018, Mr Trump's concerns about burden-sharing will be taken into account. However, by then North Korea's vile regime may be just a couple of years away from being able to launch a nuclear strike, not only on South Korea but also on Washington. He notes that South Korea is very close to a resurgent Russia, and to an increasingly assertive China. The implication is clear: America's own security interests are more entwined than ever with those of the region, making it a peculiar time to consider scaling back its military presence.

Opinion polls suggest that Americans' support for defending South Korea and Japan remains solid, at around 70%. Many Trump voters will also be well aware of the hundreds of thousands of well-paid American jobs in manufacturing created by Japanese and South Korean firms. Backing for NATO, however, is softer. The latest poll by the Pew Research Centre found that just 53% of American voters—and just 43% of Republicans—support the alliance.

Since the 1970s, American presidents have periodically inveighed against the “free riding” of European allies. The problem became worse in the 1990s in the rush to claim a peace dividend after the end of the cold war, and worse still because of budget-tightening after the 2008 financial crisis. But the oft-quoted number that America's defence budget accounts for 72% of NATO spending is somewhat misleading. It reflects America's global reach, not just what it spends on defending the North Atlantic. Even so, says Mr Stoltenberg, the imbalance is untenable. Germany, which has more budgetary room for manoeuvre than any other NATO country, spends a paltry 1.2% of its GDP on defence.

But European complacency has been jolted by Russia's annexation of Crimea, frequent large-scale military exercises by Russian forces close to NATO's border, constant probing of NATO's air defences and Mr Putin's thinly veiled nuclear threats. Last year its defence spending stopped falling; this year it will increase by 3%. Mr Trump's strictures may provide further impetus, says Sandy Vershbow, a former deputy secretary-general of NATO. Next year's NATO summit could provide an opportunity for every member to make a firm com-



### Transactions cost

mitment to reach the 2% target within five years, with more money being made available to “project stability” outside Europe.

In his telephone call with Mr Trump, Mr Stoltenberg outlined the ways in which the alliance is adapting to meet new threats, including transnational terrorism, cyber warfare and mass migration, which even a fortress America cannot tackle alone. Sir Nigel Sheinwald, a former British ambassador in Washington, reckons that European allies should frame their arguments to appeal to the new president by pointing out the commercial interest America has in European security and the extent to which the economies of the European Union and America are integrated.

If Mr Trump listens to General Mattis, he will be reminded of how America's NATO allies both answered the call and stayed the course in Afghanistan. But the idea of NATO as a “community of destiny”—an alliance of like-minded people with shared values who stand by each other through thick and thin—is “unlikely to cut it with Mr Trump”, says Mr Vershbow. He fears that Mr Trump will quickly strike a deal with Mr Putin over Ukraine, which would be “very divisive”. Some NATO members might go along with it; others would be appalled.

America's allies in the Middle East have more to ponder on than they may yet realise. Ken Pollack, a former CIA analyst now at the Brookings Institution, says that they appear “very confident” that Mr Trump will be an improvement on Mr Obama: “He hates Iran; we hate Iran.” The hawkish Israeli prime minister, Binyamin Netanyahu, will applaud any attempt to put Iran back in its box. At least in the short term, America's relationship with Israel will be under less stress: Mr Trump has shown little interest in reviving the moribund peace process with the Palestinians. Egypt and most of the Gulf states will be thrilled if Mr Trump follows through on a promise to

designate the Muslim Brotherhood as a terrorist organisation, which would make it easier to justify repressing them.

But there should be uneasiness, too, says Jon Alterman, a Middle East analyst at CSIS. Many in the region are uncomfortable about the way Mr Trump and General Flynn characterise Islam. Mr Trump has said that “Islam hates us”; General Flynn once tweeted that “Fear of Muslims is RATIONAL...”. Much though the Saudis would welcome a tougher stance towards Iran, their widely criticised and inconclusive military intervention in Yemen has given them reason to doubt their ability to manage the consequences of a forceful Iranian pushback. Mr Pollack predicts that if Mr Trump does indeed team up with Russia to destroy IS in Syria, as he has suggested he will, the result would be to hand victory in Syria's civil war to its president, Bashar al-Assad, and his main backer, Iran.

And what of Iraq, where any prospect of creating order from chaos will depend on America thwarting Iran's strategy of turning it into a Shia fief? Jordan, too, will require support to survive the destabilising consequences of the war in Syria. The idea of just “taking swings” at jihadists will not work, says Mr Pollack. Mr Trump may dislike the region even more than Mr Obama, “but it sucks you back in”.

Mr Trump has indicated that with America no longer needing Middle East oil it can leave the Saudis to look after themselves. At the very least, he will demand they stump up even more if American military support is to continue. But if Mr Trump's carbon-friendly energy policies keep oil prices low, they may struggle to find the money. To preserve at least the notion of a strategic alliance, Mr Alterman thinks the Saudis' best bet will be to point out what their unique intelligence networks bring to the fight against terrorism.

### Buckle up!

Soon America's allies will be able to stop guessing about the effects of Mr Trump's presidency and start to deal with the reality. They will be able to gauge much from his words and behaviour at the next NATO summit, which may be as early as spring, and the G7 meeting in the summer—assuming, that is, that he shows up.

One possibility is that, after all the campaign bluster, Mr Trump turns out not to be particularly interested in foreign policy. Much of the responsibility for managing America's alliances would then fall to General Mattis, Mr Tillerson and congressional leaders of a more traditional conservative bent. The other is that some kind of Trump doctrine emerges—and that it throws America's alliances into turmoil. It is a measure of just how much Mr Trump differs from his predecessors that nobody, perhaps not even the president-elect himself, knows which of the two it will be. ■



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Artificial intelligence

# Google's hippocampus

## Alphabet has plenty of AI expertise, so why does it need DeepMind?

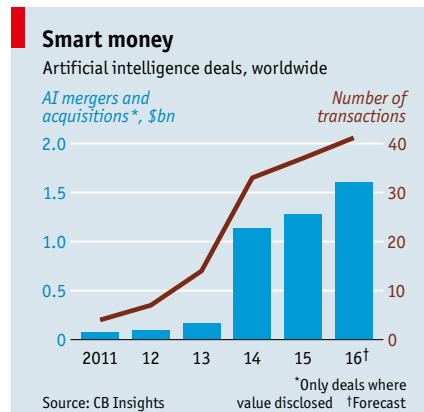
DEEPMIND'S office is tucked away in a nondescript building next to London's Kings Cross train station. From the outside, it doesn't look like something that two of the world's most powerful technology companies, Facebook and Google, would have fought to acquire. Google won, buying DeepMind for £400m (\$660m) in January 2014. But why did it want to own a British artificial-intelligence (AI) company in the first place? Google was already on the cutting edge of machine learning and AI, its newly trendy cousin. What value could DeepMind provide?

That question has become a little more pressing. Before October 2015 Google's gigantic advertising revenues had cast a comfortable shade in which ambitious, zero-revenue projects like DeepMind could shelter. Then Google conjured up a corporate superstructure called Alphabet, slotting itself in as the only profitable firm. For the first time, other businesses had their combined revenues broken out from Google's on the balance-sheet, placing them under more scrutiny (see next article). But understanding DeepMind's worth is not a simple financial question. Its value is deeper than that.

DeepMind's most immediate benefit to Google and Alphabet is the advantage it gives in the strategic battle that technology companies are waging over AI (see chart). It hoovers up talent, keeping researchers away from competitors like Facebook, Mi-

crosoft and Amazon. The Kings Cross office already houses about 400 computer scientists and neuroscientists, and there is talk of expanding that to 1,000.

Another boost to the mother ship comes in the form of prestige. DeepMind has reached the cover of *Nature*, a highly regarded academic journal, twice since it was acquired. Gigantic copies of the relevant covers adorn the walls of the office lobby. The first was for a video-game-playing AI programme the second for one that learned to play the ancient Asian board game of Go. Named AlphaGo for its parent, that software went on to make headlines around the world when it beat Lee Sedol, a South Korean champion, in March 2016 (the match is pictured above).



DeepMind's horizons stretch far beyond talent capture and public attention, however. Demis Hassabis, its CEO and one of its co-founders, describes the company as a new kind of research organisation, combining the long-term outlook of academia with "the energy and focus of a technology startup"—to say nothing of Alphabet's cash. He founded it in 2010, along with Mustafa Suleyman and Shane Legg. Mr Legg and Mr Hassabis met as neuroscience researchers at University College, London; Mr Suleyman is a childhood friend of Mr Hassabis's.

The firm's overall mission, as Mr Hassabis puts it, is to "solve intelligence". This would allow the firm to create multifunctional, "general" artificial intelligence that can think as broadly and effectively as a human. Being bought by Google had several attractions. One was access to the technology firm's computing power. Another was Google's profitability; a weaker buyer would have been more likely to require DeepMind to make money. This way Mr Hassabis can focus on research rather than the detail of running a firm. And by keeping DeepMind in London, at a safe distance from Google's Silicon Valley base in Mountain View, he can retain more control over the operation.

Were he to succeed in creating a general-purpose AI, that would obviously be enormously valuable to Alphabet. It would in effect give the firm a digital employee that could be copied over and over again in service of multiple problems. Yet DeepMind's research agenda is not—or not yet—the same thing as a business model. And its time frames are extremely long. Mr Hassabis says the company is following a 20-year road map. DeepMind aims to invent new kinds of AI algorithms, he adds, that are inspired by the way the human brain works. This explains the firm's large

▶ number of neuroscientists. Mr Hassabis claims that seeking inspiration from the brain sets his firm far apart from other machine-learning research units and in particular from “deep learning”, the powerful branch of machine-learning that is being used by the Google Brain unit.

Even if DeepMind never achieves human-level (or indeed, superhuman) artificial intelligence, however, the learning software that it creates along the way can still benefit other Alphabet businesses. This has already happened. In July the company announced that its learning software had found a way to reduce the quantity of electricity that is needed to cool Google data centres, by two-fifths. The software learned about the task by crunching data-centre operation logs, and then optimised the process by running it over and over again in a simulation.

DeepMind is also applying its AI research to solve problems in its own right. Mr Suleyman, who leads these efforts, has expressed an ambition for DeepMind to help manage energy infrastructure, hone health-care systems and improve access to clean water, in return for revenue streams. The company has already started on health care. Its first paid work came in November in the form of a five-year deal with the Royal Free London, an NHS Foundation Trust, to process 1.7m patient records. Earlier this year it gained access to two data sets from other London hospitals: one million retina scans that it can mine and thereby identify early signs of degenerative eye conditions, and head and neck cancer imagery which, fed into its models, will allow DeepMind’s AI to distinguish between healthy and cancerous tissues.

### Da Neu Ron Ron

Skilful programmers and powerful computers are crucial to this applied AI business. But access to data about the real-world environment is also vital. When systems like hospitals, electricity grids and factories are targeted for improvement using AI and machine learning, data about their specific operations are needed.

Alphabet, of course, holds huge volumes of data that can be mined for these purposes. But DeepMind will have to acquire lots more in each of the fields it aims to examine. In the case of a recent project it was involved in on lip-reading, for example, it was the acquisition of an unprecedentedly large data set that made it a success. A group of researchers at the University of Oxford, headed by Andrew Zisserman, a computer-vision researcher, led the work. The BBC gave the researchers hundreds of thousands of hours of newscaster footage, in the absence of which

they would not have been able to train their AI systems.

Mr Hassabis downplays the importance of data acquisition to DeepMind’s future. He claims that it is enough for human engineers to build simulations of the problem to be solved; then DeepMind unleashes learning agents within them. But that is not how most machine-learning systems that are currently in operation work. AlphaGo itself first learned on a database of millions of individual moves from 160,000 human-played Go games, before iteratively training against itself and improving. But if DeepMind does need to Hoover up lots of personal information, it will have to deal with consumer concerns about corporate access to data.

### The future of Alphabet

## Still searching

SAN FRANCISCO

**Alphabet is still looking for its next big moneymaker, and its current cash cow faces a big challenge of its own**

“JUDGE a man by his questions, rather than his answers,” Voltaire advised.

Google has become one of the most successful firms in history by heeding that advice. It evaluates the intention of web-surfers’ queries and returns relevant advertising alongside search results. But for years there has been a lingering question about Google: can it create a new, highly profitable unit to rival its search business?

Not yet. In the past five years, Alphabet, formed as a holding company for Google and other disparate projects in October 2015, has spent \$46bn on research and development (see chart on next page). Much has gone to so-called “moonshot” projects, such as self-driving cars, smart contact lenses and internet delivered via balloons. Its British artificial-intelligence unit, DeepMind, also falls into the category of other projects. Since the start of 2015, these bets have together recorded a loss of \$6bn.

Advertising still accounts for nearly 90% of Alphabet’s revenues and almost all of its profits, according to Brian Wieser of Pivotal Research Group in New York. Search advertising in particular makes up around three-quarters of Alphabet’s total ad revenues. (YouTube, a video site, and a business that places ads on non-Google-owned sites are other contributors.)

On December 12th Alphabet put its self-driving car project into a separate unit called Waymo so staff can better focus on achieving commercial viability. In truth it is not much of a separation, as the firm will still be inside Alphabet and will not disclose more financial details. Other splits have been more drastic. In the past six

If it can solve these problems, however, DeepMind will hold immense value as something entirely new for Alphabet: an algorithm factory. That would go far beyond simply being the technology giant’s long-term AI research outfit and talent-holding pool. The data that DeepMind processes can remain the property of the organisations they come from (which should help to allay concerns about privacy), but the software that learns from that data will belong to Alphabet. DeepMind may not ever make significant revenue of its own by applying AI programmes to complex problems. But the knowledge it sends into learning software from those same sets of data may justify the bidding war that brought it into Alphabet’s compass. ■

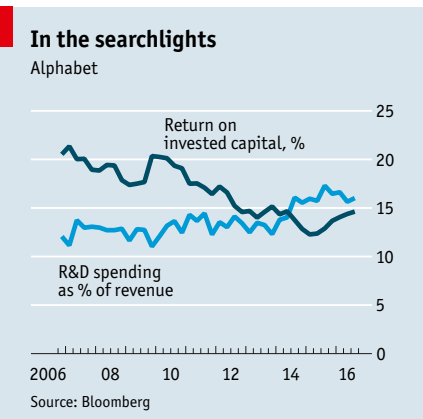


Deflated hopes

months executives overseeing several initiatives, including those focused on venture capital, drones, self-driving cars, high-speed internet and smart thermostats, have left. Alphabet has also been trying to sell its malfunctioning robotics business, Boston Dynamics.

The reason for these departures is Alphabet’s ambivalence about how tightly it should manage costs, say people close to the firm. When Nest, the thermostats maker, was acquired for \$3.2bn in 2014, its executives were promised they could invest and expand their business for years. But when the Alphabet structure was suddenly adopted, the message changed. Overnight, units were expected to pay for their ▶▶

**Correction:** In our November 26th special report on oil, the chart on page 5 is wrong. It shows proven reserves of natural gas, not oil. A corrected version of the chart is available online. Sorry.



▶ share of overhead, which irked some executives who remembered how the parent company had itself doled out big salaries and other luxuries (like free food). Few at the firm are optimistic that Alphabet is closer to devising a business as lucrative and large as search continues to be. As one former executive says, “You’re unlikely to win the lottery twice.”

Meanwhile, the way that people navigate their way around the internet is also changing, which could eventually pose a threat to Google’s search-advertising business. There are two big impending shifts. One is the use of voice as a way to get information, and the other is the rise of virtual assistants. Already, around a fifth of searches on Android devices are done by voice (as opposed to text), and that share will grow as speech recognition improves. Voice will also become more important with the spread of stand-alone devices that answer questions, such as Amazon’s Echo and Google’s own new product, Google Home, which do not support advertising.

As interactions with devices like these become more complex, people will be able to rely on them to complete tasks they might have done online, such as ordering gifts, booking flights and locating nearby stores. Although Google has helped bring about this future with its Home device, its snazzy virtual assistant that predicts users’ needs and its messaging app, called Allo, it is unclear that these offerings will be healthy for its bottom line. In future, “searches” will be more focused on completing tasks and fetching information in environments where it will feel dissonant for ads to appear, such as in messaging apps or on smart-home devices. “As Google shifts more away from being a search engine to an answer service, its utility will go up. But the business model will fall apart,” argues Ben Thompson, who writes *Stratechery*, a blog on technology.

As well as the fact that Amazon delivers ad-free information via the Echo, the retail giant poses a direct threat to Google because more people are starting searches for electronics and other kit directly on its site, rather than through a general search en-

gine. By one estimate, 55% of internet users now begin researching products on Amazon, depriving Google of the opportunity to deliver an ad.

Alphabet has confronted worrisome transitions before, such as the shift from desktop PCs to mobile. Its ad business is still booming, because it devised a way to deliver ads on small screens. It is possible that Google’s ad model could in future shift to taking a fee for each transaction it facilitates. This is already the case in air travel: people searching for flights scan options via one of Google’s tools, and airlines pay if a person books a ticket. Google could do the same if someone said to their phone, “order me a pizza”. But how it would choose which firm to place the order with, and whether consumers would be happy with that order being routed to the firm that paid most, are tricky questions, to which it is unlikely that even Google knows the answer. ■

**Fox’s pursuit of Sky**

## Skyfall

NEW YORK

**A new deal signals that much has changed for the Murdochs**

IT WOULD seem to be a stunning comeback for Rupert Murdoch and his clan. Five years ago News Corporation was engulfed by scandal. One of its British papers, the *News of the World*, had routinely hacked private phones. In the aftermath the company gave up a bid it had made for vSkyv (now simply called Sky), a satellite broadcaster in which it had a stake. A parliamentary report declared Mr Murdoch unfit to lead a large company. James Murdoch, his son, resigned as chair of vSkyv and chief of the newspaper division. Ofcom, Britain’s media regulator, eviscerated his leadership as “difficult to comprehend and ill-judged”.

Now the Murdoch empire appears to be striking back. On December 9th, 21st Century Fox, the Murdochs’ entertainment business, said it had reached a preliminary deal to pay £11.2bn (\$14.1bn) for the 61% of Sky it does not already own. James Murdoch is ascending once more: indeed, this deal is chiefly his doing. Last year he succeeded his father as boss of 21st Century Fox, and in January he reclaimed his Sky chairmanship. But the show of strength comes with new weaknesses.

Much has changed in five years. In 2012 Rupert Murdoch moved to quarantine his scandal-wracked newspaper business. 21st Century Fox would henceforth house the company’s entertainment companies, including dozens of cable television net-

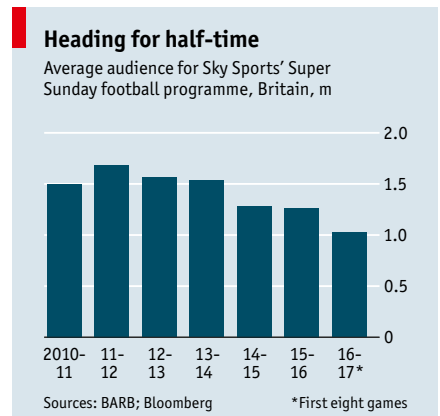
works, Fox Broadcasting and a film studio; News Corporation would keep the company’s newspapers. Investors cheered the split. Even before the hacking scandal, many had urged Mr Murdoch to divide his ageing print assets from his faster-growing entertainment business.

Now the entertainment business has woes of its own. Consumers spend less time watching television, choosing streaming video on their phones and tablets instead. If they do watch tv, they are inclined to record shows and fast-forward through ads. It is not a problem that is unique to Fox. The firm has the benefit of a strong brand, a lucrative conservative news network, and the leadership of James Murdoch, who is seen as a strong manager. Even so, Fox’s television business has disappointed investors.

Sky has recently struggled, too. Between 2015 and 2016 the share of customers dropping their subscriptions ticked up in each of its markets—Britain, Ireland, Italy, Germany and Austria. Investors fret over the rising cost of buying the rights to broadcast sport in Britain, Sky’s biggest market. And fewer people are watching its best-known football programmes in Britain (see chart), which suggests that more subscribers might leave.

Whether 21st Century Fox’s purchase of Sky—if it comes off—would do much to change all of this is a matter of debate. Sky is cheaper than it would have been not long ago, thanks to a falling share price and the weak pound. Having all of it could be better than owning just 39%. In narrow financial terms, Fox is currently taxed twice on Sky’s earnings, and that would end.

Others see far less benefit. Marci Ryyicker, an analyst at Wells Fargo, a bank, had thought that, given the choice of buying all of Sky or selling its stake, Fox might actually choose the latter. The two businesses are largely complementary, so a deal is unlikely to bring big savings beyond the tax advantage. And it is unclear if Sky will be of much help with Fox’s biggest headaches—its battle against Netflix, for example, and Amazon’s many video offerings. Sky does have a streaming service, Now TV, but it ▶▶



▶ may be small: it does not disclose its number of subscribers.

It is also an open question if, and when, the deal will close. Once a formal offer for Sky comes, the government will have to decide whether to refer the bid to Ofcom to investigate whether there would be a reduction in media “plurality”. The Murdochos can argue that the deal will not stifle competition: 21st Century Fox does not own British papers. They can also point out that the share of news consumption accounted for by News Corporation and Sky is about half what it was in 2010, thanks to dwindling newspaper circulation and the end of the *News of the World*, as well as Sky News’s lower share of total news viewing as people switch to online information. That will help the case for a merger. But it points to ebbing power, too. ■

### Vivendi and Mediaset

## Bolloré v Berlusconi

PARIS

### A bold Breton makes a move for Silvio Berlusconi’s Mediaset

**N**O BOSS in French business can match Vincent Bolloré for swagger and aggression. Various described by the press in France as a stubborn Breton, a ruthless profiteer and a smiling killer, the 64-year-old corporate raider has acquired interests in media, transport, advertising, telecoms and more, scattered across Europe and Africa. Opinion at home is divided between those who say his methods are too brutal and others who welcome his effect on an often dozy business world.

This week it was the turn of Italian newspapers to rant against the French “pirate” and “mercenary”. On December 13th the news came that France’s Vivendi, a media firm in which Mr Bolloré’s company, Bolloré Group, owns 20% (he effectively controls it) was racing to buy up shares in Mediaset, Italy’s biggest TV-broadcaster. Things moved swiftly. By the next day Vivendi had a 20% stake in Mediaset, up from 3% two days earlier. The Italian firm claims a hostile takeover attempt—the smiling killer’s speciality—is under way.

Mr Bolloré has long aimed at winning a share of Mediaset. Earlier this year, Vivendi had agreed a plan with Mediaset in which each would swap small stakes in the other’s firm, and Vivendi would take control of Mediaset Premium—an unprofitable pay-TV arm in Italy. After the deal fell apart in the summer, followed by legal threats against Mr Bolloré, Mediaset’s share price tumbled, so Vivendi bought its new holding in Mediaset relatively cheaply. He covets its channels’ combined 58% slice of Ita-

ly’s terrestrial television market (and, through an offshoot, some 43% of the Spanish market). If the Italian economy perks up, these would profit handsomely.

He also wants to match those firms’ activities with his own media interests in France, notably Canal Plus, to form a big “Mediterranean” broadcaster. In the Anglo-Saxon media world, notes a person close to Vivendi’s board, grand alliances are common. Many European TV types reckon it is about time that the region had a conglomerate on the scale of America’s Time Warner or Disney. (The last time Vivendi tried to fulfil such ambitions, however, under its former CEO Jean-Marie Messier, the result was a gigantic mess that brought the firm close to bankruptcy.)

A more distant goal could be to unite Italian content with distribution. This year Vivendi bought a quarter of Telecom Italia. Mr Bolloré may plan to combine media and telecoms operations in the country.

In the short term, he will try to weaken the grip of Mediaset’s largest shareholder, Fininvest, the family holding company of Silvio Berlusconi, a former prime minister. On December 14th Mr Berlusconi called Vivendi’s actions hostile and vowed to defend his interests. Fininvest slightly raised its own stake in Mediaset to nearly 40%, and it may find ways to get more shares.

Mr Bolloré may see an opening in reports of divisions in the Berlusconi clan, says François Godard of Enders Analysis in Paris. Mr Berlusconi’s son, Pier Silvio Berlusconi, runs Mediaset, but his siblings may worry more about a battle against cash-rich Vivendi. A face-off between the elder Mr Berlusconi, now aged 80, against Mr Bolloré, a former friend, looks set to enthral audiences in several Mediterranean markets and beyond. ■

### Retailing and the environment

## Wrap stars

### Why food packaging can actually cut emissions

**R**OUGHLY a third of food produced—1.3bn tonnes of the stuff—never makes it from farm to fork, according to the UN’s Food and Agriculture Organisation. In the poor world much of this waste occurs before consumers even set eyes on items. Pests feast on badly stored produce; potholed roads mean victuals rot on slow journeys to market. In the rich world, waste takes different forms: items that never get picked off supermarket shelves; food that is bought but then goes out of date.

Such prodigious waste exacts multiple costs, from hunger to misspent cash. Few



producers and processors record accurately what they throw away, and supermarkets resist sharing such information. But some estimates exist: retailers are reckoned to mark down or throw out about 2-4% of meat, for example. Even a tiny reduction in that amount can mean millions of dollars in savings for large chains.

Waste also damages the environment. The amounts of water, fertiliser, fuel and other resources used to produce never-consumed food are vast. The emissions generated during the process of making wasted food exceeds those of Brazil in total. Squandering meat is particularly damaging: livestock account for more emissions than the world’s vehicle fleet. Consumption of the red stuff is also set to increase by three-quarters by the middle of the century as newly-rich diners in China, India and elsewhere develop a taste for it. The UN wants to halve food waste per person in shops and in households by 2030 under its Sustainable Development Goals.

Help is at hand in the sometimes squishy, see-through shape of packaging. Far from being the blight that green critics claim it is, food wrappings can in fact be an environmental boon. By more than doubling the time that some meat items can stay on shelves, for example, better packaging ensures that precious resources are used more efficiently. Planet and profits both benefit.

Vacuum packaging helps enormously here (even though shoppers tend to prefer their cuts draped behind glass counters, or nestled on slabs of black polystyrene). The plastic packs, which prevent oxidation,

mean meat can stay on shelves for between five and eight days, rather than two to four. It also makes it more tender. The equipment to vacuum-pack meat costs a few hundred thousand dollars, and its flimsier nature requires different methods of stacking. British retailers are pioneers when it comes to reducing waste through clever wrappings, says Ron Cotterman of Sealed Air, an American packaging giant that works in more than 160 countries and whose clients include huge chains such as America's Walmart and Kroger.

J. Sainsbury, a British grocer which also works with Sealed Air, is already benefiting from a new approach. Jane Skelton, its head of packaging, says that in the last financial year the store reduced waste by more than half after moving more beef-steak lines into vacuum packing. Kroger now ensures that cheeses arrive at its deli counters in vacuum-packaged bags ready for slicing; Walmart is searching for better ways to wrap meats.

Packaging works wonders for customers, too. The resealable kind keeps certain dairy products fresher for far longer in customers' fridges. The practice of packaging a lump of produce in portions allows the growing number of singletons to prepare exactly what they need and freeze the rest. Tesco, a British grocer, now offers chicken in pre-portioned packaging, for example. In 2016 the chain said it aimed to reach a point where no edible food would be binned from its stores by the end of 2017—down from 59,400 tonnes a year now—with a little help from apps that allow charities to collect unwanted items.

Longer-lasting products ought to mean fewer trips to the shops. But according to Liz Goodwin, a food-waste expert at the World Resources Institute, a think-tank, half of the money shoppers save through better-lasting products winds up in retailers' tills anyway. Aspiring cooks are more likely to buy premium items if they know they will use them before they spoil.

### The wages of bin

Vacuum packs and other kinds of wrapping do themselves consume energy and resources in their manufacture. But they make more sense than letting food go to waste. Mark Little, who is in charge of reducing food waste at Tesco, points out that every tonne of waste means the equivalent of 3.5 tonnes of carbon dioxide are released without purpose. In contrast, a tonne of packaging causes emissions of 1-2 tonnes.

This fact is insufficiently recognised by many rich-world retailers. Some supermarkets are trying to cut down on packaging because the common perception is that it is wasteful. But cutting the amount of plastic covering food makes no sense if products then spoil faster, says Simon Oxley of Marks and Spencer (another British

### Older workers in Germany

## Elders not betters

### What happens when mature subordinates must answer to young supervisors

**I**F THEY resented me they didn't talk to me about it," says a young German manager at a media firm in Frankfurt. Still, he says it was noticeable that when a subordinate 20 years older than him thanked him for buying lunch he had to swallow twice before adding the word "boss".

Older workers sometimes begrudge being managed by a callow colleague. Precocious youngsters, too, can feel awkward about bossing their elders around. But in Germany a shortage of skilled workers means that such situations are becoming ever more common.

The country's population is projected to shrink. Among rich-world countries, only in six nations including Japan and Greece are populations expected to decrease faster. As more Germans retire, fewer youngsters are entering the workforce to replace them. As a share of the working population the number of 15- to 24-year-olds has fallen by ten percentage points since the 1980s, says the German Federal Employment Agency. Firms competing to retain young talent are tempted to promote them earlier as a result. A paper by professors at the Uni-

versity of Cambridge and WHU, a German business school, to be published in the *Journal of Organizational Behaviour*, suggests this could be a problem.

As in many countries, German workplaces are legally obliged to overlook age when deciding whom to promote. Yet according to Jochen Menges, one of the authors, when a whippersnapper leapfrogs a more experienced worker it can leave the latter with feelings of "anger, fear and disgust". People tend to judge their own standing by the success of their peers, and to see failure in being bossed about by someone younger. The relationship between feelings of angst and the age of the boss is linear, according to Mr Menges. A manager who is younger by one year is somewhat unsettling; a gap of 20 years is far more demoralising.

All of this may be affecting the bottom line. In a study of 61 German firms the researchers found that for every two-year increase in the age between subordinates and supervisors, a basket of performance measures declines by 5% (after taking into account other variables such as company size and the industry involved). That is not because older managers are better at their jobs: the study found that it was not the absolute age of the supervisor that mattered, only the age gap.

German firms certainly should not revert to a system in which age equates to rank, reckons Gerhard Rübling, labour director of TRUMPF, a mid-sized engineering outfit; meritocracy must prevail. But young people need to be sensitive about managing upwards. And older workers should be encouraged to see the bright side of learning new skills from tech-savvy up-and-comers. Daimler, a big German car firm, says it promotes age-mixed teams, so that knowledge can be transferred between generations. It also supports young managers by asking retired employees to provide temporary support. After all, you are never too old to learn. Or too young to manage.



Who's the daddy?

retailer, which was among the first to start adopting vacuum-packaging a decade ago). The next frontier for the world of packaging, he says, is ensuring that as much of it can be reused as possible. That will be a challenge, however, given the hard-to-recycle layers of plastics that go into most vacuum packs.

The hope is that rich-world adoption of more efficient packaging could encourage supermarkets in places such as China and

Brazil, where retail chains are growing apace, to follow suit (even if issues of hygiene and refrigeration are more pressing concerns at the moment). By the middle of the century, when the UN projects the world's population to be almost 9.7bn people, nutrition needs mean that farms, food processors, shops and homes will need to use resources far more efficiently. Unpack the numbers, and it is clear that wrapping up well will help. ■



Amancio Ortega

## Behind the mask of Zara

LA CORUÑA

The management style of Europe's most successful businessman

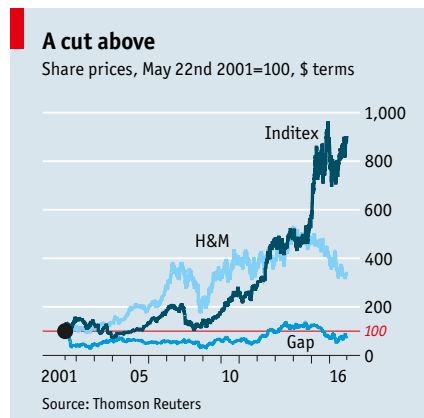
IT IS a short walk from a tiny shop with peeling yellow paint in downtown La Coruña, in northern Spain, to a dazzling five-storey store, opened in September by Zara, by far the world's most successful purveyor of "fast fashion". In this stroll across three city blocks, the career of Amancio Ortega unfolds: from teenaged apprentice in the corner shop, Gala, a men's clothing business, to Europe's richest entrepreneur, the majority owner of one of its best-performing firms.

According to one employee of Zara who works with him, "the true story of Amancio Ortega has not been told." Mr Ortega, the son of an itinerant railway worker, who started at the corner shop aged 13, had a basic upbringing: an ex-colleague says he talks of meals of "only potatoes". He has lived mainly in Galicia, a relatively poor region with no history in textiles. Yet there, in 1975, he founded Zara—a manufacturer-cum-retailer that, along with its sister brands, has over 7,000 shops globally.

Mr Ortega (pictured) is now 80 but he remains energetic and involved in the business (if uninterested in wearing trendy clothes). He owns nearly 60% of Inditex, the holding company of Zara and the other chains, which is worth some €100bn (\$106bn). According to *Forbes* magazine, in September his total assets, of nearly \$80bn including his properties and other holdings, briefly surpassed those of Bill Gates.

The manner in which he rose does not fit the usual template. His lack of formal education has profoundly affected his management style. Those close to him confirm that he does read—novels and newspapers—but he is reportedly ill-at-ease with writing at length. He has never had his own office, desk or desktop computer, preferring to direct his firm while standing with colleagues in a design room of Zara Woman, the flagship line. One former long-term CEO of Inditex, and Mr Ortega's business partner for 31 years, José María Castellano, says that his ex-boss's working method is to discuss things intensely with small groups, delegate paperwork, listen hard to others and prefer oral over written communication.

This preference for close personal interaction may even have helped him concoct the formula behind Zara's success. At a time when the fashion industry mostly outsourced production to China and other low-wage countries (as it still does), Mr Ortega decided to keep most manufacturing



close to home. Some 55% happens in Spain, Portugal and Morocco—near the firm's main markets. That in turn allows twice-weekly deliveries of small but up-to-the-minute fashion collections to every store. Inditex's share price has soared tenfold since its flotation in 2001, outstripping rivals such as Gap and H&M (see chart).

His leadership style appears to favour extreme introversion. A video from a surprise 80th birthday party in March shows him tearful and backing off from assembled staff. He almost never speaks in public nor accepts national honours—aside from a "workers' medal" in 2002. Colleagues say he resented a rare biography of him, from 2008, by a fashion journalist, Covadonga O'Shea. So few photos existed of

him pre-flotation that investors who visited awkwardly confused him with other staff. But that low profile means there is room for other top executives to shine. Inditex's chairman and CEO, Pablo Isla, has run things since 2011, yet Mr Ortega shows up to work every day. In many firms a professional manager might chafe against the presence of a revered founder, but there are no such reports at Inditex.

In one respect at least, Mr Ortega is more typical of European billionaires. Like other rich recluses—such as Ingvar Kamprad, the Swedish founder of the IKEA furniture chain—he goes in for only limited philanthropy. He pays for 500 annual scholarships for Spanish students in America and Canada and gives to Catholic charities and for emergency relief. Larger-scale philanthropy would bring unwanted publicity. Like others in southern Europe, he may also be wary of inviting political attacks, such as when Pablo Iglesias, of the left-leaning Podemos party, insinuated during a lament about inequality that Mr Ortega was a "terrorist".

The managers of his wealth, which grows by some €1bn a year, say they are now scrambling to have slightly less dependence on Inditex, in line with normal investing principles—a difficult task because Mr Ortega only wants property, an investment "he can touch" but which is time-consuming to buy and manage. This month he spent \$517m on Florida's largest office tower, the Southeast Financial Centre in Miami.

Most of his income is still from Inditex dividends. On December 14th the firm reported results that, once again, met high expectations in financial markets. The numbers will have doubtless gratified the limelight-loathing Mr Ortega, who is said in private to chide others to admire his company, not himself. ■



Dedicated leader of fashion

# Schumpeter | Out with the old

Management theory is becoming a compendium of dead ideas



**N**EXT year marks the 500th anniversary of the event which, more than any other, gave birth to the modern world: Martin Luther promulgated his 95 theses and called the Catholic church to account for its numerous theological errors and institutional sins. Revisionist historians have inevitably complicated the story (including questioning whether he did actually nail his proposals to the door of All Saints' Church in Wittenberg) but the narrative remains clear. The church was ripe for change. It was sunk in corruption and divorced from the wider life of society. And by unleashing that change, Luther brought the Christian faith, including Roman Catholicism itself, a new lease of life.

The similarities between medieval Christianity and the world of management theory may not be obvious, but seek and ye shall find. Management theorists sanctify capitalism in much the same way that clergymen of yore sanctified feudalism. Business schools are the cathedrals of capitalism. Consultants are its travelling friars. Just as the clergy in the Middle Ages spoke in Latin to give their words an air of authority, management theorists speak in mumbo-jumbo. The medieval clergy's sale of indulgences, by which believers could effectively buy forgiveness of their sins, is echoed by management theorists selling fads that will solve all your business problems. Lately, another similarity has emerged. The gurus have lost touch with the world they seek to rule. Management theory is ripe for a Reformation of its own.

Management theories are organised around four basic ideas, repeated ad nauseam in every business book you read or business conference you attend, that bear almost no relation to reality. The first idea is that business is more competitive than ever. Skim popular titles such as "The End of Competitive Advantage" (by Rita Gunther McGrath) or "The Attacker's Advantage" (by Ram Charan) and you will be left with the impression of a hyper-competitive world in which established giants are constantly being felled by the forces of disruption.

A glance at the numbers (or indeed a trip on America's increasingly oligopolistic airlines) should be enough to expose this as fiction. The most striking business trend today is not competition but consolidation. The years since 2008 have seen one of the biggest-ever bull markets in mergers and acquisitions, with an average of 30,000 deals a year worth 3% of GDP. Consolidation is

particularly advanced in America, says a report in 2016 by the Council of Economic Advisers, which also showed how companies engaged in consolidation are enjoying record profits. Technology is high on the list of industries that are concentrating. In the 1990s Silicon Valley was a playground for startups. It is now the fief of a handful of behemoths.

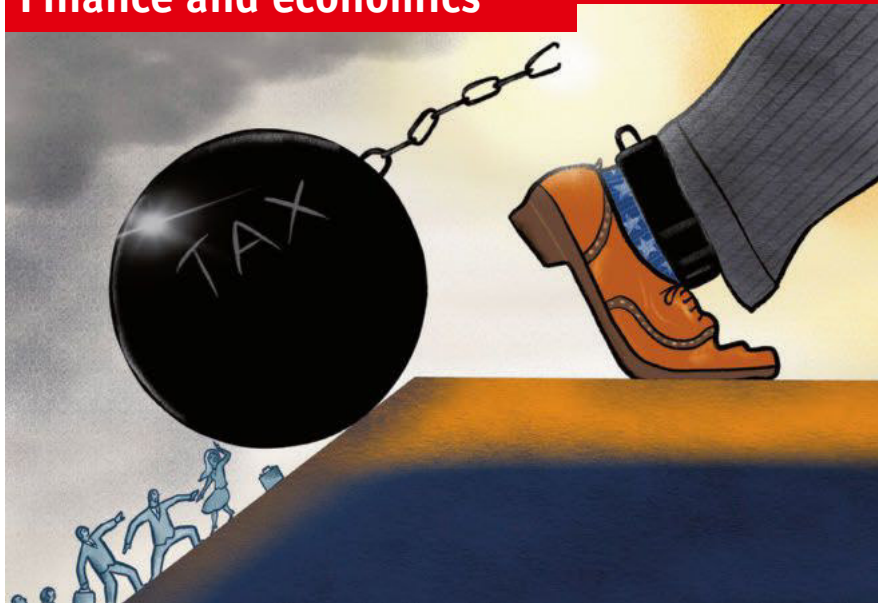
A second, and related, dead idea is that we live in an age of entrepreneurialism. Gurus including Peter Drucker and Tom Peters have long preached the virtues of enterprise. Governments have tried to encourage it as an offset to the anticipated decline of big companies. The evidence tells a different story. In America the rate of business creation has declined since the late 1970s. In some recent years more companies died than were born. In Europe high-growth ones are still rare and most startups stay small, in part because tax systems punish outfits that employ above a certain number of workers, and also because entrepreneurs care more about work-life balance than growth for its own sake. A large number of businesspeople who were drawn in by the cult of entrepreneurship encountered only failure and now eke out marginal existences with little provision for their old age.

The theorists' third ruling idea is that business is getting faster. There is some truth in this. Internet firms can acquire hundreds of millions of customers in a few years. But in some ways this is less impressive than earlier roll-outs: well over half of American households had motor cars just two decades after Henry Ford introduced the first moving assembly line in 1913. And in many respects business is slowing down. Firms often waste months or years checking decisions with various departments (audit, legal, compliance, privacy and so on) or dealing with governments' ever-expanding bureaucracies. The internet takes away with one hand what it gives with the other. Now that it is so easy to acquire information and consult with everybody (including suppliers and customers), organisations frequently dither endlessly.

## Flat Earth society

A fourth wrong notion is that globalisation is both inevitable and irreversible—the product of technological forces that mere human decisions cannot reverse. This has been repeated in a succession of bestselling books—most notably Thomas Friedman's "The World is Flat" of 2005—and propagated in corporate advertising such as HSBC's "The World's Local Bank" campaign. But a look at history shows that it is nonsense. In 1880-1914 the world was in many ways just as globalised as it is today; it still fell victim to war and autarky. Today globalisation shows signs of going into reverse. Donald Trump preaches muscular American nationalism and threatens China with tariffs. Britain is disentangling itself from the European Union. The more far-sighted multinationals are preparing for an increasingly nationalist future.

The backlash against globalisation points to a glaring underlying weakness of management theory: its naivety about politics. Modern management orthodoxies were forged in the era from 1980 to 2008, when liberalism was in the ascendant and middle-of-the-road politicians were willing to sign up to global rules. But today's world is very different. Productivity growth is dismal in the West, companies are fusing at a furious rate, entrepreneurialism is stuttering, populism is on the rise and the old rules of business are being torn up. Management theorists need to examine their church with the same clear-eyed iconoclasm with which Luther examined his. Otherwise they risk being exposed as just so many overpaid peddlers of dead ideas. ■



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## American corporate tax

# Gain and pain

WASHINGTON, DC

### Cuts in corporate tax may come with some unpleasant side-effects

SINCE Donald Trump won America's presidential election investors have salivated over the prospect of lower taxes. Mr Trump has promised to cut corporation tax, a levy on firms' profits, from 35% to 15%. Republicans remain in charge of both houses of Congress; Paul Ryan, the speaker of the House of Representatives, wants to cut the levy to 20%. The coming reforms, though, are about more than just lower rates. Republicans want to overhaul business taxes completely. Unfortunately, this task is far from straightforward.

America's corporate-tax rate, which reaches 39.6% once state and local levies are included, is the highest in the rich world. But a panoply of deductions and credits keeps firms' bills down. These include huge distortions, such as a deduction for debt-interest payments, as well as smaller scratchings of pork like special treatment for NASCAR racetracks. After all the deductions are doled out, corporate-tax revenues are roughly in line with the average in the rest of the G7, according to economists at Goldman Sachs.

Still, a high tax rate and a narrow tax base is a glaringly inefficient combination. Politicians of all stripes have sought to improve things. For instance, since 2012 Barack Obama has proposed cutting the rate to 28%, while doing away with (mostly unspecified) tax breaks. That idea never got a look in. But analysts are poring excitedly over Mr Ryan's plan, which is for now the most detailed Republican offering. It pro-

poses to expand the tax base in two main ways. The first is to kill off the deduction for debt interest, putting a welcome end to the incentive for companies to binge on debt. The savings from this would be spent on letting businesses deduct the full cost of their investments when they make them, however they are financed.

The second concerns geography. Uniquely in the G7, America taxes firms' global profits (net of any payments to foreign taxmen). But companies need pay only when they bring profits home, so they keep cash overseas—some \$2.6trn-worth, by one estimate. Some escape Uncle Sam's

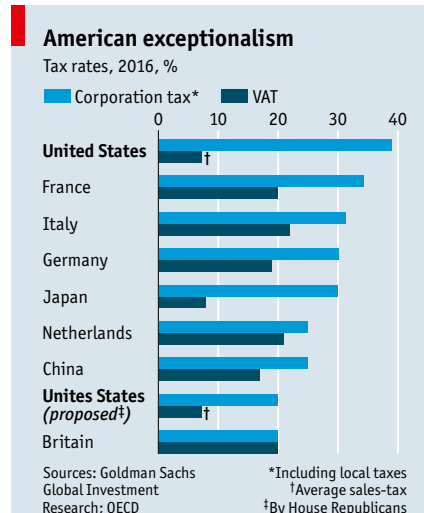
clutches altogether by merging with a foreign company and moving to its tax jurisdiction (although the Obama administration has penned rules making such "inversions" harder).

Mr Trump wants to offer a one-time tax rate of 10% to firms that repatriate their cash. To put an end to the barmy incentives, Mr Ryan, adopting a pet cause of Kevin Brady, chairman of the influential House Ways and Means Committee, would stop taxing foreign profits. In fact, he wants to ignore foreign activity altogether, including profits made selling American goods abroad. Meanwhile, firms would no longer be able to knock off the cost of imported goods when adding up their profits. In combination, these two changes are dubbed "border adjustment".

This would make America's corporate tax very similar to a value-added tax (VAT), a kind of border-adjusted sales tax, says Kyle Pomerleau of the Tax Foundation, a think-tank. Most rich countries have both a VAT and a corporate tax (see table). When, say, Rolls-Royce exports a jet engine from Britain to France, it pays French VAT on the sale and British corporate tax on its profits. But while America levies the corporate tax on exporters' profits, it imposes no VAT on imported goods (except for state and local sales taxes). Mr Ryan's proposal would more or less reverse this.

Border adjustment penalises imports and subsidises exports. So some hope it would help to close the trade deficit. Mr Trump has often complained about the VAT Mexico imposes on American goods, when Mexican exports flowing north incur no such levy. America is "the only major country that taxes its own exports," lamented Mr Brady in June.

Economists are suspicious of these complaints. In theory, border adjustments do not affect trade, because export subsidies and import taxes both push up the



▶ dollar. So imports are taxed more, but get cheaper. Exports escape tax, but get pricier. In combination, the currency and tax effects should balance exactly.

In reality, it might take time for the dollar to rise. If so, American exporters would benefit in the interim. But big importers would take a hit. The Retail Industry Leaders Association, a trade group, is already campaigning against the change.

However long the dollar took to appreciate, it would be no small adjustment. To offset a border-adjusted tax of 20%, the greenback would have to rise by a staggering 25%, according to Goldman. It is already

up by 24% on a trade-weighted basis since mid-2014; repeating that appreciation would hammer those emerging markets with sizeable dollar-denominated debts and threaten the health of the world economy. It would also reduce the dollar value of American investments abroad.

Despite the plan's appealing simplicity, it seems unlikely that Congress will pass a proposal that would cause such volatility in currency markets. Senate Republicans have been largely mum on the House plan. And unless America switches to a full-fledged VAT, border adjustability may also be judged to breach World Trade Organisa-

tion rules.

That bodes ill for the size of the overall corporate-tax cut. Since America imports much more than it exports, border adjustability would raise fully \$1.2trn over a decade, covering almost two-thirds of the cost of cutting the tax rate to 20%, according to the Tax Policy Centre, a think-tank. Without that money, Republicans would have to scale back their plans, disappointing investors. And it might force the government to borrow more, widening the budget deficit, and putting short-term upward pressure on the dollar. Either way, markets could be in for a few surprises yet. ■

## Buttonwood | Not passing the buck

### Global capital flows have slowed down

FOR more than two decades after the early 1980s, it seemed as if the financial markets were moving in only one direction. More and more money was flowing across borders; capital markets were becoming increasingly integrated.

Since the 2008 financial crisis this particular aspect of globalisation has stalled, and even partly retreated. The reversal is illustrated by the triennial survey of foreign-exchange markets, conducted by the Bank for International Settlements (BIS). Daily turnover in April was \$5.1trn, down from \$5.4trn in April 2013.

That is still a huge number compared with the turn of the century, when daily turnover was around the \$1trn mark. But it is a sign that markets are getting a little less frenetic; spot (or instant) currency trading has fallen by 19% in three years.

Other data from the BIS confirm the trend. Cross-border banking claims peaked in the first quarter of 2008 at \$34.6trn. By the second quarter of 2010, they had dropped to \$27.9trn, and they have never recovered their pre-crisis levels. In the second quarter of this year (the most recent data), claims were \$28.3trn. Part of this may be a consequence of events in the euro zone, where the sovereign-debt crisis caused banks to cut back their lending to weaker economies. Add up all financial flows, including direct investment, and in 2015 cross-border volumes were only half 2007's level, according to McKinsey, a consultancy (see chart).

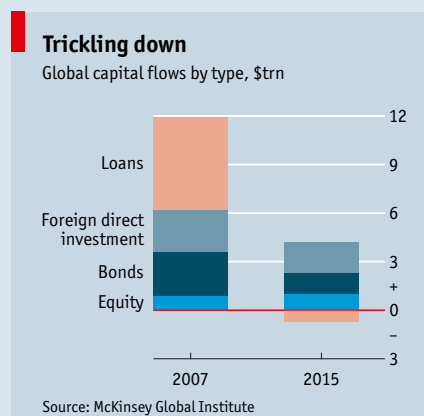
This is not necessarily bad news. After all, as Asian countries found out in the 1990s, too much "hot money" flowing into an economy can be destabilising. It can drive exchange rates out of line with economic fundamentals, making a country's exporters less competitive. A rising currency may also tempt domestic companies to borrow abroad. Then, when the

hot money flows out and the exchange rate collapses, those borrowers will struggle to repay their debts. The result can be a financial crisis.

The implications of deglobalisation depend on why the slowdown is happening. There may be a link to economic fundamentals. World trade volumes were regularly growing at an annual rate of 5-10% in the run-up to the crisis; in recent years they have managed only 2% or so. In 2015 exports were a smaller proportion of global GDP than they were in 2008. If trade is growing less rapidly, so is the demand for credit to finance it.

However, as the BIS points out, trade accounts for only a small proportion of capital flows. The downturn is mainly because of events within the financial sector itself.

Before the crisis, cross-border banking activity was closely correlated with measures of risk appetites. When the economic outlook was good, banks were happy to lend abroad; in the face of shocks, they retreated back to their home base. Research by the Bank of England shows that the picture changed after the crisis; there was simply a more general retreat by the banking



sector from foreign commitments.

Part of this may reflect a lack of demand for loans from companies and individuals that had overstretched during the boom years. But the biggest reason is probably the weakness of the banking sector. It has been deprived of some sources of funding (money-market mutual funds, for example) and has been forced by the regulators to rebuild its balance-sheet.

In the currency markets, the BIS says, there has been a shift in the type of people that are participating. Institutional investors such as pension funds and insurance companies are being more active. They may decide to buy, say, Japanese equities without wanting to be exposed to fluctuations in the yen, so they will hedge this exposure in the currency markets. In contrast, there has been a reduction in risk-taking activity by hedge funds and bank trading desks, which suffered a big shock in January 2015 when the Swiss National Bank suddenly abandoned its policy of capping the franc's exchange rate. The sharp jump in the value of the franc that followed caused turmoil for some brokers, forcing them to raise their fees and cut their client lists.

A market less in thrall to speculators might seem like an unalloyed boon. But the retreat of banks from currency trading (and from market-making in other instruments such as corporate bonds) may not be quite such good news. In a crisis, the banks may not be around to trade with investors seeking to offload their positions; the BIS notes signs of "volatility outbursts and flash events". Lots of investors and companies want to hedge their currency exposure. They need an institution to take the other side of the trade.

## China and trade

## Call of duties

A messy trade battle is brewing without Donald Trump lifting a finger

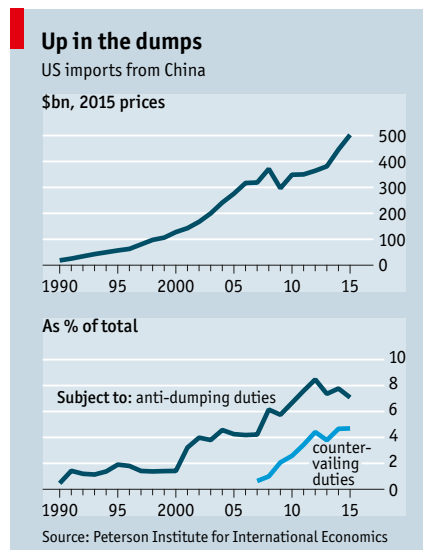
ANNIVERSARIES should be happier than that on December 11th, marking China's 15 years as a member of the World Trade Organisation (WTO). On that day, China expected to be unshackled from its legal label as a "non-market economy" and attain "market-economy status". In the event, America and the European Union refused to give it the nod. On December 12th the Chinese reacted: see you in court.

The fight will focus on the wording in the original accession agreement. The Americans and the Chinese are both confident of winning. Legal experts are divided. The WTO does not provide a clear definition of a "market economy". And clumsy legal drafting does not help.

The meat of the row is over the method WTO members use to protect their industries against cheap Chinese imports. Alleging that Chinese companies enjoy subsidised credit, energy and raw materials, America and the EU slap anti-dumping duties on 7% (see chart) and 5% respectively of their Chinese imports. The agreement welcoming China into the WTO explicitly gave other members licence to treat it as a non-market economy until December 11th 2016. This meant they could ignore domestic Chinese prices when working out the appropriate value of Chinese imports. Mexican prices, for example, help set the 48.5% duty on EU imports of Chinese bicycles.

As China interprets the original accession agreement, it was promised that, after 15 years, it would be treated like any other market economy in the WTO: it would be guilty of dumping only if the export price was lower than the price in China. America's reading is that after December 11th, China is no longer automatically a non-market economy. But WTO members can use their discretion as to whether it is a market economy. Since, according to America's own criteria (and any simple smell test), China is not, it can keep using third-country prices in anti-dumping cases.

The European Commission is convinced it has found a better way. In November it offered proposals that would rip up the list of market and non-market economies, and use a "country-neutral" method for calculating anti-dumping duties. But this is unlikely to placate the Chinese: it would still give plenty of discretion to refer to third-country prices when setting duties. Tu Xinquan, of the China Institute for WTO Studies in Beijing, concedes it is an improvement, but "we want full imple-



mentation of WTO rules, not half."

A long legal slog lies ahead. Officially, China will wait for the WTO court decision—probably at least two years away—before applying retaliatory duties. Unofficially, the Chinese may start poking their trading partners sooner.

A defeat for China would represent humiliation, and a broken promise. An all-out trade war would also be disastrous for the Chinese economy. But some sort of descent into tit-for-tat protectionism seems highly likely, against the background of Donald Trump's "America First" tough talk on trade. Even if China wins the initial set of cases, WTO law does not force other countries always to use exact Chinese prices in their anti-dumping measures. The full scope of what they can do is still legally uncertain. Mark Wu, an assistant professor at Harvard Law School, thinks that "what we're seeing now is the opening salvo of a long series of litigations."

The underlying difficulty is that China's particular type of capitalism makes it difficult to fit into a binary view of a market, or non-market, economy. "That makes it really hard for the WTO to adjudicate this type of issue," says Mr Wu. Ultimately, these heavyweights of the world economy will have to reach a political settlement if they want to avoid years of destructive, competitive protectionism. For now, such a settlement seems improbable. A highly technical issue has been simplified into a crude nationalistic argument. In America and the EU it may seem obvious that hopes in 2001 that China was on the road to becoming a market economy have been dashed. For China, this is beside the point: the West should keep its promise. Mr Trump may get a trade war without even trying. ■

**Clarification:** In our story last week on "Insurance's Jarndyce v Jarndyce", we wrote that AIA assigned its interest in the case to Samuel Lohman and Martin Kenney. The two lawyers helped set up and raise capital for the claimants' vehicle, but took no stake in it.

## UniCredit

## Passing Mustier

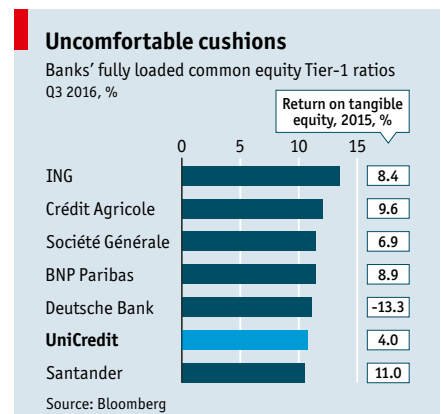
Italy's biggest lender boldly holds out hope. The oldest barely holds on to it

THIS is no time to be timid. Or so Jean-Pierre Mustier seems to think. On December 13th, after five months in the job, the chief executive of UniCredit presented his plan for Italy's biggest bank. He didn't hold back. UniCredit is shedding €17.7bn worth (\$18.8bn) of bad loans, taking a one-off provision of €8.1bn. It will save €1.7bn a year by 2019, cutting 6,500 jobs on top of 7,500 previously announced to shrink its workforce by 14%. And in a rights issue next year it will raise €13bn—just €2bn less than its market value before the announcement. The markets lapped it up: the shares gained 16%, before retreating the next day.

Mr Mustier had already been busy. The previous day UniCredit sold Pioneer, its asset-management arm, to France's Amundi (though it will still distribute Pioneer's products). It recently unloaded its stake in Bank Pekao, in Poland, as well as 30% of Fineco, an Italian online bank of which it will retain control. The bad-debt write-down, restructuring costs and other bits and bobs will partially offset the gains from these sales and the rights issue. But the boss expects UniCredit's ratio of equity to risk-weighted assets—a gauge of capital strength—to rise from 10.8%, second-weakest among the euro zone's most important banks (see chart), to at least 12.5% by 2019.

UniCredit has already tapped shareholders twice since the financial crisis, for €4bn in 2010 and €7.5bn in 2012. Not long ago analysts thought it might have to beg for another €4bn-9bn. Asking for €13bn may therefore appear unduly bold.

Perhaps boldness is in order. The bank has been in a rut for years. Although less than half its revenue comes from Italy, it has been weighed down by its homeland's woeful economic performance and a ▶▶



▶ heavy burden of dud loans. Of its €49.7bn (gross) of non-performing Italian debt marked “non-core”—for eventual disposal—€43.2bn-worth dates from 2010 or earlier: high time to clear it out. In April Atlante, a new bank-rescue fund, took over UniCredit’s guarantee of a €1.5bn share sale by an ailing smaller lender. That embarrassment helped to seal the fate of Mr Mustier’s predecessor, Federico Ghizzoni.

Even after this week’s leap, UniCredit’s shares were trading at below one-third of net book value. They are down by about half this year. Mr Mustier is scarcely promising the moon: just a “simple, pan-European commercial bank” with a return on tangible equity of 9% within three years, more than double 2015’s figure but still less than the estimated cost of equity. He is

budgeting for revenue to grow by just 0.6% a year, as low interest rates drag down income from lending. Better asset quality will help: default rates are falling. So will cuts, both at head office and in the field: 944 branches will go in Italy, Germany (where UniCredit owns HypoVereinsbank, ranked fourth by assets) and Austria (Bank Austria, second).

Italy’s biggest bank may at last perk up. Its third-largest and the world’s oldest, alas, is tottering. The European Central Bank is insisting that Monte dei Paschi di Siena raise €5bn in equity by the end of the year. Although bankers are persevering with a private-sector plan, a state rescue looks likely. Under European rules, that means pain for retail bondholders. Italy’s banking woes are far from over. ■

couple of years. When China in 2013 proposed a new development bank in Asia focused on infrastructure, it seemed aimed, at least in part, at dethroning the ADB. Much as the Chinese economy has leapfrogged the Japanese economy in size, the assumption of many was that it would only be a matter of time before the Chinese bank would eclipse the ADB, which was initiated by Japan in the 1960s and has always been led by a Japanese president. This impression was only reinforced when China overcame American opposition to the AIIB, signing up even staunch American allies in Asia and Europe as members (it now has 57 in all).

Despite the hoo-ha about the AIIB, also known as “China’s own World Bank”, however, it remains a fledgling. The ADB has 3,100 permanent staff; the AIIB just 80 or so. The ADB has missions in 28 countries; the AIIB only its base in Beijing. Most crucially, the ADB lends about \$16bn a year; the AIIB is aiming for \$2bn next year. In fact, some of the AIIB’s initial loans have been co-financings with the ADB, in effect piggybacking on its projects in Pakistan and Bangladesh.

But the ADB knows it cannot be complacent. Mr Nakao is pushing what he calls a “stronger, better and faster” strategy. Thanks to its nearly impeccable lending history, it is expanding. The target is to increase its annual loans by more than 50% from a figure of \$13bn in 2014, to \$20bn in 2020. Second, it is widening the scope of its lending. About 70% of its loans still finance infrastructure development. It is now aiming to raise the portion that goes to education, health care and the environment. Finally, it wants to speed up the way it works, giving resident missions in countries more authority over managing projects.

Still, there are speed limits. Mr Nakao says it is in the ADB’s fibre to tread carefully in dispensing advice: “We try not to tell countries to do something.” It also has no intention of lessening oversight of its lending operations. The ADB relies on a permanent board of directors in Manila, even though that can delay approvals. The AIIB has no such board, allowing much quicker decisions and lower costs.

If the ADB’s reluctance to water down risk controls is admirable, organisational rigidity is less so. Just as no rule stipulates that an American must lead the World Bank or a European the IMF, nothing decrees that the ADB’s president must be Japanese. Yet it has always been Japanese officials, often from the finance ministry, who have taken the ADB’s helm. Mr Nakao was recently re-elected for a five-year term. But it is not too early to start drumming up candidates for 2021 from elsewhere in Asia. That would go a long way to proving that the ADB truly is Asia’s development bank, and not just a Japanese-led incumbent facing a Chinese upstart. ■



The Asian Development Bank

## The incumbent

MANILA

Fifty years old and under pressure from China, the ADB tries to evolve

JUST outside the Asian Development Bank (ADB) headquarters, a barefoot girl in a tattered yellow shirt stretches out her hand as a few of its employees walk past. One gives her change—not exactly a textbook approach to development lending but a natural-enough impulse. “It reminds you of what you’re doing every day,” he says as he reaches into his wallet.

It is also a small reminder of what sets the ADB apart from its China-led challenger, the Asian Infrastructure Investment Bank (AIIB). Since its formal launch in 2015, the AIIB has garnered much more attention than the ADB. But the ADB is still much bigger, with a presence throughout Asia’s

poorest areas and a focus on all aspects of development, from education to anti-corruption projects, not just infrastructure.

It also has an impressive track record. December 19th will mark the ADB’s 50th anniversary. It funds projects and provides policy advice from Georgia in the west to the Cook Islands in the east. It had a hand, albeit a small one, in the economic miracle Asia has witnessed in its lifetime. It has never suffered a default on the \$250bn that it has doled out over the years “We have been very prudent,” says Takehiko Nakao, ADB president and master of understatement (pictured above).

Yet the ADB has also had an awkward

## Foreign exchange

## A losing battle

## Why a cheaper currency can sometimes dampen economic growth

IN SEPTEMBER 2010 Brazil's then-finance minister, Guido Mantega, gave warning that an "international currency war" had broken out. His beef was that in places where it was difficult to drum up domestic spending, the authorities had instead sought to weaken their currencies to make their exports cheaper and imports dearer. The dollar had recently fallen, for instance, because the Federal Reserve was expected to begin a second round of quantitative easing. The losers in this battle were those emerging markets, like Brazil, whose currencies had soared. Its currency, the real, was then trading at around 1.7 to the dollar.

These days a dollar buys 3.4 reals, but no one in Brazil or in other emerging markets with devalued currencies is declaring a belated victory. A cheap currency has not proved to be much of a boon. Indeed new research from Jonathan Kearns and Nikhil Patel, of the Bank for International Settlements (BIS), a forum for central banks, finds that at times a rising currency can be a stimulant and a falling currency a depressant. They looked at a sample of 44 economies, half of them emerging markets, to gauge the effect of changes in the exchange rate on exports and imports (the trade channel) and also on the price and availability of credit (the financial channel).

They found a negative relationship between changes in GDP and currency shifts via the trade channel. In other words, net trade adds to economic growth when the currency weakens and detracts from growth when it strengthens, as the textbooks would have it. But they also found an offsetting effect of currencies on financial conditions. For rich countries, the trade-channel effect is bigger than the financial-channel effect. But for 13 of the 22 emerging markets in the study, the financial effect dominates: a stronger exchange rate on balance speeds up the economy and a weaker one slows it down.

This attests to the growing influence of a "global financial cycle" that responds to shifts in investors' appetite for risk. Prices of risky assets, such as shares or emerging-market bonds, tend to move in lockstep with the weight of global capital flows from rich to poor countries. These flows in turn respond to changes in the monetary policy of rich-country central banks, notably the Federal Reserve, which influences the scale of borrowing in dollars by governments and businesses outside America. Global financial conditions are thus re-

## European insurers

## Feeling squeezed

## European insurers suffer from continued low interest rates

INSURANCE is banking's boring cousin: it lacks the glamour, the sky-high bonuses and the ever-present whiff of danger. So European stress tests for insurers, whose results were due to be published on December 15th after *The Economist* went to press, have attracted far less attention than those for banks in July. Yet insurance also faces a grave threat, from prolonged low interest rates.

Insurers invest overwhelmingly in bonds, so low interest rates make their lives difficult. The last time the European Insurance and Occupational Pensions Authority (EIOPA) conducted an insurance stress test, in 2014, a quarter of participants scored poorly: they would not have met their capital requirements in the test's long low-interest-rate scenario. The proportion jumped to 44% in an alternative scenario involving an asset-price shock. The new results are unlikely to be better. Each year of low interest rates worsens the problem. Higher-yielding bonds mature and insurers end up with ever more newer ones with low, or even negative, interest rates.

Insurers are focused on the problem. One strategy is to outsource more to external asset managers, who are often cheaper because of their greater scale. Another is to buy new types of assets. According to Robert Goodman of Goldman Sachs, insurers want to allocate more to better-yielding, but more illiquid, asset classes like infrastructure, private debt and private equity. Access is hampered not only by a limited supply but also by regulatory capital requirements. So European insurers are looking at proxy investments, such as American municipal bonds (whose proceeds are often spent on infrastructure).

A shortage of capital is an especially acute problem for life insurers in northern Europe. Many, in better times, sold annuities with guaranteed annual returns of 3-4%. Analysts expect German life insurers to be able to meet their prom-

ponsive to attitudes to risk. When the Fed lowers its interest rate, it not only makes it cheaper to borrow in dollars but also drives up asset prices worldwide, boosting the value of collateral and making it easier to raise capital in all its forms. A few days before Mr Mantega declared a currency war, Brazil's government was celebrating a bumper \$67bn sale of shares in Petrobras, its state-backed oil company, for instance.

The BIS researchers find the financial



ises for a while yet without going under. But profits will be hit badly. Stringent EU capital requirements, known as Solvency 2, introduced this year, have helped. But interpreting and policing the rules varies. Insurers are regulated only at the national level, even though insurance is as much a cross-border business as banking: the leading 30 insurers derive 31% of income from the rest of the EU, and only 41% at home (compared with 23% and 54% for the largest 30 banks).

Dirk Schoenmaker of Bruegel, a think-tank, proposes giving EIOPA greater supervisory powers over larger insurers as part of an "insurance union", analogous to the EU's banking union. But further regulatory centralisation may be a hard sell in today's EU.

The best hope for Europe's insurers would be an improved macroeconomic outlook. Long-term dollar and euro bond yields have perked up a bit in recent weeks. But the European Central Bank, by extending its quantitative-easing programme until the end of 2017, has pushed interest-rate rises far into the future. Europe's insurers still have a long hard slog ahead.

channel works mainly through investment, which relies more on foreign-currency borrowing than does consumer spending. Their results are sobering for emerging-market economies. They suggest that a cheap currency cannot be relied on to give a boost to a sagging economy. More worrying still, the exchange rate might not always act as a shock absorber; rather it may, through the financial channel, work to amplify booms and busts. ■

## Fiscal rules

## Fiscal cryogenics

HONG KONG AND SÃO PAULO

## Freezing the size of government

FROM its headquarters in Brasília, a sterile, technocratic city, Brazil's federal government doles out money for health, education, generous pensions and artistic awards, among other things. Over the past two decades, this spending has grown by more than 185% in real terms. Over the next 20 years, its growth will be zero.

That, at least, is the intention of a constitutional amendment passed this week by Brazil's Senate. The measure, which allows federal spending (excluding interest payments and transfers to states and municipalities) to grow no faster than inflation, is an unusually ambitious example of a fiscal rule: a quantitative limit on budget-making, which lasts beyond a single year and perhaps beyond a single government.

The best known, and least loved, fiscal rule is the euro area's stability and growth pact. But such rules are also now common among emerging economies. According to the IMF's latest count, 56 developing countries in 2014 had rules of some kind, including 15, like Brazil, that impose limits on the growth of public spending.

The reasons so many emerging-market governments choose to limit their fiscal choices vary. Some recognise that it is better to abide by their own limits than test the markets'. By cutting the scope for fiscal mischief in the future, a credible fiscal rule can make a government's bonds more appealing today. The risk of profligacy goes hand-in-hand with the danger of "pro-cyclical-ity". Governments in emerging economies tend to overspend in good times and cut back in bad times, adding to economic instability rather than dampening it.

Do fiscal rules help? A famous example is Chile's 15-year-old rule, which requires fiscal tightening when economic growth, copper prices and the price of molybdenum (a metal used in steel alloys) rise above their long-term trends, and permits fiscal easing in the opposite case. Several numbers—such as the trend rate of growth or long-term copper price—can only be guessed, not observed. But the guesses are made by an independent expert committee, so the government cannot make its own fiscally convenient estimates.

Other countries, including Peru and Colombia, have tried to implement similarly sophisticated rules. But it is not easy. They work best in countries with a reasonably stable tax base and a well understood macroeconomic rhythm. Elsewhere, simpler rules can be easier to monitor and enforce.

One simplification is to set rules for spending alone, rather than the overall budget balance, thus escaping the need to project revenues. Emerging economies comply with their spending rules about two-thirds of the time, according to a 2015 IMF working paper, whereas their compliance rate for budget-balance rules is less than 40%. Despite their simplicity, spending rules can make fiscal policy more countercyclical. In upswings, they deter overspending; in downturns, they permit government revenues to fall of their own accord, without requiring demand-sapping tax hikes.

Spending rules do, however, pose a philosophical riddle: they require policymakers to settle the age-old question of the proper size of government. Georgia's rule-

makers, for example, think government should not exceed 30% of GDP. Brazil's think it should not exceed 1.24trn reais (\$373bn) in today's money. Rules on deficits or debt, in contrast, are compatible with government of all sizes, provided that taxes are kept in line with spending.

The appropriate size of fiscal deficits, given the stage of the business cycle, is a technocratic question, which can yield a bipartisan answer, as Chile shows. Such a consensus can be formalised in a politically robust fiscal rule, capable of surviving a change of government, as Chile's has also done. It is harder to imagine all parties agreeing on the appropriate size of government. Debate on that question is, after all, one reason why multiple parties exist. ■

## Venezuela's monetary madness

## Cash and grab

CARACAS

## Venezuelans are getting really good at queuing

ANYTHING India does, Venezuela can do worse. Last month, in a dramatic effort to curb corruption, India's government cancelled all its high-denomination banknotes without warning. Since 98% of transactions in India are done in cash, commerce seized up. It is a huge mess, but India will after a while print enough replacement notes. And it has a plausible plan to help its many poor people join the cashless digital economy.

Not so Venezuela. President Nicolás Maduro says that the constant shortages of more or less everything in Venezuela are caused by evil speculators. (They are actually caused by his price controls.) Mr Maduro claims that "mafias" in Colombia are stockpiling lorryloads of bolívars,

the Venezuelan currency, and sneaking across the border to buy up price-controlled goods. Given Venezuela's soaring inflation, this seems improbable. "The idea that anybody would want to hoard a currency that has lost 60% of its value in the past two months is absurd," says David Smilde of the Washington Office on Latin America, a think-tank.

Nonetheless, on December 11th Mr Maduro announced that the 100-bolívar note would cease to be legal tender within 72 hours. It is the most valuable note in circulation, accounting for 77% of the nation's cash. (On the black market, it is worth three American cents.) The government says people can deposit the old notes in banks and they will be replaced with new ones in denominations as high as 20,000 bolívars. Eventually.

Massive queues—of ordinary people who use cash to survive—quickly formed outside banks. They brought boxes of old banknotes and waited hours to deposit them. Venezuela is one of the most crime-ridden countries on Earth but few muggers bothered to rob people of their soon-to-be-worthless cash. Tempers frayed, however, and fights broke out. "It's an abuse," says one disgruntled queuer after standing two hours in a line at a Caracas shopping mall to pay in the equivalent of less than \$20. "The government deliberately wastes our time," grumbles Bianca Manrique, a doctor.

This month Mr Maduro's regime also seized millions of toys from a toymaker that, it said, was charging too much. The government will distribute them to children and try to take the credit. Mr Maduro may see himself as Saint Nick, but few Venezuelans are convinced.



Bum notes



# Free exchange | Rage against the dying of the light

## Regional inequality is proving too politically dangerous to ignore

**H**OW do you solve a problem like Ohio? Over the course of a generation America's once-thriving industrial heartland has withered. Economic stress has contributed to rising rates of drug addiction and falling life-expectancy. Frustrated, Ohioans and other Midwesterners pushed Donald Trump to victory in November. That has focused attention on the plight of declining industrial areas in the rich world. Yet orthodox economics has few answers to the problem of regional inequality.

Economists used to think the best policy was often merely to wait. From 1880 to 1980 the incomes of poorer and richer American states tended to converge, at a rate of nearly 2% per year, according to research by Peter Ganong and Daniel Shoag of Harvard University. That pattern has since broken down (see chart). Yet the shift of resources and the movement of people from declining places toward thriving ones remains an important part of the process of economic growth. In theory, the gains should be big enough to compensate those harmed by the shift, leaving everyone better off. "Governments should not try to rescue failing towns," *The Economist* wrote in 2013. "Instead, they should support the people who live in them."

This position never lacked for critics. Declining places can become poverty traps. A shrinking tax base means a deterioration in local services (including the public education that might provide young people with the skills to succeed elsewhere). Low and falling housing costs disproportionately attract people on fixed government incomes, like pensioners, who tend to take more in government services than they add to the local economy. What's more, people resent as elitist the notion that the decay of beloved cities is an acceptable part of the rough-and-tumble of a dynamic economy. That resentment can motivate votes against the institutions of globalisation. Just as America's Midwest helped carry Mr Trump to power, Brexit triumphed thanks to support from de-industrialising places like Middlesbrough and Wolverhampton. The liberal-minded are learning that they ignore regional disparities at their peril.

Economists are woefully short of compelling solutions, however. Some reckon the main problem is that the process of reallocating resources has occurred too slowly. Constraints on growth in thriving cities, from strict zoning regulation to inadequate infrastructure investment, mean that they have become pricier rather than much larger. Mr Ganong and Mr Shoag suggest that these constraints make Americans less likely to move; those who

do are less likely to head for richer places. Enrico Moretti of the University of California, Berkeley and Chang-tai Hsieh of the University of Chicago argue that American GDP might now be as much as 13.5% lower than it ought to be as a result. But although a speedier and more complete reallocation would boost GDP and the economic fortunes of those who choose to migrate, it would hardly improve the outlook for those who remain behind—and many inevitably would.

More generous transfers from "winners" to "losers" might help. In many rich economies prosperous areas already support poor ones. Subsidies—health and pension payments, as well as industrial and agricultural protections—provide a cushion against regional decline. But they are not a basis for long-run economic recovery, and have not been enough to stem the growth of populist political movements. Many people want it both ways: not only redistribution but also good jobs, without having to move too far to get them.

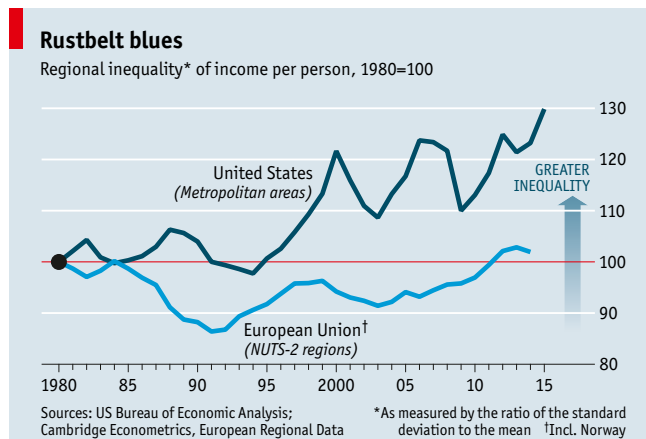
Attempts to jump-start local economies are another obvious response. Governments have a long record of experimentation with such "place-based" policies: from the massive infrastructure investments of the Tennessee Valley Authority (TVA) to EU structural funds and "enterprise zone" programmes, providing incentives for hiring and investment in struggling areas. These efforts do boast a certain economic logic. Modern cities thrive because of the benefits to firms and workers of crowding together. Clustering speeds the flow of ideas, cuts the cost of dealing with clients and enriches social lives.

### Wise men at their end

Yet studies of place-based policies offer something less than a ringing endorsement. Though some programmes appear to boost employment or the number of firms, others fail to have any significant effect or bring local benefits only at the expense of others. Research suggests that the TVA, for instance, fostered a manufacturing cluster in its own area but to the detriment of other regions. It is hard to help one place without harming another.

Indeed, more immigration would in many ways be an elegant solution to regional decline. By putting together underused infrastructure and rich-world institutions with foreign labour, immigration would be good for migrants, while also bringing new spending and entrepreneurial activity to struggling places. Some leaders, like Rick Snyder, the governor of Michigan, have expressed interest in place-based visa programmes which would allow struggling areas to recruit immigrants from abroad, so long as they remain in the place issuing the visa for a set amount of time. An intriguing idea: but now is not the moment when governments are likely to promote the potential of immigration.

So more creative solutions may be needed. In the late 19th century America's federal government gave land to states, which they could sell to raise proceeds for "land-grant universities". Those universities (today including many of the country's finest) were given a practical task: to develop and disseminate new techniques in agriculture and engineering. They have become centres of advanced research and, in some cases, the hub of local economic clusters. Mainstream academic economists might tut at a modern-day version of the programme, meant to foster new ideas, train workers and strengthen regional economies. But if economists cannot provide answers, populist insurgents will. ■






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**Oncology**

## Cancer's master criminals

### Doctors should look to proteins as well as genes to tackle tumours

ONE of the most important medical insights of recent decades is that cancers are triggered by genetic mutations. Cashing that insight in clinically, to improve treatments, has, however, been hard. A recent study of 2,600 patients at the M.D. Anderson Cancer Centre in Houston, Texas, showed that genetic analysis permitted only 6.4% of those suffering to be paired with a drug aimed specifically at the mutation deemed responsible. The reason is that there are only a few common cancer-triggering mutations, and drugs to deal with them. Other triggering mutations are numerous, but rare—so rare that no treatment is known nor, given the economics of drug discovery, is one likely to be sought.

Facts such as these have led many cancer biologists to question how useful the gene-led approach to understanding and treating cancer actually is. And some have gone further than mere questioning. One such is Andrea Califano of Columbia University, in New York. He observes that, regardless of the triggering mutation, the pattern of gene expression—and associated protein activity—that sustains a tumour is, for a given type of cancer, almost identical from patient to patient. That insight provides the starting-point for a different approach to looking for targets for drug development. In principle, it should be simpler to interfere with the small number of proteins that direct a cancer cell's behaviour than with the myriad ways in which that

cancer can be triggered in the first place.

This week, therefore, in a paper in *Nature Reviews Cancer*, he and Mariano Alvarez, a colleague at Columbia, pull together over a decade of work in an effort to understand how the proteins that regulate cancer are organised. Dr Califano and Dr Alvarez call this organisation “oncotecture”.

#### The 300 club

Creating the oncotectural blueprint for a cancer starts by analysing the gene-expression profiles of cells from samples of that cancer. A gene-expression profile describes which genes are active in a cell's DNA, and how active they are. Because genes encode proteins it gives a sense of which proteins, and how much of them, a cell is making. Many of these proteins are involved in regulating cellular activity, including growth and cell division (the things that go wrong in cancer), via signalling pathways in which one protein changes the behaviour of others (sometimes hundreds or thousands of others), each of which then changes the behaviour of others still—and so on. Applying a branch of mathematics called information theory to these data, to make them manageable, Dr Califano then maps the connections inside a cell.

One of his most important discoveries is that the resulting networks have a few “master regulator” proteins, which control the largest numbers of other proteins. Dr

Califano, whose father-in-law was a Mafia prosecutor in Italy, likens these to the bosses of a network of organised criminals. He sees his job as working out the links between them, in the same way that a detective might study a gang in order to find out who is in charge.

So far, he has analysed data from 20,000 tumour samples and generated maps for 36 types of tumour. All told, he has identified about 300 proteins that are probably master regulators in at least one sort of cancer. These are organised into groups of ten to 30 in each tumour type, and are probably, collectively, responsible for controlling most human cancers.

The master regulators, it turns out, are all proteins that affect transcription—the process that copies information in DNA into messenger molecules that carry it to a cell's protein factories. In Dr Califano's view, it is these master regulators that drug-makers should concentrate on, since drugs that modify such proteins' activities are likely to be widely applicable, in contrast to those focused on genetic mutations.

Indeed, the choice of best targets may be even narrower than this, he says—for among his master regulators lurk a few *capi di tutti capi*. In the view of Gordon Mills, of M.D. Anderson, one example of such a *capo* is an oestrogen-receptor that is involved in breast cancer. This is a transcription factor that controls the expression of many genes. Disabling it with a drug such as tamoxifen, so that it can no longer run its part of the network, is thus particularly effective. Dr Mills says it gives an “incredible outcome”, regardless of the mutations that triggered the cancer in the first place. A sec- ▶▶

**Correction:** In “The remains of the day” (December 10th) the rubric said that “Ancient eclipses show how days have shortened through history”. The article then went on to show how, and by how much, days have actually lengthened. Sorry

▶ Another example he cites is Bruton's tyrosine kinase, another transcription factor, which regulates various malignancies of white blood cells.

On top of these specific actions master regulators, like pieces of badly written software, can also set up loops that feed back on themselves and so, once activated, do not shut down. In aggressive prostate cancer, Dr Califano observes, two proteins called FOXM1 and CENPF act together in this way to promote a tumour's growth. In glioblastoma, a cancer of the brain, three proteins collaborate to start and maintain the cancer. And, according to John Minna of the University of Texas Southwestern Medical Centre, in Dallas, two master-regulator proteins in particular govern the malignancy of small-cell lung cancer.

Dr Minna does, though, argue caution in the master-regulator approach. First he observes, lots of known and suspected master regulators are in classes of protein that have proved difficult to affect with

drugs. Second, not all of the master regulators suggested by Dr Califano's modelling work have been shown to act as such in a laboratory. More experiments are needed to see which of his candidates really are proteinaceous *mafiosi* and which mere stool pigeons that have had the finger pointed at them incorrectly.

To that end, several studies are under way. One, at Columbia itself, is recruiting volunteers with cancer to see if attacking putative master regulators in their tumours works in cell cultures or when parts of the tumours in question are grafted into mice. If this approach yields dividends, that will suggest that attacking master regulators could be an effective way to treat cancer. Along with existing drugs tied to particular mutations, and a newly emerging class of pharmaceuticals that mobilise the immune system against tumours, master-regulator blasters could provide a third form of precise molecular attack upon this most feared of diseases. ■

from gutters in his hometown, Oslo, and also from rooftops in several cities that he visited to play jazz or to attend conferences.

Micrometeorites contain magnetite, a naturally magnetic form of iron oxide, commonly known as lodestone. Mr Larsen's first step was therefore to pass his slurry, about 300kg of it, past a magnet and keep anything that stuck. He then examined the 30kg or so of debris that resulted under a microscope, to hunt for cosmic dust. Micrometeorites melt as they zip through Earth's atmosphere at speeds of around 12km a second. The globules then cool into spherical grains, and the minerals of which these are composed take on a distinctive stripy appearance (see picture). An experienced eye, such as Mr Larsen's, can thus pick them out from other particles, which tend to be jagged and lack these markings. Altogether, he found about 500 of these "spherules", each around 300-400 microns in diameter (a few times the width of a human hair).

To confirm that the spherules were indeed micrometeorites Mr Larsen needed both expertise and more heavyweight equipment than he had at home. He therefore turned to Matthew Genge of Imperial College, London and his colleagues. They analysed 48 items from Mr Larsen's Oslo and Paris collections under a scanning electron microscope. They were able to confirm that the composition of these matched that of micrometeorites, which tend to be rich in olivine, a greenish semi-precious gemstone. Most tellingly, Mr Larsen's samples contained iron and nickel alloys common in micrometeorites, but rare in Earth-bound rocks because these metals oxidise rapidly.

Micrometeorites dredged from the sea may have fallen to Earth any time within the past 50,000 years or so, depending on the depth of sediment recovered. Likewise, those found in Antarctic ice may have arrived up to a million years ago. In both instances the recovery technique mixes old and new, so it is impossible to identify specimens that have arrived in the past few decades. Some of the micrometeorites Mr Larsen has collected, on the other hand, must have touched down less than six years ago, because the gutters they came from were cleaned then.

Intriguingly, these recent arrivals are more densely striped than an average specimen plucked from Antarctica or the ocean floor. That, Dr Genge says, suggests that they arrived at particularly high velocity. The speed with which they hit the atmosphere is dictated by the combined gravitational forces on them of the solar system's planets. That they are apparently arriving faster now than in the past may be because the planets' orbits are in slightly different positions relative to each other than they were a million years ago.

This is to be expected. Planetary orbits ▶▶



## Planetary science

# Stardust memories

### An amateur enthusiast finds micrometeorites in city gutters

**A**BOUT 4.6bn years ago, a spinning disc of gas and dust began to coalesce into balls of matter. The largest sphere, at the disc's centre, collapsed under its own gravity to form the sun. Other clumps of dust, scattered around its periphery, became planets and asteroids. In planets this dust has long since metamorphosed into rock. But in many asteroids it is still more or less intact. As a consequence, when asteroids collide, some of it is liberated—and a small fraction of that material eventually falls to Earth as micrometeorites. This micrometeoritic dust arrives at a rate of around six tonnes a day. Spread over Earth's surface, that amounts to just one particle per square metre each year.

Researchers go to great lengths to gather these grains, because they can reveal details of the solar system's composition and

history. They normally collect them by dredging up ooze from the ocean bed, then sifting and filtering it to find a few precious particles, or by melting tonnes of ice from the Antarctic to see what precipitates. Those two locations have the advantage of being isolated and reasonably free of dust from industrial sources. Now, in a study just published in *Geology*, a group of researchers have identified about 500 micrometeorites from an unlikely source: gutter sediment from the roofs of buildings in two of Europe's capital cities.

Enthusiastic amateur astronomers have claimed to have found cosmic dust in such urban slurry before. Professional scientists, however, tend to be sceptical of such claims, and none has been verified. Jon Larsen, a Norwegian musician, refused to be discouraged. He collected detritus

are elliptical, rather than circular, and their gravitational interactions with one another may cause the shapes of these ellipses to change over the years. On Earth, such changes are believed to contribute to the waxing and waning of ice ages. If micrometeorites could be collected from conventional sources in ways that recorded when they had arrived, that might aid understanding of similar changes in the orbits of other planets.

Even if this proves difficult, Dr Genge and Mr Larsen hope the guttering of the world's roofs will prove a useful third source of micrometeorites for general study. Oscar Wilde once wrote, "We are all in the gutter, but some of us are looking at the stars." Little did he suspect that looking in the gutter itself would also yield a little of the stuff from which stars are made. ■

### Drug addiction

## Souring the poppy's milk

**A long-sought vaccine against opioids may now be on the cards**

ANCIENT Egyptians, Sumerians, Greeks and many others knew the powers of opium poppies and employed them extensively. So, too, do modern doctors. Drugs derived from poppy juice, such as morphine, codeine, oxycodone and hydrocodone, known collectively as opioids, form the very foundation of pain management and are used in hospitals the world over.

Unfortunately, opioids are also highly addictive. Illicit consumption of them is reaching epidemic proportions—and not just among those who have wilfully chosen from the beginning to take such drugs recreationally. Many addicts were once prescribed an opioid legitimately, by a doctor, and then found that they could not stop. The upshot is a lot of premature deaths (see chart). Many researchers have therefore tried to find a way to deter those who have been given a brief taste of opioids from continuing to take them. Now one group, led by Kim Janda at the Scripps Research Institute in La Jolla, California, reports in *ACS Chemical Biology* that it has developed an anti-opioid vaccine.

Vaccines work by teaching the immune system to recognise a molecule as a threat, and to respond by making antibodies to that molecule. Antibodies are special immune-system proteins which are customised to recognise and lock onto specific molecules, thus stopping those molecules reacting normally. The threatening molecule employed to make a vaccine is usually part of a pathogen, such as a virus or bacterium (or, often, simply a neutralised ver-

sion of the pathogen itself). But it does not have to be. And, though opioids themselves do not provoke the attention of the immune system, they can be made to do so if they are chemically tweaked and attached to an appropriate carrier protein. That lures the immune system into making anti-opioid antibodies.

This approach has not, to date, resulted in an effective vaccine. The anti-opioid antibodies it produces do not glom on to their targets strongly enough to make the drug ineffective. Dr Janda thinks he knows why this is. In his view, the tweaked versions of the drugs, known as haptens, do not sufficiently resemble the originals. In particular, in order to ease the attachment of a hapten to its carrier protein, previous researchers have replaced one of its methyl groups (a carbon atom attached to three hydrogens) with an amide group (a nitrogen attached to two hydrogens). Dr Janda's experiments, using haptens derived from oxycodone and hydrocodone, two of the most commonly prescribed opioids, did not do this. Instead, they linked haptens to proteins using methylene groups (a carbon atom attached to two, rather than three, hydrogens, and connected to its parent molecule by a double bond, not a single one). That closely replicates the methyl structure found on opioids and allows tight connections with antibodies to form.

Once the new vaccines were ready, Dr Janda injected mice either with one of them or with a saline solution to act as a control. When he subsequently gave these animals the relevant opioid and then exposed their tails or feet to heat, in order to induce pain, those vaccinated for real responded to the heat far faster than did those that had been given the saline. Vaccination was, in other words, successfully blocking a drug's effect. Moreover, repeated trials showed that this blockage remained effective for between two and four months. If something similar were the case in people, that period should be long enough to help break any addiction, but short enough to allow the opioid in question to be used clinically on that patient

again in the future.

Dr Janda's vaccines also seemed to protect animals receiving them from the risk of dying from an overdose. When he injected unvaccinated mice with dangerously high levels of hydrocodone, only 25% of them survived for even a day. In contrast, 62.5% of the vaccinated animals were still alive a day later. For oxycodone, the corresponding figures were 14.2% and 37.5%.

Dr Janda suggests that all of these results are a consequence of the antibodies elicited by his new vaccines binding more tightly than their predecessors could to circulating drug molecules. If he is right, and if a similar response can be generated in people, then his approach may prove an important step towards rescuing opioid addicts from their addiction, no matter how it started. ■

### Climate science

## How hot is the sea?

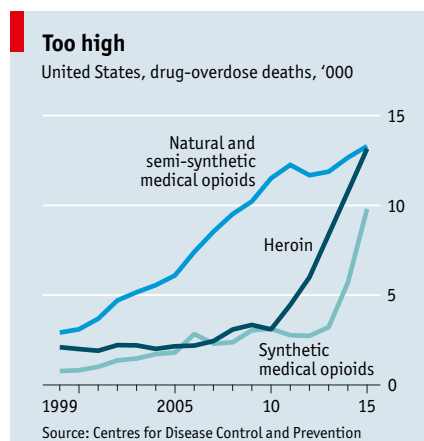
SAN FRANCISCO

**A novel way to measure how much heat the oceans are hiding**

"NOBODY really knows" was Donald Trump's assessment of man-made global warming, in an interview on December 11th. As far as the atmosphere is concerned, that puts him at odds with most scientists who have studied the matter. They do know that the atmosphere is warming, and they also know by how much. But turn to the sea and Mr Trump has a point. Though the oceans are warming too, climatologists readily admit that they have only a rough idea how much heat is going into them, and how much is already there.

Many suspect that the heat capacity of seawater explains the climate pause of recent years, in which the rate of atmospheric warming has slowed. But without decent data, it is hard to be sure to what extent the oceans are acting as a heat sink that damps the temperature rise humanity is visiting upon the planet—and, equally important, how long they can keep that up.

This state of affairs will change, though, if a project described by Robert Tyler and Terence Sabaka to a meeting of the American Geophysical Union, held in San Francisco this week, is successful. Dr Tyler and Dr Sabaka, who work at the Goddard Space Flight Centre, in Maryland, observe that satellites can detect small changes in Earth's magnetic field induced by the movement of water. They also observe that the magnitude of such changes depends on the water's temperature all the way down to the ocean floor. That, they think, opens a window into the oceans ►►



▶ which has, until now, been lacking. To measure things in the deep sea almost always requires placing instruments there—either by lowering them from a ship or by putting them on board submarine devices. The supply of oceanographic research vessels, though, is limited, and even the addition in recent years of several thousand “Argo” probes (floating robots that roam the oceans and are capable of diving to a depth of 2,000 metres) still leaves ocean temperatures severely under-sampled.

Satellites, however, can look at the whole ocean—and, if they are properly equipped, can plot ways in which Earth’s magnetic field is deflected by seawater. This deflection happens because seawater is both electrically conductive and always on the move. Such a moving conductor will deflect any magnetic field that passes through it. Crucially, saltwater’s conductivity increases with its temperature. This means the deflection increases, too. And since the magnetic field originates from within Earth, it penetrates the whole ocean, from bottom to top. So any heat, whether in the deepest troughs or near the surface, contributes to the deflection.

All this means that, if you know where

and how ocean water is displaced, the changes in the magnetic field, as seen from a satellite, will tell you the heat content of that water. Dr Tyler and Dr Sabaka therefore built a computer model which tried this approach on one reasonably well-understood form of oceanic displacement, the twice-daily tidal movement caused by the gravitational attraction of the moon.

Sadly, when they had crunched all the numbers, they found that with the available magnetic data, understanding the tides alone is not enough to calculate the oceans’ heat content. That requires one or both of two things to happen: adding the effects of other water movements, such as ocean currents and solar (as opposed to lunar) tides to the calculation, and collecting better magnetic data. The second approach, at least, is already in hand. Three recently launched European satellites, known collectively as *Swarm*, are busy gathering just the sort of data required. So if Dr Tyler and Dr Sabaka can upgrade their model of ocean movement appropriately to receive *Swarm*’s data, they may yet answer the questions of how much heat there is in the sea, and how much more it might reasonably be expected to absorb. ■

group of females, then your sperm are unlikely to be competing directly with those of other males. You therefore need to generate fewer sperm, and so can get away with smaller testes. This, the story goes, is why gorillas, which form harems, have much smaller testes, relative to their body sizes, than do chimpanzees, which are promiscuous. (Men’s testis size lies between these two extremes.)

It might therefore be expected that baculum size correlates with testis size. Surprisingly, Ms Brindle and Dr Opie found that it does not. They did, however, find three different but pertinent correlations. First, despite the lack of a relationship between baculum size and testis size, there was a clear one between the bone’s length (scaled for the size of the animal in question) and a species’ promiscuity: more promiscuous species had longer bacula. Second, species with specific mating seasons, rather than all-year-round mating, had longer bacula. Third, there was a strong correlation between the length of the bone in a species, and the average length of time intromission lasted in that species.

All of these observations make sense if the baculum’s purpose is to compete with the mating efforts of other males. Promiscuity increases the risk that a female will be inseminated by another male before the first male’s spermatozoa have had a chance to fertilise the female’s eggs. Seasonal breeding similarly piles on the pressure, by concentrating mating attempts into a small period of time. And increasing the length of coitus, which a baculum’s stiffening presence permits, reduces the time available for competitors to engage in a successful mating of their own.

Ms Brindle’s and Dr Opie’s prediction thus turns out to be correct—and it applies to people, too. The lack of a baculum in humans is of a piece with the lack of a mating season and with the existence of a pair-bonded mating system that has, by comparison with many other species, only limited levels of promiscuity. As for the length of time that sexual congress lasts in *Homo sapiens*, the adequacy of that is, perhaps, not a matter into which science should dare to trespass. ■

## Sexual selection

# Boning up

## Some male mammals have a penis bone. Some do not. Why?

PENAL stiffness is the stuff of smutty jokes. In Darwinian terms, though, it is no laughing matter. Intromission, the meeting of penis and vagina, is crucial to reproduction. With insufficient stiffness, intromission will not happen and the genes of the male will fail to make it into the next generation.

It is no surprise, therefore, that many male mammals have a bone, known as a baculum, in their penises to add to stiffness. What is surprising is that many others—men included—do not. What causes a baculum to evolve is not clear. But a study just published in the *Proceedings of the Royal Society*, by Matilda Brindle and Christopher Opie of University College, London, has shed some light on the matter.

Ms Brindle and Dr Opie have reviewed what data exist about mammalian bacula, especially those of primates and carnivores, and compared these with what is known about different species’ sex lives. They picked primates and carnivores because both groups contain some species whose males have a baculum and others whose males do not. (The picture is of a skeleton of an extinct wolf species, in

which the bone is particularly prominent.)

The researchers predicted that species with a baculum would be those in which male-male competition is worked out more at the level of the sperm, in the female’s reproductive tract, than it is at the level of the individual, by fighting and fancy display. There is a precedent here. In primates, testis size is inversely correlated with harem formation. If you, as a male, have fought off the competition and established reasonably exclusive access to a



Mine’s bigger than yours



## Nutrition

## Bittersweet

## Why sugar is bad for you. Really bad

CHRISTMAS is the most fattening time of the year. There are claims that the average Westerner will consume 6,000 calories on December 25th, well over twice the recommended daily intake for men and more than that for women. He or she could put on nearly two kilos in the last week of the year. Short winter days and too much slouching in front of the television accounts for some of that. But the main cause of festive obesity may well be sugar, an essential ingredient in Christmas pudding, brandy butter, chocolate, marzipan, mince pies and alcohol.

"Sugar spoils no dish," averred a 16th-century German saying. But it certainly spoils and savages people's health, says Gary Taubes, an American science writer who has focused heavily on the ills of sugar over the past decade and is the co-founder of an initiative to fund research into the underlying causes of obesity. In "The Case Against Sugar" he argues that dietary fat was fingered for decades as the perpetrator of obesity, diabetes and heart disease. Abetted by an industry that funded scientific research linking fat with coronary disease, sugar, the real culprit according to Mr Taubes, was allowed to slip off the hook.

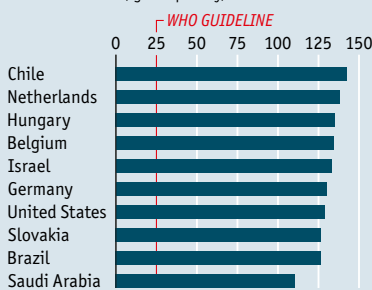
The author sets out to prove that because of its unique metabolic, physiological and hormonal effects, sugar is the new tobacco. It is detrimental to health, yet also defended by powerful lobbies. If, as he contends in one example, the most signifi-

**The Case Against Sugar.** By Gary Taubes. Knopf; 368 pages; \$26.95. To be published in Britain by Portobello in January

cant change in diets as populations become Westernised, urbanised and affluent is the amount of sugar consumed, then the conventional wisdom linking fat with chronic disease does not square up. Cultures with diets that contain considerable fat, like the Inuit and the Maasai, experienced obesity, hypertension and coronary disease only when they began to eat profuse amounts of sugar. Likewise, diabetes—virtually unknown in China at the turn of the 20th century, but now endemic in 11.6% of the adult population, 110m in total.

## Sweet and sour

Sugar consumption per person  
Selected countries, grams per day, 2015



Sources: Euromonitor International; WHO

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Sugar is intoxicating in the same way that drugs can be, writes Mr Taubes. Was it not Niall Ferguson, a British historian, who once described sugar as the "uppers" of the 18th century? A medieval recipe even suggests sprinkling sugar on oysters. The craving seems to be hard-wired: babies instinctively prefer sugar water to plain.

As sugar shifted from being a "precious product" in the 11th century to a cheap staple in the 19th century, the food industry proceeded to binge on it, with unheeded consequences. The biggest consumers today are Chilean (see chart). The Dutch, Hungarians, Belgians and Israelis are not far behind. Saudi Arabians also have a sweet tooth. In only ten countries do people eat fewer than 25 grams of sugar a day.

Sugar lurks in peanut butter, sauces, ketchup, salad dressings, breads and more. Breakfast cereal, originally a wholegrain health food, evolved into "breakfast candy"—sugar-coated flakes and puffs hawked to children by cartoon pitchmen like Tony the Tiger and Sugar Bear. A 340ml (12-ounce) fizzy drink contains about ten teaspoons of sugar. Even cigarettes are laced with it. Bathing tobacco leaves in a sugar solution produces less irritating smoke; it is easier and more pleasant to inhale.

Woe, however, to the scientist incautious enough to challenge the party line exonerating sugar. Mr Taubes tells the story of John Yudkin, a nutritionist at the University of London. In the 1960s, Yudkin proposed that obesity, diabetes and heart disease were linked with sugar consumption. Though he acknowledged that existing research, his own included, was incomplete, he became embroiled in a scientific spitting match with Ancel Keys, a well-known American researcher. Keys, whose work on dietary fat as the prime cause of coronary disease had been supported by the Sugar Association for years, ridiculed Yud-

kin, calling his evidence a “mountain of nonsense.” The clash—Mr Taubes calls it a “takedown” of Yudkin—is a sad chapter in what Robert Lustig, a paediatric endocrinologist at the University of California, San Francisco, calls “a long and sordid history of dietary professionals in the U.S. who have been paid off by industry”. When Yudkin retired as chair of his department in 1974, the university replaced him with an adherent of the dietary-fat theory.

Because research specific to sugar’s deleterious effects is wanting, the science, Mr Taubes concedes, is not definitive. But it is compelling. The case against sugar is gaining traction. In October the World Health Organisation urged all countries to impose a tax on sugary drinks. Mexico had already done so in 2013. In America cities including Chicago, Philadelphia and San Francisco are following suit. Britain will implement a soft-drink levy in 2018. South Africa and the Philippines have measures under consideration. Perhaps at long last, sugar is getting its just desserts. ■

#### Humans and decision-making

## Thinking about thinking

**The Undoing Project: A Friendship that Changed Our Minds.** By Michael Lewis. *W.W. Norton*; 362 pages; \$28.95. *Allen Lane*; £25

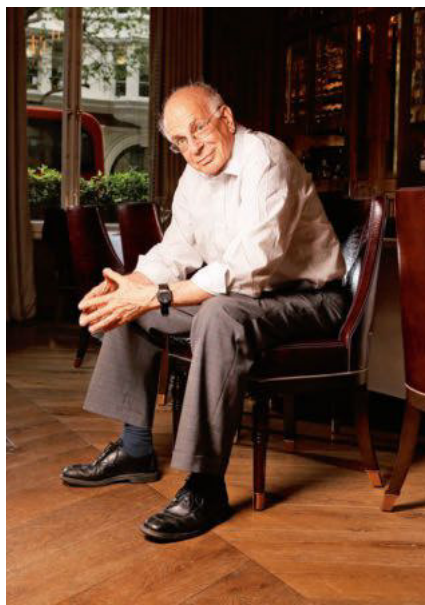
**D**URING the second world war a young Jewish boy was caught after curfew on the streets of Nazi-occupied Paris by an SS soldier. The soldier picked him up, hugged him, showed him a photograph of another boy and gave him money. The young Daniel Kahneman left more certain than ever that his mother was right: “People were endlessly complicated and interesting.” His curiosity about human thinking would lead him to a pioneering career in psychology, exploring the systematic flaws of decision-making, in a remarkable partnership with his collaborator, Amos Tversky. In 2002 Mr Kahneman (pictured) won a Nobel prize in economics, for work on how people overvalue losses relative to gains. Tversky would have shared it had he not died in 1996.

This is the terrain of Michael Lewis’s new book, “The Undoing Project: A Friendship that Changed our Minds”. It is part biography of a friendship and part account of psychology’s impact, while also taking in much of modern Israel’s history. It is a fine showcase of Mr Lewis’s range.

Mr Kahneman was introverted, formal and pessimistic, and worked conventional hours; Tversky was extroverted, informal and incorrigibly optimistic, keeping the hours of a bat. But the two shared a fascina-

tion with how people repeatedly make the same kinds of irrational mistakes. “We study natural stupidity,” Tversky quipped. At times, the two were “sharing a mind”, Mr Kahneman said, sitting at the typewriter together and blissfully unaware of who had contributed what to their work. They also had their tensions: Mr Kahneman was, for example, envious of Tversky, who attracted far more attention. But they remained so close that when Tversky was diagnosed with cancer, Mr Kahneman was the second person he told.

Academic work can be intellectual navel-gazing. But the Kahneman-Tversky partnership was always engaged in the real world, thanks to both men’s early experiences in Israel. At 21 Mr Kahneman was assigned to the army’s psychology unit. He overhauled the assessment of recruits, improving judgments by reducing the weight given to gut feelings; the methods have barely been tweaked since. During the Yom Kippur war in 1973, the two psychologists told the army to see what food soldiers threw into the rubbish in order to give them food they really wanted, and persuaded the air force to scrap investigations into a squadron suffering terrible losses: with a small sample size, the extra deaths were probably random. As their work on irrational decision-making has made its way into the wider world, it has also irritated incumbent pundits. When Daryl Morey, the general manager of the Houston Rockets basketball team, used behavioural economics to influence his choice of players, Charles Barkley, a commentator and former NBA star, denounced him and those like him: “They never got the girls in high school and they just want to get in the game.” In decision-making certain flaws are much easier to identify than amend, it seems.



The original fast and slow thinker

Some governments have tried to act on these insights. Barack Obama hired Cass Sunstein, a scholar heavily influenced by Mr Kahneman and Tversky, to design behavioural “nudges” that encourage people to do the right thing without forcing them. Britain created its own “nudge unit”, which for example reworded a request for organ donation by first asking people if they would want to receive an organ if they needed one. Positive response rates jumped by enough to increase the donor rolls by 100,000 per year.

Like Mr Lewis’s 13 previous books, “The Undoing Project” is a story of remarkable individuals succeeding through innovative ideas. Here, the balance is geared more towards the ideas, and the pace is slower than, say, “Liar’s Poker”, his first book. Yet, with his characteristic style, Mr Lewis has managed the unusual feat of interweaving psychology and the friendship between the two men. Two decades after he died, Tversky’s partnership with Mr Kahneman is still changing the world. ■

#### Animals and intelligence

## Smart arms

**Other Minds: The Octopus, the Sea, and the Deep Origins of Consciousness.** By Peter Godfrey-Smith. *Farrar, Straus and Giroux*; 255 pages; \$27. *To be published in Britain by William Collins in March 2017*; £20

**L**IKE life itself, the mind first emerged in Earth’s oceans. What is less well appreciated is that it evolved there in at least two distinct ways. One sentient branch of the tree of life is descended from the animals that crawled onto dry land hundreds of millions of years ago. It comprises humans and other mammals, and birds. The other branch remained water-bound and eventually produced another collection of creatures possessing higher intelligence: the cephalopods, a class of animals that includes squid, cuttlefish and octopus, probably the smartest of them all. In “Other Minds”, Peter Godfrey-Smith, a philosopher, skilfully combines science, philosophy and his experiences of swimming among these tentacled beasts to illuminate the origin and nature of consciousness.

An octopus’s body contains 500m neurons, roughly the same as a dog’s, but most of these reside in the cephalopod’s arms and allow the tentacles to act independently from the brain (their arms literally have a life of their own). The type of consciousness experienced by an octopus, then, is wholly alien to humans.

Early experiments assumed that the intelligence of animals could be estimated ►►

by their ability to carry out tasks, such as learning to pull a lever in exchange for food. Octopuses perform quite well in such tests but not as well as rats. Yet it is the anecdotes buried in research papers or related to him by scientists who work with animals that Mr Godfrey-Smith contends are often more revealing than the experiments themselves. One researcher told him of an octopus that expressed its displeasure with the lab food by waiting until she was looking before stuffing the unwanted scrap of squid down the drain.

According to the author, such behaviour shows octopuses are more intelligent

than the scientific literature suggests. Despite these displays of chutzpah, however, they have failed to become as smart as mammals or birds because, as a short-lived and solitary species, they have not had to contend with the many challenges of social living that seem to drive the evolution of complex brains.

“Other Minds” presents an intriguing possibility in the form of Octopolis, off the east coast of Australia. A patch of sand a few metres in diameter covered in thousands of empty scallop shells, Octopolis appears to host up to a dozen or so octopuses at any one time and presents them

with an opportunity to meet. “Some will pass by others without incident, but an octopus might also send out an arm to poke or probe at another,” Mr Godfrey-Smith writes. “An arm, or two, might come back in response, and this leads sometimes to a settling-down, with each octopus going on its way, but in other cases it prompts a wrestling match.” Could interactions like these lead, over many thousands of years, to the octopus becoming a brainier species? It might if there were thousands of such sites in the world’s oceans. Sadly, Octopolis is the only known example. If only, if only. ■

## Johnson | Off with their heads

### The obsession with “elites” is absurd

**A**N ACADEMIC, a politician, a journalist, a film star, a nobleman and a banker walk into a bar. They order different drinks, and sit at separate tables each doing their own thing. There is no punch line; these people do not belong together in any sensible way. Yet members of these groups and others are regularly given the same label: “elites”. Careful writers should avoid this word; it is becoming a junk-bin concept used by different people to mean wildly different things.

It is easy to understand why people reach for “elites”. If pundits can agree on anything about 2016, it is surely that it has been bad for elites. Populist wave after populist wave has broken over Western politics, with a vote for Brexit, the election of Donald Trump and Italy’s loss of a popular young prime minister over a constitutional referendum that he called—and lost. The masses are out for blood, and the elites are quaking.

But if you can picture those masses in your mind—pitchforks, torches, perhaps overalls—what do the elites look like? For Mr Trump, the hated elites comprise the Washington political establishment and the press. But for his own opponents, the very idea of a billionaire who lives in a golden tower swanning in and winning himself the presidency just goes to show what elite status can get you.

Campaigners for Brexit railed against liberal elites—the economists, academics and journalists who warned of its consequences. But the face of the Leave campaign was Boris Johnson, an Eton- and Oxford-educated toff. Michael Gove, another Leaver, said that folks were tired of “experts”. But Mr Gove, like Mr Johnson, is a former president of Oxford’s leading debating society, the Oxford Union, and one of politics’ pointier heads. In other words, no matter who you are or what

you’re campaigning for, bashing elites seems a safe bet, while admitting to being a member of an elite is an absolute no-go.

The obsession with elites is relatively recent: the oldest citation in the Oxford English Dictionary (OED) dates back to 1823. It was only a singular noun, from a past participle in French, meaning “chosen”; from the same root as “to elect”. (Its very Frenchness may make elite such a delicious word for some Anglophones to hurl as an insult.) The OED says the English noun is “The choice part or flower (of society, or of any body or class of persons)”.

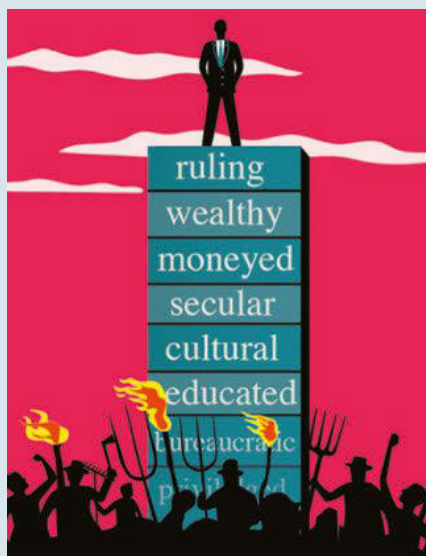
This entry has not yet been updated to include its more recent sense, the pejorative version, often plural, which can be glossed as “people with unearned privileges who keep honest folks from getting a fair shake”. Data from Google Books show the plural word “elites” beginning to be used in about 1940, with the obviously pejorative “elitist” rising from about 1960. The

anti-authority cultural changes of the 1960s, it seems, brought with them a rising concern with elites and their apologists.

Data from the *New York Times* show an even sharper spike in mentions of elites since about 2010, as article after article has tried to diagnose anger at elites. Populist anger is hardly surprising: elite financiers tanked the global economy, elite economists failed to foresee it and political elites failed to respond effectively enough. Those elites in the crosshairs had to find other elites to blame, and they did so. Elite scientists and Hollywood liberals whining about climate change cost coalminers their jobs. Elite London journalists noshing on sushi ignore the problems that hard-working northern Brits suffer as a result of immigration. Cultural elites police what can be said about minorities. And so on.

But the rush to blame elites has nearly everyone in the crosshairs: Sketch Engine, a digital tool for lexicographers, finds among the common modifiers for elite not just obvious ones like “ruling”, “wealthy”, “moneyed”, but also “secular”, “cultural”, “educated”, “metropolitan” and “bureaucratic”. Elites are no longer “the choice part or flower” of a group, but merely anyone in a position of influence someone else thinks they do not deserve.

Words aimed more precisely serve their purpose better. Elites are an abstraction. If people are angry at bankers or at climate scientists, they should say so specifically. Those seeking to diagnose the causes of the current wave of populism need to understand what populist voters are truly angry about. Those who are angry at elites generally, but can’t say more specifically who they are angry at or why, should think twice before voting for a populist who promises to find and punish those elites, whoever they are.





## Fiction

## Managing the traffic

**More.** By Hakan Gunday. Translated by Zeynep Beler. *Arcade Publishing*; 398 pages; \$25.99

**S**TILL in his mid-teens, the precocious but disturbed narrator of “More”, a novel about people-smugglers in Turkey, takes charge of a group of 33 Afghan refugees locked in a covered reservoir. As the “deity” of a “small country”, he watches how authority and control evolve amid this microcosm of desperate humankind. Effective leadership, he observes, rests on a ruler’s ability to foment a mood of “sustainable crisis”: a never-ending blend of hope and dread that tightens his grip on power.

Ambitious, compelling, but relentlessly bleak, “More” suggests that the influx of migrants into Europe from war-ravaged regions of Asia and the Middle East has itself become a sustainable crisis. Though published in Turkey in 2013, Hakan Gunday’s first-person story of a tormented trafficker is set in the past: after his liberation from the trade, the narrator hears news of the Taliban’s demolition of the Bamiyan Buddha statues in March 2001.

Gaza, the wounded anti-hero, joins his father’s business, aged nine, as a transporter of human souls in 18-wheeler lorries across Turkey to the Aegean. Historical fiction rather than a tale wrenched from recent headlines, his desolate testimony hints that the flow of the dispossessed has, like the perpetual chaos of Afghanistan, become a fixed feature of the world. In this emergency without end, figures such as Gaza and his demonic dad will always offer to carry into paradise “those who’d escaped from hell”.

Through the voice of this damaged youngster, a “child pharaoh” whose ordeals drive him into a post-traumatic breakdown, Mr Gunday measures the harm inflicted on a bright boy “raised by wolves to become one myself”. Zeynep Beler, the translator, lends the voice of this damaged lad a scorching intensity. The catalogue of violence and abuse, and the insistence that the refugee cargo contains its share of “thieves, murderers, rapists and child-molesters”, means “More” finds no sentimental uplift in its theme. The visceral punch and drive of its prose in many bravura passages—notably, the lorry crash that buries Gaza in a tide of corpses—evokes Irvine Welsh or William Burroughs more than “Oliver Twist”. Gaza is no angel, but as much a victim as the “meat” he helps shift: a hapless child soldier in our “omnipresent state of war”. ■



New York theatre

## Bard off-Broadway

The stars align for a memorable production of “Othello”

**I**F YOU see only one production of “Othello” in your lifetime, make it the one which is on at the New York Theatre Workshop (NYTW) until January 18th. Tickets sold out ages ago, but a cluster of hopefuls stand shivering outside before shows in case of returns. They are right to try.

From the start, it is clear something is going on. The entire auditorium is plastered in plywood, with stadium seating arranged in the round. The set evokes an army barracks, with mattresses arranged in rows. Two men are already onstage before the play even starts, dressed like soldiers on break (camo shorts, chiselled muscles, shaved heads) and engrossed in the video-game “Guitar Hero”. If most productions of Shakespeare heighten how remote these works can feel by setting the action at a distant time in a distant land (a place where even American actors mysteriously sound English), this one, directed by Sam Gold, capitalises on the ways “Othello” is not just timeless but also timely. A tragedy about love, jealousy, war, ambition, race and rage, it feels startlingly appropriate in the world of today.

This is Mr Gold’s first Shakespeare play. For a director who tends to collaborate with living playwrights on new work, this marks a departure. Mr Gold was eager for the challenge of a more formally rhetorical play, particularly if his experiment could be off-Broadway. “The smaller the audience, the easier it is for me to deliver the kind of performance that interests me,” he explains. Tackling the bard is “scary stuff”, he admits, but he has tried to treat “Othello” as if it were “a new play, without the burden of Shakespeare’s importance and the rules that come along with it”.

The 220-seat theatre’s small size means that too few people will see this production, but it also means the actors can afford to be subtle. Because they know everything they do can be seen and heard, their performances often sound more like talking than orating. Nearly everyone wrings out as much authenticity as possible from their lines. At times the actors are so at ease in their roles that it seems like they are departing from the original script. This is an illusion. The play has been trimmed slightly, but the text is unchanged (except that a rousing rendition of “Hotline Bling” replaces the original drinking song). The production runs for more than three hours, but it races by like a train hurtling towards its inevitable crash.

The ensemble includes a few stand-outs. In yoga leggings and a cardigan, Rachel Brosnahan is a sweet and perceptive Desdemona; Finn Wittrock is a fine, strong-jawed Cassio; and Matthew Maher nearly steals all of his scenes as the otherwise marginal dupe, Roderigo. But the show of course belongs to the two stars: David Oyelowo as Othello and Daniel Craig as Iago (pictured). It is a marvel to see the raw talent of these masters up close, without the smoke and mirrors of the cinema.

Mr Craig is a magnetic Iago, a thuggish weasel in a T-shirt and shorts who delivers his lines as comfortably as he breathes. Perhaps to subdue the glimmer of his celebrity (and evade the annoying habit of entrance applause), his first scenes take place in total darkness. This is an intriguing choice, which helps introduce the patter of Shakespeare’s poetry to the ear without the distraction of Mr Craig’s impossibly blue eyes. As for Mr Oyelowo, his transformation from a regal, self-assured soldier into a bloodthirsty creature undone by jealousy must be seen to be believed.

Mr Oyelowo says he had long avoided playing Othello, deeming it a bit “too obvious” a role. But he was won over by Mr Gold’s plans to stage the play “in a world of now”. He adds that after a ten-year hiatus, it also felt like it was time to return to the stage. “Nothing gets you closer to the truth of storytelling than live theatre,” he says. “There’s nowhere to hide. If you’re not telling the audience the truth, you feel it. But when it works, it’s magical.” ■

## Economic data

% change on year ago

	Gross domestic product			Industrial production	Consumer prices		Unemployment rate, %	Current-account balance		Budget balance % of GDP	Interest rates, %	Currency units, per \$	
	latest	qtr* 2016 <sup>i</sup>	2016 <sup>i</sup>		latest	latest		2016 <sup>i</sup>	latest 12 months, \$bn			% of GDP 2016 <sup>i</sup>	2016 <sup>i</sup>
United States	+1.6 Q3	+3.2	+1.6	-0.6 Nov	+1.6 Oct	+1.3	4.6 Nov	-488.2 Q2	-2.6	-3.2	2.49	-	-
China	+6.7 Q3	+7.4	+6.7	+6.2 Nov	+2.3 Nov	+2.0	4.0 Q3 <sup>s</sup>	+266.6 Q3	+2.5	-3.8	2.95 <sup>s</sup>	6.90	6.46
Japan	+1.1 Q3	+1.3	+0.7	-1.4 Oct	+0.2 Oct	-0.2	3.0 Oct	+184.2 Oct	+3.7	-5.6	0.07	115	121
Britain	+2.3 Q3	+2.0	+2.0	-1.2 Oct	+1.2 Nov	+0.6	4.8 Sep <sup>††</sup>	-146.9 Q2	-5.7	-3.7	1.53	0.79	0.66
Canada	+1.3 Q3	+3.5	+1.2	+2.8 Sep	+1.5 Oct	+1.5	6.8 Nov	-53.6 Q3	-3.5	-2.5	1.79	1.31	1.37
Euro area	+1.7 Q3	+1.4	+1.6	+0.6 Oct	+0.6 Nov	+0.2	9.8 Oct	+376.3 Sep	+3.2	-1.7	0.30	0.94	0.91
Austria	+1.2 Q3	+2.4	+1.5	+2.6 Sep	+1.3 Oct	+1.1	5.9 Oct	+8.2 Q2	+2.1	-1.4	0.60	0.94	0.91
Belgium	+1.3 Q3	+0.7	+1.2	+4.4 Sep	+1.8 Nov	+1.9	7.9 Oct	+4.8 Jun	+0.7	-2.8	0.70	0.94	0.91
France	+1.1 Q3	+1.0	+1.2	-1.8 Oct	+0.5 Nov	+0.3	9.7 Oct	-40.0 Oct <sup>‡</sup>	-1.1	-3.3	0.79	0.94	0.91
Germany	+1.7 Q3	+0.8	+1.8	+1.2 Oct	+0.8 Nov	+0.4	6.0 Nov	+296.2 Oct	+8.8	+1.0	0.30	0.94	0.91
Greece	+1.6 Q3	+3.1	+0.4	+6.8 Oct	-0.9 Nov	nil	23.1 Sep	-0.2 Sep	-0.2	-5.6	7.10	0.94	0.91
Italy	+1.0 Q3	+1.0	+0.8	+1.3 Oct	+0.1 Nov	-0.1	11.6 Oct	+47.8 Sep	+2.4	-2.6	1.80	0.94	0.91
Netherlands	+2.4 Q3	+3.0	+2.0	+0.6 Oct	+0.6 Nov	+0.2	6.8 Oct	+59.7 Q2	+8.5	-1.1	0.50	0.94	0.91
Spain	+3.2 Q3	+2.9	+3.2	-2.1 Oct	+0.7 Nov	-0.4	19.2 Oct	+23.5 Sep	+1.6	-4.6	1.44	0.94	0.91
Czech Republic	+1.6 Q3	+0.9	+2.4	-1.7 Oct	+1.5 Nov	+0.6	4.9 Nov <sup>§</sup>	+3.7 Q3	+1.5	nil	0.53	25.4	24.5
Denmark	+1.1 Q3	+1.7	+0.9	-0.3 Oct	+0.4 Nov	+0.3	4.2 Oct	+23.2 Oct	+5.9	-1.0	0.45	6.98	6.77
Norway	-0.9 Q3	-1.9	+0.7	nil Oct	+3.5 Nov	+3.5	4.8 Sep <sup>††</sup>	+18.0 Q3	+4.9	+3.0	1.76	8.47	8.68
Poland	+2.0 Q3	+0.8	+2.6	-1.3 Oct	nil Nov	-0.7	8.2 Nov <sup>§</sup>	-3.4 Oct	-0.5	-2.7	3.47	4.16	3.96
Russia	-0.4 Q3	na	-0.5	-0.3 Oct	+5.8 Nov	+7.0	5.4 Oct <sup>§</sup>	+30.2 Q3	+2.4	-3.7	8.45	61.1	70.7
Sweden	+2.8 Q3	+2.0	+3.1	-0.5 Oct	+1.4 Nov	+0.9	6.4 Oct <sup>§</sup>	+22.2 Q3	+5.0	-0.3	0.60	9.16	8.48
Switzerland	+1.3 Q3	+0.2	+1.4	+0.4 Q3	-0.3 Nov	-0.4	3.3 Nov	+66.1 Q2	+9.4	+0.2	-0.03	1.01	0.98
Turkey	-1.8 Q3	na	+2.9	+0.2 Oct	+7.0 Nov	+7.8	11.3 Aug <sup>§</sup>	-33.8 Oct	-4.8	-1.8	11.50	3.47	2.99
Australia	+1.8 Q3	-1.9	+2.9	-0.2 Q3	+1.3 Q3	+1.3	5.7 Nov	-47.9 Q3	-3.5	-2.1	2.74	1.33	1.38
Hong Kong	+1.9 Q3	+2.5	+1.6	-0.1 Q3	+1.2 Oct	+2.8	3.4 Oct <sup>††</sup>	+13.6 Q2	+2.6	+0.6	1.72	7.76	7.75
India	+7.3 Q3	+8.3	+7.2	-1.9 Oct	+3.6 Nov	+4.9	5.0 2015	-11.1 Q3	-0.9	-3.8	6.41	67.5	67.1
Indonesia	+5.0 Q3	na	+5.0	-2.7 Oct	+3.6 Nov	+3.5	5.6 Q3 <sup>§</sup>	-19.2 Q3	-2.1	-2.6	7.78	13,296	14,078
Malaysia	+4.3 Q3	na	+4.3	+4.2 Oct	+1.4 Oct	+1.9	3.5 Sep <sup>§</sup>	+5.6 Q3	+1.8	-3.4	4.14	4.45	4.33
Pakistan	+5.7 2016**	na	+5.7	+1.9 Sep	+3.8 Nov	+3.8	5.9 2015	-4.1 Q3	-0.9	-4.6	8.03 <sup>†††</sup>	105	105
Philippines	+7.1 Q3	+4.9	+6.4	+8.3 Oct	+2.5 Nov	+1.7	4.7 Q4 <sup>§</sup>	+3.2 Jun	+0.7	-1.0	4.56	49.7	47.3
Singapore	+1.1 Q3	-2.0	+1.3	+1.2 Oct	-0.1 Oct	-0.6	2.1 Q3	+63.0 Q3	+21.5	+0.7	2.45	1.42	1.41
South Korea	+2.6 Q3	+2.5	+2.7	-1.6 Oct	+1.3 Nov	+0.9	3.1 Nov <sup>§</sup>	+99.9 Oct	+7.2	-1.3	2.13	1,170	1,185
Taiwan	+2.0 Q3	+3.9	+1.0	+3.7 Oct	+2.0 Nov	+1.3	3.9 Oct	+74.7 Q3	+14.4	-0.5	1.12	31.8	32.9
Thailand	+3.2 Q3	+2.2	+3.1	+0.1 Oct	+0.6 Nov	+0.2	1.2 Oct <sup>§</sup>	+47.4 Q3	+7.8	-2.3	2.57	35.6	36.1
Argentina	-3.4 Q2	-8.0	-2.0	-2.5 Oct	— ***	—	8.5 Q3 <sup>§</sup>	-15.4 Q2	-2.5	-5.0	na	15.9	9.78
Brazil	-2.9 Q3	-3.3	-3.4	-7.3 Oct	+7.0 Nov	+8.3	11.8 Oct <sup>§</sup>	-22.3 Oct	-1.1	-6.4	11.86	3.32	3.89
Chile	+1.6 Q3	+2.5	+1.8	-7.4 Oct	+2.9 Nov	+3.7	6.4 Oct <sup>§††</sup>	-4.8 Q3	-1.9	-2.7	4.37	656	712
Colombia	+1.2 Q3	+1.3	+1.8	+4.0 Sep	+6.0 Nov	+7.5	8.3 Oct <sup>§</sup>	-15.7 Q2	-5.1	-3.7	7.33	2,959	3,354
Mexico	+2.0 Q3	+4.0	+2.1	-1.4 Oct	+3.3 Nov	+2.8	3.6 Oct	-30.6 Q3	-2.8	-3.0	7.27	20.2	17.4
Venezuela	-8.8 Q4~	-6.2	-13.7	na	na	+424	7.3 Apr <sup>§</sup>	-17.8 Q3~	-2.8	-24.3	10.57	10.0	6.31
Egypt	+4.5 Q2	na	+4.3	-4.9 Oct	+19.4 Nov	+13.1	12.6 Q3 <sup>§</sup>	-18.7 Q2	-7.0	-12.4	na	18.5	7.83
Israel	+5.0 Q3	+3.2	+3.2	+2.6 Sep	-0.3 Oct	-0.5	4.5 Oct	+13.3 Q3	+2.9	-2.4	2.19	3.80	3.86
Saudi Arabia	+3.5 2015	na	+1.1	na	+2.6 Oct	+3.8	5.6 2015	-61.5 Q2	-5.6	-11.7	na	3.75	3.75
South Africa	+0.7 Q3	+0.2	+0.4	-1.3 Oct	+6.6 Nov	+6.3	27.1 Q3 <sup>§</sup>	-12.3 Q3	-4.0	-3.4	8.93	13.7	15.3

Source: Haver Analytics. \*% change on previous quarter, annual rate. <sup>†</sup>The Economist poll or Economist Intelligence Unit estimate/forecast. <sup>§</sup>Not seasonally adjusted. <sup>††</sup>New series. ~2014 \*\*Year ending June. <sup>†††</sup>Latest 3 months. <sup>††††</sup>3-month moving average. <sup>§§§</sup>5-year yield. \*\*\*Official number not yet proved to be reliable; The State Street PriceStats Inflation Index, Nov 35.38%; year ago 25.30% <sup>†††††</sup>Dollar-denominated bonds.

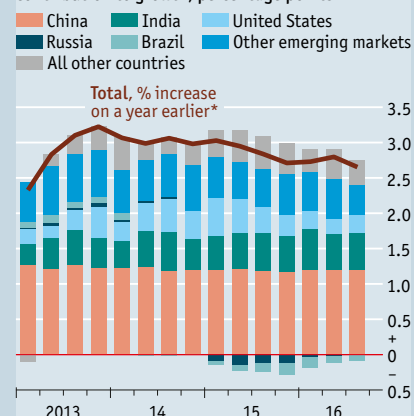
## Markets

	Index Dec 14th	% change on		
		one week	Dec 31st 2015	
			in local currency	in \$ terms
United States (DJIA)	19,792.5	+1.2	+13.6	+13.6
China (SSEA)	3,288.3	-2.5	-11.2	-16.5
Japan (Nikkei 225)	19,253.6	+4.1	+1.2	+5.8
Britain (FTSE 100)	6,949.2	+0.7	+11.3	-4.1
Canada (S&P/TSX)	15,197.2	-0.3	+16.8	+23.9
Euro area (FTSE Euro 100)	1,087.7	+2.2	-0.6	-2.5
Euro area (EURO STOXX 50)	3,211.7	+2.2	-1.7	-3.6
Austria (ATX)	2,596.7	+0.1	+8.3	+6.2
Belgium (Bel 20)	3,545.9	+0.4	-4.2	-6.0
France (CAC 40)	4,769.2	+1.6	+2.9	+0.9
Germany (DAX)*	11,244.8	+2.3	+4.7	+2.6
Greece (Athex Comp)	619.2	-3.3	-1.9	-3.8
Italy (FTSE/MIB)	18,606.3	+2.6	-13.1	-14.8
Netherlands (AEX)	472.2	+2.2	+6.9	+4.8
Spain (Madrid SE)	929.0	+3.1	-3.7	-5.6
Czech Republic (PX)	903.0	+1.0	-5.6	-7.4
Denmark (OMXC20)	772.7	+2.4	-14.8	-16.1
Hungary (BUX)	31,374.3	+4.1	+31.2	+29.5
Norway (OSEAX)	757.6	+2.1	+16.7	+22.1
Poland (WIG)	51,357.8	+1.9	+10.5	+4.9
Russia (RTS, \$ terms)	1,148.9	+7.7	+27.1	+51.8
Sweden (OMXS30)	1,541.4	+2.5	+6.5	-2.0
Switzerland (SMI)	8,140.4	+2.7	-7.7	-8.5
Turkey (BIST)	76,880.8	+1.1	+7.2	-9.7
Australia (All Ord.)	5,639.7	+1.9	+5.5	+8.7
Hong Kong (Hang Seng)	22,456.6	-1.5	+2.5	+2.4
India (BSE)	26,602.8	+1.4	+1.9	-0.2
Indonesia (JSX)	5,262.8	nil	+14.6	+18.8
Malaysia (KLSE)	1,643.3	+0.7	-2.9	-6.2
Pakistan (KSE)	46,185.3	+3.8	+40.7	+40.7
Singapore (STI)	2,954.1	-0.2	+2.5	+2.2
South Korea (KOSPI)	2,036.9	+2.3	+3.9	+4.1
Taiwan (TWI)	9,368.5	+1.1	+12.4	+16.2
Thailand (SET)	1,521.3	nil	+18.1	+19.4
Argentina (MERV)	16,918.4	-1.6	+44.9	+17.8
Brazil (BVSP)	58,212.1	-5.2	+34.3	+59.9
Chile (IGPA)	21,134.4	+0.3	+16.4	+25.8
Colombia (IGBC)	9,905.6	+1.1	+15.9	+24.3
Mexico (IPC)	46,220.5	+1.3	+7.5	-8.1
Venezuela (IBC)	32,579.3	-9.8	+123	na
Egypt (EGX 30)	11,317.2	-0.3	+61.5	-32.6
Israel (TA-100)	1,271.6	+1.0	-3.3	-1.1
Saudi Arabia (Tadawul)	7,066.0	-0.8	+2.2	+2.3
South Africa (JSE AS)	50,716.3	+2.5	nil	+13.5

## World GDP

The world economy grew by 2.7% in the third quarter of 2016 compared with a year earlier, down from 2.8% the previous quarter. Growth remains steady in India and China: together they accounted for 65% of world growth. Other emerging markets struggled: they contributed 16%, down from 21% in the previous quarter, their lowest share since 2008. In particular, falling smartphone exports took a heavy toll on South Korea. Norway was the only rich country in our sample whose economy contracted, partly because of a decline in oil-related activities. The United States was a bright spot: the economy expanded faster than it did in the second quarter, boosted by exports and federal government spending.

## Contribution to growth, percentage points



Sources: Haver Analytics; IMF; The Economist \*Estimates based on 57 economies representing 83% of world GDP. Weighted GDP at purchasing-power parity

## Other markets

	Index Dec 14th	% change on		
		one week	Dec 31st 2015	
			in local currency	in \$ terms
United States (S&P 500)	2,253.3	+0.5	+10.2	+10.2
United States (NAScomp)	5,436.7	+0.8	+8.6	+8.6
China (SSEB, \$ terms)	345.0	-1.7	-14.0	-19.1
Japan (Topix)	1,538.7	+3.2	-0.6	+4.0
Europe (FTSEurofirst 300)	1,406.7	+2.4	-2.1	-4.0
World, dev'd (MSCI)	1,774.0	+1.4	+6.7	+6.7
Emerging markets (MSCI)	877.2	+1.1	+10.5	+10.5
World, all (MSCI)	427.5	+1.4	+7.1	+7.1
World bonds (Citigroup)	884.7	-1.2	+1.7	+1.7
EMBI+ (JPMorgan)	765.5	-0.6	+8.7	+8.7
Hedge funds (HFRX)	1,203.2 <sup>§</sup>	+0.4	+2.5	+2.5
Volatility, US (VIX)	12.6	+12.2	+18.2 (levels)	
CDSs, Eur (iTRAXX) <sup>†</sup>	70.8	-4.4	-8.2	-10.0
CDSs, N Am (CDX) <sup>†</sup>	67.8	-0.2	-23.3	-23.3
Carbon trading (EU ETS) €	5.0	+16.5	-39.6	-40.7

Sources: Markit; Thomson Reuters. \*Total return index.

<sup>†</sup>Credit-default-swap spreads, basis points. <sup>§</sup>Dec 12th.

Indicators for more countries and additional series, go to: [Economist.com/indicators](http://Economist.com/indicators)

## The Economist commodity-price index

2005=100

	Dec 6th		Dec 13th*		% change on	
	Dec 6th	Dec 13th*	one month	one year		
<b>Dollar Index</b>						
All Items	144.3	144.3	+3.1	+14.5		
Food	156.6	155.0	+0.7	+4.4		
Industrials						
All	131.5	133.2	+6.1	+29.6		
Nfa <sup>†</sup>	134.9	140.6	+9.5	+29.1		
Metals	130.0	130.1	+4.6	+29.8		
<b>Sterling Index</b>						
All items	206.6	207.0	+0.7	+35.8		
<b>Euro Index</b>						
All items	167.3	168.7	+3.9	+17.5		
<b>Gold</b>						
\$ per oz	1,171.2	1,159.8	-5.3	+9.3		
<b>West Texas Intermediate</b>						
\$ per barrel	50.9	53.0	+15.7	+42.1		

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

<sup>†</sup>Non-food agriculturals.



## Right up there

**John Glenn, astronaut and politician, died on December 8th, aged 95**

**T**OO big, too unschooled, too old—only narrowly did John Glenn gain entry to the training programme which made him America's space hero. To meet NASA's size requirements, he briskly lost 28lb (nearly 13kg), even putting books on his head to try to squeeze a little off his height.

Nothing could be done about his age (pushing 40), nor his lack of scientific qualifications—he had dropped out of his engineering course in 1941 after learning to fly. But what flying it was: 149 combat missions, first against Japan in the Pacific, then in the Korean war; one of them left more than 200 bullet-holes in his plane's fuselage. They earned him the nickname "The MiG-mad Marine", six Distinguished Flying Crosses and 18 clusters on his Air Medal. And he was a celebrity already, having just made America's first transcontinental supersonic flight, in a record three hours 23 minutes, testing a new fighter aircraft.

His country's spirits needed lifting in 1959. The Soviet space programme seemed unbeatable. Communist scientists had put the first satellite, dog and man into orbit, while America's efforts flared and fizzled on the launch pad. Despite the mishaps, there was intense rivalry for the privilege of perching in a flimsy metal capsule on top of 100-plus tonnes of rocket fuel. It was another contest just made for the clean-cut

mid-Wester. His austere approach grated on some colleagues—though Mr Glenn insisted he was not the "pious saint", nor the other guys the "hellions" depicted in the film version of Tom Wolfe's "The Right Stuff".

Gloom and ire alike ended on February 20th 1962. To the words "Godspeed, John Glenn" from Mission Control he and America's hearts soared to the heavens in the *Friendship 7*. In the space of four hours and 55 minutes he saw three sunrises, circling the Earth at more than 17,000mph (27,000kph). Puzzlingly, he also saw what looked like fireflies, resting on the window. A malfunction on the spacecraft? A sign of failing eyesight? A celestial mirage, or even (some wondered) a miracle? Later it turned out that they were frozen crystals of condensation, catching the sunlight.

The run-up had been testing, with ten delays stretching over two months. But once in orbit, a more serious worry dawned. Some controls in the capsule had apparently failed, meaning that the astronaut himself would have to work out the angle of his re-entry to the Earth's atmosphere. Worse (but also wrongly) NASA had received a signal suggesting that the capsule's heat shield had, lethally, broken loose. In the nerve-racking final minutes of the flight, his pulse raced from 87 to 132. The

important thing, he mused later, was not fear, but what you can do to control it.

The splashdown proved flawless. At Cape Canaveral he was greeted and decorated on the spot by President John Kennedy. In New York, 4m people turned out for a ticker-tape parade. Mr Glenn ranked with the greatest aviators, the Wright Brothers and Charles Lindbergh, in the American pantheon. A joint session of Congress gave him a standing ovation. He was so popular, the BBC's Alastair Cooke said only half-jokingly, that he could have "abolished the Constitution and been proclaimed president overnight".

### What on earth did he do?

His success had opened the way for the moon landings, yet his popularity kept him grounded. Without the astronaut's knowledge, JFK ruled out any more space flights. America's idol was too precious to lose—and perhaps more useful elsewhere. The Kennedys urged him to enter politics. His early steps were faltering, and a frail soul might have been daunted by his mentors' fate; in 1968 it was Mr Glenn who had to tell Bobby Kennedy's children of their father's assassination.

But in 1974 he stormed through the Democratic primary in his home state of Ohio after the incumbent senator, a tax-dodging tycoon, implied that the challenger lacked real-world experience. With cosmic scorn, Mr Glenn suggested that his opponent visit a veterans' hospital and "look those men with mangled bodies in the eyes and tell them they didn't hold a job".

In many ways he was a model lawmaker, diligent and moderate. There was just one whiff of scandal in 24 years, when he unwisely associated with Charles Keating, a fraudster in search of a bail-out. He promoted environmentalism, nuclear non-proliferation and (of course) space travel: it wasn't whether America could afford the programme, but whether it could afford not to. He strongly defended evolution, too. Science and religious belief did not clash: they reinforced each other. He had seen more of God's creation than most people, he would note.

He was bad at delegating and a dull speaker: his fireside chats would put out the fire, people said unkindly. His sole bid for the Democratic nomination, in 1984, crashed amid humiliation and debts. His legislative achievements were modest.

But in 1998, in his final year in the Senate, he became, aged 77, the oldest person to go into space. In theory, the mission was to study the ageing process. But in truth, most reckoned, it was a favour from his friend President Bill Clinton. Few begrudged him his last hurrah. Not until the age of 90 did he give up flying: old people, he insisted, should not let the calendar dictate their lives. ■