

The Economist

AUGUST 19TH–25TH 2017

China's next cultural revolution

Germany's new economic divide

Construction: the least efficient industry

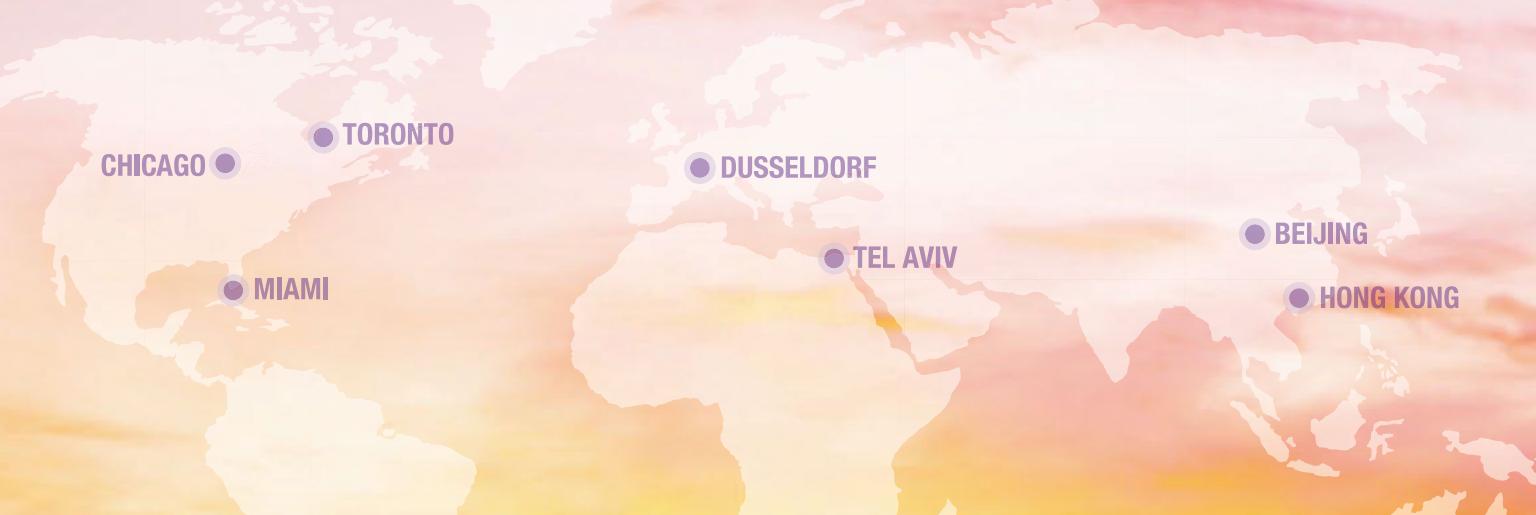
The allure of the eclipse



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On the cover

This week has shown that Donald Trump has no grasp of what it means to be president: leader, page 7. Mr Trump's failure of character emboldens America's far right, page 28. American business breaks with the president, page 51. Heather Heyer, legal assistant, was killed at the Charlottesville rally: Obituary, page 74

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intelligence, which presses forward, and
an unworthy, timid ignorance obstructing
our progress."

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5 The world this week

Leaders

- 7 **Trump and the far right** Unfit
- 8 **Britain and the EU** Reality starts to dawn
- 8 **Construction** How to build better
- 9 **Trade** Modernising NAFTA
- 10 **Dual citizenship** Double happiness

Letters

- 12 **On populism, North Korea, childlessness, renewables, shipping, Eurocrats, bullets, Iceland, St James's Street**

Briefing

- 15 **The solar eclipse** The dark after dawn
- 18 **Sunless solar power** Watch with care
- 18 **Future eclipses** Coming subtractions

Asia

- 19 **The Philippine economy** Populism-proof
- 20 **Politics in the Maldives** Palm-fringed pandemonium
- 21 **Dual citizenship in Australia** Double trouble
- 21 **Taiwan's power supply** In the dark
- 22 **Sanitation in India** Missing the mark
- 23 **Banyan** Unfinished Partition

China

- 26 **Traditional culture** Making history
- 27 **Labour law** Workers, disunited

United States

- 28 **After Charlottesville** White fight
- 29 **America's far right** Rogues' gallery
- 30 **Boozing** Got to give it up
- 30 **Education** Can't be asked
- 31 **Texas politics** A very special session
- 32 **The female workforce** All the working ladies
- 33 **Lexington** Mike Pence

The Americas

- 34 **Brazil's economy** When will the future arrive?
- 35 **Newfoundland and Labrador** The moral of Muskrat Falls

Middle East and Africa

- 36 **Destroying history** The loss of Arab heritage
- 37 **Israel's gas conundrum** Too much of a good thing
- 37 **The politics of language** Stumped for words in Algeria
- 38 **Angola's election** Less of the same
- 39 **Politics in Kenya** Don't celebrate yet
- 39 **Mud and death** Tragedy in Sierra Leone

Europe

- 40 **Germany's new divide** The beautiful south
- 41 **Reparations for Poland** Upping the ante
- 42 **Italian politics** Return of the crooner
- 42 **Serbia and the EU** Assembly required
- 43 **Charlemagne** A new government inspector in Russia



Brexit The British government is slowly moving towards accepting harsh truths about Brexit: leader, page 8. The government's new Brexit papers are welcome, but they cannot disguise contradictions in its ultimate goals, page 44



Germany As its election campaign kicks off, the country's north-south split is ever starker, page 40



Eclipses Where to go for a lack of sun, page 15. The eclipse will show the changing nature of America's electricity grid, page 18



Construction Productivity in the industry is notoriously low. It need not be: leader, page 8. Builders have resisted investment and consolidation, page 49



Renegotiating NAFTA A threat to free trade in North America has turned into an opportunity to boost it: leader, page 9. The first round of talks get under way, page 57



The next cultural revolution China's Communist Party is trying to redefine what it means to be Chinese, page 26

Britain

- 44 The Brexit negotiations**
Papiering over the cracks
45 The radical right
Vote Leave, lose control

International

- 46 Letter from Alphabet**
The e-mail Larry Page should have written to James Damore

Business

- 49 The construction industry**
Least improved
50 Maritime construction
Building under water
51 An American solar spat
Dark side of the sun
51 Business and Trump
End of the affair
52 E-sports
Play time
54 Schumpeter
Ant Financial

Economics brief

- 55 Externalities**
The lives of others

Finance and economics

- 57 Trade talks**
Renegotiating NAFTA
58 America and China
Lighthizer, camera, action!
58 Chinese monetary policy
Dynastic equilibrium
60 Catholic investments
Faith, hope and impact

61 Sports hedge funds

Against the odds

61 Company names

Eponymous heroes

62 Free exchange

Africa's development

Science and technology

- 63 Cobots**
Your plastic pal who's fun to be with
64 Satellites
Dusty death
64 Combating addiction
An injection of hope
65 Hormones and behaviour
Impulse power

Books and arts

- 66 The Japanese tsunami**
Death in the afternoon
67 Memoir of ageing
Years and years
67 Folk singing
English national anthems
68 Shark-fishing
Deep and dark
69 Peter Stamm's fiction
Mountain man

72 Economic and financial indicators

Statistics on 42 economies, plus a closer look at metal prices

Obituary

- 74 Heather Heyer**
Putting things straight



Letter from Alphabet The e-mail Larry Page should have written to James Damore, page 46

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Politics



One person was killed and 19 injured when a car was deliberately accelerated into a crowd of counter-protesters during a white nationalist rally at Charlottesville, Virginia. The nationalists, carrying Nazi and Confederate flags while chanting "blood and soil" and "Jews will not replace us", were marching against the removal of a statue of Robert E. Lee, a Confederate general. President Donald Trump's ham-fisted response to the death of the counter-protester, in which he blamed "violence on many sides" outraged people across America as well as the rest of the world.

Several CEOs from America's biggest companies resigned from Donald Trump's manufacturing council and the strategy and policy forum, two advisory bodies, after the president's unconvincing response to the violence in Virginia. So many bosses departed that Mr Trump was forced to disband both outfits. He singled out Kenneth Frazier, the first African-American boss of pharmaceuticals giant Merck, for abuse on Twitter after his resignation.

War of the airwaves

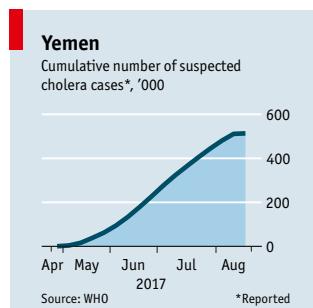
The United States announced that it had expelled two Cuban diplomats from Washington, DC, on May 23rd after several Americans working at their country's embassy in Havana had to be flown to Miami for treatment after experiencing headaches, dizziness and hearing loss. The Cuban government has a long history of harassing American government employees in

Havana. American officials think that the symptoms were caused by the covert use of a sonic-wave machine, a type of acoustic-weapons system.

Donald Trump's claim that America would not rule out a "military option" to quell chaos in Venezuela enraged President Nicolás Maduro, who charged the United States with "Yankee imperialism" and scheduled military drills. Regional leaders and Mr Trump's Republican allies disavowed his remarks, but the diplomatic spat overshadowed Vice-President Mike Pence's visit to Argentina, Chile, Colombia and Panama.

In Argentina, President Mauricio Macri's business-friendly "Let's Change" coalition performed better than expected in a primary legislative election. In Buenos Aires province, a former electoral stronghold for the Peronist party, Cristina Fernández de Kirchner, the populist ex-president, tied with Mr Macri's candidate.

A horrific milestone



The World Health Organisation announced that the number of suspected cholera cases in war-torn Yemen has reached half a million. Some 2,000 people have died from the diarrhoeal disease. The rate of new cases is declining, but the epidemic remains a serious problem in the country.

Iran's president, Hassan Rouhani, said his country could abandon the deal over its nuclear programme that it signed with America, Britain, China, France, Germany and Russia in 2015, "within hours", if Donald Trump imposed new sanctions. Iran's parliament voted to increase military

spending by \$500m, with much of the money going on missiles, although the decision has yet to be implemented.

Gunmen opened fire on a café in Ouagadougou, the capital of Burkina Faso, killing at least 18 people. Jihadists are suspected of carrying out the attack. Other Islamic extremists were responsible for a similar shooting in the same street last year. Hours after the attack, another set of gunmen fired on the United Nations mission in Mali, killing seven.

Grace Mugabe, the wife of Zimbabwe's president Robert Mugabe, was accused of assaulting a 20-year-old South African model with an extension cord at an upmarket hotel in Johannesburg. A leading contender for Zimbabwe's presidency after the retirement of Mr Mugabe, a nonagenarian, a criminal record could stymie her path to the top job.

Lights out

Taiwan suffered a massive power cut affecting 5.9m households, leaving many without air conditioning in the summer heat. Lee Chih-kung, Taiwan's economics minister, took responsibility for the incident and resigned.

Tensions eased slightly between America and North Korea, after the North's official news agency reported that Kim Jong Un, the country's strongman, had decided to put on hold plans to fire missiles close to the American territory of Guam. Mr Trump called the decision "very wise and well reasoned".

Three prominent leaders of Hong Kong's pro-democracy movement were sentenced to jail for participating in largely peaceful protests in 2014. By law, the prison sentences make them ineligible for public office for five years.

Barnaby Joyce, Australia's deputy prime minister, discovered that he held dual New Zealand citizenship. That would render him ineligible to serve in parliament, according

to Australia's constitution. Mr Joyce, who was born in Australia to a father from New Zealand, is waiting for the High Court, which is also scrutinising several senators, to rule on his case. Australia's government is vulnerable as it only has a single-seat majority.

Ode to Joy

A report by Eurostat, the European statistics agency, confirmed economic recovery of the euro zone. Exceeding estimates, the economy of the 19 countries sharing the single currency grew by an annualised rate of 2.2% in the three months to the end of June.

Turkey has requested the extradition of a theology lecturer from Germany: Adil Oksuz is suspected of having played a major role in last year's failed coup. Meanwhile Turkish police have launched new operations to hunt down more coup suspects, as part of the government's security crackdown, which has strained relations between Germany and Turkey.

Several NGOs stopped rescuing migrants in the Mediterranean Sea after the Libyan government barred foreign ships from an area off its coast. It accuses the NGOs of encouraging smugglers and facilitating the flow of migrants. Italy, where most end up, has praised the Libyan government's actions.



A heatwave nicknamed "Lucifer" continued to affect southern Europe. Temperatures reached record highs across the region and forest fires broke out in southern France, Corsica and Croatia, as well as on the Greek island of Zakynthos. ►

Business

Officials from America, Mexico and Canada began renegotiating the **North American Free-Trade Agreement**. The 23-year-old pact, pilloried by President Donald Trump, is due for an upgrade. New rules to govern labour and environmental standards, digital trade and dispute resolution could all feature. Nonetheless, talks are expected to be difficult, particularly if the Trump administration sticks rigidly to its "America First" agenda.

Standard Life and Aberdeen, two asset-management firms, completed an £11bn (\$14.2bn) merger. Standard Life Aberdeen will have £670bn under management, making it Europe's second-largest fund.

Industrial production in **China** grew by 6.4% in the year to July, falling short of expectations. Although the IMF raised its GDP-growth forecast this year from 6.2% to 6.7%, it warned that the country was shoring up growth by taking on dangerous amounts of debt. Non-financial-sector debt could reach almost 300% of GDP by 2022.

Japan's GDP grew at an annualised pace of 4% in the second quarter compared with the first. Consumption expanded at its fastest rate since sales tax was raised in 2014. It was the country's sixth consecutive quarter of growth.

Tesla sold \$1.8bn of unsecured ("junk") bonds, the first such offering from the electric car-maker. The sale was expanded from \$1.5bn because of overwhelming demand from investors. The proceeds will be used to finance production of the popular Tesla Model 3. Having built around 80,000 cars last year, Tesla hopes to produce 500,000 vehicles in 2018.

Full stream ahead

SoundCloud said it had raised new funds, ensuring its survival until the end of the year. The music-streaming service has

88m users but has struggled to generate revenue.

Donald Trump ordered an investigation into **Chinese trade practices**, a possible precursor to penalties. Robert Lighthizer, the United States trade representative, is to look into China's alleged theft of intellectual property, which the administration estimates to be worth as much as \$600bn.

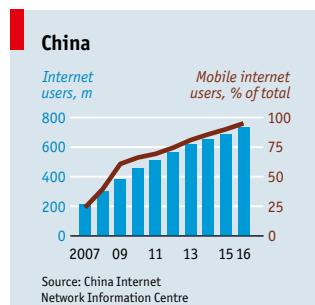
A conflict within **America's solar industry** ignited. Suniva and SolarWorld, two struggling manufacturers of solar cells, brought a complaint in front of America's International Trade Commission, claiming that they were ruined by cheap imports. Chinese-owned Suniva has asked the commission to recommend the imposition of duties on cell imports and a floor on the price of imported panels. The companies' opponents, including an industry association, say such action could clobber solar installers, threatening thousands of jobs.

Berlin air lift

Air Berlin filed for insolvency. Germany's second-largest carrier will be kept aloft by a €150m (\$176m) government loan; the firm's biggest share-

holder, Etihad Airways, has refused to pump in any more money. Air Berlin has racked up €1.2bn in debt, and reported a record €782m loss in 2016. Germany's biggest airline, Lufthansa, is in talks to buy a stake. Earlier this year Alitalia, another carrier in which Etihad owns a large stake, filed for bankruptcy, calling into question its acquisition strategy.

Angela Merkel, the German chancellor, said that sooner or later the country will have to ban **diesel cars**. She had earlier resisted calls to follow Britain and France, which plan to ban the sale of new petrol and diesel cars by 2040.



Tencent reported a second-quarter profit of 18.2bn yuan (\$2.7bn), up by 68% compared with the same period last year. The Chinese technology conglomerate, which dominates much of the country's internet,

has benefited from its close relationship with the Communist Party. However, investors worry that this friendship may have grown fraught. Chinese regulators are investigating Tencent's most important social-media and consumer app, WeChat, along with a competitor, Weibo, for allowing users to spread "violence, terror, false rumours, pornography and other hazards".

Amazon raised \$16bn in a bond sale to finance its purchase of Whole Foods Market, a supermarket chain. The issue was more than three times oversubscribed. The acquisition signals the online giant's push to enter the grocery market.

Call to arms

Bill Gates donated 64m Microsoft shares, worth \$4.6bn, to the charitable foundation he runs with his wife, Melinda. The gift was made in June but has only just been revealed in a Securities and Exchange Commission filing. Mr Gates now owns just 1.3% of the firm he co-founded in 1975. Bloomberg reports that the couple have given away about \$35bn to charitable causes since 1994.

Other economic data and news can be found on pages 72-73



Unfit

This week has shown that Donald Trump has no grasp of what it means to be president



DEFENDERS of President Donald Trump offer two arguments in his favour—that he is a businessman who will curb the excesses of the state; and that he will help America stand tall again by demolishing the politically correct taboos of left-leaning, establishment elites. From the start, these arguments looked like wishful thinking. After Mr Trump's press conference in New York on August 15th they lie in ruins.

The unscripted remarks were his third attempt to deal with violent clashes in Charlottesville, Virginia, over the weekend (see page 28). In them the president stepped back from Monday's—scripted—condemnation of the white supremacists who had marched to protest against the removal of a statue of Robert E. Lee, a Confederate general, and fought with counter-demonstrators, including some from the left. In New York, as his new chief of staff looked on dejected, Mr Trump let rip, stressing once again that there was blame "on both sides". He left no doubt which of those sides lies closer to his heart.

Mr Trump is not a white supremacist. He repeated his criticism of neo-Nazis and spoke out against the murder of Heather Heyer (see our Obituary). Even so, his unsteady response contains a terrible message for Americans. Far from being the saviour of the Republic, their president is politically inept, morally barren and temperamentally unfit for office.

Self-harm

Start with the ineptness. In last year's presidential election Mr Trump campaigned against the political class to devastating effect. Yet this week he has bungled the simplest of political tests: finding a way to condemn Nazis. Having equivocated at his first press conference on Saturday, Mr Trump said what was needed on Monday and then undid all his good work on Tuesday—briefly uniting Fox News and Mother Jones in their criticism, surely a first. As business leaders started to resign en masse from his advisory panels, the White House disbanded them. Mr Trump did, however, earn the endorsement of David Duke, a former Imperial Wizard of the Ku Klux Klan.

The extreme right will stage more protests across America. Mr Trump has complicated the task of containing their marches and keeping the peace. The harm will spill over into the rest of his agenda, too. His latest press conference was supposed to be about his plans to improve America's infrastructure, which will require the support of Democrats. He needlessly set back those efforts, as he has so often in the past. "Infrastructure week" in June was drowned out by an investigation into Russian meddling in the election—an investigation Mr Trump helped bring about by firing the director of the FBI in a fit of pique. Likewise, repealing Obamacare collapsed partly because he lacked the knowledge and charisma to win over rebel Republicans. He reacted to that setback by belittling the leader of the Senate Republicans, whose help he needs to pass legislation. So much for getting things done.

Mr Trump's inept politics stem from a moral failure. Some

counter-demonstrators were indeed violent, and Mr Trump could have included harsh words against them somewhere in his remarks. But to equate the protest and the counter-protest reveals his shallowness. Video footage shows marchers carrying fascist banners, waving torches, brandishing sticks and shields, chanting "Jews will not replace us". Footage of the counter-demonstration mostly shows average citizens shouting down their opponents. And they were right to do so: white supremacists and neo-Nazis yearn for a society based on race, which America fought a world war to prevent. Mr Trump's seemingly heartfelt defence of those marching to defend Confederate statues spoke to the degree to which white grievance and angry, sour nostalgia is part of his world view.

At the root of it all is Mr Trump's temperament. In difficult times a president has a duty to unite the nation. Mr Trump tried in Monday's press conference, but could not sustain the effort for even 24 hours because he cannot get beyond himself. A president needs to rise above the point-scoring and to act in the national interest. Mr Trump cannot see beyond the latest slight. Instead of grasping that his job is to honour the office he inherited, Mr Trump is bothered only about honouring himself and taking credit for his supposed achievements.

Presidents have come in many forms and still commanded the office. Ronald Reagan had a moral compass and the self-knowledge to delegate political tactics. LBJ was a difficult man but had the skill to accomplish much that was good. Mr Trump has neither skill nor self-knowledge, and this week showed that he does not have the character to change.

This is a dangerous moment. America is cleft in two. After threatening nuclear war with North Korea, musing about invading Venezuela and equivocating over Charlottesville, Mr Trump still has the support of four-fifths of Republican voters. Such popularity makes it all the harder for the country to unite.

This leads to the question of how Republicans in public life should treat Mr Trump. Those in the administration face a hard choice. Some will feel tempted to resign. But his advisers, particularly the three generals sitting at the top of the Pentagon, the National Security Council and as Mr Trump's chief of staff, are better placed than anyone to curb the worst instincts of their commander-in-chief.

An Oval Office-shaped hole

For Republicans in Congress the choice should be clearer. Many held their noses and backed Mr Trump because they thought he would advance their agenda. That deal has not paid off. Mr Trump is not a Republican, but the solo star of his own drama. By tying their fate to his, they are harming their country and their party. His boorish attempts at plain speaking serve only to poison national life. Any gains from economic reform—and the booming stockmarket and low unemployment owe more to the global economy, tech firms and dollar weakness than to him—will come at an unacceptable price.

Republicans can curb Mr Trump if they choose to. Rather than indulging his outrages in the hope that something good will come of it, they must condemn them. The best of them did so this week. Others should follow. ■

Britain and the European Union

Reality starts to dawn

The British government is slowly moving towards accepting harsh truths about Brexit



FOR months, as the clock has ticked towards a two-year deadline for Britain to leave the European Union in March 2019, Theresa May's government has been criticised for being ill-prepared, divided and unrealistic in its approach to Brexit. And rightly so. However, this week it took a belated step towards reality in the first two of a series of Brexit papers, on future customs arrangements and on Northern Ireland. It accepted explicitly, for the first time, that a temporary transition, or interim period, will be necessary to avert a damaging cliff-edge exit in March 2019, and that in this interim period Britain should be in a customs union with the EU.

That is a big step forward. It is all the more surprising, because it came just days after Philip Hammond, the chancellor, and Liam Fox, the trade secretary, promised in a newspaper article that, even in an interim period, Britain would be out of the EU's single market and customs union. The official Brexit paper acknowledges that this may happen eventually, and offers ideas for a new customs regime that, although burdensome and quite possibly impractical, at least tries to minimise the costs to traders (see page 44). But in the meantime the paper proposes an interim temporary customs union that will be tantamount to staying in the current one. Dr Fox insists that, as is not the case today, he will be able to negotiate free-trade deals with third countries while Britain is in this interim customs union. He is wrong. No trade deal can take effect so long as Britain is in a customs union. And no country will be willing to negotiate the details of any deal until Britain's own future trade arrangements with the EU are clear.

A transitional period with a temporary customs union will put off the problem of how to keep the border between North-

ern Ireland and the Republic as frictionless as possible. But once Britain leaves the customs union, border controls in some form will surely be necessary. This will damage the island's economy and destabilise its politics; the Irish government is rightly unhappy. Although the British government's paper persists in the vain search for a technological solution that can magically avoid any border at all, it does at least acknowledge that Brexit will involve significant administrative costs for both parts of the island.

Those trade-offs

The government now needs to build on this new, more sober approach. Detail and realism should be the hallmarks of the big Brexit speech that Mrs May plans to give next month. One part of this must be to concede that Britain is bound to face a substantial exit bill, for without this the EU will not be prepared even to talk about trade. And when it comes to these talks, Mrs May must be more open about the compromises they involve. Put crudely, the more control Britain takes back from Brussels, the bigger will be the hit to its trade and thus to Britons' living standards.

Mrs May also needs to accept that other countries also have politics. Too much of the Brexit debate in London has been internally focused: resolving cabinet disputes, trying to keep Parliament onside, working out what the Labour opposition really wants. In the end, however, the trickiest negotiations will be with the EU. Securing the necessary majority in Brussels for an exit deal will be hard enough. But when it comes to transition or, even more crucially, to the ultimate trade arrangements, the other countries must agree unanimously and their parliaments must ratify the deal. That will take time, probably years, and it will need defter diplomacy than Mrs May's government has displayed so far. This week's papers are but a first step towards a more realistic approach to Brexit. ■

Construction

How to build more efficiently

Productivity in the construction industry is notoriously low. It need not be



EVER since the financial crisis, the world has been plagued by weak productivity growth. One explanation is that in uncertain times firms are keener to take more people on to the payroll than to invest heavily in new equipment. The construction industry has been afflicted by such problems for decades. Since 1995 the global average value-added per hour has grown at around a quarter of the rate in manufacturing. According to McKinsey, a consultancy, no industry has done worse.

Things are especially dismal in rich countries. In France and

Italy productivity per hour has fallen by about a sixth. Germany and Japan have seen almost no growth. America is even worse: there, productivity in construction has plunged by half since the late 1960s. This is no trifling matter. The building trade is worth \$10tn each year, or 13% of world output. If its productivity growth had matched that of manufacturing in the past 20 years, the world would be \$1.6tn better off each year.

One source of the industry's productivity problem lies in its fragmented structure. In America less than 5% of builders work for construction firms that employ over 10,000 workers, compared with 23% in business services and 25% in manufacturing. Its profit margins are the lowest of any industry except for retailing. It is also highly cyclical. During the frequent

► downturns that afflict the industry, any firm that invests in capital, and thereby raises its fixed costs, is vulnerable. By contrast, companies that employ lots of workers without investing much can simply cut their workforces. A few building firms are experimenting with new techniques, from 3D printing and drones to laser-scanning and remote-controlled cranes (see page 49). But the trade as a whole is reluctant to spend money on the sorts of technologies, from project-management software to mass production, that have revolutionised so many other industries.

The clients of construction firms have every interest in lower bills and speedier completions. But private-sector customers are themselves too fragmented to catalyse change. Governments are another story. The public sector accounts for 20-30% of total construction spending in America and Europe. As both a large customer and a setter of standards, it has the clout and the means to encourage the industry to improve.

First, governments can mitigate the industry's boom-and-bust problem by smoothing out their spending on construction projects. Too often public investment is cut during downturns to find budgetary savings. Greater certainty about future work will give firms confidence to invest more in technology. Providing greater clarity about proposed projects can also help. Britain's National Infrastructure Pipeline, an assessment of planned spending by both the public and private sector, has boosted investment in the tunnelling business because companies can see more clearly what projects lie ahead.

Second, governments can encourage the spread of mass production by harmonising building codes. The growth of companies making prefabricated houses can be stymied by the cost of adapting their designs for specific jurisdictions. This is true not just across borders but within them. American counties and municipalities employ up to 93,000 different building codes between them. Standardising rules ought to mean bigger production runs and higher returns.

Can they fix it?

Public-sector contracts can also be designed to nudge companies to adopt new technologies and to co-ordinate with each other more efficiently. Too many construction jobs are still mapped out with pen and paper. Britain, France and Singapore now require bidders for public-sector contracts to use a process called "building information modelling", a type of digitised construction plan, in the hope that once they have invested in the relevant software, it will be used in private-sector projects, too. Building sites are often home to many contractors and subcontractors. Structuring public-sector contracts so that these firms share in a bonus if projects come in on time and under budget is another example of good practice.

The world has an annual \$1tn shortfall in infrastructure spending. Those projects that are given the green light tend to come in late and over budget. If the construction industry could build more for less, investors, citizens and customers would benefit. Governments can help lay the foundations. ■

Trade

Modernising NAFTA

A threat to free trade in North America has turned into an opportunity to boost it



fund to set up a new kind of retailer, after learning of the fast-growing use of the internet. At the start of that year the North America Free-Trade Agreement came into force. It committed America, Canada and Mexico to eliminate most of the tariffs on goods between them within a decade.

NAFTA was controversial from the start. Its critics have grown louder over time, despite its success in boosting trade and investment. Weeks before his election as president, Donald Trump called NAFTA "the worst trade deal maybe ever" and said he would junk it. In April he relented: a realisation that lots of Trump-voting states rely heavily on trade with Mexico and Canada may have swayed him. Instead, on August 16th, trade representatives of the three signatories gathered in Washington, DC, to renegotiate the pact. Whatever their provenance, such talks are an opportunity. A deal agreed on in the early 1990s is ill-fitted for a much-changed economic landscape. Indeed there is a real possibility that Mr Trump, far from killing free trade in North America, might make it freer.

That will happen only if each side concedes on its big stick-

ing-points (see page 57). Mr Trump's demand that an upgraded NAFTA must narrow America's trade deficits with Canada and Mexico is pointless. This is not only because such a demand asks too much of its partners. America's overall balance of trade is ultimately determined by its investment and saving. Even if tinkering with NAFTA were to reduce the bilateral deficits with Canada and Mexico, unless America saves more, deficits with other countries would increase.

Yet there are three big areas in which there is a lot of scope to improve NAFTA to the benefit of all its signatories. The first is digital trade, which has burgeoned since NAFTA was first crafted. A growing fraction of cross-border commerce starts on a website or a smartphone, or relies on the internet to produce and deliver goods and services. That has made it easier for small traders to sell across borders. One way to boost such e-commerce is to free more low-value trade from the burden of customs paperwork. Setting clear rules and standards for electronic payments, security and documentation would benefit North America's digital traders, big and small.

A second area ripe for improvement is energy. When NAFTA was signed, in 1992, America was in secular decline as a big energy producer. The fracking revolution changed that. America produced an average of 9.4m barrels of oil a day in 2015, up by 80% compared with a decade earlier. Mexico has changed, too. Reforms now allow greater foreign investment in its oil and gas industry. NAFTA opened up trade between America and Canada but exempted Mexico from some of its ►►

► obligations. America now does ten times as much trade in electricity with Canada as with Mexico. An upgraded NAFTA could bring about an integrated North American energy market. That will require a streamlining of the process by which America grants permits for cross-border grids and pipelines.

Don't call it TPP-lite

A third way in which NAFTA could be improved lies in how the pact is policed. All sides grumble about the present set-up. America's more recent trade agreements with, for instance, South Korea and Colombia include binding safeguards against the use of child or forced labour. Such strictures could be wired into a revised agreement in order to address concerns about a race to the bottom in labour and environmental standards.

Trade talks tend to founder on the details, which is why they often take years to conclude. The negotiations for NAFTA must be completed in a few months, before campaigning starts for Mexico's presidential election in 2018. Yet a deal is still possible. Robert Lighthizer, America's trade representative, might be inclined to settle NAFTA, if only to get on with picking a fight with China over its lax observance of intellectual-property rights (see page 58).

In addition, parts of a new pact can be cut and pasted from the Trans-Pacific Partnership (TPP), a 12-country trade pact that Mr Trump declined to ratify. To junk a pact only to recycle it is scarcely a coherent trade policy. But if it results in an improved NAFTA, the seven years spent negotiating TPP will not have gone completely to waste. ■

Dual citizenship

Double happiness

People with two nationalities should be feted, not mistrusted



AUSTRALIA'S constitution has plenty of unfortunate clauses: the one allowing states to bar particular races from voting is especially distasteful, even though none does. But until last month few would have pointed to Section 44 as the cause of a political furore. It states that members of the federal parliament must not be "under any acknowledgment of allegiance, obedience or adherence to a foreign power". More specifically, they must not be a "subject or citizen" of a foreign country.

That seems clear enough, yet so far half a dozen members of parliament have been found to have broken the rule. Two senators resigned in July, having discovered that they were still citizens of countries from which they had emigrated as infants. The most recent MP to be rumbled, Barnaby Joyce, the tub-thumpingly patriotic deputy prime minister, is considered a citizen by New Zealand, since his father was born there. The fate of the government may hang on whether he is forced to resign (see page 21).

Trying to make sure that lawmakers do not owe allegiance to a foreign power is fair enough. But the accident of birth and possession of particular citizenship papers are poor measures of loyalty, all the more so in a time of global travel, migration and mixed marriages. People of more than one nationality should not be treated with suspicion. As long as they pay their taxes, they should be celebrated.

It is not just Australia that has archaic rules of eligibility for parliament, although it is feeling the problem more acutely because it has become vastly more cosmopolitan than it was when its constitution was drafted in the 1890s. Fully 26% of Australians were born abroad. An even bigger percentage would be eligible for (and may indeed hold) citizenship of some other country by descent, like Mr Joyce.

Egypt, Israel and Sri Lanka, among others, do not allow dual citizens to be MPs. Three of the four most populous countries in the world—China, India and Indonesia—do not allow dual citizenship at all. Japan and Germany severely restrict it. In America only a "natural born citizen" can become presi-

dent—a rule that dogged a previous president, Barack Obama, during the absurd "birther" controversy. Myanmar bars people who have married foreigners from the presidency, which is why Aung San Suu Kyi, daughter of the country's independence hero, Aung San, cannot hold the job; instead, she has invented the post of "state counsellor" to run the country. Mexican law bars not only immigrants from the presidency, but also their children in certain circumstances. Naturalised Mexicans, who must renounce any other passports, are not allowed to serve in the police, fly a plane or captain a ship.

These rules are derived from crude notions of identity based on blood and soil. They might have appealed in times of frequent inter-state wars and mass conscription. They make no sense in this age of volunteer armies and globalisation.

There is no reason to suppose that dual nationals are any more inclined to treachery than anyone else. Many examples point to the contrary. The only Australian MP to have been accused of doing another country's bidding in recent years is Sam Dastyari, a senator who made statements sympathetic to China after taking money from companies with ties to the Chinese government. He is not of Chinese origin.

Money, ideology or blackmail are more likely to procure "allegiance, obedience and adherence" than a passport. Think of Benedict Arnold, an American general in the war of independence who asked for £20,000 to defect to the British side; or of the "Cambridge Five", upper-crust Britons who spied for the Soviet Union. And remember that the Battle of Britain against Nazi Germany was won with the sacrifice of, among others, many Polish and other foreign pilots.

In praise of mongrels

These days most people's contribution to their home countries is through their work, talent, ingenuity and investment. Closer relations between countries are a good thing, diminishing the chances of conflict and increasing prosperity through trade. Who better to knit those ties than those of mixed nationality? If voters are worried that politicians with two or more passports might not be acting in their best interests, they can always vote them out. But they should also be given the choice to vote such people in. ■

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Characteristics of populism

The Free exchange column of July 22nd tried to look for common factors behind the rise of populism in America and Europe. But populism is raging outside those places as well, in China, India, Indonesia, the Philippines, Turkey and other developing countries. The common factors behind populism in these places are even more incomplete and limited. For example, globalisation is, in general, viewed quite favourably in many developing countries and immigration is usually not a big divisive issue.

A commonality one does find is that poorer workers are more exercised about the cultural-liberal elite than the financial elite (the class which the left usually fumes against). Workers everywhere resent the rootless cosmopolitanism of liberals and are more comfortable with their local community, identity and majoritarian values. They care less for the procedural niceties of the liberal order and multiculturalism that liberals preach. They often are impatient with the encumbrances of due process or affirmative action for minorities. They hanker for strong leaders who can embody the will of the people, surpass these encumbrances and provide seductively simple solutions to problems. The challenge for the liberal order is reorganising labour and social movements to resist this tendency.

PRANAB BARDHAN
Professor of the Graduate School
University of California
at Berkeley

Hit 'em where it hurts

The only sanction that really threatens North Korea is China cutting its oil supply ("It could happen", August 5th). China may not be ready to do that yet, but in 2003 it claimed it had "technical difficulties" with its oil pipeline, which in effect cut supply to North Korea and brought it to the six-party talks within three days. Most North Koreans live in rural areas where over

three-quarters of farmland is still ploughed by oxen, so any interruption of oil supplies would hurt urban areas, Pyongyang in particular, and the armed forces. Cutting North Korea's oil supply would not directly cause famine or the collapse of society. The elite in Pyongyang and the army would suffer first.

TOM MORRISON
Hogshaw, Buckinghamshire

The born legacy

It was pleasing to see *The Economist* defending those who choose or are not able to have children ("In defence of the childless", July 29th). The childless are even less an economic burden than you think: they contribute through taxes to schools and services that their non-existent progeny will never use.

NICK HOPWOOD
Sydney

India shining

India has not only been successful in its "rush to expand the electricity supply" ("Powering ahead", July 29th); it has done so by stressing renewables. More than ten gigawatts of solar capacity has been added over the past three years. A combination of government support and increasingly attractive costs pushed India into second place (after China) in the Renewable Energy Country Attractiveness Index for 2017.

PHILIP RUSSELL
Austin, Texas

Size at sea

The tendency for grandeur and craving for status seem to be a permanent phenomenon in shipping ("The other hand-over", July 15th). Employing ever-larger vessels has been characteristic of container ships since the 1970s. In order to possess the largest ship in the world, C.Y. Tung, who founded a shipping empire in Hong Kong, bought a brand new but redundant tanker from a Japanese shipyard in 1979. He cut it in two and lengthened it by inserting a

new middle section, thus eclipsing the previous record by 1.75%. The name of the ship: *Seawise* (for C.Y.'s Giant).

JOACHIM PEIN
Rellingen, Germany

A little light reading

Charlemagne's summer reading list for Eurocrats (July 29th) included some excellent books, but there was a glaring omission: Larry Siedentop's "Democracy in Europe", first published in 2000. It was Mr Siedentop who predicted a crisis in European democracy if the process of political unification became an elitist project, leaving public opinion far behind. An enthusiast for a federal Europe, he nevertheless cautions that Europe is not yet ready for federalism, which is exactly correct: the problem remains the speed with which this goal is being pursued. The book could usefully be committed to memory by Eurocrats on their holidays.

PETER PERRY
Penzance, Cornwall

Bullet point

Your briefing on Venezuela stated that the National Guard "fires volleys of tear gas, buckshot—and occasionally bullets" ("The mess tropical Marxism makes", July 29th).

Buckshot are round lead or steel projectiles, up to 9mm in size, packed into a shotgun shell. They are every bit as lethal as 9mm pistol or rifle bullets.

JAMES CARTER
Bryan, Texas

Iceland's early settlers

"A song of ice and fire" (July 22nd) said that Iceland was "an unknown island" in 821. Had the invading Norsemen not destroyed what literature may have been kept by the hermitic Celtic monks known as *pápar*, who were there before the Norse according to medieval sagas, we might possess a more vivid record of Katla's eruptions than ice cores and tree carbon.

LIAM ALASTAIR CROUSE
South Uist, Outer Hebrides

Goodbye to the tower



I enjoyed your history of *The Economist*'s tower ("25 St James's Street", December 24th 2016). I spent my formative career years in that building during the 1970s and 1980s. As a naive young man, I was exposed to a world where you could find yourself sharing the lift with world leaders. What happened to me there had a huge influence on the rest of my career. I can only take issue about the size of the small offices. There was an office on the third floor long enough to play lunchtime cricket if you opened the doors of the attached rooms for a bowler's run up.

A lot happened in that building. Almost all of it positive. I trust your new home continues that tradition.

MARTIN ELLIS
Crowborough, East Sussex

I found the photos of *The Economist* building blindingly familiar. The vision of an overloaded Land Rover whining around the plaza in one of the early scenes of "Blow Up", a film from 1966 directed by Michelangelo Antonioni, has stayed with me all these years.

THOMAS MOYLAN
New York

Note: *The Economist* has left its offices on St James's Street, its home since 1964, for premises by the Thames. Our new address is below.

Executive Focus



The African Export-Import Bank (Afreximbank) is a pan-African multilateral financial institution established in 1993, for the purpose of financing and promoting intra and extra African trade. "The Bank" is currently hiring the below positions. All positions are based at "The Bank's" Headquarters (HQ) in Cairo, Egypt unless otherwise stated. To view further information on Afreximbank, please visit their website: www.afreximbank.com.

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Senior Manager, Export Development (HQ) Contact: Danelle at danelle@caglobalint.com	Senior Manager, Syndications (Distributions) (HQ) Contact: Thania at thania@caglobalint.com	Manager, Project Finance (HQ) Contact: Thania at thania@caglobalint.com
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Executive Focus



Vision for a Nation

Improving sight, changing lives

Vision for a Nation Foundation (VFAN) is an award-winning UK charity founded by philanthropist James Chen that is improving the lives of people with poor vision. VFAN has transformed eye care in Rwanda by providing local access to affordable eye care - delivering 2m eye tests. Over the next 5 years, VFAN has exciting plans to expand its work to other countries in Africa and Asia.

VFAN is looking for dynamic professionals with strategic vision, exceptional track records and entrepreneurial mind-sets to support its international growth.

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Head of Fundraising & Partnerships

The Head of Fundraising & Partnerships will develop and execute a fundraising strategy to support VFAN's growth. They will build partnerships with institutional and corporate donors as well as philanthropists, charitable trusts and foundations. They will also look to identify innovative fundraising approaches for VFAN, such as development impact bonds.

Finance & Business Manager

The Finance & Business Manager will be responsible for all financial and administrative aspects of VFAN's work. They will manage VFAN's assets and financial systems, and will play a crucial role in the day-to-day running of the organisation.

VFAN offers a competitive remuneration and benefits package that includes flexible working, generous pension scheme contributions and annual leave allowance. The positions are based in London and involve regular global travel.

The deadline for applications is 5pm on Friday 15 September 2017.

For further information, please visit www.visionforanation.net/jobs.



Director, Water Development And Sanitation Department

Location : Côte d'Ivoire Closing date : 22 August 2017

THE POSITION:

The Director for Water Development and Sanitation Department, reporting to the Vice President for Agriculture, Human, and Social Development, is responsible for providing leadership and supervising the personnel and work programs of two Divisions: (i) Water Coordination and Partnerships; and Water Security and Sanitation; as well as the African Water Facility.

The main work objectives are to:

Among other responsibilities, the Director for Water Development and Sanitation Department will:

1. Lead the development and review of Bank's policy and strategic work on water development and sanitation to ensure operations which are identified, developed and executed by regional hubs effectively implement the Bank's relevant sector policies and strategies.
2. Strengthen Africa's scientific research and innovation capacity in the water sector; as well as develop and disseminate knowledge, and provide technical guidance and expertise to various Bank units and complexes.
3. Lead the Department's contribution to the Bank's resource mobilization efforts for pertinent sectors and initiatives by fostering strategic partnerships with multilateral and bilateral organizations and regional organizations for leveraging funding and knowledge.
4. Develop and implement innovative financing mechanisms, as well as technical and managerial approaches to promote access to water and sanitation across regional member countries, including through public-private partnerships and improvement of the overall governance of these sectors.
5. Host, coordinate and steer the various water development and sanitation improvement initiatives in the Bank and ensure their effectiveness and efficiency for impact.

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Director-Water-Development-and-Sanitation-Department-AHWS-ELS



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The dark after dawn

Also in this section

[18 Solar energy without the sun](#)

[18 Coming subtractions](#)

A total eclipse of the sun is a cultural event as much as a scientific one

FEW things in life are certain, but eclipses are among them. If you are on the coast of Oregon at 09:06 local time on August 21st, and if the sky is clear, you will see the sun's disk start to develop a small, black dimple. Over the next hour this incursion will grow until, at 10:19, it will engulf the disk completely. A strange not-quite-night will descend, illuminated by the ghostly glow of the solar corona surrounding what looks, for all the world, like a hole punched through the sky into the cosmic blackness beyond. Behind you, arrayed along a ribbonlike track about 100km wide stretching all the way to the Atlantic, millions will await their own moment of witness.

As total eclipses go, that of August 21st—the first to be visible from the continental United States since 1979—will be a short one. Even those standing at the most favoured spot, which is in southern Illinois, will enjoy just 160 seconds of totality, about a third of the maximum possible. A little under three minutes of darkness may not sound such a big deal. But many who have experienced a totality will tell you that it is the most awe-inspiring sight you

will ever see in your life.

In the past, this awe was often manifested as terror. Twenty-six centuries ago the hosts of Lydia and Media were busy butchering each other in what is now Turkey when an eclipse darkened the sky. Both armies threw down their weapons and called the whole thing off. Ancient cultures blamed wolves, dogs or dragons for trying to eat the sun. People would bang pots and pans together, or fire arrows at the darkening orb, trying to scare the offending beasts away. Eclipses were omens usually, auspices occasionally, but always signs of great import. In 1133 an eclipse marked King Henry I of England's departure for France; he was to die there two years later, having never returned to his kingdom. The logical conclusion, at least for William of Malmesbury, a historian of the time, was that "the elements themselves manifested their sorrow at this great man's last departure."

This month's eclipse, though, will mostly be an excuse for a party and a bit of amateur astronomy. Around 12m people live directly in its path. Millions more are expected to travel there. Where ancients

worried about poor harvests or the death of the sun god, moderns will worry about car-parking spaces and whether any cheap hotel rooms are left.

Scientists will be interested, too, though not as much as once they were. In 1919 observations of an eclipse shook the world of physics. Albert Einstein's then-new theory of general relativity described how gravity could bend light, and thus how the positions of stars would seem to shift when they were close to the sun in the sky. In normal circumstances, observing stars close to the sun is impossible. But the darkness of the eclipse let the astronomers check the apparent positions of stars near the sun against measurements they had made at night, a few months earlier. On examination, the stars were held to have moved as Einstein had said they should.

Modern eclipses, sadly, do not offer such paradigm-shifting possibilities. Today's astronomers are far more interested in the almost imperceptible obscurations of other stars as planets pass in front of them—a crucial tool for discovering and studying such "exoplanets"—than they are ➤

▶ by the visual drama of the moon and sun. That said, some professionals will be taking an interest. Eclipses offer opportunities for telescopes on the ground and mounted in aircraft to study the sun's corona—which, for reasons still not properly understood, is getting on for a thousand times hotter than its brilliant surface.

Every now and then

If eclipses have become the epitome of predictability, though, they still reveal something about the capriciousness of the universe. The very fact that it is possible to see a total eclipse at all is a happy accident of time and space.

It is an accident of space because the distances from the Earth to the sun and moon are such that, seen from Earth, the little, nearby moon and the vast, distant sun look as wide as one another. The former can thus just cover the latter. This correspondence is not always exact. When the moon is at its farthest from Earth (its orbit is not circular) it does not take up quite enough of the sky to obscure all the solar disk. The result is an annular eclipse, in which a thin ring of the sun's surface surrounds the blackness created by the moon.

It is an accident of time because the moon has slowly been receding from Earth ever since its creation 4.5bn years ago. To start with, it would have blotted out the corona as well as the disk, robbing eclipses of their silvery beauty. Millions of years hence, when it has receded farther still, it will never come close enough to create a total eclipse, and any inhabitants Earth then has will have to make do with annular ones. Human beings are lucky enough to live in the sweet spot in between.

In a further stroke of good fortune, nature has conspired to make eclipses rare enough to be noteworthy but common



Crowning glory

enough that a motivated individual can see plenty in a lifetime. If the moon's orbit around Earth were circular, and in the same plane as Earth's around the sun, then eclipses would be monthly events. In fact, the lunar orbit is elliptical and tilted. The result is that, on average, two total eclipses are seen from Earth every three years. Each is, however, visible from only a tiny fraction of the planet's surface—its own equivalent of the narrow ribbon laid across America this month. At a random point on Earth's surface you can expect to hang about for more than 300 years before seeing a total eclipse.

This mix of exoticism, predictability and rarity leads some people to devote their lives to seeing as many eclipses as possible. Francisco Diego, of University College, London, is one of their number. He has observed 20 in his time, he says, in locations as far apart as Easter Island, one

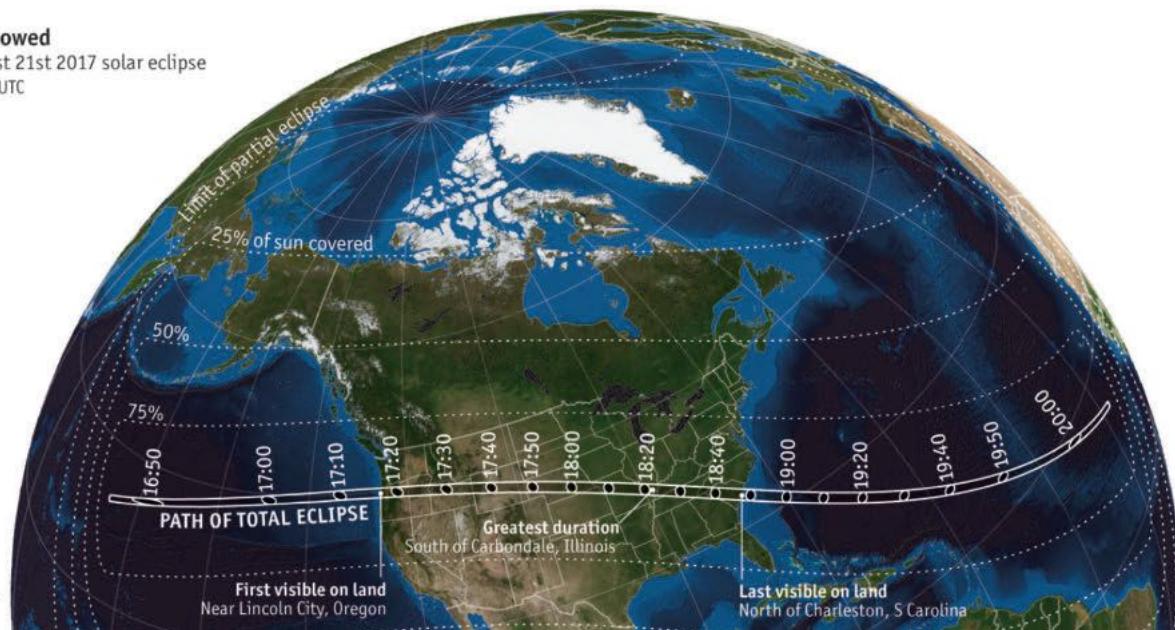
of the most isolated inhabited places on Earth, and the south coast of Cornwall, which is merely the most isolated place in England. Dr Diego is a professional astronomer, but many eclipse-chasers are smitten amateurs. (The Economist's science editor was also on Easter Island when the eclipse happened in 2010; in 2003 he made his way to Antarctica in search of a few minutes of horizon-grazing totality visible over the ice cap.)

A big part of the appeal, says Dr Diego, is the sheer drama of the event itself. "By the time the sun is around 70-80% obscured, you start to notice it's getting dark." Just before totality, "the light level really plummets. You can see the moon's shadow rushing across the ground towards you." Even if you know exactly what to expect, Dr Diego says, the experience can be frightening, for the shadow moves across Earth's surface at several thousand kilo-►

Shadowed

August 21st 2017 solar eclipse

Times UTC



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metres an hour. "People can't help themselves—they start shouting and screaming." Animals get just as confused. He recalls that, during an eclipse-watch in Zimbabwe in 2001, the cicadas began to chirp as the sunlight faded and—so they thought—night fell. Hours later, with the shadows long passed and daylight restored, they were still going, presumably in a state of some confusion.

The moment of totality, according to Dr Diego, is its own phenomenon, similar to night-time but different, with the landscape bathed in the corona's faint light. These days, when even professional astronomers—who mostly book time on distant telescopes from the comfort of their air-conditioned offices—can go for months without actually having to look at the night sky, such a display is a welcome reminder

of the cosmic spectacles which lie behind the equations on the whiteboard.

Non-scientists can benefit from this sense of perspective, too. NASA has calculated the time, date, location and maximum duration of every eclipse between 1999BC and 3000AD. The results are available to all on its website. Whatever humans get up to, the celestial clockwork will tick on with supreme indifference. That may sound a depressing thought. But it can also be a reassuring one. As George Orwell put it, in a different age: "The atom bombs are piling up in the factories, the police are prowling through the cities, the lies are streaming from the loudspeakers, but the Earth is still going round the sun, and neither the dictators nor the bureaucrats, deeply as they disapprove of the process, are able to prevent it."

Sunless solar power

Watch with care

The eclipse will show the changing nature of America's electricity grid

WHILE millions across America turn their carefully shielded eyes to the skies on August 21st, those in the energy business will be looking at data displays. It will be the first eclipse to test the country's electricity grid in the age of solar energy.

As the eclipse tracks across the country 1,900 solar farms able to generate upwards of 20 gigawatts (GW) of power will be put into the shade. That represents almost half of America's 43GW of solar capacity. Reassuringly, grid operators believe there are enough spare gas-fired power plants to avoid blackouts. But the eclipse will reveal a lot about the changing ways Americans both produce and consume electricity.

For instance, California might seem in the clear; the path of totality stays well to the north and east of it. But it will still be partially eclipsed—at the height of the eclipse the sun will be dimmed by 62% on the Mexican border—and because it is such a large producer of solar power, that matters. California has 18.9 gigawatts (GW) of solar capacity; the state with the second highest capacity, North Carolina, has 3.3GW.

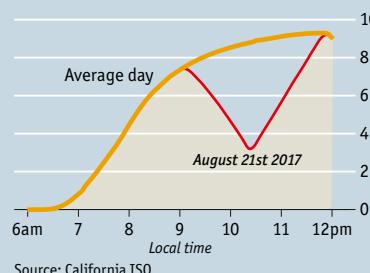
At 10.20, when the eclipse casts California into its deepest shadow, the state's solar-power production will dip by about 5.6GW before ramping up again as the sun re-emerges (see chart). John Moura of the North American Electric Reliability Corp (NERC), a regulatory body, underlines the magnitude of the challenge. When NERC tests the resilience of the system, it imagines knocking out two of the three nuclear

reactors at the 3.8GW Palo Verde plant in Arizona. If the skies are cloud-free, this eclipse could have twice as much impact—albeit temporarily and predictably.

The system operators have taken lessons from Europe, which handled a three-hour eclipse deftly in March 2015, with 90GW of solar to deal with. They will pass

California shading

Anticipated solar power production, GW



Source: California ISO

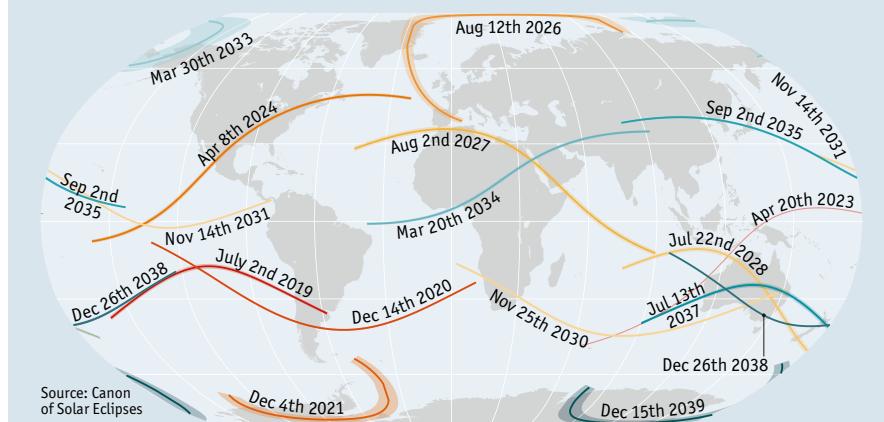
lessons on to their successors in their turn. The eclipse due in 2024 will hit a country with perhaps three times more solar capacity. "If we're not ready for this, I have no confidence in our system," Mr Moura says.

Some unknowns will also be tested. Winds change during eclipses, but the effect that this will have on wind farms is not yet clear. Demand for grid-based electricity will increase as domestic solar panels feel the shade, and measuring that uptick will reveal how much residential solar is in use. But some increased demand may be forgone. Michael Picker, president of the California Public Utilities Commission, has urged Californians to do their "thing for the sun" by switching off appliances during the eclipse. He wants this to lower usage by 3.5GW—meaning less need for fossil fuels as backup. Nest, a Google-owned thermostat-maker, is asking customers to cool their homes before the eclipse so as to need less air-conditioning during it. The eclipse itself will do its part; as it darkens America it will cool it, too.

Coming subtractions

Americans who miss this eclipse will get another chance in just seven years, when one passes from Texas to Maine; Dallas, Indianapolis and Montreal (just) will all see the totality. In 2035 a great swathe of humanity will be able to watch an eclipse that puts Beijing, Pyongyang and much of northern Japan in the shade. But the best place for eclipse-watchers in the next couple of decades is Australia. Between April 2023 and December 2038 there will be five eclipses visible from the country. In Yantabulla, New South Wales, they will be able to see two in less than two and a half years.

Total solar eclipses, 2018-40 Soonest Latest



Source: Canon of Solar Eclipses



The Philippine economy

Populism-proof

MANILA

Despite the president's alarming pledges, the economy still prospers

IN MATTERS of economics, as in other realms, Rodrigo Duterte, the president of the Philippines, is more than capable of flamboyant, populist gestures. Earlier this month, to the consternation of much of his cabinet, he signed a law abolishing tuition fees for students in state universities. When asked how the government would pay for this, he replied, “I don’t know, we’ll have to see.” By the same token, he has promised to restrict severely the sorts of temporary contracts under which around 30% of Filipinos are employed. He has pledged allegiance to China in exchange for investment in infrastructure. And, in April, he announced a plan to suspend imports of rice to help local farmers.

Economists point out that abolishing university tuition will be more of a subsidy for the rich than the poor, since just 12% of students come from the poorest 20% of families. It could also cost anywhere between 30bn pesos (\$588m) and 100bn pesos a year, according to different politicians. And it is causing alarm at private institutions, which fear a sudden slump in enrolment. But most of Mr Duterte’s radical economic policies get watered down or shelved by underlings before they cause such upheaval, explains Filomeno Santa Ana of Action for Economic Reforms, a think-tank. “The economic managers usually neutralise the president’s populism,” he says. As a result, for all the big talk, economic policy during Mr Duterte’s first year

in office has been surprisingly sober.

The Philippine economy is one of the peppiest in South-East Asia. Last year it expanded by 6.8%, overtaking those of Singapore and Malaysia in size. The World Bank expects it to grow at a similar pace this year and next. A large, youthful population at ease with the English language—a legacy in part of American colonialism—is a spur to growth. Filipinos working abroad as maids, nurses and waiters, among many other jobs, send back about \$31bn a year—equivalent to more than 10% of GDP.

Western firms also outsource vast amounts of office drudgery to the Philippines. The country is a bigger player than India in call centres; its largest private employer, Convergys, an American telecoms

Also in this section

20 Politics in the Maldives

21 Dual citizenship in Australia

21 Taiwan’s power supply

22 Sanitation in India

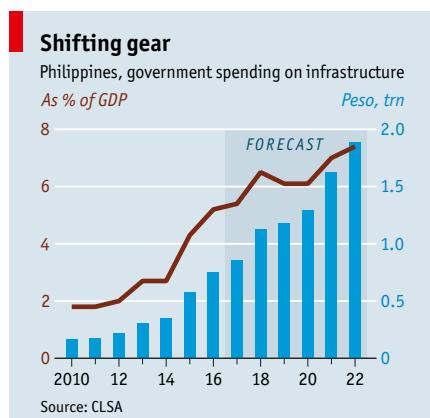
23 Banyan: The unfinished business of Partition

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firm, has 63,000 Filipinos on its lines. Workers at other firms have the unpleasant task of checking sites such as YouTube and Facebook for vile content, flagging videos of beheadings and orgies. In the past 15 years the industry of “business-process outsourcing” has grown from nothing to about 9% of GDP.

The cabinet and bureaucracy have so far dissuaded Mr Duterte from rocking the boat too much. When he said he would suspend imports of rice, officials at the National Food Authority, which is charged with ensuring an adequate supply of staples and with keeping prices stable, pointed out that all Filipinos eat rice, but relatively few grow it, so curbs on imports would hurt more people than they helped. In the end, Mr Duterte simply changed the rules on imports to reduce the role of the state. Similarly, the government’s labour-market reforms have been much less radical than originally promised, targeting only the most blatant abuses of short-term contracts. And the talk of aligning the Philippines with China has produced little tangible change so far—and little of the promised investment, alas.

The goal on which the president and his more level-headed lieutenants seem to agree is tax reform, to pay for investment in infrastructure. Many businessmen and workers spend hours sitting in Manila’s traffic jams each day instead of making money. One banker says that when foreign investors come to town, she parks them in posh hotels and has local bosses visit in carousel to prevent the visitors squandering time and goodwill in traffic. Poor roads and run-down airports elsewhere in the archipelago present similar problems. Mr Duterte wants to increase spending on infrastructure from 5.2% of GDP last year to 7.4% of GDP in 2022 to sort things out (see chart). His plans include a new railway in ►



► Mindanao, a troubled southern island blighted by insurgencies, and the revamping of Clark airport, to the north of Manila.

Carlos Dominguez, the finance minister, has already raised the budget deficit from 2% of GDP to 3% to support such investments. In the longer run, extra funds will come from a package of tax-reform bills, which is supposed to raise 375bn pesos a year by 2020. The first bill was passed by the lower house of Congress in May; the upper house is expected to follow suit by the end of the year. It raises the threshold at which Filipinos will have to pay income tax to 250,000 pesos a year, letting four-fifths of them off the hook altogether. But the rate for those earning 5m pesos or more will rise from 30% to 35%. Taxes on vehicles and fuel are to rise too—a squeeze on richer Filipinos given that less than one in ten owns a car. Taxes may also go up on alco-

hol, cigarettes and sugary drinks. The second bill would shrink the corporate-tax rate from 30% (high for the region) to 25%, while closing expensive loopholes. The third will focus on property taxes and the fourth on mining, income from investments and perhaps junk food.

Mr Duterte's star power should speed the passage of these reforms. But his unpredictability makes politicians, executives and investors wary. The peso is among the few currencies in the region to have weakened since the beginning of the year, partly because of the growing budget deficit and worsening current-account balance. Neither an ardent reformer nor a populist lunatic economically, the president inherited a prospering country. Almost a year later, the Philippines is still one. This suggests that for all his damn-the-torpedoes rhetoric, Mr Duterte occasionally listens. ■

tial election in 2008. He lost to Mohamed Nasheed, a pro-democracy activist. Mr Nasheed resigned in 2012 (under duress, he says), and then lost the subsequent presidential election to Abdulla Yameen, Mr Gayoom's half-brother. Mr Yameen is now four years into his five-year term. He has survived an assassination attempt, rows with assorted vice-presidents and a huge corruption scandal (he blames one of his veeps). Last year he even fell out with Mr Gayoom. Mr Gayoom, in turn, joined forces in March with Mr Nasheed, his former nemesis, who lives in exile after being sentenced to 13 years' imprisonment on trumped-up terrorism charges.

The new opposition alliance did well in local elections in May. Pro-government rallies, meanwhile, are attended mainly by press-ganged civil servants and young men paid to join in. Mr Gayoom, who should know, recently declared, "Dictators will always fail."

But Mr Yameen's position is strong. Although the opposition continues to seek redress in the courts, it is not getting anywhere. Indeed the Supreme Court recently declared that MPs who switch parties—hitherto a common practice—would henceforth lose their seats. This week the police recommended that prosecutors charge Mr Gayoom's son, Faris, with bribing MPs to take the opposition's side.

Increasing authoritarianism has been accompanied by heightened violence in what used to be a sleepy archipelago. Two murders in a week last month led opposition MPs to demand parliamentary oversight of the police. The brutal killing in April of Yameen Rasheed, an outspoken blogger who had received many death threats but no protection from the authorities, brought international condemnation. The police have blamed Muslim extremists, not a reassuring prospect if true.

Mr Rasheed had been at the forefront of a campaign to secure justice for his close friend, Ahmed Rilwan, a journalist who was abducted outside his flat three years ago and has not been seen since. Earlier this month the police doused friends and relatives with pepper spray and then arrested them as they called for a fuller investigation of his disappearance. Two opposition MPs were among those detained.

Mr Yameen briefly distracted attention from the political turmoil in early August by vowing to reinstate the death penalty. He also depicts himself as a champion of development. The government is building lots of new infrastructure, financed largely by loans from China and Saudi Arabia. But Mr Yameen will probably face growing opposition, and resort to more autocratic measures, to remain in control until the presidential election next November. That vote may prove the end, or the reaffirmation, of the Maldives' ten-year experiment with democracy. ■



Politics in the Maldives

Palm-fringed pandemonium

MALÉ

The government resorts to outlandish measures to keep its majority

THE resorts for which the Maldives are famous may be havens of tranquillity, but Malé, the country's capital city, is a chaotic place. In addition to the extreme density of the population and the frenzy of the traffic, Maldivian politics have become especially turbulent.

As MPs from the ruling party defected to the opposition, the government lost its majority in the Majlis, or parliament. It managed to cling to power first by getting some of the opposition ejected from the chamber, and later by deploying the army to prevent them from returning. The gov-

ernment has also rewritten the rules on no-confidence motions to shore up its position. The courts have helped by stripping some opposition MPs of their seats and by arrogating to themselves the final say on the impeachment of the president, in apparent contradiction of the constitution. One parliamentary session was even cancelled after someone lit a fire in the toilets.

Politics in the Maldives, an archipelago of 400,000 people in the Indian Ocean, has been in a constant state of flux since Maumoon Abdul Gayoom, the strongman of 30 years, allowed a contested presiden-

Dual citizenship in Australia

Double trouble

SYDNEY

A row over who is eligible for parliament rattles the government

WHEN two Australian Greens senators left parliament last month after learning that they were dual citizens, and thus in breach of the constitution, Malcolm Turnbull, the prime minister, condemned their “incredible sloppiness”. But on August 14th Barnaby Joyce, the deputy prime minister, revealed that he, too, was a citizen of two countries: Australia and New Zealand. His confession sparked a rare diplomatic row between the two countries. It also casts doubt on the survival of Mr Turnbull’s government, which clings to power with a majority of one.

Australia’s constitution bans from the federal parliament anyone who is under “acknowledgment of allegiance, obedience or adherence to a foreign power”, or who is “a subject or a citizen or entitled to the rights or privileges of a subject or a citizen of a foreign power”. But in a country of high immigration, these strictures are causing unexpected political turmoil. In mid-July, Scott Ludlam of the Australian Greens resigned from the upper house, having just discovered he was a citizen of New Zealand. He left New Zealand when he was three, but never thought “citizenship sticks to you in that way”. A few days later Larissa Waters, the other deputy leader of the party, tearfully announced her resignation. She had been born in Canada and moved to Australia as a baby, but had never renounced her Canadian citizenship.

The circumstances of Matt Canavan,

the former minister for resources, are even odder. The government was shaken when he declared on July 25th that he was both Italian and Australian. His mother, born in Australia to Italian parents, had secured Italian citizenship for herself and her son 11 years earlier. Mr Canavan says that he discovered this only when the citizenship row first erupted.

Mr Canavan gave up his ministerial post, but not his Senate seat. Mr Joyce, a fellow member of the National Party, the junior coalition partner, took over his portfolio. Just three weeks later, though, Mr Joyce told parliament he was “shocked” to learn that he was a Kiwi because his father had been born in New Zealand before moving to Australia in 1947.

Mr Joyce has a habit of highlighting his rural roots by wearing cowboy hats and giving whip-cracking displays. He is famous for playing the indignant patriot in a row over quarantine laws with Johnny Depp, a Hollywood actor. The opposition is revelling in his predicament, especially as the government would lose its majority if he had to quit.

The dual-citizenship question has added fuel to Australia’s already combustible politics. And the revelation that a staff member for a Labor senator had asked a New Zealand Labour MP about his country’s citizenship rules before Mr Joyce’s confession has turned the row into an international incident. Julie Bishop, Australia’s foreign minister, accused New Zealand’s Labour opposition of being “involved in allegations designed to undermine the government of Australia”. Not so, retorted Jacinda Ardern, New Zealand’s opposition leader. Undaunted, Mr Turnbull charged Australia’s opposition of conspiring “with a foreign power”.

If this was a ploy to deflect embarrassment over Mr Joyce, it fell flat. It could dam-

age trans-Tasman relations if Ms Ardern’s party wins the general election due next month. And it ignores mounting calls to reform parliamentary citizenship rules drawn up in the 1890s, when Australia was still a colony of British subjects. The latest census, in 2016, revealed that 26% of Australians were born overseas; more than 300 languages are now spoken.

On August 24th the High Court is due to start considering the case of the many dual-citizen MPs. Six have admitted doubts about their status; others have denied claims that they hold two nationalities. Mr Joyce has hurriedly renounced his New Zealand citizenship. Mr Turnbull argues he is qualified to stay in parliament “and the High Court will so hold”. A rash claim, say some constitutional experts. George Williams, of the University of New South Wales, thinks all five politicians could be “in great difficulty” if they were dual citizens when first elected. There will be growing pressure to change the constitution. But any reform may come too late to help the beleaguered Mr Turnbull. ■

Taiwan’s power supply

In the dark

TAIPEI

A massive blackout prompts questions about the government’s energy policy

LARGE parts of Taiwan went black: roads were lit only by the headlights of the cars driving along them, and even the capital’s landmark skyscraper, Taipei 101, was in darkness. The emergency services were inundated with calls, many from people trapped in lifts. The giant power cut on August 15th saw nearly half of all households on the island lose electricity. Power was restored everywhere in about five hours. But the questions the blackout raised about the wisdom of the government’s promise to shut down nuclear power stations will linger much longer.

When Tsai Ing-wen became president last year she promised to phase out nuclear power, which provided some 14% of Taiwan’s electricity last year, by 2025. But building new electricity-generating plants to replace the country’s six nuclear reactors will be expensive, especially if, as Ms Tsai plans, most of the new power comes from renewable sources. Higher power prices, in turn, are hard to square with the broader need to revitalise the island’s economy and to boost wages, which have stagnated for more than a decade, prompting a severe brain drain.

Taiwan’s previous big power failure, in 1999, was caused by a massive earthquake. This one was the result of incompetence. A ►



► power station in Taoyuan in the north of the island abruptly shut down after workers accidentally cut off its supply of natural gas. But the government already knew that supply and demand were finely balanced. When a typhoon toppled a pylon in eastern Taiwan at the end of July, public servants were ordered to switch off air-conditioning in their offices for two hours a day for over a week, despite an unusually hot

summer, to reduce the risk of a blackout.

The dramatic effects of the blunder this week revealed the scale of the problem. A new nuclear plant was completed in 2014 but has never been started up. Three of the six operational reactors have been closed for maintenance. This left Taiwan without enough spare generating capacity. On August 11th the anxious head of the country's main industrial association had visited Ms

Tsai to ask her to restart the idle reactors, to no avail. The president's office released a statement after the meeting insisting that nothing but the weather was amiss, although it also argued that an overly centralised grid is unstable—another reason to invest in renewables.

After the blackout, the economy minister resigned. But his departure will not solve the underlying problem. Getting rid of nuclear power is written into the founding charter of Ms Tsai's Democratic Progressive Party. Polls show that a majority of Taiwanese oppose its use (or did so before the lights went out), in large part because of the meltdown at the Fukushima-Daiichi nuclear plant in Japan in 2011, which led to widespread contamination and mass evacuations.

Ms Tsai has had a tough first year in office: worsening relations with China have dented tourism and left Taiwan more isolated internationally. The president's approval rating has plummeted. The power cut endangers one of the few bright spots: rising foreign investment, particularly in the tech sector, which is central to the country's export-led economy. Even before the blackout, the American Chamber of Commerce had raised concerns about the reliability of the power supply. In chip-making, it pointed out, even brief power cuts can cause ruinous damage to equipment. It also warned that Taiwanese industry would lose out to foreign competition if power prices rose. All this casts a pall over Ms Tsai's bright talk about creating an "Asian Silicon Valley" by encouraging entrepreneurs. It is hard to feel empowered during a power cut. ■

Sanitation in India

Missing the mark

YEOOR

It is easier to build a toilet than to get people to use it

CRAMMED into Meena Choudhary's mud-brick house in Yeoor, on the outskirts of Mumbai, are a television, fridge and washing machine. Yet until recently her family of six relieved themselves in nearby fields. The morning ritual involved arming herself with a jug, stick and torch, negotiating squelching bogs and tall grass, glancing around for onlookers and thumping the ground a few times to scare off snakes. "It was stressful," says Mrs Choudhary, who managed to persuade her husband to build a toilet at home two years ago.

Stories like Mrs Choudhary's are music to the ears of Narendra Modi, India's prime minister. He has pledged to eliminate "open defecation" by 2019. His government says it will spend almost \$29bn to that end, providing a subsidy of 12,000 rupees (\$187) for every toilet built. It claims the "Clean India Mission" has already led to the construction of 46m latrines, with another 64m to come.

But the scheme is beset by inefficiencies and graft. In December an investigation by the *Indian Express* revealed that in Dhamtari, a village in the state of Chhattisgarh declared to be "open defecation free", a third of the households still had no toilet. "Millions of latrines reported built by the government are missing," write Dean Spears and Diane Coffey in a new book on the subject.

Even when toilets have been built they are often not used. A survey in 2014 by the Research Institute for Compassionate Economics found that among the two-fifths of households with a working latrine, at least one family member preferred to defecate outside. Toilets, often the only concrete structure in the house, are sometimes used to store firewood, grass, chickens, cow-dung cakes and food grains. They can also double as goat-sheds or even shrines.

In neighbouring Bangladesh, the government worked with village councils to educate people about the importance of better sanitation rather than

subsidising the construction of toilets, says Nitya Jacob of WaterAid India, an NGO. Having a toilet became a point of pride. Women sat on committees that decided on the location and type of latrines to be built.

In contrast, Indian officials have often tried to humiliate people into using toilets. In Sangola, a town in the state of Maharashtra (of which Mumbai is the capital), people defecating in the open found their photographs flashed on digital displays. A few others were escorted home in loud processions.

Some states have made it compulsory to have a toilet to be eligible to contest an election. Others have produced ads that mock people who do not use loos. One shows a child who throws a stone and laughs at people relieving themselves in public. Another takes a dig at people who own motorcycles and television sets, but don't use toilets.

The shaming sometimes shades into coercion and violence. In June a man in the state of Rajasthan was beaten to death for stopping municipal employees photographing women defecating in the open. In Madhya Pradesh an old man with an upset stomach was forced to clean up after himself with his own clothing. In Chhattisgarh, a village head denied government benefits to those without toilets. The northern state of Haryana even toyed with the idea of deploying drones to spy on people defecating in the bushes.

Some villages are showing a better way. In February residents of 110 villages in three northern states agreed not to marry off their daughters to households without toilets. In "Toilet: A Love Story", a Bollywood film released on August 11th, the heroine threatens to walk out of her marriage if the groom does not install a latrine. Mrs Choudhary's younger daughter is in a similar position after moving in with her in-laws. "It's a matter of time," she says, smiling confidently. "I am on it."



The blackout cast long shadows

Banyan | The unfinished Partition

Seventy years after India and Pakistan split, Hindus and Muslims are still trying to separate



EVERY year in mid-August India and Pakistan celebrate their independence in much the same way. School kids sing anthems; politicians make speeches; soldiers rattle sabres. The two countries share a quieter, more introspective ritual too: memories are hauled out and dusted off and then, after a great deal of tut-tutting and head-shaking over the folly and sorrow of Partition, they are put away again, and the forgetting resumes.

Time has made both countries skilled at this. Not at forgetting their own injuries, to be sure, or at forgetting the bad things the other side has done. Seventy years after India and Pakistan won freedom from British rule, their mutual forgetfulness has more to do with ignoring, or perhaps simply not noticing, how much unfinished business remains from Partition, and how few of its lessons have really sunk in. The hardest one is the insidious nature of the very idea of dividing people along religious lines.

Such forgetting is not merely a matter of, for instance, preferring not to think very much about the troubled region of Kashmir. This is where, in the attempt to separate the two new countries neatly in 1947, the zipper, so to speak, got stuck. It remains jammed: India and Pakistan both claim parts occupied by the other, and each proclaims that the region's people, themselves a cocktail of faiths and ethnicities, are a natural part of their own nation. But just as the retreating British colonialists' hasty drawing of borders between the future India and Pakistan relied on guesswork more than on the inhabitants' wishes, neither side has taken much interest in finding out what Kashmiris want.

There are other untidy borders. Until recently one of the messiest was between India and Bangladesh. So rushed was the carving out of what was then known as East Pakistan in 1947 that many enclaves, counter-enclaves and even one counter-counter-enclave got trapped on the "wrong" side of the frontier like bubbles in amber. India and Bangladesh finally fixed the anomaly in 2015 with an elaborate exchange of land and people.

Pakistan and India have gone some way, too, to tidying internal anomalies left by the British Raj. In the place of small "princely" tributary states, India has created larger, language-based administrative units. More division would be a good idea: the size of Uttar Pradesh, a state with 220m people that is a legacy of the Raj-era United Provinces, makes it hard to govern and too influen-

tial in national politics. Belatedly, Pakistan is taking steps to bring the running of the Federally Administered Tribal Areas (FATA), a chronically violent, backward region, into line with the rest of the country. Britain had regarded these lands as too bothersome to rule, and yet useful as a buffer, an formula unhelpful to FATA's people that Pakistan blindly preserved.

But many of Partition's unfinished challenges have little to do with physical borders. Take the saga of the Hyderabad Fund. Back in 1948 the Nizam of Hyderabad, then India's biggest and richest princely state, sent envoys to London with a purse of £1m to give to Pakistan, which had been shipping him arms. By the time they deposited the money, an Indian invasion had forced him to switch sides. He revoked the order, but the bank balked at returning the money. The cash, said to amount to £35m (\$45m) now, has languished in London, with only lawyers profiting from the interminable haggling between India, Pakistan and the nizam's heirs.

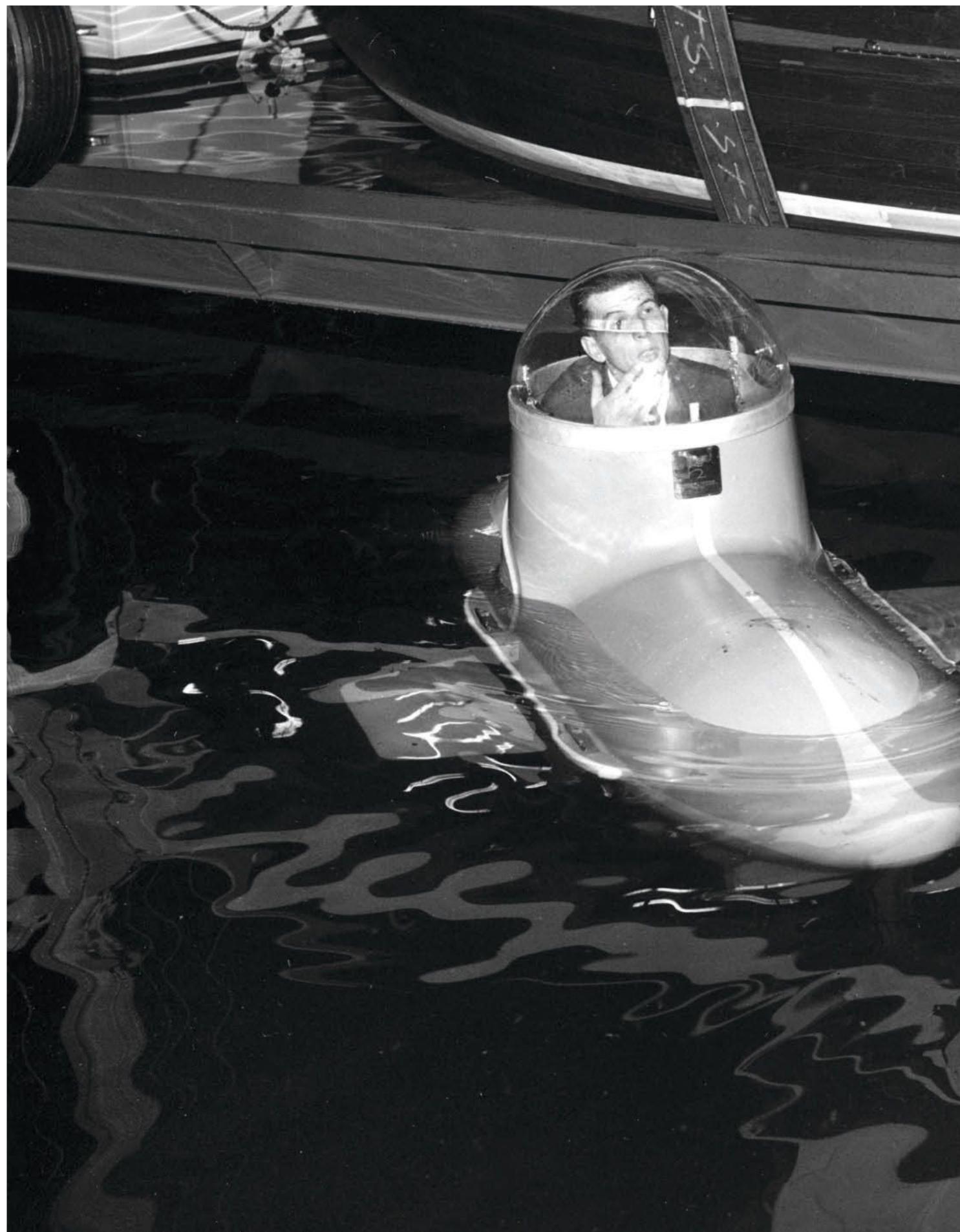
Another dispute requiring Solomonic justice has run almost as long. Back in 1949, a Hindu idol "miraculously" appeared inside a mosque in the Indian city of Ayodhya, substantiating, in popular imagination at least, claims that the 16th-century mosque stood on the site of the birthplace of Ram, an incarnation of Vishnu, a Hindu god, and the hero of ancient epics. Local Hindus felt empowered to claim the site, and India's government responded by closing the mosque to Muslim prayers.

The lawsuit filed by Muslims in 1950, asserting title to the mosque, is due to be ruled on by India's Supreme Court later this year—rather late considering that 25 years ago a Hindu mob destroyed the building. However the ruling falls, there is little likelihood of Muslims praying at the site again. Hindu nationalists have successfully incorporated Ayodhya into their narrative of suffering and redemption, and the site has become a magnet for pilgrims. Among its souvenir stalls, those doing the briskest trade are the ones playing videos on a loop of Hindu fundamentalists demolishing the mosque.

The subtext is widely understood: whatever India's pretensions to being a secular state, effective power lies with its Hindu majority. In recent years, as the strength of the ruling Hindu-nationalist Bharatiya Janata Party (BJP) has grown, so too has the notion that non-Hindus are not really pukka Indians.

Muslims, in particular, are often subtly put in their place. For Independence Day, the BJP government of Uttar Pradesh ordered Muslim religious schools—and no other schools—to provide videos to prove that their students had sung the national anthem. Earlier this month Narendra Modi, India's prime minister, made a gibe at the country's outgoing vice-president, Hamid Ansari, who happens to be a Muslim. A solemn former diplomat, Mr Ansari had said in a parting interview that India's minorities feel growing unease. Mr Modi commented that perhaps Mr Ansari now felt liberated to return to his roots among "certain circles" where he felt more comfortable. Indian Muslims took this as an insinuation that they could never represent India wholeheartedly.

There is little such subtlety in Pakistan. Granted, earlier this month it appointed a Hindu as a junior minister in a 46-member cabinet. But he is the first member of Pakistan's 3.3m-strong Hindu minority to be elevated to such rank in 25 years. Almost from the day it was born Pakistan has been forgetting that its founding father, Muhammad Ali Jinnah, envisaged a secular state, not a religious one. Somehow, Partition remains an unfinished process of separation—even if it is largely now in people's heads rather than on the ground. ■





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Reviving traditional culture

Making history

JINAN

The Communist Party is trying to redefine what it means to be Chinese

CHILDREN sit with straight backs chanting in loud voices from the *Dizi Gui*, a classic Chinese text about obedience. At the end of class they bow low to an image of Confucius, hands clasped as if in prayer. A statue of the ancient sage watches over the playground, too: "Study the *Dizi Gui*, be a good Chinese," reads a red banner. At the Zhengde summer camp in Jinan, in the eastern province of Shandong, children as young as five spend their day reciting verses, learning tai chi and watching cartoons with moral messages. Phones are banned "to prevent contamination of the mind", says Yi Shugui, the headmaster, a former management consultant. At similar summer schools across China children learn calligraphy, traditional Chinese crafts and how to play ancient instruments. China is undergoing a cultural renaissance, much of it government-sponsored.

For most of its history the Communist Party wanted to smash China's past, not celebrate it. During the Cultural Revolution in the 1960s and 1970s it sought to overturn the "four olds": old customs, old culture, old habits and old ideas. Temples, mansions and tombstones were ravaged, along with any artefacts or people associated with the bourgeois way of life. Small wonder that Communist ideology lost its appeal. The blistering pace of change in recent decades has kindled an anxiety that China is suffering from moral decay and a

concomitant yearning for a revival of ancient values. The government is harnessing those feelings, using ancient rites and customs to spread favoured values.

Since coming to power in 2012 Xi Jinping, the president, has intensified efforts to build what he refers to as "cultural confidence". In an extraordinary denial of its legacy, the Communist Party has taken to presenting itself as "the faithful heir" of traditional Chinese culture. "Our civilisation has developed in an unbroken line from ancient to modern times," Mr Xi declared in 2012. In January the government sought to codify its attempts to "preserve" traditional culture by outlining a vast array of policies that local and national officials should advance.

Individual elements of the policy to promote "the integration of leisure life and traditional cultural development" sound rather benign. Taken together, however, they constitute an attempt to infuse daily life with a sanitised and government-sanctioned version of Chinese culture. The intention, as in so much that Mr Xi does, is to secure the enduring power of the Communist Party.

The agenda touches every aspect of life. The white paper calls for an emphasis on "our festivals", so local and national holidays are being celebrated with new vigour. Some people are proposing that China should pick its own Mother's Day, rather

than copy the American date (China already has a native version of Valentine's Day). State media are boosting the use of Chinese medicine when people fall ill, wearing Han robes when they get married, and keeping fit by practising tai chi and other ancient sports (a recent viral video lauds "Kung Fu Granny", a 94-year-old who reckons she owes her longevity partly to such activities). The party is trying to bend popular culture to its agenda, too. On August 5th it announced plans to replace prime-time entertainment and reality TV shows that "hype" pop stars with programmes of higher "moral" content. Examples include a much-plugged quiz show about classical poetry and another in which children compete to write complicated Chinese characters.

The great call

Every part of society is being pressed into the effort. Zhengde is emblematic of a wider plan to influence Chinese youth, what the *People's Daily* refers to as a "soul-casting project", by introducing new school textbooks and degree programmes relating to ancient culture. Employers are encouraged to take their staff on study trips and provide classes on culture. Even the People's Liberation Army has been told to seek courage from a lion-hearted hero of ancient China. So, either by directive or a desire to please officialdom, every art form is being given a Chinese twist: "King of Glory", a popular game for mobile phones, features a famous eighth-century poet, Li Bai, albeit as an assassin, not a calling there is any evidence he pursued. A well-known Peking opera has been reinvented in jazz form to appeal to new audiences.

There is an economic logic to such policies, since they protect some Chinese firms from foreign competition and promote ►

► new sources of consumption. Last year Mr Xi urged a group of writers and artists to "draw energy from the treasure vault of Chinese culture". Publishers have been asked to limit imports of foreign children's books, thereby making way for home-grown comics and picture books that promote "Chinese values".

In an effort to cut poverty and create new rural jobs, all manner of crafts have been revived or invented, including creating sculptures from peach stones and yams, weaving bamboo and, in one place, making miniature souvenir coffins. In April the government expressed the intention to develop cultural industries into a "pillar" of the economy. China's ancient heritage stands at the centre of its sales pitch to the world, too: becoming "a socialist cultural superpower" is now an official national goal.

By presenting himself as the defender of traditional values, Mr Xi hopes to harness the conservative forces in society. He also seeks to divert attention from the party's own culpability in creating the supposed spiritual vacuum. Traditional values bolster the Communist Party in other ways, too. Promoting the country's cultural heritage is a safer source of patriotism than anti-Japanese feeling, which the party had been stoking for many years and which backfired in 2012 when demonstrations against Japan turned violent.

The Communist Party has cherry-picked the version of the past that suits it—what it refers to as a "correct" reflection of the ancient values prizes hierarchy, obedience and order. Preaching to a class of 12-18-year-olds at Zhengde, Mr Yi sums up Confucius's teachings: "Listen to your parents at home, to your teachers at school, to your boss at work and to the state and government in the country—then you will have happiness." That epitomises Mr Xi's vision of a "harmonious society" nicely as well.

Inconvenient elements of China's ancient culture have been left safely behind. Endorsing traditional values does not include a tolerance for religion, for example, which Mr Xi sees as a potential rival for citizens' loyalty. While he preaches that ancient values are the "soul of the nation", he has also overseen harsh moves against Tibetan Buddhists and Chinese Muslims. Monasteries throughout China have, in effect, been turned into tourist attractions. Many Buddhist temples charge entry fees and few host regular religious services or provide prayer books. Within weeks of the release of the white paper on preserving traditional culture came another edict forbidding even retired officials in Beijing from engaging in any religious activities. The Communist Party has clearly heeded one lesson from its own history: social movements, be they revolutionary, religious or democratic, may prove hard to contain. Better to control them itself. ■

Labour law

Workers, disunited

BEIJING

Measures to protect employees are no use to those who need them most

WHETHER in the breathless years of double-digit economic growth or today's more languid era, one constant in China has been the poor state of workers' rights and the frequent outbreaks of labour unrest. From coalminers in the snowy north-east to factory staff in the steamy Pearl River Delta, workers have agitated against low pay, wage arrears, unsafe conditions and job losses. A law on labour contracts that took effect in 2008 aimed to keep Chinese hard-hats happier, and on paper it should have succeeded. Indeed, the worldwide ranking of employment-protection laws by the Organisation for Economic Co-operation and Development, a rich-country think-tank, puts China near the very top of the tables on several indicators.

In practice, however, the law has only helped a bit. The lack of independent unions or genuine collective bargaining leaves China's blue-collar workers vulnerable and grumpy. Incidents of labour unrest remain widespread. Around 600 strikes or protests have been reported this year, according to researchers at China Labour Bulletin, a Hong Kong-based watchdog, who reckon this tally of known incidents may represent only 10-15% of the actual number. The government is trying

to keep unrest in check by lowering the threshold at which the police intervene. In Beijing protests used to be broken up if 50 workers showed up; now ten will suffice.

But even though the law has left blue-collar workers in the lurch, it has brought considerable, unintended benefits for white-collar ones. Managers in all sorts of companies—Chinese, foreign, state-owned and private—complain that the law makes it difficult to fire office staff, even in cases of egregious malfeasance. "When the law was written, we didn't anticipate this," says Wang Kan of the China Institute of Industrial Relations.

He describes a case involving a senior executive at a big technology company who was caught subcontracting work at grossly inflated prices to a firm that he had established using a relative's name. His employer was unable to meet the extensive documentary and procedural requirements laid out in the law, so could not dismiss him. The executive's departure instead came on terms he dictated: he got a huge payout and the firm he was leaving even waived non-compete restrictions it would normally have imposed.

Blue-collar workers may have even less job security than before, partly because of slowing growth and the closure of some state-owned firms. Yet they are often unable to use the labour law to protect themselves. Many of them, especially the tens of millions of migrant workers who roam from job to job in construction and other lowly roles, are taken on without formal contracts, says Aaron Halegua of New York University, even though that contravenes the law in itself. If an employer denies any relationship with a worker and there are no documents to prove one, he says, the worker's case will seldom reach a court or arbitration panel.

Professionals have also been better able to use the labour law because they are paid enough to hire legal help. Lawyers are not allowed to take on cases in exchange for a share of any settlement. Theoretically the All-China Federation of Trade Unions, an umbrella for all Chinese unions, offers legal aid to blue-collar workers as part of its mandate. Since it is completely controlled by the Communist Party, however, it typically prizes the government's desire for stability over workers' calls for fairness.

China does have a handful of campaigning lawyers and NGOs that seek to offer legal help to abused blue-collar workers, but they are routinely met with professional censure or worse forms of intimidation. Communist Party officials instinctively respond more fiercely to aggrieved blue-collar workers than to white-collar ones. When they lie awake at night worrying about labour unrest, they picture mobs of manual labourers with pickaxes, not swarms of pen-wielding office drones. ■



Hard hats, hard luck



After Charlottesville

White fight

WASHINGTON, DC

Donald Trump's failure of character emboldens America's far right

LAST weekend white supremacists flocked to the picturesque college town of Charlottesville, Virginia to protest against the planned removal of a statue of Robert E. Lee, a Confederate general, from a city park. They marched on the University of Virginia on Friday night, chanting "Blood and soil!" and "Jews will not replace us!" On Saturday morning, carrying Nazi and Confederate flags, they tussled with counter-protesters. And then, after brawls forced police to clear a city park, Heather Heyer was killed (see our obituary) and 19 others injured when a car ploughed into a crowd of chanting counter-protesters. James Alex Fields junior, a 20-year-old from Ohio whom a former teacher recalled having "sympathy toward Nazism...idolisation of Hitler [and] a belief in white supremacy", was arrested and charged with murder.

Politicians have few easier tasks in their careers than condemning Nazis. Sometimes talking about race in America can feel like trying to pirouette across a minefield. This is not one of those times. An overwhelming majority of Americans from across the political spectrum agree that brandishing the flag of a regime that systematically murdered millions, against whom America fought a war, is a bad thing. Not only liberals but dozens of con-

gressional Republicans managed, in the words of Cory Gardner, a senator from Colorado, to "call evil by its name. These were white supremacists and this was domestic terrorism."

And yet Donald Trump seemed to find this task difficult. On Saturday night he managed a mealy-mouthed condemnation of "hatred, bigotry and violence—on many sides, on many sides", even though only one side appears to have paraded with heavy weaponry and murdered one of its opponents. Not until Monday afternoon, and then only after crowing over his administration's economic triumphs, did Mr Trump manage to admit that "racism is evil". And, he added, "those who cause violence in its name are criminals and thugs, including the KKK, neo-Nazis, white supremacists and other hate groups that are repugnant to everything we hold dear as Americans." Even then, his advisers reportedly had to cajole him into it.

His efforts at moral clarity proved fleeting. Asked about Charlottesville at a bizarre, combative press conference a day later, Mr Trump fulminated over leftist counter-protesters "charging with clubs in their hands...without a permit, and they were very, very violent." To be sure, some left-wing protesters came to Charlottesville ready to fight—but so did the white su-

Also in this section

- 29 The far right
- 30 Drinking much more
- 30 Bribing children
- 31 Texas's special session
- 32 The female workforce
- 33 Lexington: The quiet American

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premacists, who were armed with swords, flagpoles, shields and guns. Mr Trump insisted that there is "blame on both sides", and that on both sides—among those marching in support of ethnic cleansing and white supremacy and those who opposed both—there were "very fine people".

Some of the marchers, he claimed, were just there to protest against the removal of Confederate statues, a trend opposed by some of the president's supporters. He worried that removing more Confederate statues could lead to removing statues of George Washington and Thomas Jefferson, seemingly indifferent to the distinction that Washington and Jefferson founded the Union, while Lee and other Confederates took up arms against it. From the sidelines his new chief of staff, John Kelly, hired to bring discipline to the White House, stared at the ground dejectedly, his arms folded in front of him.

Mr Trump defended his tepid first statement by claiming he had not then had all the facts, displaying a previously unrevealed concern for accuracy. He has never shied away from attacking his enemies quickly and viciously. When Ken Frazier, the CEO of Merck, a pharmaceutical company, resigned from Mr Trump's manufacturing council in protest at his reaction to what happened in Charlottesville, it took the president less than an hour to start attacking him on Twitter. Several others followed Mr Frazier off the council (see page 51) before Mr Trump disbanded it. But to Mr Trump the violence in Charlottesville was authorless and disembodied, a sad but inherent part of life, like bad weather. "It's been going on for a long time in our country," he sighed. "It's not Donald Trump, it's not Barack Obama." ➤

▶ Racist violence certainly predated Mr Trump: for most of American history, African-Americans were either enslaved or de jure second-class citizens. But Richard Cohen, who heads the Southern Poverty Law Centre, which tracks the activities of extremist groups, says that the Charlottesville rally was the largest white-supremacist gathering in more than 40 years. Mr Trump, he says, "has energised the white-supremacist movement...We're seeing a revival of street activity."

America has rarely undergone a period of racial retrogression as acute as that which accompanied Mr Trump's assumption of the presidency. One year ago, America had a black president; his successor brought white nationalists into mainstream politics for the first time in living memory. One century ago Ku Klux Klan members felt obliged to hide their identities beneath white hoods; last weekend white supremacists in Charlottesville felt bold enough to march unmasked. David Duke, a former Klan leader, said he and his fellow nationalists came to Charlottesville to "fulfil the promises of Donald Trump" and to "take our country back". Mr Trump's equivocation on Saturday thrilled the *Daily Stormer*, a racist website: "No condemnation at all...Really, really good. God bless him." His performance on Tuesday earned rave reviews from Mr Duke ("Thank you President Trump for your honesty & courage") and his ilk.

Most politicians would have found it easy to condemn political violence and the alt-right without equivocation. Most presidents at least try to bring the country together at a time of national tragedy, as Bill Clinton did after the Oklahoma City bombing, George W. Bush after September 11th and Mr Obama after the murder of nine black churchgoers in South Carolina. Mr Trump is not most presidents: he seems driven by no principle higher than supporting those who support him and opposing anyone who fails to give him the glory he believes to be his due. The nationalist right like him, so they must be "fine people"; the left does not, so of course they are to blame.

One nationalist in Charlottesville boasted to a reporter from Vice News, "We are stepping off the internet in a big way...We greatly outnumbered the anti-white, anti-American filth. And at some point we will have enough power that we will clear them from the streets for ever." That seems unlikely: the far right's numbers remain mercifully small—the Charlottesville rally seems to have drawn around 500. But the far right is getting the attention it craves. There will be more rallies, and where they happen, counter-protesters will inevitably follow. The nationalist right may remain an outnumbered fringe, but it is emboldened. It has friends in high places. ■

The far right

Rogues' gallery

WASHINGTON, DC

The waning and waxing of a fringe

AMERICA is not about to be overrun by neo-fascists. Most politicians have no difficulty condemning the far right. The Republican National Committee chairman has told white supremacists, "We don't want your vote." Yet this floppy fringe should not be taken lightly. "As a speaker, Hitler exercises astonishing sway over a German audience, presumably because public speaking is an unknown art in Germany," was the British embassy in Berlin's snarky verdict in 1937. European fascists were a bit of a joke, until they were not. Nor was America immune from swastika-waving wingnuts.

On February 20th 1939 the German American Bund, a group founded in 1936 to promote Nazism in America, held a rally at Madison Square Garden in Manhattan that drew 20,000 supporters. The Bund had about 25,000 members, and worked closely with the Christian Front, a militia linked to Charles Coughlin, an anti-Semitic priest whose radio shows drew millions of listeners. But after the second world war began, the Bund's leader was convicted of embezzlement and eventually deported to Germany, while Coughlin was ordered to cease non-pastoral activity.

In 1925 the Ku Klux Klan, a violent group formed in the South after the civil war to intimidate newly freed black southerners, marched on Washington, and boasted



Many sides in Madison Square

more than 4m members. It gained adherents in the north and Midwest by opposing immigration, particularly of Catholics and Jews. The Klan's influence waned, but then rose again in the 1960s, in opposition to the civil-rights movement. The Southern Poverty Law Centre, which monitors hate groups, estimates that today the Klan has between 5,000 and 8,000 members in dozens of individual chapters.

The closest the far right came to the White House was in 1968, when George Wallace, an ex-governor of Alabama, took five states in the presidential election running on the American Independent Party's ticket. Wallace began his career as a relative moderate, then found that inciting racial hatred won him more votes. But his appeal was clearly limited, even though he won more states than some subsequent Democratic candidates have. Since then, most mainstream politicians have found it easy to condemn overt bigotry.

There were few if any Klan hoods on display in Charlottesville. Instead, marchers bore a variety of other iconography. Some brandished white shields with a black cross—a symbol of the League of the South, a secessionist group that believes contemporary America is unacceptably "egalitarian and Marxist". Before driving a car into a crowd of protesters, James Alex Fields junior was photographed holding a shield with the symbol of Vanguard America, a white supremacist group (which denies that Mr Fields was a member). Many carried Confederate flags.

All these groups came together for a "Unite the Right" rally, ostensibly to protect a statue of Robert E. Lee, a Confederate general, but also to show real-world strength. The loose grouping known as the alt-right began on internet message boards. Its adherents have proven more adept at tinkering with Photoshop—their favourite symbol is a green frog called Pepe, though they also seem to enjoy sending Nazi-themed imagery to their opponents—than marching. Stephen Bannon, Mr Trump's strategist, once called Breitbart, the website he used to run, "the platform for the alt-right".

Working out precisely what that means is challenging: the alt-right does not have a unified set of beliefs. Some fashion themselves champions of free speech and whine when challenged—ignoring the distinction between government suppression of speech, and the social or professional consequences of spewing racist bile.

Some insist that they do not hate non-white people, they just want their own ethno-state—a distinction without a difference, and one that shows why "alt" (for alternative) is misleading: racial separation is not a new cause for the far right. Jason Kessler, who organised the Charlottesville rally, denied being a white supremacist. He was, he said, just "trying to show that folks can stand up for white people." ■

Boozing

Got to give it up

LOS ANGELES

Minorities, the elderly and women are drinking more heavily

THE White House has plans to declare the opioid crisis a national emergency. This concern is justified: in their legal and illegal forms, opioids kill an American every 16 minutes. Yet a focus on opioids has eclipsed the damage caused by an even deadlier, more common substance. Between 2006 and 2010, an average of 106,765 Americans died each year from alcohol-related causes such as liver disease, alcohol poisoning and drunk driving—more than twice the number of overdoses from all drugs and more than triple the number of opioid overdoses in 2015. Although Americans quaff less alcohol per person than the pub-loving British and Irish or the beer-fond Germans, they are drinking far more heavily than they used to.

On August 9th, researchers at the National Institute on Alcohol Abuse and Alcoholism, New York State Psychiatric Institute and Columbia University published a study in *JAMA Psychiatry* that compared American drinking habits in 2001-02 with those in 2012-13. It found that the share of Americans who are considered “high-risk” tipplers—women who, in any given week, have at least four drinks in a single day, or men who have five drinks—increased by nearly 30% in the period studied.

The percentage of Americans who met the criteria for alcohol-use disorder (AUD) in the DSM-IV—a psychiatric handbook that uses questions such as, “In the past year, have you found that drinking—or being sick from drinking—often interfered with taking care of your home or family?” to diagnose alcoholism—jumped from 8.5% of Americans in 2001-02 to 13% in 2012-13, or nearly 30m people. By comparison, 2.6m are estimated to have prescription-opioid and heroin addictions.

Anne Case and Angus Deaton, two (married) economists at Princeton University, roll alcohol poisonings together with opioid deaths and suicides into what they call “deaths of despair”. Having suffered lurching economic and social change, they argue, white folk with high-school diplomas or less have turned to opioids and alcohol for comfort. Such anguish is what they believe underpins a rising mortality rate among middle-aged white Americans, even as that rate falls in other developed countries. Is the rise in problem drinking part of the same phenomenon?

Not obviously. Opioid overdoses are killing more white males than any other group. But heavy drinking seems to be in-



Got to give it up, that stuff

creasing most not among middle-aged whites, but the elderly and certain minority groups. Over the period measured by the JAMA study, the prevalence of alcoholism among Americans over 65 jumped 107%, though from a low base. Among black Americans it rose 93%: a larger share of blacks than whites are now considered to suffer from alcoholism. Women are also hitting the bottle harder. Whereas 5% of women were found to meet the criteria for alcoholism in 2001-02, in 2012-13 that number rose to 9%.

Previous studies suggest that Americans who drink heavily tend to drink very heavily indeed. Analysis by Phillip Cook, a professor at Duke University’s Sanford School of Public Policy, published in 2007 suggested that whereas 30% of Americans did not drink at all in 2001-02, 10% of Americans—or about 24m—had an average of ten drinks a day. He believes such habits would not look different today.

Bridget Grant, an epidemiologist at the NIAAA and the JAMA study’s principal author, blames the rise in drinking largely on different manifestations of stress. For women, that pressure might stem from their increased participation in the workforce. “It may be that women are finding it difficult to both manage their families and their work, which leads to stress, which invites drinking,” Dr Grant says.

The upshot is that, for the first time since the early 1970s, the mortality rate associated with alcohol-related liver cirrhosis rose dramatically between 2009 and 2013. The decline in mortality rates related to cardiovascular diseases and stroke—both of which can be brought on by heavy drinking—recently slowed. Mitigating the opioid epidemic is critical, but curbing heavy drinking is just as pressing. ■

Education

Can’t be asked

Effort, not ability, may explain the gap between America and China

WHETHER a teenager grasps calculus is not obviously an issue of geopolitical importance. Yet since the first Programme for International Student Assessment (PISA) in 2000, the poor performance of American pupils in the global test has worried policymakers. Not least since Chinese pupils, or at least residents of Shanghai, are at or near the top of the class.

Some of Shanghai’s prowess is overstated. Children of poorer migrants to the city are not properly sampled, for example. America does a bit better in other international tests. Yet, on average, American teenagers trail their peers (see chart), especially maths whizzes from East Asia. Of the 69 other parts of the world whose 15-year-olds took the PISA maths test in 2015, 36 scored higher than America, 28 lower and five did about the same. “We can quibble,” said Arne Duncan, Barack Obama’s first education secretary, after a batch of scores came out in 2010, “or we can face the brutal truth that we’re being out-educated.”

These concerns have a long history. In 1983, “A Nation at Risk”, a report commissioned by Ronald Reagan, warned of “a rising tide of mediocrity that threatens our very future as a Nation and a people.” In letting others surpass its educational achievements, it continued, America had been “committing an act of unthinking, unilateral educational disarmament”. Though the cold-war hysteria has subsided, the worry that the youngest generation of Americans is losing an educational arms race endures. Broadly, American pupils have made little progress in average PISA scores since the first of the triennial tests was taken in 2000.

Many reasons have been given for the results, including both policies and par-

Show them the money

Share of 15-year-olds performing at PISA mathematics literacy level 5 or above, %



ents. Books have been written contrasting diligent Asian kids with feckless Americans. But what if the alarm is partly just a result of American pupils not trying as hard on a test that does not matter to them? That is the suggestion of a forthcoming paper by Sally Sadoff of the University of California San Diego and five other economists from American and Chinese universities.

Last year the researchers conducted an experiment in secondary schools in Shanghai and America. In each place pupils were split into two groups. The first answered 25 maths questions that had appeared in PISA. The second took the same test, but before the pupils did so, they were presented with an envelope with 25 dollar bills or the equivalent in yuan. The teens were told that for every wrong answer they would be docked a dollar.

Ms Sadoff and her colleagues found

that the ploy boosted scores among American students relative to their compatriots without a cash incentive, but not among the Chinese ones. According to some rough calculations, if extrapolated to the main PISA test, the improvement in performance would have moved America from 36th to 19th in the ranking, in which Shanghai came top. The biggest gains were registered among normally average-scoring pupils and among boys.

The study looks at results in just five schools and has yet to be peer-reviewed. Americans still lag behind their east Asian peers, even after greenbacks are introduced. Yet one implication from the new study is that results on comparative tests such as PISA do not simply reflect differences in ability. If scores can be boosted by the lure of a few dollars, then the potential of American pupils is greater than policy-makers often assume. ■

priorities. By the end of the session, several had openly scoffed at the governor's efforts at intimidation.

Chief among them, as usual, was House Speaker Joe Straus. The Senate—at the behest of Mr Patrick, who presides over that chamber—summarily set to work on Mr Abbott's agenda. Mr Straus, whose control over his fellow Republicans in the lower chamber is comparatively weaker than Mr Patrick's is over their colleagues in the Senate, made it clear that he saw no particular reason for the House to follow suit. He had already registered his opposition to the bathroom bill, in no uncertain terms, during the regular session, and Mr Abbott's efforts to revive it were ill-fated. Business groups and law enforcement joined Democrats and moderate Republicans in opposing the legislation, and the effort to railroad it through failed once again.

That the Texas Senate adjourned shortly after the House did was instructive. Since the election of President Donald Trump, many Republicans in Texas, as elsewhere, have interpreted the party's travails in the Lone Star State as a symptom of the national party's pathologies. Events in Texas, which has been controlled by Republicans for a generation, are a reminder that fierce fighting within the Republican Party predates Mr Trump. On August 14th, though, parliamentary manoeuvring in the House paused for a moment when Dade Phelan, a Republican representative from Beaumont, made an announcement. He had, he said, just spoken to John Raney, the chancellor of Texas A&M University, who had decided to cancel an event on campus, planned by white nationalists, in light of the racist violence over the weekend in Charlottesville. The news was well-received, and quickly dismissed. There was work to do, and Washington, for once, was the least of the state's problems. ■

Texas politics

A very special session

AUSTIN

The state legislature disbands after 30 days of discontent

THE Texas House of Representatives adjourned on August 15th, after a special legislative session that left many legislators, on both sides of the aisle, a bit dyspeptic. "The problem continues to be that politics rather than policy is driving the bus," said Chris Paddie, a Republican representative from east Texas, that evening. The Texan constitution gives the governor the option of calling special legislative sessions to address issues left lingering after the Legislature's brief, biennial regular meetings. And this year the governor, Greg Abbott, had little choice but to do so. The 85th Legislature adjourned, in May, without having passed legislation required to reauthorise several state agencies, including the Texas Medical Board, which licenses doctors.

This was a crisis manufactured by the lieutenant-governor, Dan Patrick, who is widely thought to be interested in ascending to the governor's office. Mr Abbott responded, in June, by doubling down. The legislators would return, he announced, and that being the case, they should get to work. He announced a list of 20 issues he expected them to tackle over the course of the special session, which would run for 30 days. His list included mainstream concerns, such as school finance and the state's staggeringly high maternal mortality rate, but also red-meat political priorities; among other things, the governor wanted legislation concerning which lavatories transgender Texans might use.

Democrats, who are outnumbered in both chambers, were unenthused about being sent back to Austin to tackle the governor's to-do list after an acrimonious regular session which ended in threats of violence. What Mr Abbott seemingly failed to anticipate is that so many Republicans would be, too. Their humour did not improve after he announced that he would be keeping a daily tally of those who had signed on to support each of his



Spot the governor

The female workforce

All the working ladies

WASHINGTON, DC

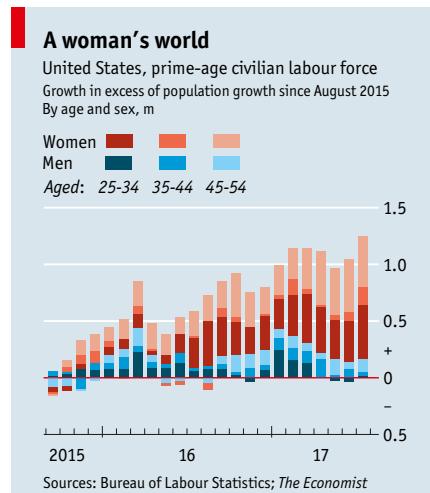
Women are responsible for a recovery in labour-force participation

IF THERE were a list of common complaints about America's economy, the fact that too few people work would be near the top. Though unemployment is low—only 4.3% in July—the figure does not include those who are jobless either by choice, or because they have given up looking for work. The proportion of those aged between 25 and 54 in work is 79%—lower than in France, where the unemployment rate is more than twice as high. So it is a relief that over the past two years, as the labour market has improved, Americans aged 25 to 54 (prime-age, in the jargon) have been joining the labour force in greater numbers. What is remarkable, however, is that this turnaround has been driven almost entirely by women.

When people think about America's hidden reserves of labour, they usually point to prime-age men, who have participated in the labour market at ever-lower rates since the 1960s. Things have been particularly bad for less educated men, who have suffered as technological progress and trade have killed off manufacturing jobs. More than one in five prime-age men with a high-school diploma does not work, compared with fewer than one in 11 men with a bachelor's degree.

Yet in recent decades women's employment rates have been disappointing, too. In 1990, after two decades in which women had piled into the workforce, America's female labour-force participation was sixth-highest among 22 rich countries studied by economists Francine Blau and Lawrence Kahn in 2013. The flow of women into work slowed to a trickle by the turn of the millennium. Then it went into a very gentle decline. Because other countries continued to see gains, by 2010 America had slipped to 17th in Ms Blau and Mr Kahn's rankings. They pointed to America's failure to implement the family-friendly policies followed elsewhere.

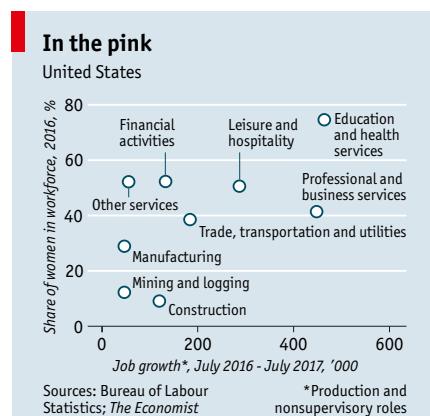
Nonetheless, the top end of the labour market is increasingly promising for women. Even in 2010, America's working women were about as likely to be managers as men; elsewhere, they were only half as likely. They were also more likely than men to be professionals. Women are now a majority among new college graduates, make up more than half of law students, and are equally represented among freshmen at medical schools. Women in their late 20s and early 30s are responsible for nearly 40% of labour-force growth since



prime-age participation bottomed out in August 2015.

Yet when Whitney Mancuso and John Robertson of the Federal Reserve Bank of Atlanta recently crunched the numbers, they found the recent surge in participation had been driven by unskilled women. According to their analysis, about a fifth of the growth in female prime-age participation over the past year is explained by shifting patterns of age and education. Strip those demographic changes out of the trend, and higher participation by women without college degrees explains fully 97% of what remains.

It is easy to explain why participation is booming among less educated workers. They tend to be the first to suffer from recessions and the last to benefit from recoveries, and the labour market has only recently entered its final stages of convalescence after the financial crisis. Median earnings



are now growing by over 4% annually among full-time employees with only a high-school diploma, compared with 2.9% for those with a bachelor's degree. What is far less clear, however, is why women alone are responsible for the turnaround.

Isabel Sawhill, of the Brookings Institution, a think-tank, offers one explanation: low-skilled job openings have been concentrated in service industries that do not attract men. Meanwhile, traditionally male jobs, for example in construction, have been harder to come by. Sure enough, there is a correlation between the number of women an industry employs, as a percentage of its workforce, and how many non-managerial jobs it has recently created. Particularly striking is the education-and-health-services sector, where women make up three-quarters of the workforce. It accounts for more than 25% of net new non-managerial jobs in the private sector over the past year. Most of these roles are in health and social care, which is booming as the population ages.

Yet plenty of men are working in low-skilled jobs that do not involve traditional "man's work". The leisure and hospitality industry, for example, has an almost equal gender split. It has added 287,000 non-managerial jobs in the past year, and wages are up by a healthy 3.5%. This suggests that the full explanation is more subtle than men not wanting certain types of work. It may include a simple piece of economics. Researchers think that women's labour-market choices depend more on wages than men's do. This makes sense when women are their household's secondary earner. As a result, recent wage growth may have tempted more women than men into the workforce. However, the gap in sensitivity to wages has dropped dramatically in recent decades. And in any case, this argument cannot explain the size of the disparity between genders.

Whatever the cause, the evidence is that plenty of unskilled women on the edges of the labour force can be tempted in. Meanwhile, a large number of men seem cut off from the modern economy altogether. These are not just former manufacturing workers, but youngsters too. The participation rate of men aged 25-34 is only a touch above its record low; for similarly aged women, it is as high as it was at the start of 2001. One theory for why young men are increasingly averse to working, proposed by Erik Hurst, an economist, and his co-authors in a recent working paper, is the pull of modern video games. Policy-makers still have their work cut out helping women into the labour force. Recent trends have not changed the fact that, in most age groups, many more men than women work. But society also needs to think about a growing group of men for whom work does not seem to be a worthwhile aim, however much the economy booms. ■

Lexington | The quiet American

Watching Vice-President Mike Pence explain his tempestuous boss to Latin America



TO KNOW how the world aches for a more familiar America to return, it is enough to watch foreign leaders interact with Vice-President Mike Pence. In more normal times, Mr Pence would make an unlikely object of global fascination. Missionary-earnest and sternly conservative, he wears his loyalty to Donald Trump like a blank mask. There is no Trump provocation that the vice-president cannot explain away: usually in tones of mild, head-shaking disappointment, as if others lack the good sense to trust his boss. But even as Mr Pence defends his president and his America First agenda, he sounds enough like an old-school Reagan Republican—praising free-trade pacts, lauding NATO and chiding leftist strongmen for trampling the rule of law—that foreign allies cannot help but dream.

To us, says an official from one of four Latin American countries hosting Mr Pence from August 13th to 18th, this vice-president somehow represents all the institutions of America, not just this White House. He sounds like the senators we meet, and we know he is liked by many Republicans in Congress. Also, says the official, lowering his voice, Mr Pence could be president one day. Given the legal and political briars that entangle Mr Trump after just seven months in office, that is a fair point.

A Trumpian controversy was awaiting Mr Pence at his first stop, Colombia. That country's centrist president, Juan Manuel Santos, had every interest in giving his American visitor a cordial welcome. Mr Santos needs allies as he nurses a fragile economy and implements an unpopular peace agreement with FARC rebels. Mr Santos hosted Mr Pence and his wife Karen for an open-air dinner in the port city of Cartagena, in the grounds of a coral-stone mansion. Blue macaws and high-flying frigatebirds wheeled overhead. Modest trade deals were announced: America will accept more Colombian avocados, Colombia will buy more Yanqui rice. Mr Santos endorsed American calls for tougher sanctions on Venezuela's leftist rulers, as they slide closer to dictatorship. But as a politician in a continent haunted by memories of American-backed coups, and stalked today by left-wing populists, Mr Santos had no choice but to address comments made by Mr Trump, a few days earlier, suggesting that options for restoring democracy in Venezuela include military force. "Friends have to tell each other the truth," Mr Santos told his guest. A military op-

tion should not "even be considered".

In reply, Mr Pence relied on a favourite gambit: selectively quoting Mr Trump to make his boss sound more like Reagan than Rambo. Indeed, Mr Trump said that America has "many options for Venezuela", soothed Mr Pence. But the president remains confident that, working with Latin American allies, peaceful ways will be found to restore Venezuelan democracy. What the world heard was "resolve and determination" from Mr Trump, the vice-president added, in case anyone thought they had heard America's president indulging in blustering war-talk that makes no military sense, gives Venezuela's rulers a propaganda win, and makes life harder for his own allies. As night fell over Cartagena Mr Pence reached for a line that he uses often to explain Trumpian foreign policy. Under President Trump, the government will always put American's security and prosperity first, he said: but "America First does not mean America alone."

The electoral mandate won by Mr Trump weighs heavily on Mr Pence. At each overseas stop the former governor of Indiana, congressman and conservative radio host works to convey to foreigners the anger of Trump voters back home. In Colombia he talked of illegal drugs poisoning American children and instructed his host: "Mr President, this must end." For television viewers back home, he explained why faraway crises matter, carefully casting a failed Venezuelan state as a threat not just to democracy, but to American borders and security, as chaos sent murderous drug gangs and migrants north.

Yet Mr Pence also strains to present Trump's America as a benevolent superpower, untempted by isolationism. In Cartagena he bowed his head, eyes closed, as Mrs Pence led a prayer circle with Venezuelans taking refuge at an American-backed evangelical church. "The president sent me here with a message of compassion," Mr Pence told them, visibly moved. Nobody was awkward enough to ask how that squares with his boss's fear-mongering against refugees, or frequent praise for despotic strongmen elsewhere in the world. In Buenos Aires Mr Pence praised President Mauricio Macri for lowering trade tariffs, without mentioning Mr Trump's threats to slap tariffs on imports. Mr Pence hailed Argentina's role in the World Trade Organisation, though his boss calls that body "another one of our disasters".

Swagger fixes everything

If pressed on such contradictions, Mr Pence has an answer: overall, Mr Trump's tough talk makes the world safer. Citing the recent UN Security Council vote to sanction North Korea, and pan-American efforts to put pressure on Venezuela, Mr Pence claimed in Buenos Aires that Mr Trump had "brought the kind of broad-shouldered leadership to the world stage that has been lacking for too long, and the world welcomes it."

Loyalty is a noble quality. Public loyalty is also key when working for Mr Trump, a vengeful and insecure man. Both facts may explain why Mr Pence quotes the president constantly and deferentially stresses the "high honour" of representing him.

Travel lifts the mask a bit. Like many nationalists, Mr Trump does not greatly care that foreign countries have politics, too. Mr Pence is more alive to questions of foreign opinion, which is why he labours to present the world with the most constructive version of his boss. That very act of selective editing reveals something of the vice-president's own preferences. More than his boss, he seems to believe in certain core principles. But to what end? Access to power means little if unaccompanied by courage. ■



Brazil's economy

When will the future arrive?

SÃO PAULO

Investors seem confident that the worst is over for Brazil. But there is plenty that could still hamper a fragile recovery

AFTER a grinding two-year recession, the longest in Brazil's history, a recovery has been slow to materialise. The IMF expects GDP growth of just 0.3% this year. The joblessness rate is 13%. Last year's fiscal deficit, including large interest payments, was nearly 9% of GDP. Lower-than-expected tax receipts have forced the government to accept that for the next four years the budget deficit will be higher than planned.

But markets seem unperturbed. The Bovespa, Brazil's benchmark stock index, is back at levels not seen since May, when a leaked recording of the president, Michel Temer, apparently discussing bribes threw politics into chaos and put his future in doubt. The Brazilian currency, the real, strengthened by 6% in July.

Some of the optimism is based on a conviction that after such a long slump, a rebound cannot be far away. Higher prices for commodities are helping: Brazil is a big exporter of many, including soya and iron ore. Interest rates, which were kept high throughout the recession to curb inflation, are falling. In July, despite his indictment on corruption charges, Mr Temer managed to pass a reform of labour laws that have long throttled growth. He is now trying to simplify a convoluted tax code that means a typical firm has to spend 2,038 staff-hours a year on compliance.

But hopes for a robust recovery ride

above all on Mr Temer's promise to bring public spending under control. Last December he persuaded congress to agree to a 20-year real-terms spending freeze. For it to stick, however, he will have to reform a pension system that entitles Brazilians to retire, on average, at just 58. Pensions already cost 13% of GDP. Without an overhaul, government spending on pensions could reach a fifth of GDP by 2060, when the number of over-65s is projected to increase from 17m now to 58m.

Fewer golden years

A measure setting minimum retirement ages of 65 for men and 62 for women had looked close to gaining the three-fifths majority needed in the lower house when the scandal involving Mr Temer broke. Some of his congressional support then evaporated. Markets took fright. "It was like a cold slap in the face, a reminder that this is Brazil," recalls James McCormack of Fitch, a ratings agency. On June 26th, Mr Temer was indicted on corruption charges by Rodrigo Janot, the chief prosecutor.

But on August 2nd legislators voted by 263 to 227 against referring Mr Temer's case to Brazil's supreme court. (No lower court can try a sitting president.) Now analysts feel fairly confident that he will complete his term—which they regard as positive in light of his reform agenda. "Markets are ag-

Also in this section

35 Newfoundland and Labrador

Bello is away

nostic about personalities," says Arthur Carvalho of Morgan Stanley, an investment bank. "They are focused on results."

The Party of Brazilian Social Democracy (PSDB), Mr Temer's largest coalition partner, is thought likely to back a renewed effort to rein pensions in. Though some of its deputies voted against him on August 2nd, most agree that the reform is necessary. It hopes to have a shot at the presidency next year, probably with either Geraldo Alckmin, a four-time governor of São Paulo state, or João Doria, the mayor of São Paulo city. The PSDB would prefer Mr Temer, who will not seek re-election, to be blamed for the unpopular measure.

A lot depends on how much the reforms are watered down. Mr Temer had already conceded a more gradual raising of the minimum retirement age than originally envisaged, which had cut the potential savings over ten years by about a quarter. His weakened political position means more concessions will probably be needed, such as allowing rural workers to draw pensions earlier than had been intended, and further extending the transition period. The result may provide just half of the savings originally hoped for. That is worrying: even the original proposal would not have been enough to stop Brazil's public debt rising, points out Mr McCormack. It is already above 70% of GDP, high for a middle-income country.

Mr Temer's position is not entirely secure. Mr Janot, who steps down on September 17th, is thought to be preparing to indict the president once more. Another source of danger is Eduardo Cunha, a former speaker of the lower house who was close to Mr Temer. He is co-operating with prosecutors in an attempt to reduce his prison sentence for corruption. If he impli-

cates Mr Temer in wrongdoing, some of the congressmen who supported the president in the last vote might switch sides.

Another question is whether the next president will continue Mr Temer's reforms. The latest polls put Luiz Inácio Lula da Silva, a former president who oversaw a big increase in public spending, ahead of other likely candidates. He is followed by Jair Bolsonaro, a far-right congressman who admires the former military dictatorship. Neither would be considered market-friendly. It is still early days, but more is usually known at this stage about who will run for president.

Mr Temer hopes pension reform may help salvage his reputation. But he is in a race against time. Congressional seats are also up for election next year. Deputies hoping to retain theirs will be too preoccupied by electioneering to get much done, reckons Fabio Giambiagi, a pensions expert. With each revision to the bill requiring a separate vote, "the window of opportunity is closing", he says. Congress is also attempting to reform campaign-finance laws. A new law must be passed before October 7th if it is to come into force before next year's elections. The markets are betting that Mr Temer, a consummate deal-maker, can gather enough support for his fiscal agenda. But that is far from certain. ■

Newfoundland and Labrador

The moral of Muskrat Falls

ST JOHN'S
Canada's slowest-growing province has a history of ill-conceived projects

A LOT depends on the convoys of lorries now rumbling through the rugged interior of Labrador in eastern Canada. They are carrying equipment to be installed at Muskrat Falls, a hydroelectric project on the Churchill River. The 824MW dam, scheduled to begin operation in 2020, is supposed to reduce Newfoundland and Labrador's dependence on fossil fuels and produce surplus power for sale to neighbouring Nova Scotia. But it is shaping up to be the latest in a long series of failed schemes to improve the economy of Canada's slowest-growing province.

In June the provincial government revealed that the project, including a transmission line to Newfoundland, would cost C\$12.7bn (\$10bn) to build, more than double the original estimate of C\$5bn. To pay for that, electricity rates will nearly double to 23.3 cents per kilowatt hour by 2022, twice what Canadians now pay on average. Indigenous groups that live near the dam, and other people downstream, worry that rotting vegetation in the reservoir



will release mercury and that the construction convoys will damage roads. Three Inuit protesters were arrested in July for blocking the lorries.

Ever since Newfoundland and Labrador joined Canada in 1949, common and credulous politicians have promoted misguided projects to reduce its dependence on natural resources. Joey Smallwood, the province's first premier, put public money into more than a dozen ventures that went bust, including a rubber-boot factory, a cotton mill, a chocolatier and a "high-end" knitwear maker. The Come-by-Chance oil refinery, which cost taxpayers C\$42m, declared bankruptcy three years after it opened in 1973. A hydroponic cucumber greenhouse, popularly known as Peckford's Pickle Palace (for the premier who backed it with C\$22m of taxpayers' money), went bust in 1989. The history of failed investments has left the province's government with Canada's biggest public debt as a share of GDP. Wayne Johnston called his novel about the province, published in 1998, "The Colony of Unrequited Dreams".

Churchill Falls, upriver from and much bigger than Muskrat Falls, is the biggest nightmare. A private firm, the British Newfoundland Development Corporation, built it on time and on budget and sold it in 1974 to the province's government. The problem is the contract that the government signed with its neighbour, Quebec. It obliges Newfoundland and Labrador to sell electricity at C\$2 per mwh, a fraction of its current market price, until 2041. The arrangement, which Newfoundland and Labrador agreed to in part because Quebec was the nearest customer, will yield a profit of C\$26bn for Quebec's government, which sells electricity to the United States. Newfoundland and Labrador will make just C\$2bn over the life of the project. The province has tried repeatedly to break the deal in court and lost every time. Canada's Supreme Court will hear an appeal, the third to the highest court on various aspects of the dispute, later this year.

None of these ventures freed the prov-

ince from its dependence on commodities such as lumber and iron ore, with their volatile prices. Over-fishing caused the cod industry to collapse in 1992. Offshore oil production, which began in 1997, sustained the economy until 2014, when oil prices plunged. At the same time, thousands of unemployed oil workers returned to Newfoundland and Labrador from Alberta, where an energy boom also ended.

Tourism and a small tech industry are doing well but cannot make up for the oil slump. Although Canada is expected to grow faster than the rest of the G7 group of rich countries this year, Newfoundland and Labrador faces its second year of recession. Its unemployment rate is 14.9%, more than double the national average. Wade Locke, an economist at Memorial University in St John's, the province's capital, calls the economic situation "desperate".

Muskrat Falls is the latest attempt to diversify out of commodities and jump free from the "geographical stranglehold of Quebec", in the words of Danny Williams, the Conservative premier who authorised the project in 2010. A transmission line now being laid under the Cabot Strait will carry some of the surplus to Nova Scotia, bypassing the French-speaking province. Then it will pay off, Mr Williams insists.

Critics say that the former premier ignored cheaper options for producing power. Dwight Ball, his Liberal successor, calls Muskrat Falls "ill-conceived and reckless" and promises to conduct a forensic audit after it opens. "There's a lot of lessons to be learned from the way [Newfoundland and Labrador] went about this," says Dennis Browne, the province's consumer advocate. He thinks it will learn from its mistakes. History suggests otherwise. ■



Latest in a long line



Destroying history

Empty, void and waste

War in the Arab world has devastated the region's heritage

THE Middle East is used to ruins. A millennium ago the “mad caliph” of Cairo, Hakim, ordered the levelling of all churches, including the Holy Sepulchre in Jerusalem, Jesus’s burial site. The Mongols sacked Baghdad in 1258, causing the Tigris to flow black from the ink of discarded books. Tamerlane spared nothing but hospitals and mosques as he went on what a contemporary chronicler called a “pilgrimage of destruction” across the region’s great cities. “She is empty, and void, and waste,” wailed Nahum, the biblical prophet, foreseeing the ruin of Nineveh at the hands of the Babylonians.

Still, the desolation of the past three years is probably the worst on record. According to the UN, half of the old city of Mosul, in Iraq, and a third of the old city of Aleppo, in Syria, are rubble. Hundreds of minarets, monasteries and monuments have been toppled. Of the world’s 38 endangered cultural-heritage sites, 22 are in the Middle East, says UNESCO, the UN’s cultural arm. “It’s Europe after the second world war,” says Michael Danti of the American Schools of Oriental Research (ASOR) at the University of Pennsylvania, which tracks the destruction.

The jihadists of Islamic State (IS) like to boast of their role in the wreckage. They have filmed themselves razing ancient temples, churches and mosques. So they do not quibble when their adversaries

heap most of the blame on them for destroying the region’s heritage. “Responsibility of this devastation is laid firmly at the doorstep of IS,” said Major-General Joseph Martin, the commander of coalition forces in Mosul, after the jihadists blew up a medieval minaret in the city.

But the American and Russian armies, along with their local allies, have inflicted at least as much damage in their war on the jihadists. Data compiled by ASOR shows that 15 religious sites in Mosul. The American-led coalition’s operation to recapture the city damaged 47, of which 38 were largely destroyed. Russian air strikes in support of Bashar al-Assad, Syria’s dictator, have damaged such treasures as the pillars where Saint Simeon the Hermit is said to have perched for 40 years. Mr Assad’s barrel-bombs have destroyed ancient buildings across Syria; so have the explosives of Western-backed rebels.

Ready, fire, aim

In 2011 the International Council of Museums (ICOM) supplied NATO with a list of heritage sites, and their co-ordinates, in Libya, which the alliance avoided in its bombing campaign. But the Saudi-led coalition in Yemen has been less scrupulous with the list that it received. Air strikes have hit the national museum in Dhamar, with its 12,500 artefacts; the Great Dam of Marib, an ancient engineering wonder; and the al-

Also in this section

37 Israel’s gas conundrum

37 Language politics in Algeria

38 Angola’s election

39 The challenge ahead for Kenya

39 Sierra Leone’s misery of mud and death

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Qasimi complex of mud-brick towers in the old city of Sana'a. The best protection for the artefacts is often to leave them underground, says Hanna Pennock, a former director of ICOM.

Pressure for international action is rising. In March the UN security council reaffirmed that attacks on cultural sites are a war crime. Last September Ahmad al-Faqi al-Mahdi pleaded guilty in the International Criminal Court (ICC) to crimes of cultural destruction in Mali. The jihadist leader admitted to ordering attacks on Muslim shrines in Timbuktu. As *The Economist* went to press, judges from the ICC were expected to award reparations (who would pay them is unclear), setting a precedent for similar claims at other heritage sites.

The damage continues long after the shooting stops. Poverty, despair and a collapse of civic pride hasten the vandalism. Scavengers paw through the wreckage. The rock supposedly bearing the imprint of the Prophet Muhammad’s hand disappeared from a mosque in Aleppo last year. Egypt’s 72 archaeological warehouses, with thousands of uncatalogued artefacts, are manned by unarmed police and double as treasure troves for booty-hunters. International demand encourages the looting. In July Hobby Lobby, an American crafts chain, was fined \$3m for importing thousands of ancient cuneiform tablets and cylinder seals from Iraq. Indirectly, at least, the trade has helped to finance it.

Most of the smugglers get away. The Metropolitan Police in London, home to one of the world’s busiest antiquities markets, suspended its art and antiques unit in June. The authorities in the Arab world have more immediate priorities—or do not exist. Local truces have calmed much of Libya, but the country no longer has an effective department of antiquities to safe- ►

guard the country's treasures. It has fallen to a ragtag band of fighters to protect Leptis Magna, the home town of Septimius Severus, a second-century Roman emperor, from less historically minded militants.

Reconstruction is often a euphemism for the final act of destruction. Antiquities experts mourn the treasures buried beneath the areas of Beirut that were redeveloped after its civil war. Land prospecting in Aleppo, often by cronies of Mr Assad, has already begun. Some treasures might survive. The floodlights are back on at the city's majestic 12th-century citadel. The old city's clock tower should soon peal for the first time in six years. Some facades, too, might get a facelift. But the foundations for tower-blocks that might soon soar over the city would tear through layers of an 8,000-year-old archaeological site. "Bulldozers," bemoans an archaeologist, "can be even more damaging than tanks." ■

Israel's gas conundrum

Too much of a good thing

CAIRO

Egypt could help Israel get rid of its excess gas

LONG a resource-poor country, Israel now has more natural gas than it knows how to use. Even by conservative estimates, the fields discovered off its Mediterranean coast since 2009 hold enough energy to meet domestic needs for 40 years. The government hopes to earn a windfall by selling the excess abroad; the owners of Leviathan, the largest field, have earmarked 9bn cubic meters (bcm) for export each year. Jordan has already signed a deal to buy some. Israel wants to send the rest farther afield—offering it to Europe as an alternative to Russian supplies. But geography and politics make that difficult.

An overland pipeline would have to cross either Lebanon or war-torn Syria, neither of which recognises Israel. The shortest underwater path, to Turkey, is also problematic, because it would pass through Cypriot waters. Turkey occupied the northern third of the island in 1974; the Republic of Cyprus, which governs the south and also has gas to sell, rejects the project.

So in April Yuval Steinitz, Israel's energy minister, signed a preliminary agreement to build an undersea pipeline directly to Europe. It would be the world's longest, following a 2,200km path to Cyprus and onwards to Greece and Italy, at a depth of up to 3km. Mr Steinitz says it would take eight years to finish and cost up to \$7bn. Sceptical energy executives think both estimates are low.

There may be a better solution next

The politics of language

Stumped for words

ALGIERS

A battle over language is hampering Algeria's development

FOR most countries, language is as simple as ABC. Not Algeria. Its kindergartens are a linguistic morass. The republic's official language is standard Arabic, but few children grow up speaking it, so they often feel lost on their first day of school. Berber, the tongue of perhaps a quarter of Algerians, was officially recognised last year—but no one can agree on which of its six dialects to teach. Algeria's French-speaking elite prefer their old masters' lingo. The education minister, Nouria Benghebrit, advocates the introduction of a fourth language: Darija, which fuses the other three and is the mother tongue of most Algerians. An increasing number of Anglophones want to wipe the slate clean with English.

The choice goes to the heart of Algeria's sense of identity. The French banned Arabic at primary school when the country was theirs, dismissing it as a backward language. After independence in 1962, nationalists pushed Arabisation to undo 132 years of French indoctrination. Thousands of teachers and bureaucrats from Egypt and Syria filled posts vacated by France's fleeing civil servants. But their arrival also sparked a backlash, this time against Arab domination. The most recent language movements have been indigenous.

Islamists have rushed to the defence of classical Arabic. Some have accused Ms Benghebrit, absurdly, of conspiring with Mossad to betray God's language. She has added grist to their mill by ordering an investigation into a primary-school teacher who filmed herself telling her class that Arabic was spoken in paradise and vowing to teach nothing else. "Arabisation was a mistake because it was motivated by this idea of revenge against French colonialism," says one of her advisers. "We shouldn't confuse the savage, barbaric colonialism of France with the French language, which is a universal vehicle of science and culture."

The arguments continue at universi-

ties and beyond. Algeria's undergraduates study law, politics and religion in Arabic, but pretty much everything else in French. Court proceedings, news bulletins and Friday sermons are in Arabic. Sitcoms, increasingly, are homemade and in Darija. But cabinet sessions are mostly in French, as are business meetings and literary salons. Ministers, including Ms Benghebrit, seem unable to complete a sentence in proper Arabic. "We're in desperate need of a linguistic peace," says Amara Benyounès, who heads the Algerian Popular Movement, a Berber party. Islamists and secularists have laid down their arms after a civil war that killed at least 100,000. But 12 years after a national reconciliation, they are still not speaking the same language.

More is at stake than whether Algeria pivots north, east or inward. Pedagogues argue that Algerians have become jacks of all tongues, but masters of none, and worry that the *mélange* is stunting development. "The young are victims of language policies which have undermined our ability to express ourselves," says Selma Hellal, a publisher mainly of French books in Algiers. Some wonder whether frustration over language is to blame for rising violence against lecturers at universities. Peut-être.



door. On August 8th Abdel-Fattah al-Sisi, Egypt's president, signed a law that allows private companies to import natural gas. It takes effect later this year. One firm, Dolfinus Holdings, is already in talks to buy up to 3bcm from Leviathan.

Egypt is itself poised to become a major gas producer: the Zohr field, discovered off its northern coast in 2015, holds the largest reserves in the Mediterranean and is al-

most twice the size of Leviathan. But even that gigantic find may not be enough to meet booming demand in a country of around 95m people. Imports from Israel could help fill any gaps—and turn Egypt into a regional energy hub. Unlike Israel, it has two liquefaction terminals, which allow natural gas to be loaded onto tankers and shipped round the world. Both have sat idle for the past five years, since Egypt ►



diverted its exports to the local market. They could soon ramp up again, giving Israel access to European ports.

All this would be a reversal of recent history. Egypt used to supply Israel with 40% of its natural gas, under a 20-year deal signed in 2005. It quickly became a source

of public anger, because the gas was sold at below-market rates. After the revolution in 2011 a Cairo court convicted the architects of the deal, including Hussein Salem, a business tycoon who fled to Marbella, in Spain, to avoid trial. Prosecutors said the state lost more than \$700m in revenues. Independent experts put the figure much higher. Egypt pulled out of the contract in 2012, and a Swiss court eventually ordered Egas, the state-owned monopoly, to pay \$1.7bn to compensate its Israeli partners.

A new deal could be politically fraught, but it would come at an opportune time. Egyptians are worried chiefly about their struggling economy. By working through private companies, instead of Egas, Egypt could also sidestep any complications from the judgment, which is still unpaid. It would probably import the gas via Jordan, to avoid using a pipeline from Israel that is owned by a plaintiff in the case. Though the Israeli embassy in Cairo is empty, security ties between the two countries are better than ever. Their economic relationship may be in for a big boost, too. ■

survey conducted in July, before serious campaigning began, found that 61% of them plan to vote for the party. It is expected to lose support in Angola's cities and may even lose most of the seats in Luanda, where the party was founded. The National Union for the Total Independence of Angola (UNITA), the MPLA's civil-war adversary and the main opposition party, and CASA-CE, a coalition of parties formed in 2012 by a former UNITA leader, stand to benefit. CASA-CE's push for political and economic reforms is resonating with young urban voters.

The largest party in parliament selects the president, so Mr Lourenço, a former defence minister, will certainly get the job. He enjoys strong ties to the army, but some question whether he has the clout to clean up the government and implement much-needed reforms. He was not the first choice of Mr dos Santos, who is said to have wanted a successor from his own inner circle. Opposition from within the party forced him to back away from that plan. But he is not completely giving way to Mr Lourenço. Though he is stepping down from the presidency, he will continue to lead the MPLA. His eldest son will still run Angola's sovereign-wealth fund, while his daughter heads Sonangol.

"The MPLA needs to free itself of the control of dos Santos," says Marcolino Moco, who served as Mr dos Santos's prime minister and is now a critic of the government. But without a strong mandate, Mr Lourenço may find it difficult to do what is necessary. The government must devalue the currency, say analysts. Fast-rising debt, which helped the government maintain spending in the run-up to the election, may force Angola to ask the IMF for help. For any benefits to trickle down to the masses, Mr Lourenço must tackle corruption. To do that, he must stand up to the elite in his own party. ■

Angola's election

Less of the same

LUANDA

The ruling party will probably win the coming election, but corruption is weakening it

IT IS fitting that the black-and-red flag of Angola is hardly distinguishable from that of its ruling party. The People's Movement for the Liberation of Angola (MPLA) has led the country since independence from Portugal in 1975. At the parliamentary election in 2008 it won 82% of the vote; in 2012 it won 72%. Few doubt it will win again when Angolans go to the polls on August 23rd.

Many Angolans credit the MPLA with bringing peace to the country after nearly three decades of civil war that ended in 2002. The party then presided over an oil-fuelled boom, with annual GDP growth averaging 7.2% between 2003 and 2015. New roads, railways and other infrastructure won it the support of voters. But just in case, the party is also accused of beating opponents, bribing local chiefs and keeping a tight grip on the media.

There are signs, though, that the MPLA's stranglehold on Angolan politics is loosening. Its leader, José Eduardo dos Santos, is stepping down as president after 38 years in power. His handpicked successor, João Lourenço, does not have the same standing within the party—nor does he inspire the same fear in its opponents. Moreover, 66% of the country's 28m people are under 25. Many will be voting for the first time. With

little memory of the war, they tend to be more cynical about the MPLA.

The party's lustre has faded as the low price of oil turned Angola's boom into a bust. In April the official statistics agency reported that GDP shrank by nearly 4% last year (it has since removed the figure from its website). The unemployment rate hovers above 20%. Foreign firms are leaving the country because of a shortage of hard currency. On the streets of Luanda, the capital, a dollar changes hands for more than double the official rate. Many Angolans wonder why the country's oil wealth has not made them better off.

A big part of the answer is corruption. According to reports, the government is unable to account for billions of dollars in public funds over the past decade. In 2012 the IMF documented shoddy book-keeping at Sonangol, the national oil company. Anti-corruption investigators in China have probed its deals with Angola—and made arrests. Big oil-for-infrastructure contracts, often involving Mr dos Santos's inner circle, seem to be deliberately opaque. The country ranks 164th of 176 on the Corruption Perceptions Index compiled by Transparency International, a watchdog.

Still, few Angolans seem to be giving up on the MPLA. Polling data are fuzzy, but a



But will he make Angolans smile?



Politics in Kenya

Don't celebrate yet

After a relatively peaceful election, Uhuru Kenyatta faces big challenges

WHEN the final results of Kenya's presidential election were announced on the evening of August 11th, many feared the worst. Hours previously the opposition, led by Raila Odinga, a perennial presidential candidate, had walked out of a meeting with the electoral commission. James Orengo, one of Mr Odinga's closest allies, said that the announcement was a "charade" and that the commission was in cahoots with the government. "Kenyans always rise up," he went on. As he spoke, an ominous silence descended on Nairobi, the capital, as people stayed inside.

Yet in the end, the uprising was relatively subdued. In Mr Odinga's strongholds, in the slums of Nairobi and in Western Kenya, protesters blocked roads and burned tyres. The police responded with typical brutality, firing tear gas and live rounds into the crowds. After a few days, at least two dozen people were dead, including a nine-year-old girl who was hit by a stray bullet and a six-month-old baby who was clubbed on the head. But the violence did not spread beyond a few hotspots, nor did it produce bloodshed along ethnic lines, of the sort that left some 1,400 people dead after disputed elections in 2007.

As *The Economist* went to press, the post-election crisis was hardly resolved. At a press conference on August 16th, Mr Odinga repeated his assertion that the election was stolen from him, saying that Uhuru Kenyatta (pictured above) was re-elected by "computer-generated fraud".

Almost a quarter of the 41,000 forms that officially recorded the results had still not been released by the electoral commission, making it difficult to disprove Mr Odinga's claims. Two NGOs that have been critical of the election process, and which were involved in a petition against the result, have been threatened with closure by the government.

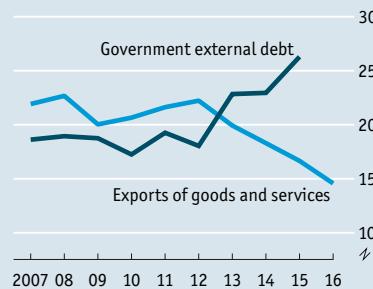
But it seems more likely that Mr Odinga's protests will fizzle out than that they will explode. He called for non-violent protests and said that he will contest the result at Kenya's supreme court, rather than on the streets. Neither prospect will much trouble Mr Kenyatta. Unless Mr Odinga can provide definitive evidence of rigging, ambassadors of Western countries have made clear that he should give up.

The diminishing tension, however, is far from the end of Mr Kenyatta's problems. A relatively peaceful election ought to be a boost. "We really expect Kenya to take off—there is huge pent-up demand," says Adil Popat of Simba Corporation, a big conglomerate. But many wonder whether that is really true. Though GDP has grown quickly of late—by almost 6% last year—it has been fuelled by government borrowing ahead of the election. Last year the fiscal deficit was 9.6% of GDP. Declining exports risk weakening the currency, which would make it harder to service the government's foreign loans (see chart). Some even wonder if the expansion was as big as the figures say. Kenya's GDP was "suspiciously stable" in 2015 and 2016, says John Ashbourne of Capital Economics, a British consultancy.

And while political uncertainty about

Why Kenya comes up short

% of GDP



Sources: Haver Analytics; World Bank

the election retreats, another sort might emerge. The biggest victor may not have been Mr Kenyatta, but his vice-president, William Ruto. Mr Ruto wants to maintain the ethnic alliance between Kikuyus, Mr Kenyatta's tribe, and Kalenjins, his own group, when he runs for president in 2022. Yet many question whether Kikuyus will really back him. Since running for president in Kenya is an extravagantly expensive operation, usually funded by looting the state, a long succession battle could worsen corruption, one of Kenya's biggest economic problems.

Perhaps the most powerful message from Mr Odinga's ultimately failed campaign was the claim that Kenya's affluence is not reaching the poor. Because of a prolonged drought, more than 2m Kenyans are at risk of starvation—for the rest, food prices are soaring. If the economy slows, a relatively calm election may mark just the start of Mr Kenyatta's problems. ■



A deluge of mud and death

Torrential rains overwhelmed the drainage system in Freetown, the capital of Sierra Leone, creating a devastating flood on August 14th. Water surged through the city, causing mudslides that killed hundreds of people and washed away ramshackle homes. Hundreds more people remain missing. To the plagues of poverty, civil war and Ebola that have ravaged Freetown over the decades, now add mud.



Germany's new divide

The beautiful south

BREMEN AND DRESDEN

As its election campaign kicks off, Germany's north-south split is ever starker

WHEN Helmut Kohl was buried on July 1st, Germans reflected approvingly on his legacy: the scars of the country's east-west division are gradually healing. Yet as the country's longitudinal split closes, a latitudinal one is growing.

Imagine that Germany were sundered once more, this time into north and south. The south would contain the *Länder* (states) of Saarland, the Rhineland-Palatinate, Hesse, Baden-Württemberg and Bavaria from the former west, plus Thuringia and Saxony, the two southernmost states of the former east. South Germany's border with north Germany would track what linguists call the Uerdingen line separating "high" and "low" dialects of German.

It would be an equal split. Each German would contain half of the population, five of the ten largest urban regions and similar proportions of the still-poorer easterners. Yet the new South Germany would have the better prospects of the two. For Germans in the southern states are doing better than those in northern ones (see chart 1). They go to better schools, get jobs more easily, earn more and live longer to enjoy it. Their governments have healthier finances, so they can invest more, sometimes five times as much per head. According to a recent study by the German Institute for Economic Research (DIW), crime rates are "strikingly" lower in the south. To rub it in, the south even contains the country's best football team, Bayern Munich.

The picture is not uniform. Former coal-

mining regions of the Saarland and brain-drained Saxon villages plagued by nationalist politics hardly fit the image of a southern sunbelt. Conversely, high-tech northern cities like Hamburg and Düsseldorf are among the richest in Europe. And some of the disparity is explained by the struggles of giant North Rhine-Westphalia, which would make up almost half of North Germany's population, and the soaring success of Baden-Württemberg and Bavaria in the south. But not all of it.

So pronounced is the overall trend that on some statistical maps it is now easier to spot the Uerdingen Line than the former east-west border. The gap between the unemployment rates in north and south, for instance, will soon be wider than that be-

tween east and west (see chart 2 on next page). In the INSM's education rankings, Saxony and Thuringia took the two highest places among Germany's 16 states while Berlin and Brandenburg, also eastern states, took the two lowest. The north-south divide on life expectancy is now greater than the east-west one; women in Baden-Württemberg and Saxony live the longest. According to André Wolf of the Hamburg Global Economics Institute, "in the medium term the north-south differential could definitely supersede the (current) east-west one."

To visit Dresden and Bremen, both cities of about half a million, is to witness this blurring. Dresden has cleaner and less potholed roads, and better-kept social housing. Its unemployment, poverty and indebtedness rates are lower and its house prices higher. Yet it is in the formerly communist east; Bremen in the former west. The fact that Bremen is also in Germany's poorer northern half, and Dresden in its richer south, is a more significant fact.

Laptops and Lederhosen

It was not always thus. For much of the 20th century the north, with its coal, steel and shipping industries, was wealthier. Even in 1960 Bavaria was the poorest part of West Germany. Like its neighbours, it lacked natural resources and had to find work for millions of Germans who had fled central Europe from 1945 and settled in rural areas. So successive governments limited bureaucracy and offered incen-

Also in this section

41 Reparations for Poland

42 The return of Silvio Berlusconi

42 Serbia and IKEA

43 Charlemagne: Russian culture wars

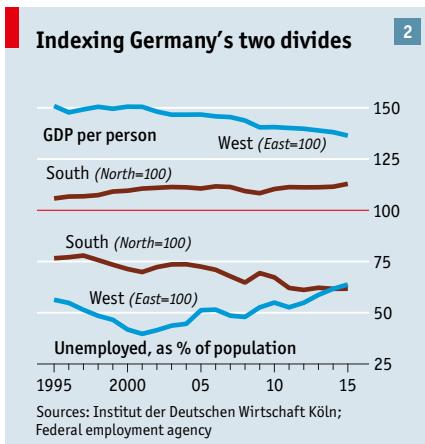
Länder of milk and honey

2016 or latest available

	North Germany	South Germany
Population (change since 1990)	40.6m (-100,000)	40.7m (+1.3m)
GDP per person	€34,967	€39,481
Unemployed	1.7m	1.0m
Debts of Länder	€371bn	€170bn
Insolvencies	72,619	49,895
Exports	€390.9m	€558.8m
Patents registered	13,692	34,782
DAX30 companies	12	18
Average education ranking*	9.4	4.8

Sources: IDW; Federal employment agency; Initiative Neue Soziale Marktwirtschaft; DAX

*Out of 16 Länder.
1= best 16-worst



tion, making it harder to direct remedial funds to the (overwhelmingly northern) states where schools are struggling. Likewise, a “debt brake” limiting state borrowing introduced in 2011 applies mainly to the more heavily indebted northern governments. Other big national issues pit one end of the country against the other: the SPD’s proposed rise in the top tax rate would most hit the south, which contains nine of the ten cities with the highest salaries; federal action to increase infrastructure investment is pressing mostly in the under-funded north; interventions to slow house prices make more sense in pricey southern municipalities than depressed northern ones.

The Demographic Risk Atlas, a study of population trends, suggests that Germany’s north-south divide could become larger than Italy’s. As Marcel Fratzscher of the DIW notes, such a rift would contravene the constitution, which guarantees equal opportunities for all Germans. In a country with a federal structure, and without the unique circumstances of reunification, this pledge will not be easy to keep. ■

Nationalists are astir. Germany owes Poland \$6trn, claimed a recent cover of *Sieci Prawdy*, a pro-Pis weekly, though the rationale for this astronomical sum is shaky. A right-wing television channel, *Telewizja Republika*, has come under fire for using a picture of the words *Reparationen machen frei* (“reparations set you free”), printed to resemble those at the entrance to the former Nazi concentration camp at Auschwitz. In Berlin, Pis’s move has raised eyebrows; reparations for Poland were “dealt with conclusively in the past”, said a spokeswoman for the chancellor, Angela Merkel. Back in Warsaw, the centrist opposition has dismissed Pis’s talk of reparations as unhelpful politicking.

About two-thirds of Poles support reparations, according to a recent poll. The parliamentary analysis has been delayed, ostensibly because of its complexity. Tensions within Pis are simmering after the president, Andrzej Duda, a former party member, last month blocked a law sacking supreme-court judges. Still, Pis is pushing on. A new offensive against private media outlets is expected this autumn. German publishers, which own dozens of regional newspapers in Poland, may be particularly affected. “Poland needs to regain its dignity,” Mr Kaczyński told his followers at a gathering in Warsaw last week. But in trying to restore it, Pis is making a lot of enemies along the way. ■

Reparations for Poland

Uping the ante

WARSAW

The embattled ruling party picks a fight with Germany

POLAND lost a fifth of its population in the second world war. Vast swathes of Warsaw were razed to the ground and the city still bears the scars. Damage to the capital alone amounted to \$45bn, according to an estimate in 2004 by city hall. Yet Poland got nothing in compensation. In 1953, under pressure from the Soviet Union, its communist government renounced any claim to reparations from the then East Germany, ruled by a fellow-communist regime. (West Germany made payments to Greece, Israel and Yugoslavia.)

Now the ruling right-wing Law and Justice party (Pis) has put reparations back on the agenda, after an unsuccessful attempt by MPS in 2004 to get the matter raised. It echoes calls by the Greek government two years ago. Poland is already locked in a row with the European Commission over what Brussels sees as its undermining of the rule of law, most recently for attempting to control the judiciary. So one might think that Poland needs friends in Europe. Instead, Pis is Berlin-baiting.

Talk of reparations was revived last month by the Pis leader, Jarosław Kaczyński, who is known for his anti-German rhetoric. At his party’s congress, he linked Poland’s right to EU development funds to



That'll cost you



Italian politics

Return of the crooner

ROME

Amazingly, Silvio Berlusconi may be about to mount a comeback

TO ANYONE outside Italy it may seem unthinkable. But the hottest political topic in a searing Italian summer is the expected resurrection of Silvio Berlusconi. Ejected from office by his own lawmakers in 2011, and convicted of tax fraud two years later, the TV and property magnate-turned-politician will be 81 next month. Still derided for hosting Bacchic "Bunga Bunga" parties while running the country, Mr Berlusconi is due to go on trial, charged with bribing his young female guests to perjure themselves in earlier proceedings. Yet, as one commentator noted, on his return from the summer recess in September, modern Italy's longest-serving prime minister can expect to be "treated with respect by all".

Why? Mr Berlusconi's party, Forza Italia, has barely crept back from the low point it hit two years ago when it was winning only 10% of the national vote in polls and was overtaken by the Northern League. Forza Italia still trails the more radical, populist League, and faces a new threat from its leader, Matteo Salvini, said to be planning to consolidate his leadership of the Italian right by changing his party's name to give it nationwide appeal.

The reasons for Mr Berlusconi's rosy prospects are the alignment of two other political factors. One is the bizarre state of Italy's electoral law—or rather, laws. There are two, one for each house of parliament, and since 2014 the constitutional court has struck out crucial provisions in both. What remains is close to proportional representation in its purest form, which encourages

Serbia

Assembly required

Sweden's favourite shop reaches Belgrade

EUROPEAN integration takes different forms. For governments like Serbia's it means struggling with thousands of instructions from the EU on how to build a modern state. Yet for thousands of ordinary Serbs, since IKEA opened in Belgrade on August 10th, it means spending the weekend like millions of other EU citizens: buying furniture from the Swedish megastore and struggling with the instructions on how to put it together.

If it had been anywhere else in Europe, the opening of the 400th IKEA store would hardly have been news, let alone an occasion for national soul-searching led by Serbia's president, Aleksandar Vucic. In a newspaper article he penned an ode of praise for IKEA and Ingvar Kamprad, its founder. In his youth, wrote the president, Mr Kamprad had been a member of a wartime Swedish fascist party, but he had redeemed himself. No one in the Balkans needed to scratch their head and wonder what Mr Vucic was alluding to here. The president spent 16 years as a leading member of an extreme nationalist party whose men were infamous for murdering and looting their way across Bosnia and Croatia.

Mr Vucic says he no longer believes in the ideas that motivated him then. He says his aim is to create a modern Serbia, but that the problem is that Serbs are lazy and constantly waiting for someone to tell them what to do. Mr Vucic has often talked of his admiration for northern Europeans and their Protestant work

ethic. "Wouldn't it be great", mocked Dejan Anastasijevic, a columnist, "if Serbia could simply be disassembled, repaired, packed into a flat box and delivered to the president." Or even better, have Serbs "replaced by Scandinavians".

IKEA in Belgrade is a story rich in symbol. The firm opened a small outlet in 1991, only to close a year later as Yugoslavia collapsed. Its return is a tale of the country's delayed transition. Slobodan Milosevic, Serbia's wartime leader, fell 17 years ago. So why did it take so long? In 2008 when the country was led by the pro-European Boris Tadic, an attempt by IKEA to return was thwarted by bureaucracy and corruption. Many liberal Serbs hate Mr Vucic for his authoritarianism and cronyism: the fact that a symbol of European normality has reopened on his watch is a bitter pill for them to swallow.



fragmentation. Italy's president, Sergio Mattarella, has urged parliament to revise and harmonise its two laws, but an attempt to do so foundered in June.

Reform looks unlikely in time for the next general election, which is due by May. With the centre-left Democratic Party (PD) unable to muster more than 30% of the vote, and the two main right-wing parties each polling less than half that, the balance of power is likely to be held by Beppe Grillo's anti-establishment Five Star Movement (M5S), which also hovers in the high 20s in the polls. But the M5S refuses to join a coalition with any of the mainstream parties, the second explanation for Mr Berlusconi's rising fortunes. The only foreseeable way to avoid a stalemate would be a government formed, or supported, by centrist elements of the left and right. Forza Italia, though solidly right-wing in many respects, is a more moderate option than either the League or another, smaller, con-

servative group, the Brothers of Italy.

Mr Berlusconi is spending the summer framing a programme that borrows from both left and right as the M5S, which sees itself as post-ideological, has done. His ideas are said to include a flat rate of income tax; a big rise in the level at which it becomes payable; an increase in the minimum pension, and the introduction of a safety-net benefit for those with no other means of support—all supposedly to be paid for by the proceeds of privatisation and by deep cuts in public spending. Such a programme could form the basis of a future coalition with the moderate left. But it might also be used to try to lure Mr Grillo out of his self-imposed isolation.

Not that Mr Berlusconi himself will be in Italy's next government. Because of his conviction, he cannot hold public office until 2019. But Italy has a long history of governments beholden to powerful party bosses sitting outside the cabinet room. ■

Charlemagne | A new government inspector

The cultural toadying around Vladimir Putin is worthy of Gogol



THE posters had been printed, and most of the tickets sold. The ballet, a celebration of the life of the gay dissident dancer, Rudolf Nureyev, promised to be a progressive production by the standards of the main stage of Russia's famed Bolshoi Theatre: in videos of the rehearsal, male dancers can be seen twirling in high heels. But just days before the show was due to open in July, the Bolshoi's director, Vladimir Urin, declared that the troupe was, apparently, not up to snuff and cancelled the premiere, replacing it with an old standby, "Don Quixote".

Critics called it blatant censorship of the play's homosexual themes. State media fuelled this speculation, citing anonymous sources that said the order had come directly from the minister of culture, Vladimir Medinsky, a nationalist enamoured of classicism and traditional values. Other powerful patrons of the Bolshoi, though, spoke out in support of the ballet. Mr Urin now promises that "Nureyev" will live to see the stage, perhaps as soon as December. No matter how the decisions were actually made, the scandal is instructive. As one Bolshoi insider confided, "What happens in the Bolshoi always reflects what's happening in the country."

In this case, the drama inside the Bolshoi does indeed mirror a larger one playing out in Russian politics. A presidential election looms in 2018. Kremlinologists expect Mr Putin to reshuffle his team and redefine his agenda in preparation for his fourth, and presumably final, act as president (unless he changes the constitution). While Mr Putin has kept mum about his plans, his lackeys are clamouring to secure their roles. The main division is not between the authorities and the opposition, argues Alexander Baunov of the Carnegie Moscow Centre, a think-tank, but between "those who see Russia integrated into global modernity and those who see it at the head of the resistance to this modernity."

Kirill Serebrennikov, the director of "Nureyev", embodies the former camp. His own theatre, the Gogol Centre, is one of Moscow's most avant-garde. Over the years, loyal crowds have lapped up experimental interpretations of Russian classics and striking new works. "Müller Machine", a homage to the German playwright, Heiner Müller, featured a troupe of naked actors gyrating on stage. In the rest of Europe, Mr Serebrennikov is celebrated. His most recent film, "The Student", won the François Chalais

prize at the Cannes Film Festival in 2016; this year he took home the Europe Prize for New Theatrical Realities.

Yet he faces a different cultural landscape in Russia, where reactionaries have been in the ascendant in recent years (a phenomenon that "The Student" satirised). Mr Putin's third presidential term began, in 2012, under the banner of a return to traditional conservative values. Harsh laws targeted "gay propaganda"; the Russian Orthodox church came to exert ever more influence over culture. Religious fanatics have attacked exhibitions deemed to be "offensive". Late last year one such group splashed urine on an exhibition of the work of Jock Sturges, an American photographer who shoots nude portraits of parents and their children. "We don't need European culture here," one vandal shouted.

In May Mr Serebrennikov also found himself under attack. Officers from the Federal Security Service raided the Gogol Centre, searched his home and whisked him off for questioning. Russia's anti-corruption Investigative Committee, a body that reports directly to the president, alleged that Mr Serebrennikov's production company, Studio Seven, had embezzled some 200m roubles (\$3.4m) of state funds between 2011 and 2014. The studio's financial director and its accountant were arrested. Mr Serebrennikov has been called as a witness, and his foreign passport seized. During initial hearings, the prosecution even claimed that the studio had never actually staged a production of "A Midsummer Night's Dream" for which it received public money. They argued that reams of reviews and a nomination for the Golden Mask, Russia's leading theatrical award, were insufficient evidence of the show's existence. Gogol himself could hardly have devised a more farcical plot.

If the point of the proceedings was to intimidate, it seems to have worked. Alla Shenderova, a theatre critic, says the case has generated "an atmosphere of fear and hysteria" among the intelligentsia. Even more established figures have expressed anxiety. At an awards ceremony Yevgeny Mironov, a respected director at Moscow's Theatre of Nations, passed Mr Putin a letter of support for Mr Serebrennikov from cultural heavyweights. He argued that the prosecution could undermine the president's forthcoming visit to France; Mr Putin, in earshot of reporters, agreed, calling those intimidating Mr Serebrennikov "idiots".

The theatre of Russian politics

That points to another political reality: modern Russia is not a one-man show with Mr Putin singing, dancing and acting at its centre; nor is it his personal puppet theatre, where the marionettes move only at his will. There is little coherence within the system. Instead, it is made up of a chaotic matrix of clans and players pursuing often conflicting aims and aching to ingratiate themselves by correctly interpreting the signals from those higher up the ladder, even as they fear taking an inadvertent misstep.

That these theatrics should play out so prominently in the cultural arena is little surprise. As ever in Russia, aesthetics is politics. "Here they always set the dogs on those who think differently from the state," says one "Nureyev" cast member. "But if you only ever watch 'Swan Lake', you'll never move forward." For the anti-modernisers, a bill full of classics would be welcome. The pressure on the Gogol Centre is their "latest attempt at self-affirmation," writes Mr Baunov. As such, it is also "a battle for the future of Russia after Putin, its course, and their place in it". To understand most clearly where Russia's battle is heading, keep a close eye on the stage. ■



Also in this section

45 The radical right

Bagehot is away

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The Brexit negotiations

Papering over the cracks

The government's new Brexit papers are welcome, but they cannot disguise contradictions in its ultimate goals

THE symbolism of a photograph in July of Brexit negotiators in Brussels was unmissable. Britain's team, led by David Davis, the Brexit secretary, had no papers before it, whereas the European Union's negotiators, led by Michel Barnier of the European Commission, had thick dossiers. The message of Mr Davis's grin was palpable: don't worry about the detail, it will be all right on the night.

Yet despite Mr Davis's breezy cheeriness, the government is sensitive to claims that it is unprepared. Even worse has been the open bickering within the cabinet since Theresa May lost her parliamentary majority in June's general election. The government has now sought to respond to these problems, in three ways.

First was the release of two in a promised series of "partnership papers", outlining Britain's position on future customs arrangements and the Northern Ireland border. Second was a joint article by Philip Hammond, the chancellor and advocate of a softer Brexit, and Liam Fox, the international-trade secretary and arch-Brexiteer, which proposed a time-limited transition period to avoid a cliff-edge exit in March 2019, during which Britain would be out of both the EU's single market and its customs union. And third was talk of a big prime-ministerial speech on Britain's Brexit objectives to be given next month, before the Tory party conference.

The papers were widely welcomed, even though they are aspirational and lack substance. The customs paper suggests the long-term adoption of a highly streamlined customs arrangement or a new and untested "customs partnership", which proposes that Britain would itself collect EU customs duties on products in transit. Both would rely on new IT systems, which British governments have proved bad at delivering (a new customs IT system is already late and over budget). Moreover, as the paper concedes, "there will remain an increase in administration compared with being inside the EU customs union."

More telling is the paper's proposal to form a temporary customs union with the EU after March 2019. This seems directly to contradict the Hammond/Fox promise, making it impossible for Dr Fox to conclude free-trade deals with third countries. One official tries to reconcile the two by noting the difference between "the" (existing) and "a" (new) customs union. Yet if leaving the customs union in 2019 is a serious proposal, where are the people and infrastructure needed to impose controls at the borders? Why is the port of Dover not a huge construction site? Furthermore, the idea of a temporary tariff-free deal is unconvincing: once Britain leaves the EU, non-discrimination rules mean that the two can avoid bilateral tariffs only by scrapping them for all members of the

World Trade Organisation.

There are equally big holes in the second paper, on Northern Ireland. The goal of maintaining a frictionless border, with no physical infrastructure, is not disputed, whether in London, Dublin, Belfast or Brussels. Again, technology is promised as part of the solution. Yet if the United Kingdom is not in the customs union, and even more if it strikes separate free-trade deals with third countries like America that include farm produce, it will be impossible to avoid border controls in some form—as the Irish prime minister, Leo Varadkar, has pointed out. One idea in the paper, to maintain regulatory equivalence on agri-food measures, would surely inflame Brexiteers, as it seems to imply continuing observance of EU laws.

Exit by name, remain by nature

Yet here is a clue as to what really lies behind the papers and the Fox/Hammond article. As Mujtaba Rahman of the Eurasia Group, a consultancy, notes, there is a difference between leaving the EU in law and escaping its rules in practice. Brexiteers may be satisfied by Britain's formal exit in March 2019, and so able to live with single-market and customs rules for some time. The row will be over how long. Already Dr Fox and Boris Johnson, the foreign secretary, are reported to want an interim period of only a year, whereas Mr Davis and Mr Hammond talk of two or three.

A partial answer may be to shift the focus to the long-term relationship instead. This is the aim of the promised speech by Mrs May. Britain has accepted the negotiating sequence in Brussels, which demands "sufficient progress" in talks on the rights of EU citizens, the Irish border and the settling of accounts before discussing trade relations. But Mrs May will argue that, be- ➤

cause all issues are interlinked, talks on the long term must anyway start soon. Given the limited time left before Britain's departure date, that should lead quickly to discussion of a transition.

The trouble is that the EU 27, which often seem forgotten amid the squabbling in London, are likely to resist. To them unity remains vital, and nobody wishes to undermine Mr Barnier. The expectation in Brussels is that the October European Council will deem that there has not been sufficient progress on the exit negotiations, including over money. That means it will be December or even later before any long-term talks can begin.

Brussels is also keenly aware of the shifting political ground in Britain. The EU knows that getting Parliament to agree to a hard Brexit, outside the single market and customs union, has become more difficult since the election. One pro-European Tory, Anna Soubry, has already talked of putting country above party.

Among the public there is little sign of a shift against Brexit, but most voters back a softer version than Mrs May's, not least because of worries about the economy. A large study of Remainers and Leavers by the London School of Economics and Oxford University was misreported as finding that even most Remainers now backed a hard Brexit. In fact the researchers found that Leavers and Remainers were still divided on several key Brexit issues.

Launching his new papers this week, Mr Davis stressed the negotiating advantages of "constructive ambiguity". He also said the Brexit process was going "incredibly well". Incredibly may be correct; well is surely less so. The crunch could come at the October European Council. ■

The radical right

Vote Leave, lose control

An anti-Islam campaigner tries to take over a party suffering an identity crisis

EVEN by the Technicolor standards of the UK Independence Party, the crop of candidates jostling to lead it are a lively bunch. One front-runner in the contest, which will reach its climax at UKIP's party conference next month, is best known for claiming that a homosexual donkey "tried to rape my horse". Another complains that Frankfurt School Cultural Marxism is the greatest threat to Britain, along with the European Union and radical Islamism. UKIP's sole Scottish MEP has said that he is entering the contest to stop the "entryists, diletantes and single-issue loonies".

These are just three of the 11 candidates



Anne Marie Waters finds UKIP a new target

who are fighting in a contest which, the last time the party held one, just nine months ago, attracted barely 15,000 votes from UKIP's dwindling membership. It is a democratic demolition derby, in which there are no run-offs: whoever gets most votes in the first round wins. Their prize? A chance to rebuild—or fundamentally reshape—the small, eccentric party that has nonetheless had a profound influence on British politics in recent years.

"UKIP is potentially at its last crossroads," says Matthew Goodwin of the University of Kent, who followed the party's rise closely. The path favoured by most candidates involves staying on the party's previous course as an anti-establishment, populist party, ready to pounce on Brexit backsliding. With Brexit in the bag, UKIP is bereft of its main purpose and biggest vote-winner. In the general election of 2015 it won 12.6% of the vote. By 2017, in the first election of the post-Brexit era, this number plunged to 1.8%.

Although the party can position itself as a bulwark against a potential Brexit betrayal, this has a flaw. "We are an insurance policy," says one UKIP official. "But nobody likes to pay their insurance subs." David Kurten, a cheerful member of the London Assembly and one of the front-runners in the leadership contest, suggests there will be a turnaround in the party's fortunes if the government veers away from a hard Brexit.

The other path, favoured by some wannabe leaders, would be to find the party a wholly new purpose. Anne Marie Waters, the director of a group called Sharia Watch, has made the religion a key part of her push for leadership, which would see UKIP turned into a radical anti-Islam party.

"The threat of Islam cannot be ignored any longer," says Ms Waters during her campaign video, as "I Vow To Thee My Country" swirls in the background.

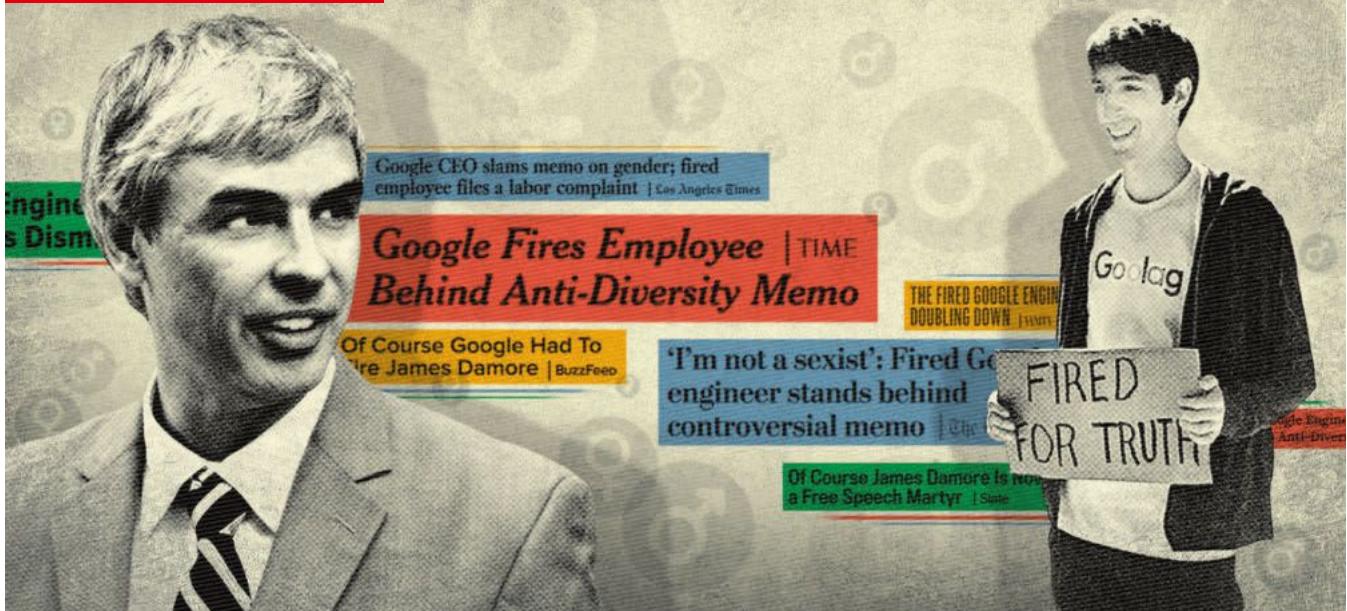
Nigel Farage, who led UKIP on and off for a decade until last year, says the party would be "finished" if it went down this route, arguing that there is simply too little support in Britain for an explicitly anti-Islam party. "There is some, but it's tiny," he says. Recent electoral history bears this out. Support for the far-right British National Party—which railed against "creeping Islamification"—peaked at 2% in the election of 2010 and has since fallen to near zero. Ms Waters labels any comparison between her platform and the BNP "absurd". She frames her anti-Islam views in terms of human-rights abuses, such as female genital mutilation, whereas the BNP was simply "openly racist".

To some extent, stridently anti-Islam policies would simply involve swapping a dog whistle for an air horn. UKIP's election manifesto earlier this year proposed a partial ban on face veils, something no other major party endorses. About 48% of voters support such a move, according to polls by YouGov, including 63% of Conservatives. Such positions are more mainstream elsewhere in northern Europe, where anti-Islam parties are a significant fringe. In the Netherlands the Party for Freedom, led by Geert Wilders, who has labelled Muhammad a "rapist, warlord and devil", won 13% of the vote in an election in March, making it the country's second-largest. In Germany, even Angela Merkel has expressed support for a ban on face veils.

Britain is unusual in that explicitly anti-Islam parties have not broken through. But there is no reason why similar parties could not gain ground in Britain, argues Rob Ford of the University of Manchester. Although the first-past-the-post system acts as an electoral moat around Westminster, extreme views can drag mainstream parties to the fringe, he argues. A post-Brexit slump would create a fertile feeding ground for the radical right. Brussels provided an outlet for voter anger—an avenue that is no longer there. "That anger will go somewhere," says Mr Ford.

Whether UKIP's new leader will be able to exploit it is another matter. Britain's departure from the EU will deprive the party of its seats in the European Parliament, which provided both a good living for senior party members and a ready-made justification for appearances on television. Whoever wins faces the task of ensuring that UKIP does not go down as a political suicide-bomb: a party that achieved its aim but destroyed itself in the process. ■

Correction: A map with our story on housing ("March of the YIMBYs", August 5th) indicated that the Tories had recently lost the constituency of Eastbourne to Labour. In fact they lost it to the Liberal Democrats. Sorry.



The e-mail Larry Page should have written to James Damore

Mail ▾ ◀ ▶ ⚙ ▾

Last week this newspaper said Alphabet's boss should write a "detailed, ringing rebuttal" of a viral anti-diversity memo sent at Google. Here is how we imagine it Inbox x Print Forward

 **Larry Page** 12:09 (21 hours ago) Star Reply Down

to: James Damore, cc: All staff ▼

Dear James,

You're probably expecting me to start this reply by claiming that there are no differences in the average abilities, aptitudes and interests of men and women. Or that the fact that four times as many of Google's software engineers are men than are women is proof of discrimination. I'm not going to do either of those things. There is good evidence for dozens of such differences between the average man and average woman. And as a matter of pure logic, you are correct that the gender gap in our team of software engineers is not of itself proof of sexism or discrimination.

I am happy to acknowledge that you state your support for gender diversity and fairness. Your memo starts: "I value diversity and inclusion, am not denying that sexism exists, and don't endorse using stereotypes."

So, you and anyone else who reads this may be wondering, why the fuss? Why did your memo go viral? Why did it cause such fury? Why did we fire you? In interviews and an op-ed in the *Wall Street Journal* you have said it's because Google is "ideologically driven and intolerant of scientific debate", and therefore unable to tolerate your "reasoned, well-researched, good-faith argument". You've driven the point home with your "Goolag" T-shirt and new twitter handle, @Fired4Truth.

Your interpretation is wrong. Your memo was a great example of what's called "motivated reasoning"—seeking out only the information that supports what you already believe. It was derogatory to women in our industry and elsewhere. Despite your stated support for diversity and fairness, it demonstrated profound prejudice. Your chain of reasoning had so many missing links that it hardly mattered what your argument was based on. We try to hire people who are willing to follow where the facts lead, whatever their preconceptions. In your case we clearly made a mistake.

Have you ever noticed how no one takes sentences that start "I'm not a racist, but..." at face value? Here's why, in the words of Jon Snow in "Game of Thrones" (season 7, episode 1). When Sansa Stark tells him: "They respect you, they really do, but..." Snow laughs and comes back with: "What did father used to say? Everything before the word 'but' is horseshit."

I thought of that line when I read this section in your memo: "Of course, men and women experience bias, tech, and the workplace differently and we should be cognizant of this, but it's far from the whole story. On average, men and women biologically differ in many ways..." All your comments about valuing diversity and fairness came before that giant "but". What came after it

was a description of a few gender differences, your argument that they explain why so many of our software engineers are men and your complaint that Google's attempts to change that balance, far from being about fairness to women, amount to anti-male bias. You use the words "discriminate" or "discrimination" 17 times, exclusively to describe men as victims.

Now that we've worked out what your memo's really about, let's examine its argument. These are the main gender differences you cite: women's on-average greater interest, compared with men, in people and lesser interest in things; their relatively greater tendency to "empathise" rather than "systematise", and to be agreeable rather than assertive; and their relatively higher anxiety and lower tolerance for stress. You present a diagram of two normal distributions, with the same standard deviations but slightly different means, to demonstrate that small differences in group averages can result in large differences when it comes to outliers. (*The Economist's* data team has kindly redrawn this for me, highlighting the "tail" of the distribution with the higher mean.) The point of this simplified model is to demonstrate that, of everyone who scores very highly on the variable under consideration, many more will be from the group with the higher average.

Then you make a giant leap from group differences between men and women on such measures as interest in people rather than things, or systematising versus empathising, to differences in men's and women's ability to code. At least that's what you seem to be doing; you don't quite say so. There is no evidence for such an inference. And that is only the first flaw in your argument. I can see at least six more, any of which would derail it on its own.

First, you ignore many other gender differences, basing your argument only on a few that you think support your conclusion. Second, you're ignoring everything else that could explain the gender gap. Third, the gender differences you cite differ between countries and over time. Fourth, they don't even support your argument, because you don't seem to understand what makes a great software engineer. Fifth, you clearly don't understand our company, and so fail to understand what we are trying to do when we hire. And sixth, even if you are right that more men than women are well-suited to the job of software engineer at Google, you are wrong that taking steps to recruit more women is inherently unfair to men.

Your memo was a triumph of motivated reasoning: heads men win; tails women lose. Here are a few psychological differences between the sexes that you didn't mention. Men score higher on measures of anger, and lower on co-operation and self-discipline. If it had been the other way round, I'm betting you would have cited these differences as indicating lack of suitability for the job of coder. You lean on measures of interest and personality, rather than ability and achievement, presumably because the latter don't support your hypothesis. In many countries girls now do better in pretty much every subject at school than boys; again, if it had been the other way around I'm sure you wouldn't have neglected to mention that fact. The sole published comparison of competency in coding I am aware of found that women were more likely than men to have their GitHub contributions accepted—but if they were project outsiders, this was true only if their gender was concealed.

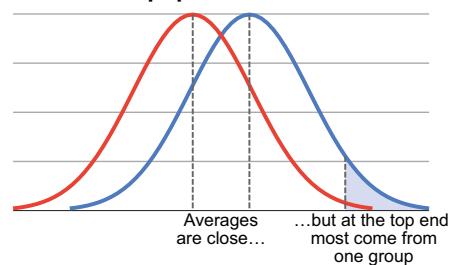
There is plenty of evidence that women in Silicon Valley suffer sexism and discrimination. Read Susan Fowler's description of the harassment she experienced at Uber before leaving the firm in December. Look at the responses to "Elephant in the Valley", a recent survey of senior women in tech: among its findings was that two-thirds had been excluded from networking opportunities because of their sex. And beyond our industry, women are less likely than men to be given plum assignments, are given less useful feedback, are seen as pushy when they ask for pay rises (men are seen as ambitious) and, in leadership roles, may be seen as either competent or likeable, but rarely both. "We need to stop assuming that gender gaps imply sexism," you write. But we know there is sexism! We don't need to infer it from the existence of gender gaps.

It is more than likely that some psychological differences between men and women have been baked in by evolution, as you note. We see such differences, in varying degrees, in pretty much every animal. With humans, though, you must take great care before concluding that any specific difference is innate, since our societies are so much more complex and varied than those of other animals. (By the way, I find it blackly funny that some of the conservatives who have seized on you as a hero don't believe in evolution at all.)

Here are some reasons to be doubtful about an evolutionary basis for the specific differences you cite. Before the 1980s, when personal computers became more common and were almost exclusively marketed to men and boys, a much bigger share of those studying computer science at university in America were girls than is the case now. The share of computer scientists who are women varies wildly from country to country. Even personality differences vary from time to time and place to place—for example men are more agreeable (the term used by psychologists for a cluster of traits such as modesty, altruism and tender-mindedness), and less ambitious and status-seeking, in more hierarchical countries. That suggests that at least some of the gaps we see in America are because women are still relatively powerless, just as most men are in more traditional societies. Moreover, those supposedly "female" traits vanish in the rare arenas where the competition is entirely among women. Sopranos and ballerinas are hardly famous for being indifferent about who gets top billing.

I said you didn't understand what made a great software engineer. If we were talking about weight-lifters or contortionists, it would be simple—and your stylised bell-curve diagram would be the whole story. Men are on average so much stronger, and women so much more supple, that almost all the highest performers are from one sex or the other. But few jobs are that

Two similar populations:



one-dimensional. Software engineering requires a broad mix of skills involving both “people” and “things”. Teamwork, in particular, is important—the stereotypical image of the geek working alone in his basement is far from reality. Senior engineers must manage teams—and by your own reasoning that should mean that women, with their greater empathy and interest in people, should be over-represented at that level, compared with their numbers in more junior jobs. That they are not should have given you pause.

Many of the problems in our industry are caused by the sorts of misconceptions about the job that you clearly hold. Failures of teamwork and product testing are part of the reason so many new releases are glitchy, and so many projects run over time and over budget. I can even point you to ways that products fail because too few women have been involved in their development. When Google Plus was launched users had to state their gender to sign up. The intention was to make it easier to send notifications such as “She shared a photo with you.” Presumably it didn’t occur to anyone involved in development—all of them men—that many women choose to conceal their sex online to cut down on harassment.

Such failures matter far beyond our industry, because tech increasingly reaches into every aspect of modern life. I don’t want Google to be part of building a virtual world that is a bad fit for a big chunk of humanity, as office designers, carmakers and pharmaceutical companies already did in the offline world. (Did you know that car seats and office desks are the wrong proportions for most women, or that many drugs in widespread use were only ever tested on men?)

Finally, let’s look at your contention that by trying to recruit more women Google is discriminating against men. You seem to think that if we stopped paying any attention to applicants’ gender

when deciding who to hire, we would naturally converge on the “right” share of men and women, that is, the share that matches the distribution of talent in the recruitment pool. I don’t believe that. Unless we make special efforts, some women will be put off applying by the heavily male culture; those doing the hiring will be influenced in their assessments of candidates’ ability by the stereotypes they’ve formed in that male environment. We should “treat people as individuals, not as just another member of their group,” you write. That is what we are doing. We’re trying to hire the best, aware that there are forces militating against us.

When you first wondered why so few of our software engineers were women, and why we were trying to hire more and whether that was fair, there were plenty of smart things you could have done. You could have asked some of your female colleagues about their experiences in the industry. You could have looked for evidence that conflicted with your biases (there’s a good search engine you could have used).

Here’s a brief reading list for you. Sean Stevens and Jonathan Haidt have compiled a pretty comprehensive [list of psychological differences between the sexes](#)—there are plenty, not all point the same way and there are many caveats. J. Doe has summarised the evidence that [women are treated worse than men in the tech workplace](#). Suzanne Sadedin, an evolutionary biologist, [debunks your pop evo-psych](#). Yonatan Zunger, a former senior engineer at Google, discusses your [misconceptions about our industry](#). Claire Cain Miller talks about the [damaging myth of the loner genius nerd](#). Cynthia Lee “[lady-splains” your errors](#) from the viewpoint of a woman coder.

I shouldn’t have had to write this: I’m busy and a little effort on your part would have made it unnecessary. But I know I have it easy. Women in our industry have to cope with this sort of nonsense all the time.

Yours,
Larry

1. The Google memo: What does the research say about gender differences? Sean Stevens and Jonathan Haidt, Heterodox Academy
2. Here’s your point by point refutation of the Google memo. J. Doe, Medium
3. What do scientists think? Suzanne Sadedin, Quora
4. So, about this Googler’s manifesto. Yonatan Zunger, Medium
5. Tech’s damaging myth of the loner genius nerd. Claire Cain Miller, New York Times
6. I’m a woman in computer science. Let me ladysplain the Google memo to you. Cynthia Lee, Vox

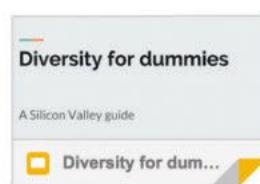
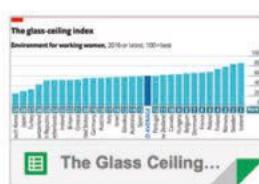
Google

Larry Page | Co-founder of Google | CEO of Alphabet Inc. | +LarryPage

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4 Attachments





The construction industry

Least improved

BERLIN, LONDON AND MALMO

Builders have resisted investment and consolidation. Little wonder productivity gains are the world's lowest

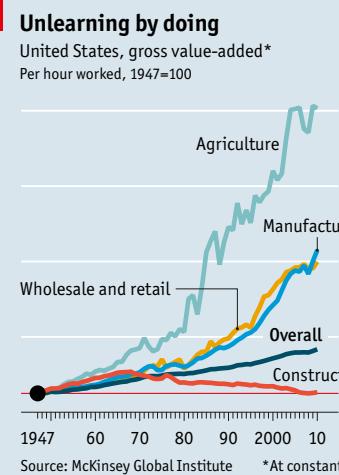
NINE years ago the first concrete was poured for Berlin Brandenburg airport. It was expected to open in 2012, to cost €1.2bn (\$1.8bn) and to welcome 34m passengers each year. Today the only people in its terminals are those with hard hats. Six times over budget, the project has had 66,500 building errors in need of fixing. Last year its spokesman was sacked after calling the project a "shit-show" and saying no manager who was not "addicted to pills" could guarantee an opening date.

Berlin's airport is an extreme example of a broader problem. Superficially, the construction industry would seem healthy enough. The global market is worth \$10tn. Euler Hermes, an insurer, expects 3.5% growth this year. Yet more than 90% of the world's infrastructure projects are either late or over-budget, says Bent Flyvbjerg of Saïd Business School at Oxford University. Even the sharpest of tech firms suffer. Apple's new headquarters in Silicon Valley opened two years behind schedule and cost \$2bn more than budgeted. Smaller projects have similar woes. One survey of British architects found that 60% of their buildings were late.

Construction holds the dubious honour of having the lowest productivity gains of any industry, according to McKinsey, a consultancy. In the past 20 years the global average for the value-added per hour has inched up by 1% a year, about one-quarter

the rate of growth in manufacturing. Trends in rich countries are especially bad. Over the same period Germany and Japan, paragons of industrial efficiency, have seen nearly no growth in construction productivity. In France and Italy productivity has fallen by one-sixth. In America, amazingly, it has plunged by half since the late 1960s.

Prices for building materials are not to blame. They are subtracted from measures of value-added (and have not risen in any case). The burden over time of complying with regulation—applying for permits, for



Also in this section

50 Building under water

51 An American solar spat

51 Business and Donald Trump

52 Computer games, spectator sport

54 Schumpeter: Ant Financial

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instance—is only partly responsible. In America such rules account for one-eighth of the productivity lost since 1987, according to the Bureau of Labour Statistics.

More culpable are two broader structural trends. First, the industry has become less capital-intensive, with workers replacing machinery. This shift is more understandable in countries with access to inexpensive labour. In Saudi Arabia, for example, it is cheaper to import workers from India or Pakistan than to buy machinery. In many countries, however, labour costs might be expected to spur firms to substitute workers with capital.

Instead, volatility in demand for construction has trained builders to curb investment. "The industry has learned through bitter experience to prepare for the next recession," says Luc Luyten of Bain & Company, a consultancy. Capital-heavy approaches to construction bring high fixed costs that are difficult to cut in downturns. Workers, in contrast, can be fired.

The second big problem is that the industry has, for the most part, failed to consolidate. Efficient firms should theoretically squash laggards, yielding bigger, more productive companies. "But construction is an industry that appears to have defied Adam Smith," says Mr Luyten. That is partly because building codes differ not just between countries but within them, which makes it harder to reap the benefits of scale. The customised nature of most projects further limits the usual advantages of size. Because the designs of most projects differ, contractors have to start from scratch for each one.

America now has about 730,000 building outfits, with an average of ten employees each. In Europe there are 3.3m with an average of just four workers. Competition is fierce and profit margins are thinner than ➤

► for any industry except retail. This fragmentation creates its own problems. Slim margins make investment even less likely. Often projects have more than a dozen subcontractors, each keen to maximise profit rather than collaborate to contain costs, says Thijs Asselbergs, a professor at Delft University of Technology.

The result is an industry that raises prices for clients and mostly ignores tools that might improve productivity. "While we are all using iPhones, construction is still in the Walkman phase," says Ben van Berkel, a Dutch architect. Many building professionals use hand-drawn plans riddled with errors. A builder of concrete-framed towers from the 1960s would find little has changed on building sites today, except for better safety standards.

Examples of how the industry might move forward are not hard to find. More builders could use computer-aided design, as is standard among architects. Other methods are in earlier stages, but show promise, such as remote-controlled cranes and self-driving bulldozers (Komatsu, a Japanese equipment-maker, is developing the latter). A few niches, such as maritime construction, have shown how investments in technology and mass production can boost efficiency (see next article).

On land, a few firms are mass-producing homes. BoKlok, a spin-off from IKEA, a Swedish flat-pack-furniture seller, does only one-fifth of its construction work on site; the rest is done in factories. Parts can be standardised and costs cut as a result. BoKlok reckons that it builds twice as quickly as the industry norm. An American firm called Katerra also builds prefabricated sections of apartments at a factory in Arizona. It helps that each firm does every stage of construction itself, rather than relying on a tangle of subcontractors.

The fastest gains are in China. Labour productivity is racing ahead at 7% a year, albeit from a low base. Tightening labour supply has prompted firms to test automation—WinSun, a construction company, has built flats using 3D printing. Modular building is also on the rise, with one company erecting a 57-storey tower in 19 days.

However, such techniques remain unusual. For most firms, slim margins and the spectre of future downturns continue to restrain investment. Even for companies that do adopt new methods, growth may be limited by doubts about the quality of new techniques. A few modular towers in China have seen water seep between units. In Britain, past attempts at mass-produced housing are a sour memory: poorly built modular social housing from the 1960s has been demolished. British mortgage lenders shun homes built with "non-traditional construction methods". BoKlok and Katerra hope their buildings will last a century. But perceptions, like so much else in construction, can be slow to change. ■

Maritime construction

Building under water

ROTTERDAM

Marine contractors offer lessons to builders on dry land

THE Innovation, a 147-metre ship docked in Rotterdam, looks like a cross between an oil rig and a robot from a "Transformers" film. Her crane has been loading on giant pipes throughout the night. Soon the ship will travel to sea, where an automated hammer will drive the pipes into the ocean floor to support wind turbines. "Everything in our industry has become larger," says Koen Vanderbeke of DEME, a Belgian dredging firm that owns the ship. "But we've become smarter, too."

Unlike their counterparts on dry land, marine contractors have made big leaps in productivity in recent years. From dredging and land reclamation to offshore construction of oil platforms, costs have dropped even as the speed and quality of work have increased. In Belgium, home to two of the world's five biggest dredgers, efficiency gains have been so large that they have skewed productivity figures for the entire building sector.

The improvements can be traced to industry consolidation and investment—things that have eluded most onshore builders. These trends have been spurred by large, demanding customers (usually governments and energy firms), as well as by the greater need for precision at sea, where a tiny slit in an oil pipe can prompt a catastrophe. As important, maritime projects have become so large and complex that firms often have no choice but to use machines rather than labour.

About 25 years ago the sector was frag-

mented. That changed as the ambitions of customers increased. Mergers and natural expansion resulted in five leaders: DEME and Jan De Nul in Belgium, Boskalis and Van Oord in the Netherlands and CHEC in China. The cost of a big ship, around €200m (\$234m), and a persistent need to invest ensure that only the giants survive.

Mechanical improvements such as pumps and suction devices mean dredging ships can now break through harder material. Much manual work has been automated, from the placement of piles to the steadyng of ships—GPS-guided bow thrusters have replaced anchors. As ships work in deeper, colder waters, underwater robots have supplanted divers.

Monitoring may be the biggest change. "We now measure everything," says DEME's Mr Vanderbeke, gesturing to the antennas on *Innovation*'s mast. Sensors track how fast the hammer is pounding, what the crane is up to, activity on the seabed and how these things interact. Such surveillance, complemented by computer simulations, helps avoid mistakes.

Another productivity-enhancer has been modular building which, both on land and at sea, can speed up construction. DEME is building an 8.6km-long quay in Singapore, using watertight concrete chambers made in a factory on land. "With the old method, you'd hammer each sheet pile," says Alain Bernard, the firm's boss.

Offshore productivity gains are now so big that they have changed the economic calculus for land itself. Cheaper dredging makes land reclamation more attractive. "In Amsterdam you pay around €1,000 for a square metre of land; we can now make new land in shallow water for just €300 per square metre," says Pieter van Oord of Van Oord. In seaside cities such as Jakarta and Singapore, where land prices are up to ten times higher, the business case is even stronger. "You do the math." ■



Ship shape

An American solar spat

Dark side of the sun

New trade barriers may put America's solar industry at risk

LAST year California Solar Systems (css), a small installer of residential solar panels, decided to "Buy American". It turned to Suniva, a Chinese-owned firm that makes photovoltaic panels in Georgia and Michigan, rather than use cheap imports. But according to css's boss, Bastel Wardak, Suniva was unable to deliver what it promised, leading to unacceptable delays. He then tried SolarWorld, a more expensive producer in Oregon whose panels could also be marketed as "Made in the USA". But troubles at SolarWorld's German parent put a stop to that. Now Suniva and SolarWorld are seeking new protections from America's International Trade Commission (itc). On August 15th Mr Wardak was one of many to testify that the two firms did not deserve them.

The case pits American solar-cell makers against solar-panel installers. It could have big implications. Solar was the biggest source of power-generating capacity built in America last year, thanks to falling prices (see chart), but protections could push those prices up again. The itc investigation, which makes use of a rusting bit of trade law called Section 201, is also a test of the Trump administration's willingness to defend domestic manufacturing.

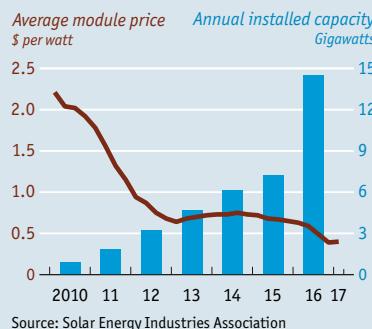
If the itc decides by a September 22nd deadline that imports are a "substantial cause of serious injury" to the two manufacturers, it could recommend that Donald Trump adopt protective measures, such as import quotas. The president could then decide which remedy, if any, to apply. Opponents of the petition say protectionism would set America's solar industry back five years, with higher prices clouding solar's appeal as an alternative to natural gas. Solar installations have ground to a halt since June, after the itc began its probe.

The itc's decision will hinge on whether its commissioners accept that imports are chiefly responsible for the travails of Suniva and SolarWorld. Juergen Stein, SolarWorld's boss in America, points to a "circle of death" in the industry, with global overcapacity forcing down prices, which compels firms to produce more to gain the benefits of scale, which further lowers prices. SolarWorld and Suniva claim that imports are the main culprits: solar-panel installations in America climbed by 350% from 2012 to 2016, but imports rose by 500%.

SolarWorld has already successfully petitioned for tariffs on imports from China

Looking bright

United States, solar photovoltaics



and Taiwan. The company says that Chinese and Taiwanese manufacturers have moved factories elsewhere in Asia to skirt import duties in America, adding to a global glut that has sapped demand for American products. Suniva filed for bankruptcy in April, nine days before launching the petition. SolarWorld laid off 360 workers last month. Nearly 30 other American producers have closed down since 2012. So Suniva and SolarWorld are seeking protections that would apply to all importers.

The plaintiffs' opponents, including the Solar Energy Industries Association (seia), a trade body, argue that the firms' main woes are self-inflicted. They did not foresee how fiercely solar manufacturers would compete to match the low prices of natural gas. Nor did their products meet demand: the two firms have mostly failed to supply the 72-cell panels that are standard for the large, utility-scale installations that now predominate; they produced smaller, 60-cell panels more suitable for rooftop solar. As a result, those seeking utility-scale installations turned to imports. Several companies also told the itc that the pair lacked the scale in cell manufacturing to provide the modules they claimed were all-American. Instead, they imported some components.

The seia says broader protections against imports could threaten many of the 260,000 Americans employed by the solar industry. Only 15% of that total work in solar factories. Some fear the itc may be more easily swayed by the bankruptcy of a few than the threat to many. Mr Trump has no love for solar power, but does like appeals from ailing manufacturers. The industry is bracing for the worst. ■

Business and Donald Trump

End of the affair

NEW YORK

American business breaks ranks with the president

"**I**'VE never known it to be an embarrassment for a business leader to be associated with an American president," declares Max Bazerman of Harvard Business School. Donald Trump, in particular, has positioned himself as a business-president, whose corporate acumen would unleash a new era for American business. Investors seemed to believe him—his election prompted a giddy "Trump bump" in the stockmarket—and corporate bosses flocked to his side. This week they fled. For many, it seems as much a clear-eyed business calculation as a moral awakening.

Some distanced themselves more quickly than others. The trigger was Mr Trump's reluctance to condemn neo-Nazis and white supremacists who staged violent protests in Virginia on August 12th. Kenneth Frazier (pictured), chief executive of Merck, a big pharmaceutical firm, was the first to leave Mr Trump's advisory council on manufacturing. On August 14th Mr Trump denounced racist groups in a scripted statement. But the bosses of Under Armour, a sporting-goods outfit, and Intel, a computer-chip giant, defected, too.



Now hear this, Mr President

On August 15th Mr Trump appeared once again to equate white supremacists with demonstrators opposing them. As word leaked the next day that chief executives might resign en masse, Mr Trump swiftly tweeted that he was disbanding his manufacturing council and his strategic and policy forum, another advisory group. ►

► The calculus of aligning with Mr Trump at first seemed straightforward. By serving on the president's councils, bosses hoped to nudge him to deliver reform. Banks remain eager to roll back financial regulations. Manufacturing and construction firms hope to benefit from support for domestic production and a binge in infrastructure spending. All companies want a lower corporate-tax rate.

More than two dozen chief executives, led by Andrew Liveris of Dow, a chemicals colossus, joined Mr Trump's manufacturing advisory council. About a score joined the strategic and policy forum, led by Stephen Schwarzman of Blackstone, a private-equity firm. Mr Trump seemed to take particular pleasure in summoning corporate titans; executives smiled as he spoke of his bold plans, even as some acknowledged his shortcomings in private.

Technology firms were early to distance themselves from the president: Google and Apple, for instance, have supported a suit challenging Mr Trump's policy for immigrants from Muslim countries. But many bosses stayed on the councils, even in the immediate aftermath of the Charlottesville crisis. Those included JPMorgan Chase's Jamie Dimon, Mary Barra of General Motors and Ginni Rometty of IBM.

No longer. Even setting aside matters of personal conscience, the costs and benefits for bosses of sitting alongside the president have changed. Serving on Mr Trump's councils yielded few obvious benefits. The forums are mostly ceremonial. Mr Trump has so far proved unable to advance any major policy, including a business-friendly rollback of Democrats' health law. Tax reform is complex even in favourable political climates; it does not help that Mr Trump has taken to lambasting Mitch McConnell, the Republican Senate majority leader and a supposed ally. Democrats may not back Mr Trump even on infrastructure spending, which they support.

Continuing to serve on the councils increasingly seemed to serve little purpose other than to anger consumers and staff. In the wake of the president's comments, companies that did not quit at once (among them PepsiCo, which sells fizzy drinks and snacks) faced campaigns threatening boycotts. IBM must compete with Silicon Valley for talent; staff had criticised Ms Rometty's allegiance to Mr Trump.

Many executives will doubtless continue to court Mr Trump in private. Mr Schwarzman has known the president for years, for example. His new infrastructure fund, which in May received a \$20bn investment from Saudi Arabia, has much to gain from any new spending on bridges and roads. Others will decide they are better off keeping their distance. Recent jumps in share prices have been largely attributable to firms' own performance, despite Mr Trump's tweets claiming credit. ■

E-sports

Play time

SEATTLE

Computer-game tournaments advance to the next level

FIREWORKS detonated, smoke wafted over the stage and confetti began to fall. Seventeen thousand fans cheered the European players of Team Liquid, with monikers like "MinD_ContRoL" and "MATUMBAMAN", who had just triumphed over a Chinese side to win The International, a tournament held in Seattle's KeyArena on August 7th-12th. In the stands Max Martinez, a 25-year-old bartender from Phoenix, was in a state of nirvana. "This is like my Super Bowl," he said.

But the players in this tournament had no need to catch, throw or run. Their most important muscles are those in their fingers. MinD_ContRoL, a bespectacled Bulgarian named Ivan Ivanov, excels at a computer game called "Dota 2". Valve Corporation is the producer of "Dota 2". It has put on The International since 2011, offering more than \$10m to this year's winners. The prize money is particularly rich, but the tournament itself is not unusual. E-sports, in which computer gamers compete before thousands of fans in person and millions more online, is on the rise.

E-sports is gradually assembling all the trappings of mainstream sports: corporate sponsorships, professional managers, salaried players and even announcers who wear suits and make bad jokes. Last year Peter Guber, a co-owner of the Golden State Warriors basketball team, led a group of investors to buy a majority stake in Team Liquid for an undisclosed sum. His partners included Magic Johnson, a former basketball star, and Steve Case, a founder of AOL, an online service.

Their goal is for e-sports teams to compete with conventional ones for viewers and bigger corporate sponsorships. "How do we make this into football, bowling, the beer-and-chips crowd?" asks Joost van Dreunen of SuperData Research, a firm that tracks the gaming industry.

It still has a long way to go. Last year e-sports earned \$900m, mainly from advertising, ticket sales and merchandise, according to SuperData, compared with \$83bn from sales for mobile, computer and console games. Viewers watch for free. For now, the main value of e-sports is as a marketing tool to sell games.

That may change. Media companies are hungry for content that can win viewers' attention; e-sports has a young, passionate audience. SuperData estimates that 258m people will watch e-sports this year, up by 20% from 2016, through online platforms such as Twitch. Giant firms have taken an interest. Amazon, an e-commerce juggernaut, bought Twitch in 2014 for nearly \$1bn. Disney will soon have a controlling stake in BAMTech, a video-streaming firm that last year agreed to pay \$300m for the rights to stream tournaments for a game called "League of Legends" until 2023. (The game's 100m monthly active players outnumber the population of Germany.) The owner of "League of Legends" is Tencent, a Chinese internet giant.

Nevertheless, gamers face several obstacles before they can compete with established sports. Although big brands are beginning to sponsor events and teams, Mr van Dreunen says, they are still tentative and invest only small amounts. Another challenge is accessibility. Most viewers play the games themselves, some of which, like "Dota 2", can boggle the mind. Devotees prefer complex games, but e-sports will need simpler ones to win new fans. In Seattle Mr Martinez described Team Liquid's moves as "epic, like insane". More than a few novice viewers would apply only the second label. ■



Neymar, watch out

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Meet the financial firm that makes bank bosses break into cold sweats



IN WESTERN countries it is common to talk about American technology being dominant. From an Asian perspective that seems off. Fresh from visiting the region, where buskers and kerbside fishmongers can be paid by presenting a phone, Schumpeter has found it a shock being back in New York. There, buying most things involves signing bits of paper and PIN numbers are viewed as dangerously transgressive. Only 2% of credit- and debit-card transactions in America are authenticated with PIN numbers; 19bn cheques are written in the country every year.

Asian firms have leapfrogged ahead, offering a new model of financial technology. Exhibit A is Ant Financial, a payments company affiliated with Alibaba, one of China's two giant internet firms (the other is Tencent, whose WeChat messaging app is ubiquitous and supports payments). Ant is popular in China and has ambitions outside it. Already the world's most valuable "fintech" firm, worth \$60bn, it has 520m payments customers at home and its affiliates abroad have 112m, mainly in Asia. In May it signed a deal to install its payments system in millions of American retail outlets. Ant is in the process of buying MoneyGram, a Texas-based money-transfer firm active in over 200 countries.

One admired boss in the conventional banking industry says Ant keeps him awake at night. For protectionists, the firm is evidence of a Chinese plot to control the world's financial plumbing. For consumers, it could boost competition in a cosy industry.

Ant was spun out of Alibaba in 2014. Its core business is enabling payments by a vast army of customers to the 10m or so merchants who use Alibaba's e-commerce sites. This accounts for over a quarter of its revenues, according to CLSA, a brokerage. And it gives Ant huge scale at home. China's internet-payments market is the world's biggest, reckons Goldman Sachs, with \$11trn in transactions last year, twice the size of America's credit- and debit-card industry. Ant controls 51% of it. The firm is 16 times larger than PayPal, an American counterpart, on this measure.

China's lead is about more than size, though. People make payments mainly by using phones. Whereas Western products such as PayPal and Apple Pay often piggyback off credit-card firms' networks to access clients' funds, China's firms can access bank accounts directly, cutting out the middlemen.

Ant has developed a menu of services: its home screen lets

you buy train tickets, pay utility bills and invest in mutual funds. Yu'e Bao, a money-market fund run by Ant, has \$166bn of assets. Ant lends to its clients, but so far its balance sheet is modest: outstanding loans to small firms were \$5bn in 2016. Fees are low, but Ant's profits still reached a chunky \$820m last year, up by 14% since 2014. (It does not publish its books, but some figures can be inferred from Alibaba's accounts.)

Jack Ma, the tycoon who controls Alibaba and Ant, has a grand vision to turn a Chinese empire into a global one. For Ant there are two opportunities. One is a business known as "merchants acceptance", machines for paying for goods in shops and hotels. At the moment Chinese travellers abroad, whose ranks reached 120m in 2016, often use UnionPay, a card provider. Ant is muscling in, letting people use Alipay when they have weekends in Dubai or make family trips to Disneyland.

Longer term, the goal is to create a huge online network of local consumers and merchants in other countries, replicating Ant's model in China. But building relationships with local banks and firms takes time. And in poorer countries few people have bank accounts to connect to their mobile accounts. Instead they hand over cash in shops and kiosks to fill up mobile wallets.

As a result Ant is expanding through local subsidiaries or affiliates. Along with Alibaba it owns about half of Paytm, an Indian digital-payments star. And it has bought stakes in fintech firms in Thailand, Singapore, Indonesia, the Philippines and South Korea. Buying MoneyGram would not bring cutting-edge technology—its core activity is cash remittances—but would give Ant licences abroad and clients who could be prodded to use digital services.

Ant's scale, innovation and drive mean it is well placed. But it faces three hurdles. First, rising competition is dampening margins. At home WeChat has helped boost Tencent's market share in digital payments from 15% in 2014 to 33% last year. Abroad, Ant is not the first mover. In South-East Asia several e-commerce and ride-hailing firms are bolting payments onto their apps to attract and keep more customers. DBS, a regional lender, is a leader in digital banking. In America, Apple Pay is accepted in 4.5m locations and could get more popular.

As Ant grows it must manage a second problem, its tangled links with Alibaba. The original spin-off was controversial. Today Mr Ma controls a majority of the firm's voting interests. State-backed funds and entities collectively own about 15%. Alibaba doesn't own shares in Ant but is entitled to 37.5% of its profits. If Ant does an initial public offering this agreement can change and Alibaba would get 33% of its shares. The two firms share joint ventures and executives. They pay fees to—and receive them from—each other. There is a risk of conflict and muddle.

Paying its dues

Ant's final hurdle is that foreign governments may not like Chinese firms having a big role in their financial systems. America's national-security review panel, known as CFRUS, is looking at the MoneyGram deal. On economic grounds they should welcome Ant, so that it can disrupt the bloated credit-card industry. Visa and MasterCard extract over 0.10 cents of net income for every dollar of payments. Ant takes a smaller cut, of less than 0.03 cents.

China's financial system is isolated from the rest of the world. Ant has evolved in a distinct—and more efficient-way. The task now is to persuade other countries that its approach is safe, transparent and free from government interference. It had better hurry up. Sooner or later Silicon Valley's giants will catch up. ■



Externalities

The lives of others

Arthur Pigou thought that taxes could solve a common market failure. The fourth brief in our series on big economic ideas

LOUD conversation in a train carriage that makes concentration impossible for fellow-passengers. A farmer spraying weedkiller that destroys his neighbour's crop. Motorists whose idling cars spew fumes into the air, polluting the atmosphere for everyone. Such behaviour might be considered thoughtless, anti-social or even immoral. For economists these spillovers are a problem to be solved.

Markets are supposed to organise activity in a way that leaves everyone better off. But the interests of those directly involved, and of wider society, do not always coincide. Left to their own devices, boors may ignore travellers' desire for peace and quiet; farmers the impact of weedkiller on the crops of others; motorists the effect of their emissions. In all of these cases, the active parties are doing well, but bystanders are not. Market prices—of rail tickets, weedkiller or petrol—do not take these wider costs, or “externalities”, into account.

The examples so far are the negative sort of externality. Others are positive. Melodious music could improve everyone's commute, for example; a new road may benefit communities by more than a private investor would take into account. Still

In this series

- 1 Coase and the firm
- 2 Becker and human capital
- 3 Say's law
- 4 **Pigouvian taxes**
- 5 The natural rate of unemployment
- 6 Overlapping generations

others are more properly known as “internalities”. These are the overlooked costs people inflict on their future selves, such as when they smoke, or scoff so many sugary snacks that their health suffers.

The first to lay out the idea of externalities was Alfred Marshall, a British economist. But it was one of his students at Cambridge University who became famous for his work on the problem. Born in 1877 on the Isle of Wight, Arthur Pigou cut a scruffy figure on campus. He was uncomfortable with strangers, but intellectually brilliant. Marshall championed him and with the older man's support, Pigou succeeded him to become head of the economics faculty

when he was just 30 years old.

In 1920 Pigou published “The Economics of Welfare”, a dense book that outlined his vision of economics as a toolkit for improving the lives of the poor. Externalities, where “self-interest will not...tend to make the national dividend a maximum”, were central to his theme.

Although Pigou sprinkled his analysis with examples that would have appealed to posh students, such as his concern for those whose land might be overrun by rabbits from a neighbouring field, others reflected graver problems. He claimed that chimney smoke in London meant that there was only 12% as much sunlight as was astronomically possible. Such pollution imposed huge “uncharged” costs on communities, in the form of dirty clothes and vegetables, and the need for expensive artificial light. If markets worked properly, people would invest more in smoke-prevention devices, he thought.

Pigou was open to different ways of tackling externalities. Some things should be regulated—he scoffed at the idea that the invisible hand could guide property speculators towards creating a well-planned town. Other activities ought simply to be banned. No amount of “deceptive activity”—adulterating food, for example—could generate economic benefits, he reckoned.

But he saw the most obvious forms of intervention as “bounties and taxes”. These measures would use prices to restore market perfection and avoid strangling people with red tape. Seeing that producers and sellers of “intoxicants” did not have to pay for the prisons and policemen associated with the rowdiness they caused, for example, he recommended a tax on booze. Pricier kegs should deter some drinkers; the others will pay towards the social costs they inflict.

This type of intervention is now known as a Pigouvian tax. The idea is not just ubiquitous in economics courses; it is also a favourite of policymakers. The world is littered with apparently externality-busting taxes. The French government imposes a noise tax on aircraft at its nine busiest airports. Levies on drivers to counterbalance the externalities of congestion and pollution are common in the Western world. Taxes to fix internalities, like those on tobacco, are pervasive, too. Britain will join other governments in imposing a levy on unhealthy sugary drinks starting next year.

Pigouvian taxes are also a big part of the policy debate over global warming. Finland and Denmark have had a carbon tax since the early 1990s; British Columbia, a Canadian province, since 2008; and Chile and Mexico since 2014. By using prices as signals, a tax should encourage people and companies to lower their carbon emissions more efficiently than a regulator could by diktat. If everyone faces the same ➤

► tax, those who find it easiest to lower their emissions ought to lower them the most.

Such measures do change behaviour. A tax on plastic bags in Ireland, for example, cut their use by over 90% (with some unfortunate side-effects of its own, as thefts of baskets and trolleys rose). Three years after a charge was introduced on driving in central London, congestion inside the zone had fallen by a quarter. British Columbia's carbon tax reduced fuel consumption and greenhouse-gas emissions by an estimated 5-15%. And experience with tobacco taxes suggests that they discourage smoking, as long as they are high and smuggled substitutes are hard to find.

Champions of Pigouvian taxes say that they generate a "double dividend". As well as creating social benefits by pricing in harm, they raise revenues that can be used to lower taxes elsewhere. The Finnish carbon tax was part of a move away from taxes on labour, for example; if taxes must discourage something, better that it be pollution than work. In Denmark the tax partly funds pension contributions.

Pigou flies

Even as policymakers have embraced Pigou's idea, however, its flaws, both theoretical and practical, have been scrutinised. Economists have picked holes in the theory. One major objection is the incompleteness of the framework, since it holds everything else in the economy fixed. The impact of a Pigouvian tax will depend on the level of competition in the market it is affecting, for example. If a monopoly is already using its power to reduce supply of its products, a new tax may not do any extra good. And if a dominant drinks firm absorbs the cost of an alcohol tax rather than passes it on, then it may not influence the rowdy. (A similar criticism applies to the idea of the double dividend: taxes on labour could cause people to work less than they otherwise might, but if an environmental tax raises the cost of things people spend their income on it might also have the effect of deterring work.)

Another assault on Pigou's idea came from Ronald Coase, an economist at the University of Chicago (whose theory of the firm was the subject of the first brief in this series). Coase considered externalities as a problem of ill-defined property rights. If it were feasible to assign such rights properly, people could be left to bargain their way to a good solution without the need for a heavy-handed tax. Coase used the example of a confectioner, disturbing a quiet doctor working next door with his noisy machinery. Solving the conflict with a tax would make less sense than the two neighbours bargaining their way to a solution. The law could assign the right to be noisy to the sweet-maker, and if worthwhile, the doctor could pay him to be quiet.

In most cases, the sheer hassle of hag-

gling would render this unrealistic, a problem that Coase was the first to admit. But his deeper point stands. Before charging in with a corrective tax, first think about which institutions and laws currently in place could fix things. Coase pointed out that laws against nuisance could help fix the problem of rabbits ravaging the land; quiet carriages today assign passengers to places according to their noise preferences.

Others reject Pigou's approach on moral grounds. Michael Sandel, a political philosopher at Harvard University, has worried that relying on prices and markets to fix the world's problems can end up legitimising bad behaviour. When in 1998 one school in Haifa tried to encourage parents to pick their children up on time by fining them, tardy pickups increased. It turned out that parental guilt was a more effective deterrent than cash; making payments seems to have assuaged the guilt.

Besides these more theoretical qualms about Pigouvian taxes, policymakers encounter all manner of practical ones. Pigou himself admitted that his prescriptions were vague; in "The Economics of Welfare", though he believed taxes on damaging industries could benefit society, he did not say which ones. Nor did he spell out in much detail how to set the level of the tax.

Prices in the real world are no help; their failure to incorporate social costs is the problem that needs to be solved. Getting people to reveal the precise cost to them of something like clogged roads is asking a lot. In areas like these, policymakers have had to settle on a mixture of pragmatism and public acceptability. London's initial £5 (\$8) fee for driving into its city centre was suspiciously round for a sum meant to reflect the social cost of a trip.

Inevitably, a desire to raise revenue also plays a role. It would be nice to believe that politicians set Pigouvian taxes merely in order to price in an externality, but the evidence, and common sense, suggests otherwise. Research may have guided the initial

level of a British landfill tax, at £7 a tonne in 1996. But other considerations may have boosted it to £40 a tonne in 2009, and thence to £80 a tonne in 2014.

Things become even harder when it comes to divining the social cost of carbon emissions. Economists have diligently poked gigantic models of the global economy to calculate the relationship between temperature and GDP. But such exercises inevitably rely on heroic assumptions. And putting a dollar number on environmental Armageddon is an ethical question, as well as a technical one, relying as it does on such judgments as how to value unborn generations. The span of estimates of the economic loss to humanity from carbon emissions is unhelpfully wide as a result, ranging from around \$30 to \$400 a megatonne.

It's the politics, stupid

The question of where Pigouvian taxes fall is also tricky. A common gripe is that they are regressive, punishing poorer people, who, for example, smoke more and are less able to cope with rises in heating costs. An economist might shrug: the whole point is to raise the price for whoever is generating the externality. A politician cannot afford to be so hard-hearted. When Australia introduced a version of a carbon tax in 2012, more than half of the money ended up being given back to pensioners and poorer households to help with energy costs. The tax still sharpened incentives, the handouts softened the pain.

A tax is also hard to direct very precisely at the worst offenders. Binge-drinking accounts for 77% of the costs of excessive alcohol use, as measured by lost workplace productivity and extra health-care costs, for example, but less than a fifth of Americans report drinking to excess in any one month. Economists might like to charge someone's 12th pint of beer at a higher rate than their first, but implementing that would be a nightmare.

Globalisation piles on complications. A domestic carbon tax could encourage people to switch towards imports, or hurt the competitiveness of companies' exports, possibly even encouraging them to relocate. One solution would be to apply a tax on the carbon content of imports and refund the tax to companies on their exports, as the European Union is doing for cement. But this would be fiendishly complicated to implement across the economy. A global harmonised tax on carbon is the stuff of economists' dreams, and set to remain so.

So, Pigou handed economists a problem and a solution, elegant in theory but tricky in practice. Politics and policymaking are both harder than the blackboard scribblings of theoreticians. He was sure, however, that the effort was worthwhile. Economics, he said, was an instrument "for the bettering of human life." ■





Trade talks

Seconds out

Renegotiation of North America's trade rules gets underway

THE North American Free-Trade Agreement (NAFTA), a 23-year-old trade deal between America, Mexico and Canada, is being revamped. On August 16th, after months of threats, taunts and tweets, the first round of talks started in Washington. The negotiators face a daunting challenge, straddling domestic and foreign policy. They must please their political masters while grappling with devilishly detailed policy problems. If they fail, it will not be for lack of experience. The professionals are in the room.

This negotiation will be more tense than most. Participation in trade talks is usually by mutual consent. In this one, President Donald Trump is trying to hold his trade partners hostage, by threatening to withdraw from the original deal if a better one cannot be agreed on. That such an outcome would also hurt America does not make the exercise any easier.

Pressure is added by a desperately tight, if unacknowledged, deadline, set by the presidential-election timetable in Mexico. If no deal is agreed by early 2018, talks must pause to restart a year later. By then, Andrés Manuel López Obrador, a fiercely anti-American Mexican candidate, may be in power. Ildefonso Guajardo (pictured, right), Mexico's economy minister, reckons there is a 60% chance that the deal will be renegotiated this year. The original NAFTA talks took three years.

The first round of negotiations is when

each side sets out its priorities. At the opening press conference the Mexicans and the Canadians both emphasised the importance of keeping the benefits of the existing deal. Less promisingly, Robert Lighthizer (pictured, left), the United States Trade Representative, said he wanted assurances that America's huge trade deficits would not continue. Making the deal hinge on this would cross the others' red lines.

Mr Lighthizer also spoke of making a pact that respects sovereignty, a swipe at Chapter 19 of the original deal. This sets out a process for resolving disputes over defensive tariffs, arbitrated by a panel of judges picked by the three partners. Mexico and Canada are open to making this process faster. But ditching it is unacceptable to the Canadians, who do not want to be vulnerable to American anti-dumping measures.

The talks will be split into groups covering specific negotiating areas. Labour standards and dispute settlement were on the agenda for the first day. Each side usually brings along some proposed text, often lifted from another agreement. On labour standards, American trade veterans may recognise some text negotiated for the Trans-Pacific Partnership, the Obama administration's attempt—jettisoned by Mr Trump—to update NAFTA, and bring in nine other Pacific Rim countries. The Mexicans say they will find it difficult to agree to anything stronger.

The Canadians have the advantage of

Also in this section

58 America's trade with China

58 Chinese monetary policy

60 Faith and investment

61 Sports hedge funds

61 Company names

62 Free exchange: Development in Africa

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ready-made text from a recent deal with the EU. Its dispute-settlement rules watered down investors' rights in favour of governments' freedom to regulate. The Americans may reject that in the face of fierce resistance from corporate lobbyists.

Given the time pressure, tricky topics will be broached early. Procurement was on the agenda for day two. Chrystia Freeland (centre), Canada's foreign minister, held up pictures of firefighters from the other NAFTA partners tackling Canadian forest fires as a symbol of co-operation. In other comments she was less friendly, declaring that "local-content provisions for major government contracts are political junk-food: superficially appetising, but unhealthy in the long run." Yet to ease Canadian contractors' access to American government business would irk Mr Trump, a staunch advocate of "Buy American".

The bracket bulge

After the first round of meetings, the proposals will be merged into a single document. Uncontroversial items—a prohibition on customs duties for digital products, say—can be slotted in. Disagreements will be in brackets, indicating which side holds which position. The objective then is to remove as many brackets as possible.

Such talks make grubby mercantilist horse-traders of even high-minded negotiators. Perhaps the Canadians could parlay opening their dairy market for better access to American government contracts. Trickier decisions will require "political direction", said Canada's chief negotiator, Steve Verheul, who has set up a system to get speedy sign-offs from his superiors.

Rules relating to the car industry will be particularly contentious. Without that trade, America would have no deficit in goods with Mexico. At issue are the rules that set the amount of regional content a ➤

► product must have for it to count within the deal. Without such rules other countries could exploit the pact to export tariff-free through a NAFTA member. Enticingly for the Trump administration, tight rules (and those in NAFTA are fairly tight) reduce imports from non-NAFTA countries.

Mr Lighthizer says that the rules of origin should require higher NAFTA content and "substantial" American content. The Mexicans will balk at any asymmetry in favour of America, arguing that it violates the spirit of a regional deal. Companies will resist too, and where non-NAFTA tariffs are low, they have the option of simply operating outside the parameters of the agreement. Tariffs on cars entering America are a mere 2.5%. For products where non-NAFTA tariffs are even lower, more than a

quarter flowing into America from Mexico bypass the deal entirely.

The need for speed will probably oblige negotiators to sacrifice some of their ambitions. Complicated areas such as services or intellectual property may be jettisoned, or shallow agreements reached. Resolutions for historically difficult disputes, such as between America and Mexico on sugar, or between America and Canada on softwood lumber, may have to wait.

Ms Freeland predicted "some dramatic moments ahead". Trade negotiators are inured to screaming, yelling, walkouts and all-nighters. Wendy Cutler, a negotiator under the Obama administration, says the tension is sometimes staged for the benefit of a domestic audience: "It's not always what it looks like to the public." ■

America's trade with China

Lighthizer, camera, action!

A new probe into China's trade practices

BETING tough on China was a constant theme of President Donald Trump's election campaign. On August 14th he had another chance to wield his presidential pen to show that he is making good on his promises—in this case of a "zero-tolerance policy on intellectual-property theft and forced technology transfer". With the cameras rolling, he formally instructed Robert Lighthizer, the United States Trade Representative, to consider launching an investigation into China's alleged crimes. "This is just the beginning," was Mr Trump's final flourish for the news bulletins.

His record of translating signatures into policies is patchy. Two others, launching investigations into whether imports of steel and aluminium threaten America's national security, seem to have fizzled. But whereas proposals for import restrictions on these commodities met fierce resistance from consumers and America's allies, China's trade practices provoke much more agreement. It is one of the few issues about which Republicans and Democrats can agree.

Wilbur Ross, America's commerce secretary, recently wrote in the *Financial Times* that "American genius is under attack from China." Poor countries need ideas and technology from richer ones to grow. But countries hungry for investment may have to offer intellectual-property protection in return. China is different. It is such a draw for foreign firms that it feels able to make tougher demands of them.

American technology giants such as Advanced Micro Devices, Hewlett Packard Enterprise, Intel and Qualcomm are

all working with Chinese companies to develop new products. China's critics see such efforts as examples of its abuse of its market power. Bill Reinsch of the Stimson Centre, a think-tank, says the problem American businesses face in China is that its "policy is to let foreigners in, extract their technology, then force them out". In some industries, American companies can enter the Chinese market only in joint ventures with Chinese firms. As the Chinese government tries to make China a world leader in technology-intensive industries like semiconductors, driverless cars and biotechnology, the fear is that it will plunder its foreign partners' intellectual jewels, and then get rid of them.

In response to Mr Trump's latest order, China's foreign ministry warned his administration to respect multilateral trade rules. This is a nod to the tool that the Trump administration is poised to use: Section 301 of the Trade Act of 1974. This law harks back to an era of aggressive American unilateralism, before the establishment of the World Trade Organisation in 1995. It allows America to levy punitive tariffs if a trading partner is found to be unfairly restricting trade. In the 1980s it was used to force other countries to buy more American goods.

Since then, it has fallen out of fashion. Unsurprisingly, other countries resented being bullied by the Americans, preferring a globally agreed set of rules. The Chinese think that the Americans should take their complaints to the WTO, a slower process. Dangling the threat of a 301 action made for a good photo opportunity of Mr Trump looking tough. China will be waiting to see if he acts tough, too.

Chinese monetary policy

Dynastic equilibrium

Citing an ancient emperor, China modernises its interest-rate system

Q IN SHIHUANG was the emperor who first unified China, through bloody conquest more than two millennia ago. Known for starting the Great Wall and burying scholars alive, he has a new claim to fame: the central bank has drawn on his construction of a national road system to help explain its new monetary system. In a report on August 11th, the People's Bank of China seized on an idiom derived from his road-building experience: it had "shaved off mountain peaks and filled valleys" in managing liquidity.

The modernisation of monetary policy is in its own way a monumental project for China. Over the past two decades, the central bank's conduct of policy had two defining features. It focused on the quantity, not the price, of money. And it relied on inflows of foreign cash to generate new money. Both features are now slowly changing, bringing China closer to the norm in developed markets, an essential transition for an increasingly complex economy.

Start with interest rates. These used to be of secondary importance in China. Regulators instead used quotas to dictate how much banks lent and in effect fixed their deposit and lending rates. This made sense when China was in the early stages of moving away from a planned economy. Crude targets were still needed. But as a bigger, rowdier financial system took shape, these targets became less relevant. With the emergence of a large bond market, myriad non-bank lenders and new investment options for savers, banks now face more competition for deposits and in building up their loan books.

Seeing this, the central bank in late 2015 gave banks freedom, in theory, to set their own lending and deposit rates. It also elim-

The new anchor

China, interest rates, %



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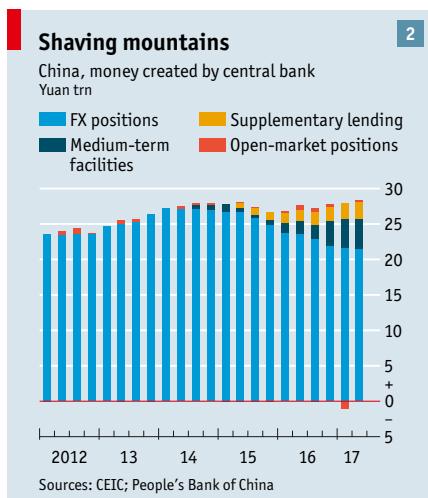
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inated mandatory loan-to-deposit ratios and put less stress on credit quotas. However, this opened a gap. It had relinquished its former controls without new ones in place. The answer has been to create a policy rate, much like benchmark short-term interest rates in America and Europe. The central bank has tried to create an equivalent anchor in China's financial system: the seven-day "repo" rate (the bond-repurchase rate at which it lends to banks).

To do so it has established a band around the seven-day rate, with a lower bound for lending to banks flush with cash and an upper bound for those in need. To cap rates at the upper bound, the central bank also started accepting a wider array of collateral. Since mid-2015 this has worked. The central bank has kept the seven-day rate within the corridor and nudged it up as the economy has gathered pace (see chart 1 on previous page). On August 15th, in its annual review of China's economy, the IMF passed a tentative verdict: "The conduct of monetary policy increasingly resembles a standard interest-rate-based framework."

Complementing this shift has been the central bank's creation of a range of liquidity-management tools. Since 2013 it has opened a baffling plethora of new lending windows: short-term liquidity operations, standing lending facilities, medium-term lending facilities and pledged supplementary lending. All added up to the same thing: conduits to inject cash at different rates and for different durations or, by letting them expire, to withdraw cash.

Their importance has been clear over the past two years as capital outflows eroded the value of China's foreign-exchange reserves. This placed pressure on domestic liquidity, since China had relied on cash inflows to generate money growth (issuing new yuan to buy up the dollars streaming in). After initial hiccups, the central bank more than made up for the loss of dollars at home by using its various tools (see chart 2). As a result, it has been better able to

manage cash levels on a daily basis. High volatility in money-market rates, once a regular occurrence, has all but vanished, hence the central bank's conceit that, in a Qin-like manner, it has shaved off mountain peaks and filled valleys.

Nevertheless, both policy shifts are works in progress. With state-owned banks and companies still counting on government support in the event of trouble, interest rates have less signalling value than in a freer market. The central bank, for its part, continues to use administrative controls to influence lenders. And its success in managing liquidity has been greatly helped by China's tightened grip on its capital account over the past year. Without that, money growth at home might have fuelled more capital outflows. It is, in other words, a gradual approach to reform, in which sense the invocation of China's first emperor is unfortunate. His rule was transformative but violent and short-lived. Slower monetary-policy shifts, in contrast, have much to recommend them. ■

The Catholic church's investments

Faith, hope and impact

VATICAN CITY

The Catholic church rethinks its philanthropy

"**Y**OU cannot serve both God and money," admonishes the Bible. But the church has always tried. In the Middle Ages monasteries were what would now be termed social enterprises. They would produce bread, books or other goods. A Franciscan monk is credited with codifying double-entry book-keeping.

These days the Catholic church and related institutions control many billions of dollars. Some is invested to earn income; some is given away for good works. The two activities have been seen as separate. But, in the pontificate of Pope Francis, that divide is blurring. "Impact" investing—intended to make money and do good at the same time—is growing in importance. It is also creating some controversy.

In 2014 the pope, speaking to a conference in the Vatican on impact investing, called on Christians to rediscover "this precious and primordial unity between profit and solidarity". His church has responded. Some Catholic institutions with assets to invest—including the Jesuits, the Franciscan Sisters of Mary and Ascension Investment Management—have earmarked a part of their investments for impact funds.

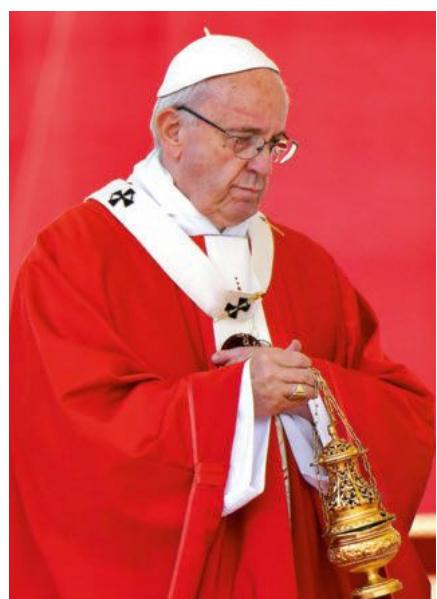
Meanwhile, new Catholic impact funds have been formed, such as ones under the Oblate International Pastoral Investment Trust, which is entrusted with the financial

resources of more than 200 Catholic organisations from over 50 countries. Others have joined co-operative efforts to align their investment strategies. The Catholic Impact Investing Collaborative, for example, groups 30 American Catholic institutions, with \$50bn in assets under management (of which a small fraction is devoted to impact investing). To encourage public involvement, new "retail" impact funds have been set up, allowing donors to buy a share for a small outlay—say \$30.

For now, the Catholic capital dedicated to impact investments totals around only \$1bn. Yet such are the church's assets that it has the potential to transform the size of the impact-investment market. It might also, however, transform the church's financing model: from a "sequential" one, where the church first acquires wealth and then gives it away; to a "parallel" one.

This causes anxiety in Catholic circles. Some worry that making money from philanthropy cannot be squared with the basic moral imperative to care for the needy. Others fear a loss of contact with the beneficiaries of Catholic generosity. The shift in strategy probably also requires a personnel shake-up. In the church itself, few have the financial expertise required, though congregations could be a valuable source.

The impact-investing drive was inspired by the pope, but, a Vatican source suggests, it is being led by organisations such as the Catholic Relief Services, a humanitarian agency, other Catholic bodies and by a new "dicastery" (division of the Holy See's administration), established this year for "Promoting Integral Human Development". None is aiming at a total reform of the church's philanthropy. Impact investing is seen as a promising strategy, but no more than a complementary one. Impact is still no substitute for charity. ■



The pontiff makes an impact

Sports hedge funds

Against the odds

Trying to turn a flutter at the bookies into an investment class

WHEN he was 12, Warwick Bartlett bought "100 Famous Greyhound Systems", a guide for betting on dog races. After spending a year tracking every stratagem and picking the best two, he went to the races to take his first punts. He lost. Mr Bartlett, now the boss of GBGC, a betting consultancy, says it taught him a good lesson: "A system can win for a period of time. And then it's had its day."

Two trading companies are trying to prove him wrong. Melbourne-based Priomha Capital, which claims to be the "world's premier sports hedge fund", wagers on European football, cricket and golf. Founded in 2010, the firm manages about \$20m. Stratagem, a rival based in Britain that styles itself as a technology business, wants to raise \$25m from rich individuals.

Both argue that techniques imported from the investment world can help turn sports betting into an alternative asset class. By crunching data, they analyse the pricing of odds to identify profitable trades, just as an investment firm would do to pick stocks.

It sounds appealing. Brendan Poots, Priomha's founder, points out that political and economic shocks have little bearing on sports events, making bets on them the "ultimate uncorrelated asset class". Sports results should also be recession-proof. And spread-betting—where punters can buy or sell a given outcome—allows punters to hedge their risks, which Priomha does for more than 95% of its trades.

But sceptics abound. Galileo, a sports hedge fund launched in 2010, folded in 2012 after losing \$2.5m. Critics contend that sports trading markets are far less liquid than financial ones. Adam Kucharski, a London-based mathematician, says that in only a few markets are gamblers safe from the risk of placing big bets that will move the odds against themselves.

A more fundamental problem is that bookmakers are also spending lavishly to develop predictive models; many have dedicated units of quantitative traders. The hedge funds' confidence that they can consistently beat the house seems misplaced.

The funds argue, however, that bookmakers can be wrong: many lost money on English football when Leicester won the Premier League in 2016, against initial odds of 5000-to-1. They also point out that the large number of casual betters punting on big events can skew the odds. In those cases, the bookmaker's interest may not be

Company names

Eponymous heroes

A firm that shares a name with its founder earns higher profits

AGOOD business name can be pricey. An entrepreneur looking for the perfect one can hire a naming agency to offer ideas, but that can cost tens of thousands of dollars. That may explain why many founders follow the example of the current American president and name their businesses after themselves. A recent article* by academics from the Fuqua School of Business at Duke University in North Carolina suggests that doing so not only saves money—it can also boost profits.

The study looked at small businesses in western Europe. It relied on a sample of almost 2m firms, data for which are contained in Amadeus, a commercial database. Firms in the sample tended to be, on average, fairly young, with few shareholders and employees. Checking the surnames of the largest shareholders, the authors found that 19% of firms were named after their founders.

After accounting for other factors, firms that bore their largest shareholder's name enjoyed a return on assets (ROA) that was three percentage points higher than other companies. The authors explain this by noting that if you name a

firm after yourself, you send a signal. You believe your product is good enough to stake your own reputation on it, not just that of your company. If you fail, you will remain personally connected to that failure for the rest of your career. The authors suggest that customers receive this signal and reward firms accordingly.

This hypothesis was tested by comparing different types of names. Eponymous founders with a common name will be less closely identified with their firms. So the signal is weaker. The data show that the ROA premium is indeed lower for firms named after founders with common names.

Might not substandard entrepreneurs cheat by naming their firms after themselves? They could, but the short-term benefits of cheating must be weighed against the long-term reputational damage of being found out. It is easier to choose a different name when starting a firm than to change your own if it fails.

* "Eponymous Entrepreneurs", Sharon Belenzon, Aaron K. Chatterji and Brendan Daley, *American Economic Review*, June 2017. pubs.aeaweb.org/doi/pdfplus/10.1257/aer.20141524

to forecast the result, but to minimise its risk by attracting bets on a low-probability outcome. And bookmakers sometimes disagree, which they do more since the rise of "in-play" betting (on, say, single tennis points or a range of match statistics). This option also enables a fund manager to adjust his initial exposure over time. "You can get it wrong without blowing up the house," says Mr Poots.

Priomha's longest-running fund posted

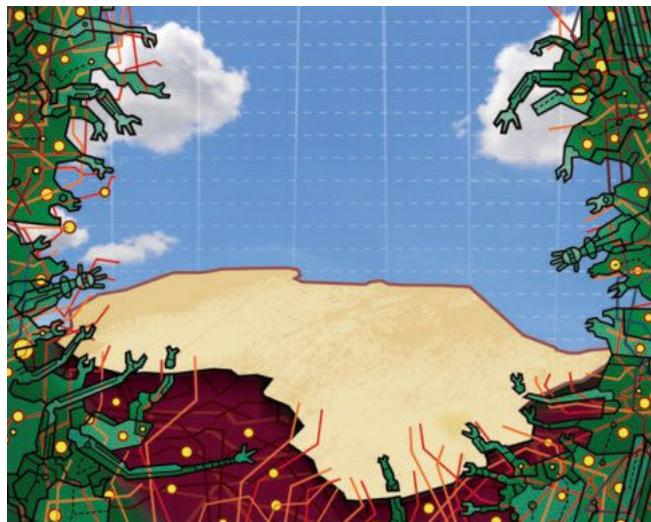
a 10.1% return—before fees—in its latest financial year, a period during which an index of global hedge funds compiled by Hedge Fund Research fell by 5.7%. As it hones its algorithms, Priomha hopes for returns of 17% in the medium term—ie, close to the targets aimed for by private-equity investors. Even an insider, however, concedes it is "probably too early" to persuade institutional investors, a risk-averse bunch, to go to the races, let alone the dogs. ■



Chasing the money

Free exchange | Always something new

Africans are leaving their fields, but not flowing into factories



IT IS easy to buy a rolex in Uganda—albeit not one that will tell the time. Sold at ubiquitous roadside stalls, the Ugandan rolex is a greasy snack, made from an omelette wrapped in a *chapati* ("roll eggs"). Sellers compete side-by-side for the same custom. So do the motorcycle-taxi drivers, hustling for rides; or the countless small shopkeepers, stocking near-identical goods. In Uganda, as in much of Africa, the informal service economy is a crowded place to be. But it is hard to find work anywhere else.

Last year GDP in sub-Saharan Africa grew by just 1.4%. Income per person fell. But growth in itself is not the issue that troubles policymakers and intrigues academics: for most of this century, after all, African economies have been among the fastest-growing in the world. What has flummoxed observers is where that growth comes from. In 1954 Arthur Lewis, a Nobel prize-winning economist, argued that development occurs as labour shifts from an unproductive "traditional" sector—activities such as subsistence farming, or petty trade—into modern, capitalist activities.

Research by Margaret McMillan, of Tufts University, and Dani Rodrik, of Harvard, investigates how far Africa has followed this pattern. They distinguish two traditions of thinking about growth. One focuses on raising labour productivity within sectors of the economy, by adding capital or improving skills and technology. The other stresses structural change, as workers move between sectors. The output of the average African manufacturing worker is five times that of his agricultural counterpart. Move people from farms to jobs in factories or high-value services and growth will follow. As a thought experiment, consider changing the sectoral distribution of African workers to match that in the advanced economies, holding everything else constant. Productivity in Ethiopia would increase sixfold; in Senegal by a factor of eleven.

Things are rarely so simple, however. In the 1990s structural change in sub-Saharan Africa actually went into reverse; it was a drag on growth. In Zambia, for example, workers returned to their fields, as industries and mines shut down. But in the new millennium, momentum picked up again. Between 2000 and 2010 structural change accounted for almost half of productivity growth in a 19-country sample. The effect was especially strong in places with a lot of farmers, such as Ethiopia, Malawi and Tanza-

nia. Overall, the proportion of Africans employed in agriculture fell by 11 percentage points.

This was no industrial revolution, however. For every ten workers to lay down their hoes, only two found their way into industry. The service sector absorbed the rest. Cities like Nairobi offered new jobs for skilled professionals in technology and finance. But most workers were more likely to be hawking phone credit than designing the next app; selling second-hand clothes, not stitching new ones. In the oil-soaked cities of Luanda and Lagos, they manned construction sites or waited on tables for the rich. "There's been structural change," says Yaw Ansu of the African Centre for Economic Transformation, a Ghana-based think-tank, "but not the type that really improves the lives of people."

In East Asia both kinds of growth have occurred at once: workers have moved into more productive sectors, and productivity in those sectors has increased. So another puzzle is that in African countries that have seen large-scale structural change, productivity outside agriculture has often fallen.

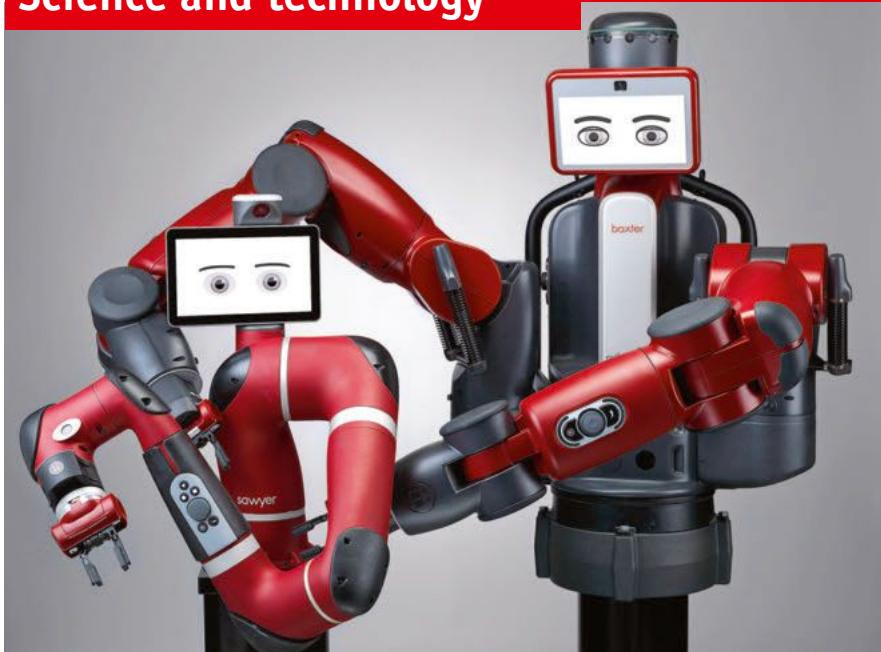
From 19th-century Britain to 21st-century Vietnam, sustained growth has been built on manufacturing. Factories create lots of low-skilled jobs. And, as Mr Rodrik has shown, manufacturing productivity in poor countries tends to catch up with the most advanced economies, even in places with shoddy institutions or bad geography. But African manufacturing has stagnated. Its contribution to GDP has changed little since the late 1970s.

Orthodox remedies, focused on trimming regulation and improving governance, have lost their appeal. So there has been a revival of interest in active industrial policies. Ethiopia, where manufacturing employment has quintupled this century (from a low base), is experimenting with this approach. A new paper by Cornelia Startz and Lindsay Whitfield for the Centre of African Economies, at Roskilde University in Denmark, describes how the government has encouraged Asian apparel exporters to open factories in industrial parks, while protecting local firms in the domestic market. Foreign investment helps, if multinationals connect with local suppliers and share know-how.

Making it harder

Yet the record of interventionist industrial policy elsewhere is mostly a sorry one. And old-style industrialisation is in any event becoming more difficult. Automation is transforming manufacturing, as it becomes a viable substitute for labour in countries at ever-lower levels of income per head. The result is that Africans are competing not just with low-wage workers in Bangladesh and elsewhere, but with even lower-wage robots. The development path followed by Japan, the East Asian tigers and, most spectacularly, China—moving from agriculture to low-margin labour-intensive manufacturing such as clothing and toys—may be fast closing. Trade patterns have changed, too. Instead of producing finished products in one country, African industries must slot into global supply chains.

Structural change is about more than factories. John Page of the Brookings Institution, an American think-tank, argues for the importance of "industries without smokestacks": tradable, productive sectors, like cut flowers, call-centres and tourism. Uganda, with its mountain gorillas and the Nile, is promoting even its edible rolex to tourists. Africa can learn from the successes of other regions, such as East Asia. But it will take a different path. ■



Cobots

Your plastic pal who's fun to be with

If robots are to work with people, they must understand how people work

TUTHILL PLASTICS GROUP, an injection-moulding company in Clearwater, Florida, recently welcomed a new team member to its factory floor. From his first day on the job he performed the repetitive tasks required of him with dexterity, working comfortably alongside longtime employees. Sawyer, the operative concerned, is one of the fleet of robots now labouring in the world's factories. Instead of replacing people, however, as some earlier industrial robots have, Sawyer is built to work alongside them. For Sawyer is a collaborative robot, also known as a "cobot".

Direct interaction between robots and humans at work is changing the face—or rather the arms—of manufacturing. Such interaction also means that roboticists need to design effective team mates as well as efficient workers. Cobots operate in a realm where human thoughts, human modes of communication and human safety are paramount. Rethink Robotics, a firm in Boston, had this in mind when it developed Sawyer, a one-armed cobot, and his two-armed colleague, Baxter (both pictured above). These robots are not the isolated moving arms of an assembly-line 'bot. They incorporate cameras and touch sensors. And their most noticeable feature is a screen that displays almost cartoonlike human facial elements.

Such faces are not meant to endear robots to workers (though they do). They are,

rather, intended to promote communication between person and machine. For example, when a human reaches for a coffee cup, he or she usually glances towards the cup before doing so. This is a cue indicating the action about to be performed. Sawyer emulates this by "glancing" in the direction he is about to reach, in advance of the motion. That permits people to anticipate the cobot's movements.

Smile and wave

Researchers at the Massachusetts Institute of Technology (MIT) are now pushing this non-verbal conveyance of intention between Baxter and his human colleagues a step further. They are giving cobots the ability to read minds—or, more specifically, to read brain signals. Daniela Rus and her team at MIT have equipped an experimental version of Baxter with an electroencephalography (EEG) decoding system. This takes signals from a set of electrodes attached to a human colleague's scalp and recognises within them characteristic patterns known as error-related potentials. These are generated by a brain when it is making a mistake, and also when it is observing a mistake being made by another. For example, when Baxter recognises an error-related potential from a human team mate who has sorted an item into an incorrect bin, he is able to log the error and fix the mistake, sparing the human the trou-

Also in this section

64 Satellites and space dust

64 Anti-drug vaccines

65 Testosterone and impulsiveness

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ble. In the future, Dr Rus hopes, the robot will also be able to recognise such a signal when it, itself, has been seen by a human to make a mistake.

Asking the flesh-and-blood members of a human-cobot team to wear EEG caps at work is probably a stretch (though Dr Rus hopes that, by proving the idea behind them works, she will stimulate the invention of something less intrusive). But there are other ways to bridge the gap between human and 'bot. Both speech and the recognition of facial expressions—in either direction—are options. And several groups are working on these.

Once a channel of communication has been established, regardless of what it is, it needs to be used appropriately. It is important—as anyone who has had to deal with the socially inept will know—that robots understand the right moments to convey messages, and also how much information to convey. Julie Shah, another researcher at MIT, has been analysing the costs and benefits of robot over- and under-communication, and is using that information to design algorithms which can decide when and what communication is appropriate. When attempting to convey a message, a robot must estimate its interlocutor's intentions and what his response is likely to be. If an algorithm calculates that communication will be beneficial, it must then convert the concept to be conveyed into something understandable, whether that be a raised eyebrow or a stream of synthesised speech. Too much information may result in people ignoring messages completely. One feature of Dr Shah's algorithms, therefore, is that they try to take into account what information a human team mate already possesses.

Cobots are not entirely new. BMW, a German car company, brought its first into ➤

▶ use in its plant in Spartanburg, South Carolina in 2013. Cobots numbers are, however, growing rapidly. That original BMW cobot, nicknamed Miss Charlotte by her human colleagues, is still mounting sound insulation into car doors. Now, however, she has more than 40 non-human colleagues—and that number is expected to exceed 60 by the end of the year.

Sales of cobots and their software to the vehicle industry are expected to rise by

more than 40% a year over the next five years, according to Research and Markets, an international research company. That rapid population growth brings problems of its own—particularly issues of safety. In the past, factory robots have been separated from human workers, sometimes by cages, to stop dangerous interactions with people. But using cobots requires those barriers to be torn down. That risks injury, or even death, unless firm measures are

taken to avoid such outcomes.

Most collaborative robots are designed to limit the power and force they can apply. That is a basic precaution. If the robot detects force exceeding a safe level, it stops moving instantly, to ensure there is no risk of injury to anyone. Too much of this stop-start can, however, lower productivity. Dr Shah and her team have found, by tracking in detail human movements such as the relationship between shoulder and elbow, or the swing of the torso, that they can predict where a robot should avoid being next, if it is to avoid human contact.

Dr Rus's team are also looking at safety—in their case by creating robots with softer exteriors. Softer materials not only provide greater dexterity for the 'bot when gripping, but also lessen the risk of injury when incidental contact is made between human and robot. How long, if ever, it will be before such robots truly match the marketing slogan of the Sirius Cybernetics Corporation, a fictional firm in Douglas Adams's creation, "The Hitchhiker's Guide to the Galaxy", remains to be seen. But even if not actually fun to be with, your plastic pal will become increasingly effective. ■

Satellites

Dusty death

Micrometeoroids kill satellites by blasting them with radiation

HOW is a speck of dust like an atom bomb? It sounds like a child's riddle. But the answer may explain the fate of many satellites that have failed prematurely in orbit over the years. For the riddle to work, the speck must be travelling at 70km a second, or thereabouts. If it is, the riddle's solution is that both can generate an electromagnetic pulse capable of knocking out unprotected electronic equipment.

That, at least, is the hypothesis now being investigated by Sigrid Close of Stanford University. Dr Close came up with it in 2010, when she was shooting small particles at various types of space-craft material placed inside a vacuum chamber at the Max Planck Institute in Heidelberg, Germany. These experiments suggested that when a micrometeoroid, to give such dust its technical name, collides with a satellite, it will not just do a small amount of mechanical damage. If travelling fast enough, it will also create a shock wave that vaporises part of the spacecraft's metallic skin.

This will, in turn, create a plasma—a gas so energetic that its atoms have parted company with some of their electrons, thus becoming ions. The plas-

ma will then expand from its point of origin into the vacuum of space. An atom bomb similarly creates an expanding plasma, albeit on a far grander scale. And, in both cases, the difference in velocity within the expanding plasma between slow-moving (because heavy), positively charged ions and fast-moving (because light), negatively charged electrons creates an electrical imbalance that causes the emission of a pulse of electromagnetic energy powerful enough to disable nearby electrical equipment.

The definition of "nearby" is different in the two cases, of course. For a bomb it is many kilometres; for a speck of dust mere centimetres. But even that short range, Dr Close reckons, is enough to do a satellite serious harm.

Working out the details is tricky. But, in a paper published recently in the *Physics of Plasmas*, she and her collaborator, Alex Fletcher of the Massachusetts Institute of Technology, use a type of modelling called particle-in-cell simulation to do so. This technique attempts to follow the zillions of particles in a plasma by treating groups of them as "superparticles". These groups can be handled, statistically, in a way which apes reality closely enough to be useful while remaining simple enough to be processed by a computer. Their conclusion was that the pulse's radiation will have a higher frequency than was previously believed, and thus be more powerful than current satellites are designed to withstand.

Dr Close and her colleagues are now conducting more tests on the ground, to see if their calculations are correct. If those calculations do stand up, that will have implications for satellite design. More shielding of vulnerable parts may be needed, which will add to weight, and therefore to cost. That extra cost may be worthwhile, though. Losing a satellite halfway through its expected working life is pretty expensive, too.



The repair man is here

Combating drug addiction

An injection of hope

Preliminary success in the search for anti-drug vaccines

BETWEEN 2000 and 2015 half a million people in America alone died of drug overdoses—mostly of opioids, a class of addictive, generally synthetic painkillers related to morphine. On August 8th Tom Price, the secretary for health and human services in America, raised the possibility of a vaccine to prevent addiction—something he described it as "an incredibly exciting prospect". Experts have cautioned that such treatments are nowhere near reality. But research is going on. A study published in this week's *Nature*, for instance, describes the search for a vaccine against fenethylline—a drug particularly popular in parts of the Middle East.

Fenethylline is a stimulant, rather than a painkiller. It is a combination of two drugs, rather than being a pure substance. One component is amphetamine, itself a well-known stimulant with a large black market. The other is theophylline, which is prescribed for respiratory problems such as chronic obstructive pulmonary disease. Fenethylline was developed in the 1960s, under the trade name of Captagon, to treat hyperactivity in children, though it is no longer used for that purpose. Despite now being illegal in most places, it remains in ▶

► recreational use. Seizures of it in Arab countries represent a third of all amphetamines seized around the world. In Saudi Arabia, three quarters of those treated for drug problems are addicted to amphetamines, almost all of them in the form of fenethylline.

The dual nature of fenethylline means there is debate about how it works. So Cody Wentur, Bin Zhou and Kim Janda at the Scripps Research Institute in La Jolla, California, decided to try to develop vaccines against its components, and also against their metabolic breakdown products, as well as against the drug as a whole, in a process they call incremental vaccination.

Developing any vaccine means stimulating the immune system to recognise the thing to be vaccinated against. However, the immune system tends to recognise, and thus develop antibodies to, only large molecules like proteins. Most drugs are too small for it to notice. This is why smokers and cocaine users do not develop immunity to their habits. Nicotine and cocaine are invisible to the immune system. And so are amphetamine and theophylline.

Small is not beautiful

One way to develop vaccines against small molecules is to combine versions of them with carrier proteins, to create a complex big enough to provoke an immune response. Experience has shown that haemocyanin, a protein derived from key-hole limpets, is particularly effective for this purpose, so that was the one the team chose. Their hope was that, because antibodies are themselves large molecules, if the immune system could be induced to generate antibodies to fenethylline's components, the combination of drug molecule and antibody would be too large to cross the blood-brain barrier. This is a system of tightly joined cells lining blood vessels in the brain, which is there to keep dangerous things out of that organ. Thus excluded from the brain, the drugs would be unable to affect it.

To carry out their experiments the team turned to mice. They injected the rodents with the various putative vaccines they had made, then scrutinised them carefully, looking in particular for unusual levels of anxiety and strange patterns of movement. They also checked the levels of drug molecules in their animals' bloodstreams and in their brains.

Pursuing this incremental approach enabled the team to track the effects of different molecules on the animals' activity patterns. They showed, for example, that the theophylline in fenethylline amplifies the effect of amphetamine. The prize, though, was the vaccine raised against fenethylline as a whole. When given a dose of the drug, mice that had previously been injected with this vaccine showed a marked reduc-

tion, compared with mice that had not been vaccinated, in the sort of incessant movement fenethylline induces. Also, 30 times as much of the drug was trapped in their bloodstreams, rather than entering their brains.

That is promising. Though Mr Price's ambition of a preventive vaccine remains a long way off, this work offers hope of one that could treat those already addicted. Admittedly, previous efforts to make such vaccines against small-molecule drugs, including methamphetamine, nicotine, cocaine and morphine, all failed in the end. But perhaps things will be different this time. ■



Hormones and behaviour

Impulse power

An experimental demonstration of testosterone's effect on behaviour

TESTOSTERONE is a hormone with a reputation. Though both sexes generate the stuff, that reputation is macho. Numerous experiments on non-human animals show that boosting testosterone levels boosts levels of aggression. And in most species—humans included—males are the more aggressive sex.

Doing experiments specifically designed to increase aggression in people is ethically problematic. Aggression is not, however, the only behavioural trait that seems to differ between the sexes. Generally speaking, males are also more impulsive than females. And that, too, may be linked with testosterone levels—a link that Gideon Nave at the University of Pennsylvania and Amos Nadler at Western University in Ontario have recently been exploring.

Impulsiveness can be measured in many ways. That chosen by Dr Nave and Dr Nadler was mathematical. In the largest

experiment yet conducted on the effect of testosterone on human behaviour, which they have just reported in *Psychological Science*, they tested the hormone's influence on volunteers' capacity to do mental arithmetic. They conclude that, in this sphere at least, testosterone encourages men to jump to the wrong conclusions.

The researchers arranged for 243 male college students to come into their laboratories. These volunteers were asked to remove their shirts and smother some gel onto their chests and shoulders. The gel samples they were given all looked and smelled the same, but in only 125 cases did they contain testosterone; the other 118 were hormone-free controls. As is usual in such experiments, those handing out the samples did not know which was which. That knowledge was restricted to the people who had labelled the samples, who had had no contact with the volunteers at any time.

Four hours after each volunteer had anointed himself, which was the point when any testosterone he might have absorbed would be at peak concentration in his bloodstream, he was asked a series of questions, for which small cash prizes were awarded for the correct answers. Three of the questions were designed in a way that might encourage an impulsive but incorrect reply. (For example, a bat and a ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much does the ball cost?) The others, which involved adding up as many sets of five two-digit numbers as possible within five minutes, simply required mental arithmetical skills to be applied accurately.

The researchers suspected that those whose gel-rub had included testosterone would do worse than the controls on the trickier questions, but that both groups would do equally well on the adding up. And so it proved. Participants who had not received the testosterone rub answered an average of 2.1 of the tricky questions correctly. Those who had been dosed with the hormone managed only 1.7. The probability of this difference happening by chance is less than one in 500. In contrast, the two groups' scores for the straightforward questions (10.8 successful additions in the time available versus 10.9) were statistically identical.

Impulsive answers to mathematical questions are, admittedly, quite a specialised form of impulsiveness. But, having established the principle, Dr Nave and Dr Nadler hope to extend the scope of their research. They will use bigger groups and different tests. And they will also try the same experiments on women, to see if their powers of self-control, too, succumb to testosterone's impulsive influence. ■

*The answer is five cents. But a surprising number of people answer ten.



The Japanese tsunami

Death in the afternoon

A mesmerising account of the 2011 tsunami in Japan highlights a striking pushback against official evasion

AT 2.46pm on March 11th 2011, an earthquake of magnitude 9.0 was recorded approximately 30km (18 miles) below the floor of the Pacific Ocean off Sendai, about 300km north-east of Tokyo. It was the most powerful earthquake ever recorded to have hit Japan, and scientists later determined that movement in the same subduction zone caused the "Jogan quake" of 869, as well as related activity in 1896 and 1933. Like the recent "Great East Japan Earthquake", as it has become known, that ancient earthquake more than a millennium ago generated a monster tsunami in its wake. Not having the precise instruments that recorded 40-metre-high waves in 2011, villagers in centuries past have placed stone markers along the hillsides round-about to show how far the wall of water swept inland.

Japan's tempestuous seismic history has led it to become especially vigilant about what to do in the event of an earthquake. The regular drills that have been developed for Japanese schools have proved remarkably effective. Of the 18,500 people who died as a result of the earthquake and tsunami in 2011, only 351 were children. Yet a large portion of those perished in just one place, the Okawa Primary School. "Ghosts of the Tsunami" is the story of how those directly in charge that day failed to heed the warnings left on the hillsides by those earlier generations, and of how the families of the dead students

Ghosts of the Tsunami: Death and Life in Japan's Disaster Zone. By Richard Lloyd Parry. *Jonathan Cape, 276 pages, £16.99. To be published in America by Farrah, Straus and Giroux in October; \$27*

coped when confronted with parents' greatest nightmare: being unable to protect their children.

By 2011 Richard Lloyd Parry, the Asia editor of the *Times*, had experienced many of the 17,257 tremors felt in Tokyo since he first settled there in 1995. In the weeks after the 2011 earthquake, he travelled many times both to the Fukushima nuclear plant that had melted down in the aftermath of the tsunami, and to the wider damage zone beyond. Over and over he returned to the north-east region of Tohoku to interview local officials, Buddhist priests and, most important, the families whose children went to Okawa Primary School. An acute listener, Mr Lloyd Parry heard numerous incomprehensible and disjointed narratives. One mother was so traumatised to hold her daughter's corpse that she licked the mud out of the dead child's eyes; another earned herself a licence to operate a digger, excavating in circles because her daughter was still missing under the mud.

As his visits to the area continued (and his notebooks filled up with details), Mr Lloyd Parry learned that surviving the tsunami depended heavily on whether effec-

Also in this section

- 67 Robert McCrum's memoir of ageing
- 67 Folk song in England
- 68 Fishing for sharks
- 69 Fiction from Switzerland

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Economist.com/culture

tive evacuation orders were given—and followed. The elderly were hardest hit. Mr Lloyd Parry deftly, even lovingly, tells the stories of those such as Takashi Shimokawa, who died aged 104, and whom he had interviewed in 2008 when the old man set the world javelin record for a centenarian. Next-hardest-hit were those who may not have fully understood the instructions or who thought they could grab some precious object at home before fleeing. A young American schoolteacher helped reunite students with their parents before trying to get to her flat, her father believes, to call home to let her family know she was all right. By contrast, those who strictly heeded town procedures had a solid chance of making it. Warning sirens sounded for about 45 minutes, which should have given them plenty of time to reach a place of safety. So what happened at Okawa Primary School?

To begin with, at least, none of the children or teachers at the heart of this story died or was injured by the earthquake itself. It was the indecisive reaction to the tsunami warning that followed which proved fatal. The headmaster, Teruyuki Kashiba, was not at work that afternoon. His subsequent absence for nearly a week and his failure to help search for bodies and share parents' distress came to epitomise everything that went wrong. His deputy, Toshiya Ishizaka, and several other teachers decided not to evacuate. Ishizaka told parents who rushed to the school to rescue their children that they were safer there, and he also ignored a school bus parked on the grounds that could have saved everyone. Instead, he and the other adults who were responsible for the children's safety pondered the meaning of the emergency manual's instruction to head for "vacant land near school, or park, etc". Nothing appeared to match these words,

so they did nothing. When the wave struck, the children drowned scrambling up a nearby hill.

"Japanese had been dying in tsunamis as long as the Japanese islands had existed," notes Mr Lloyd Parry. What was different about the 2011 disaster was how the survivors and the bereaved challenged the reactions of the Japanese authorities in the months and years that followed. Okawa Primary School is famous now. Along with the 74 children who died, most of their teachers also drowned—deaths that many of the grieving families came to believe were entirely avoidable and, in fact, criminal. Five years later the Sendai District Court concurred and delivered "a decisive legal victory, an unambiguous assignment of responsibility" on behalf of the families of the dead children. Each plaintiff who joined the suit would receive roughly ¥60m (\$575,000) for each lost child.

The portrait of obfuscating officialdom that Mr Lloyd Parry paints has parallels in the account he wrote in 2011 of the murder in Tokyo of Lucie Blackman, the young woman at the centre of his earlier book, "People Who Eat Darkness". In both, Japanese officials made wild denials in the face of accountable wrongdoing, ignored and hid evidence, hoping the annoying inquiries would go away. By refusing to accept their evasions, and by laying out in panoramic detail what happened after the tsunami, Mr Lloyd Parry offers a voice to the grieving who, too often, found it hard to be heard. It is a thoughtful lesson to all societies whose first reaction in the face of adversity is to shut down inquiry and cover up the facts. You will not read a finer work of narrative non-fiction this year. ■

Memoir of ageing

Years and years

Every Third Thought: On Life, Death and the Endgame. By Robert McCrum. Picador; 256 pages; £14.99

IN 1995, aged only 42, Robert McCrum had a severe stroke—an experience that he memorably chronicled in "My Year Off" with the help of Sarah Lyall, whom he had married just two months before his sudden misfortune. Despite an impressive recovery, Mr McCrum, a British publisher and the former literary editor of the *Observer*, has lived ever since "in the shadow of death".

The shadow deepened when, in 2014, after he and Ms Lyall separated, a fall in a London street brought a psychological shift: a sense of having entered life's endgame. His new book—which takes its title

from Prospero's words in "The Tempest", "Every third thought shall be my grave"—is an unflinching exploration of his own mortality and that of other people. It draws on personal experience, the testimony of friends, the works of great writers, and interviews with experts in medicine and psychotherapy, melded together in an engaging conversational style.

"Thought" is the title's keyword. Mr McCrum is fascinated by both the physiology of the brain and how humans—particularly members of his own generation—think about dying. Baby-boomers, he argues, live in a "fantasy of immortality" fostered by advances in medicine, the cult of the independent self and capitalism's emphasis on perpetual growth. As a hospice clinician puts it: "Western society sees death as a failure."

What people dread even more than death, however, is mental deterioration and the loss of identity that it brings. Old age is supposed to offer the consolation prize of wisdom—but if you lose your memory, wisdom vanishes with it.

For Mr McCrum literature is a precious companion on the journey towards oblivion. While doctors may help people postpone the evil hour, the real battle is a psychological one. In a secular age, he believes, people need a narrative to fill the void left by religion, and great writers can help people locate themselves in "a vivid but inconstant reality that is immeasurably more profound than the temporal concerns of the heroic self".

Not everyone is ready to dismiss religion, and Mr McCrum concedes that even "a confused non-believer" like himself can learn from C.S. Lewis's interrogation of God in "A Grief Observed". On the subject of assisted dying another Christian writer, Salley Vickers, makes a particularly interesting interviewee.

Mr McCrum's bravery in staring into the abyss cannot be underestimated; reading his book inevitably brings moments of terror. But "Every Third Thought" has something positive to offer, too. The approach of death can reveal extraordinary reserves of courage and heighten people's appreciation of the world around them. A sufferer from colitis and breast cancer acknowledges "a tidal wave of love and affection" from those around her; Clive James, also a writer, who was pronounced terminally ill several years ago, has enjoyed a surge of creativity.

The book contains some good jokes: a neuropsychologist, asked whether the complexity of the brain makes her believe in God, replies, "No. But it does make you think." It is a shame that Mr McCrum's admirable study does not include an analysis of gallows humour, for this is surely the greatest mystery of all: that the human mind can not only contemplate its own non-being, but find it hilarious too. ■

Folk singing

English national anthems

Folk Song in England. By Steve Roud. Faber & Faber; 764 pages; £25. To be published in America in September; \$29.95

ENGLAND, the Germans used to jeer, was "the land without music". They were wrong, as Steve Roud robustly demonstrates in "Folk Song in England". Surveying English musical life from the time of Henry VIII—a keen musician and composer—to the mid-20th century, when folk song lost its roots, he shows what an intensely musical land England has been.

Mr Roud makes no inflated claims for folk song. It is not "better" than classical music because it is "of the people", he argues, nor is it an antidote for modern ills caused by urbanisation and commercialisation. Nor did it emerge pure and undefiled. Most songs were written not by ploughboys or milkmaids but by professionals, and many were first heard from the stage, or in the pub or music-hall. But from there they made their way to the ploughboys and milkmaids, and through them into the nation's bloodstream.

This book contains two parallel histories. Before telling the story of the music, Mr Roud tells the story of its collectors. Samuel Pepys, a 17th-century diarist, noted down ballads, but the first true collector was Bishop Thomas Percy, whose "Reliques of Ancient English Poetry" was published in 1765. Indeed, many of the early collectors were clergymen, including John ►



► Broadwood (of the famous piano-making family) and Sabine Baring-Gould, author of the hymn "Onward Christian Soldiers".

What became known as the English Folk-Song Revival was ushered in by accident when, in 1899, a conductor named Cecil Sharp chanced upon some Morris dancers accompanied by a concertina-player and was entranced. He was entranced again when he overheard a gardener singing quietly to himself as he mowed a vicarage lawn in Somerset. Thenceforth Sharp devoted all his energies to collecting lullabies, carols, love songs and work songs—in streets and kitchens, out in the fields and in the poorhouse. He collected sea-shanties from a gnarled old sailor sitting on a quay by the Bristol Channel, and extracted a treasury of early English songs from villagers in the Appalachian mountains whose ancestors had emigrated across the Atlantic two centuries before. His proudest achievement was to have persuaded the government to get folk song into the school curriculum.

Meanwhile Percy Grainger, an Australian pianist and one of the first collectors to use the phonograph (as opposed to pencil and paper), was equaling him in productivity. Ralph Vaughan Williams, an English composer, collected songs in Norfolk and Essex, while dozens more collectors were scouring the length and breadth of the land. Their discoveries were published in the *Journal of the Folk-Song Society*, and the craze ran out of steam only with the outbreak of war in 1914. The next folk revival, blossoming in the 1960s, was sparked by the arrival of blues from America, by the awakening of folk culture in England's industrial north and by a Marxist revision of the first revival's rural romanticism.

The rest of Mr Roud's book is a fascinating *tour d'horizon* of folk song in all its multifarious contexts. Some of these were criminal, as with the 16th-century street-singers who acted as decoys while their confederates picked the pockets of the crowd. Some involved song as a political or personal weapon—in 18th-century London you could commission a ballad to rubbish your enemies. Mr Roud gives hilarious chapter and verse for the drunken antics of Victorian church choirs, and for the organ-grinders whose noise maddened writers like Charles Dickens.

But mostly he dwells on the blessing which folk song represented. He writes at length about the songs mothers sang as they bathed their children on Friday nights, and he celebrates the sustaining power of song for all those who were making gloves, plaiting straw, picking hops, breaking stones or fighting in the muddy, bloody trenches of Flanders. ■

Award: Lane Greene, who writes the Johnson column, has been given the Journalism Award of the Linguistic Society of America

Shark-fishing

Deep and dark

Shark Drunk: The Art of Catching a Large Shark from a Tiny Rubber Dinghy in a Big Ocean. By Morten Stroksnes. Translated by Tiina Nunnally. Knopf; 320 pages; \$26.95. Jonathan Cape; £12.99

GREENLAND sharks cannot help but capture the imagination. These primeval inhabitants of the deep, icy waters of the North Atlantic and Arctic oceans can live to 400, possibly even 500 years old, are cigar shaped, and often have worm-like parasites on their luminous eyes that are said to hypnotise their prey. Their bodies are covered with razor-like "skin teeth" and their meat contains a toxin; people who eat it start to hallucinate, become incoherent and stagger around, becoming "shark drunk".

In his book of the same name Morten Stroksnes, a Norwegian writer, recalls how he and his friend Hugo Aasjord attempted to catch one of these, the largest species of flesh-eating shark, from a small rubber dinghy in the Lofoten archipelago. The book was a huge success in his home country when it was published in 2015.

The men use the island of Skrova, one of Norway's "small, weather-beaten communities that cling like barnacles to the rocky coast" as their base for the hunt, which takes place intermittently over four seasons. Mr Stroksnes beautifully describes the midnight sun, majestic fjords and moody stretches of sea, the changing light and the peaks that rise up out of the water, as well as the Moskstraumen, a system of whirlpools long feared by sailors. Days pass while they wait for their shark, some when the sun burns the "magnesium-white clouds", and the world seems

"cleansed and filled with mirrors", and others when the sea is "black as ink and possessed of restless agitation".

Following the fishing line with its bait of intestines, kidneys, fly larvae and maggots down into the deep where daylight cannot reach, Mr Stroksnes brings a little-known world to life. He notes that humans are more familiar with the surface of the Moon than with the ocean's depths, which can be reached only with rare, specialist submersibles. The pitch-black water sparkles and glows with extraordinary creatures like the Dana octopus squid, which has lights on each arm, often flashing simultaneously when it attacks. He imagines that its prey feels as if it is being assaulted by "huge Christmas ornaments".

The most interesting aspect of the book is Mr Stroksnes's questioning of the whole shark-catching enterprise. He cannot tell if his increasing obsession is an "idiotic, murderous" mission intended to satisfy curiosity or confront fear. In broader terms, he wonders if men need to pit themselves against the "myth of the monster slumbering in the deep" in order to make themselves feel like predators instead of prey. Perhaps only then do they feel truly in control. He is alive to the strangeness of this urge: sharks kill just 10-20 people worldwide each year while humans kill around 73m sharks—and yet "we consider the shark to be the dangerous predator."

Putting "shark-drunk" man into perspective as the real threat to the ocean is one of the many threads Mr Stroksnes has pulled together in a narrative that takes in history and philosophy, mythology and folklore, from Norway's fishing past to science and the cosmos. Rather than an account of two men trying to catch a shark, it is really a homage to the sea and a call to arms to protect the ecosystem that humans treat so abysmally yet rely on so much. He wants people to understand that they did not just come from the sea. They are still part of it—just drops in the ocean. ■



Really quite vulnerable

Fiction

Mountain man

A quiet dark power illuminates the prose of Peter Stamm, a Swiss master novelist

ONE warm day in July, Peter Stamm was hiking with your correspondent high in the Swiss Alps. Just below a peak called the Silberen, he came to a stretch of dirty snow clinging to the mountain despite the summer heat. Mr Stamm went first, stepping gingerly. Halfway across his left foot began to sink, then his right. Suddenly his whole body plunged through the surface until just his head and shoulders were visible. It was only when he had clambered out that he realised how lucky he had been: his feet had caught on the rocky shaft of a deep sinkhole hidden beneath. "That was so stupid," he said, shaking the snow from his trousers.

He should have known better. This 2,300-metre mountain is the high point of his new novel, "To the Back of Beyond" (published by Granta in Britain in August, and by Other Press in America in October). It is here that his protagonist, Thomas, ends up one afternoon as bad weather blows in, navigating the bare limestone karst which is cracked all over with deep crevasses, grikes and runnels—a "labyrinth of rock", Mr Stamm writes, where "even if he should find a path, he would still be lost."

"To the Back of Beyond" is the Swiss novelist's sixth and strangest novel. Mr Stamm, shortlisted for the Man Booker International prize in 2013, specialises in focusing on ordinary people undergoing moments of crisis. Kathrine in "Unformed Landscape" (2001) is a woman in northern Norway who discovers her husband is a compulsive liar and escapes to France. Andreas in "On a Day Like This" (2006) faces a diagnosis of lung cancer which causes him to flee to the village where he grew up. Like them, Thomas is a wanderer, leaving his wife and children one evening and walking off into the Swiss countryside. Unlike them, he seems to have no reason for his departure. Mr Stamm, always a master of omission, has never omitted more. As the reader tries to fill in the motivational gaps, what could have been a conventional novel of a failed marriage becomes instead an unusual existential mystery.

"The first image I had of him was 15 years ago," Mr Stamm said earlier that morning at a café in the valley, the hollow ring of cowbells resounding from the hillsides. "I just saw this guy walking at night through the country, not wanting to be seen by anybody." He tried to develop it, but made no progress. Everything seemed too obvious. He did not want him to be a



An expert in omission

refugee or a thief, and the idea of a man running from a dysfunctional relationship bored him. "That happens all the time."

Then he read Nathaniel Hawthorne's "Wakefield" about a man who, without premeditation, leaves his wife. Inspired, Mr Stamm began to walk the landscape south of his home near Zurich, plotting Thomas's journey amid real lakes, valleys and mountains. The novel toggles back and forth between Thomas's point of view and that of his wife, Astrid, as he walks and she deals with his disappearance. It avoids the emotional ruptures of his earlier books in favour of an unsettling study of the fragility of the bonds that hold two lives together. Their relationship began with "a sequence of small decisions, aimless in themselves, part negligence, part giving in". Easy come, easy go.

As Mr Stamm hiked up the steep path, stopping occasionally to admire the gentians and alpine roses that bloomed along the track, he remembered his beginnings as a writer, which followed brief periods as an accountant and an intern at a psychiatric clinic. Among his earliest influences was Ernest Hemingway, whose stories were given to him by a teacher when he was 17. Not the bullfighting, big-game-shooting Hemingway, he adds, but the Hemingway of short stories like "Big Two-Hearted River" and "Cat in the Rain", luminous pieces about ordinary life.

In 1998 Mr Stamm published his first novel, "Agnes", about a man who writes the story of his relationship with a younger woman as it unfolds. It has since sold over half a million copies, thanks to being a staple of the German school curriculum. "I hate the way young authors look for the most extreme story," Mr Stamm said. After all, most people's lives aren't that dramatic. "My goal would be to write about the commonest people in the commonest place to whom almost nothing happens."

Critics are often taken aback by the power the Swiss writer manages to elicit from these characters. This is partly due to his pitiless prose, tautly translated from the German by Michael Hofmann, its simplicity and calmness adding to the menace of his images. In "On a Day Like This" he describes Andreas having sex and looking down at the woman beneath him. "She seemed very naked and vulnerable. Andreas was put in mind of police photographs of crime scenes, pale, lifeless bodies by the side of the road, in forests or rushes."

But the force of his fiction also comes from its lifelike ambivalence and misdirection. This applies above all to relationships. In "Unformed Landscape", after leaving her loveless marriage Kathrine goes to Denmark, Paris and Boulogne in search of a man she once knew, hoping in vain for a spark of romance. They meet at an ugly hotel with mismatched furniture and visit the fish factory where he works. When she makes a desultory attempt at seduction, he doesn't compliment her beauty but the beauty of Catherine Deneuve, who happens to be on tv. Needless to say, the spark fizzles and she goes home.

"To the Back of Beyond" takes Mr Stamm's interest in ordinariness to a new level. Thomas's and Astrid's relationship seems neither excessively happy nor unhappy. There are no big crises, just the mild claustrophobia of routine. Mr Stamm depicts the relationship through Thomas's and Astrid's imaginings and memories of each other, and as the novel builds, this mix of reverie and reality leaves the reader unsure how much is fact and how much is projection. Rather than being propelled by personal dramas, like his earlier books, this one is about the evasions and fantasies of a marriage showing its age, which act as a kind of preservative. At one point Astrid thinks how much worse it would be to find him than not: "She dreaded the moment when he would be facing her and trying to explain his actions. It was as though their relationship had been frozen at the moment three days ago...As long as Thomas stayed away, nothing would change."

Back in the valley, Mr Stamm said that his translator's girlfriend had described the book as his first love story. "I liked that," he said. "They really are in love." It's just that in his all-too-human fiction, that can also mean falling apart. ■

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OFFICE OF THE OFFICIAL LIQUIDATOR BOMBAY HIGH COURT

IN OLR NO. 97 & 122 OF 2017

IN ACCORDANCE WITH THE DIRECTIONS OF THE HON'BLE SUPREME COURT

IN CONTEMPT PETITION (CIVIL) NOS. 412 AND 413 OF 2012

IN CIVIL APPEAL NOS. 9813 AND 9833 OF 2011 AND CONTEMPT PETITION (CIVIL) NO. 260 OF 2013

IN CIVIL APPEAL NO. 8643 OF 2012 BEFORE THE HON'BLE SUPREME COURT

PUBLIC NOTICE FOR AUCTION OF SALE/LEASE OF PROPERTIES OF

AAMBY VALLEY CITY, LONAVALA, DISTRICT PUNE, MAHARASHTRA, INDIA

Pursuant to the Hon'ble Supreme Court's order dated April 27, 2017 passed in Contempt Petition (C) No. 412 & 413/2012 in C.A. No. 9813 & 9833 of 2011 read with Contempt Petition (C) No. 260/2013 in C.A. No. 8643/2012 in the matter of Securities and Exchange Board of India Vs. Sahara India Real Estate Corporation Ltd. & Ors, the Official Liquidator, Bombay High Court (the "Official Liquidator") has been appointed by the Hon'ble Supreme Court of India to sell the properties of Aamby Valley City through an Auction on an "**AS IS WHERE IS, WHATEVER THERE IS**" basis.

The Official Liquidator hereby invites the Prospective Bidder(s) to submit their KYC Form and on qualification, invites bids from Intending Bidder(s) along with an amount of Fifteen Percent (15%) of the Reserve Price as Earnest Money to be paid through RTGS or NEFT for the sale of the Aamby Valley City through Auction I or Auction II. The Prospective Bidder(s) shall obtain digital signatures from the licensed certifying authorities namely Safe Script, IDRBT, NIC, Tata Consultancy Services, (n) code solutions, emudhra, CDAC, Capricorn and NSDL.

Please refer to the Information Memorandum in respect to the Properties under Auction I and Auction II along with the Reserve Price and Earnest Money with respect to the same which is available at www.mstcecommerce.com/auctionhome/officialliquidatorbombay/aambyvalley/index.jsp and www.officialliquidatormumbai.com The links provided in the Information Memorandum can be accessed on payment of Rupees Ten Thousand plus taxes (Rs. 10,000/- plus taxes) through the payment gateway on the aforesaid webpage while downloading the KYC Form.

The details of the Properties under Auction for a Reserve Price of Rupees Thirty Seven Thousand Three Hundred and Ninety Two Crores (Rs. 37,392,00,00,000/-) can be accessed on the link above. As an overview, the Properties comprise of

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Given the quantum of the Properties to be sold, the Properties are being sold under Two (2) distinct phases of the Auction - Auction I and Auction II over a period of Two (2) days as an alternate to the other.

For further details with respect to the Terms and Conditions of the Auction, Information Memorandum and to register as a Prospective Bidder, please visit the webpage www.mstcecommerce.com/auctionhome/officialliquidatorbombay/aambyvalley/index.jsp The terms and conditions set out therein shall be binding on parties participating in the Auction.

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Dated this 14th day August, 2017.



Economic data

% change on year ago

	Gross domestic product			Industrial production		Consumer prices		Unemployment rate, %		Current-account balance		Budget balance	Interest rates, %	Currency units, per \$	
	latest	qtr*	2017†	latest	latest	2017†	latest	2017†	latest	months, \$bn	% of GDP 2017†	% of GDP 2017†	10-year gov't bonds, latest	Aug 16th	year ago
United States	+2.1 Q2	+2.6	+2.2	+2.0 Jun	+1.7 Jul	+1.9	4.3 Jul	-449.3 Q1	-2.5	-3.4	2.26	-	-	-	-
China	+6.9 Q2	+7.0	+6.7	+6.4 Jul	+1.4 Jul	+1.9	4.0 Q2‡	+157.3 Q2	+1.6	-3.9	3.59§§	6.70	6.63		
Japan	+2.0 Q2	+4.0	+1.4	+5.5 Jun	+0.3 Jun	+0.6	2.8 Jun	+187.8 Jun	+3.6	-4.5	0.05	111	100		
Britain	+1.7 Q2	+1.2	+1.5	+0.3 Jun	+2.6 Jul	+2.7	4.4 May††	-99.8 Q1	-3.4	-3.6	1.10	0.78	0.77		
Canada	+2.3 Q1	+3.7	+2.4	+12.6 May	+1.0 Jun	+1.8	6.3 Jul	-48.4 Q1	-2.6	-2.4	1.87	1.27	1.29		
Euro area	+2.2 Q2	+2.5	+2.0	+2.6 Jun	+1.3 Jul	+1.5	9.1 Jun	+388.6 May	+3.2	-1.4	0.43	0.85	0.89		
Austria	+2.3 Q1	+5.7	+1.9	+3.6 May	+1.9 Jun	+1.9	5.2 Jun	+6.4 Q1	+2.2	-1.2	0.59	0.85	0.89		
Belgium	+1.5 Q2	+1.6	+1.6	+2.0 May	+1.8 Jul	+2.1	7.6 Mar	-4.2 Mar	+0.1	-2.1	0.78	0.85	0.89		
France	+1.8 Q2	+2.2	+1.5	+2.6 Jun	+0.7 Jul	+1.2	9.6 Jun	-25.3 Jun	-1.3	-3.1	0.73	0.85	0.89		
Germany	+2.1 Q2	+2.5	+1.9	+2.5 Jun	+1.7 Jul	+1.6	3.8 Jun‡	+270.6 Jun	+8.0	+0.7	0.43	0.85	0.89		
Greece	+0.8 Q1	+1.8	+1.0	+1.6 Jun	+1.0 Jul	+1.3	21.7 May	-0.9 May	-1.2	-1.4	5.53	0.85	0.89		
Italy	+1.5 Q2	+1.6	+1.2	+5.3 Jun	+1.1 Jul	+1.3	11.1 Jun	+48.6 May	+2.1	-2.3	2.04	0.85	0.89		
Netherlands	+3.3 Q2	+6.2	+2.2	+3.3 Jun	+1.3 Jul	+1.1	6.0 Jun	+68.4 Q1	+10.0	+0.6	0.56	0.85	0.89		
Spain	+3.1 Q2	+3.6	+3.0	+3.4 Jun	+1.5 Jul	+1.9	17.1 Jun	+21.5 May	+1.7	-3.3	1.58	0.85	0.89		
Czech Republic	+4.0 Q1	+9.5	+3.2	+2.2 Jun	+2.5 Jul	+2.3	2.9 Jun‡	+14.4 Q1	+0.9	-0.2	0.88	22.3	24.0		
Denmark	+3.6 Q1	+2.0	+1.8	+2.3 Jun	+1.5 Jul	+1.0	4.3 Jun	+26.4 Jun	+8.0	-0.6	0.57	6.35	6.61		
Norway	+2.6 Q1	+0.9	+1.9	+2.8 Jun	+1.5 Jul	+2.1	4.3 May‡‡	+22.4 Q1	+7.0	+4.2	1.64	7.96	8.22		
Poland	+4.4 Q1	+4.5	+3.6	+4.5 Jun	+1.7 Jul	+1.8	7.1 Jul§	-2.5 Jun	-0.5	-2.2	3.40	3.64	3.80		
Russia	+2.5 Q2	na	+1.5	+1.0 Jul	+3.9 Jul	+4.1	5.1 Jun§	+33.6 Q2	+2.5	-2.2	8.13	59.3	64.1		
Sweden	+3.9 Q2	+7.1	+2.7	+8.5 Jun	+2.2 Jul	+1.7	7.4 Jun§	+22.0 Q1	+4.8	+0.3	0.69	8.11	8.42		
Switzerland	+1.1 Q1	+1.1	+1.3	-1.3 Q1	+0.3 Jul	+0.5	3.2 Jul	+73.6 Q1	+9.6	+0.2	-0.08	0.98	0.96		
Turkey	+5.0 Q1	na	+3.7	-3.6 Jun	+9.8 Jul	+10.3	10.2 May§	-34.3 Jun	-4.3	-2.3	10.83	3.52	2.93		
Australia	+1.7 Q1	+1.1	+2.3	-0.8 Q1	+1.9 Q2	+2.2	5.6 Jul	-25.0 Q1	-1.5	-1.8	2.61	1.27	1.30		
Hong Kong	+3.8 Q2	+4.1	+3.0	+0.2 Q1	+2.0 Jun	+1.6	3.1 Jun‡‡	+14.9 Q1	+5.8	+1.7	1.60	7.82	7.76		
India	+6.1 Q1	+7.2	+7.1	-0.1 Jun	+2.4 Jul	+3.9	5.0 2015	-15.2 Q1	-1.1	-3.2	6.53	64.2	66.8		
Indonesia	+5.0 Q2	na	+5.2	-1.4 Jun	+3.9 Jul	+4.3	5.3 Q3§	-14.2 Q2	-1.7	-2.4	6.82	13,379	13,096		
Malaysia	+5.6 Q1	na	+5.2	+4.0 Jun	+3.6 Jun	+3.9	3.4 Jun§	+6.6 Q1	+2.2	-3.0	4.00	4.30	3.99		
Pakistan	+5.7 2017**	na	+5.7	+6.3 May	+2.9 Jul	+4.2	5.9 2015	-12.1 Q2	-3.8	-4.5	8.10†††	105	105		
Philippines	+6.5 Q2	+4.5	+6.5	+8.1 Jun	+2.8 Jul	+3.0	5.7 Q2§	-0.4 Mar	+0.3	-2.8	5.06	51.4	46.3		
Singapore	+2.9 Q2	+2.2	+2.9	+13.1 Jun	+0.5 Jun	+0.9	2.2 Q2	+59.0 Q2	+18.4	-1.0	2.16	1.37	1.34		
South Korea	+2.7 Q2	+2.4	+2.8	-0.3 Jun	+2.2 Jul	+1.9	3.5 Jul§	+83.3 Jun	+5.9	+0.9	2.33	1,142	1,092		
Taiwan	+2.1 Q2	+0.6	+2.4	+3.1 Jun	+0.8 Jul	+0.5	3.8 Jun	+69.1 Q1	+12.8	-0.9	1.05	30.4	31.2		
Thailand	+3.3 Q1	+5.2	+3.3	-0.2 Jun	+0.2 Jul	+0.8	1.1 Jun§	+44.9 Q2	+11.9	-2.5	2.29	33.3	34.6		
Argentina	+0.3 Q1	+4.3	+2.5	-2.5 Oct	+21.5 Jul‡	+24.2	9.2 Q1§	-16.8 Q1	-2.9	-6.1	na	17.1	14.7		
Brazil	-0.4 Q1	+4.3	+0.5	+0.5 Jun	+2.7 Jul	+3.8	13.0 Jun§	-14.3 Jun	-1.0	-7.9	9.27	3.17	3.19		
Chile	+0.1 Q1	+0.7	+1.4	-2.2 Jun	+1.7 Jul	+2.4	7.0 Jun‡‡	-5.0 Q1	-1.3	-3.1	4.33	646	650		
Colombia	+1.3 Q2	+3.0	+2.0	-1.9 Jun	+3.4 Jul	+4.0	8.7 Jun§	-11.9 Q1	-3.6	-3.2	6.73	2,962	2,919		
Mexico	+1.8 Q2	+2.4	+2.0	-0.3 Jun	+6.4 Jul	+5.7	3.3 Jun	-22.0 Q1	-2.0	-1.9	6.84	17.7	18.0		
Venezuela	-8.8 Q4~	-6.2	-9.0	+0.8 Sep	na	+667	7.3 Apr§	-17.8 Q3~	-1.1	-19.5	11.02	10.2	9.99		
Egypt	+4.3 Q1	na	+3.7	+32.8 Jun	+33.0 Jul	+22.8	12.0 Q2§	-18.0 Q1	-5.9	-10.8	na	17.8	8.89		
Israel	+4.0 Q2	+2.7	+4.1	-1.5 May	-0.7 Jul	+0.5	4.5 Jun	+11.7 Q1	+4.1	-2.6	1.80	3.63	3.79		
Saudi Arabia	+1.7 2016	na	-0.5	na	-0.3 Jul	+1.1	5.6 2016	-1.0 Q1	+0.5	-8.2	3.68	3.75	3.75		
South Africa	+1.0 Q1	-0.7	+0.6	-2.7 Jun	+5.1 Jun	+5.4	27.7 Q2§	-7.9 Q1	-3.3	-3.2	8.55	13.2	13.3		

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist poll or Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. ~2014. **Year ending June. ††Latest 3 months. ††3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

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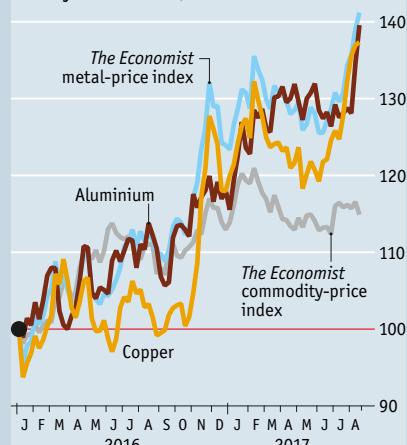
Markets

	% change on			
	Index Aug 16th	one week	Dec 30th 2016 in local currency terms	in \$
United States (DJIA)	22,024.9	-0.1	+11.4	+11.4
China (SSEA)	3,399.9	-0.9	+4.6	+8.6
Japan (Nikkei 225)	19,729.3	nil	+3.2	+8.7
Britain (FTSE 100)	7,433.0	-0.9	+4.1	+8.4
Canada (S&P TSX)	15,082.2	-0.9	-1.3	+4.2
Euro area (FTSE Euro 100)	1,194.4	+0.4	+7.4	+19.2
Euro area (EURO STOXX 50)	3,484.6	+0.5	+5.9	+17.5
Austria (ATX)	3,241.1	+0.1	+23.8	+37.4
Belgium (Bel 20)	3,954.1	+0.7	+9.6	+21.7
France (CAC 40)	5,176.6	+0.6	+6.5	+18.1
Germany (DAX)*	12,263.9	+0.9	+6.8	+18.5
Greece (Athex Comp)	842.4	+1.1	+30.9	+45.2
Italy (FTSE/MIB)	21,984.9	+0.6	+14.3	+26.8
Netherlands (AEX)	525.9	-0.4	+8.8	+20.8
Spain (Madrid SE)	1,061.9	-0.5	+12.5	+24.9
Czech Republic (PX)	1,033.8	+0.4	+12.2	+29.1
Denmark (OMXCB)	911.0	-0.2	+14.1	+26.6
Hungary (BUX)	36,892.1	+0.9	+15.3	+29.8
Norway (OSEAX)	810.5	-0.7	+6.0	+14.6
Poland (WIG)	62,481.2	-0.7	+20.7	+38.4
Russia (RTS, \$ terms)	1,029.8	-0.5	-10.6	-10.6
Sweden (OMX30)	1,552.2	-1.2	+2.3	+14.5
Switzerland (SMI)	9,037.9	+0.1	+10.0	+14.6
Turkey (BIST)	106,861.9	-1.7	+36.8	+36.5
Australia (All Ord.)	5,830.8	+0.2	+2.0	+12.0
Hong Kong (Hang Seng)	27,409.1	-1.3	+24.6	+23.5
India (BSE)	31,770.9	-0.1	+19.3	+26.2
Indonesia (JSX)	5,891.9	+1.2	+11.2	+12.0
Malaysia (KLCSE)	1,773.8	-0.2	+8.0	+12.8
Pakistan (KSE)	44,187.0	-3.9	-7.6	-8.4
Singapore (STI)	3,279.0	-1.2	+13.8	+20.3
South Korea (KOSPI)	2,348.3	-0.8	+15.9	+22.6
Taiwan (TWI)	10,290.4	-1.7	+11.2	+18.1
Thailand (SET)	1,567.5	-0.3	+1.6	+9.3
Argentina (MERV)	22,887.9	+9.4	+35.3	+25.0
Brazil (BVSP)	68,594.3	+1.4	+13.9	+17.0
Chile (IGPA)	25,501.5	+0.6	+23.0	+27.6
Colombia (IGBC)	10,855.6	nil	+7.4	+8.9
Mexico (IPC)	51,156.7	-0.2	+12.1	+30.3
Venezuela (IBC)	185,945.9	+1.0	+487	na
Egypt (EGX 30)	13,149.2	-3.2	+6.5	+8.8
Israel (TA-125)	1,265.1	+1.4	-0.9	+5.2
Saudi Arabia (Tadawul)	7,128.4	-0.3	-1.5	-1.5
South Africa (JSE AS)	55,534.6	-0.8	+9.6	+13.4

Metal prices

The Economist's metal-price index has risen by 40% since the start of 2016, although it still remains 33% below its peak a decade ago. A surge in prices over the past few months has been driven in part by China's crackdown on air pollution, as well as by reform of its industrial sector. Aluminium, which makes up over two-fifths of our index, has been particularly affected. China produces about half of the world's supply; last week Shandong province ordered the closure of 3.2m tonnes of aluminium-smelting capacity. Prices spiked to over \$2,000 a tonne for the first time since 2014. The price of copper has also surged, partly as a result of supply disruptions at mines in Indonesia and Chile.

January 5th 2016=100, \$ terms



Source: The Economist

Other markets

	% change on			
	Index Aug 16th	one week	Dec 30th 2016 in local currency terms	in \$
United States (S&P 500)	2,468.1	-0.2	+10.2	+10.2
United States (NAScomp)	6,345.1	-0.1	+17.9	+17.9
China (SSEB, \$ terms)	334.8	-0.4	-2.1	-2.1
Japan (Topix)	1,616.0	-0.1	+6.4	+12.0
Europe (FTSEurofirst 300)	1,489.0	-0.3	+4.2	+15.7
World, dev'd (MSCI)	1,954.0	-0.4	+11.6	+11.6
Emerging markets (MSCI)	1,060.3	-0.8	+23.0	+23.0
World, all (MSCI)	475.8	-0.4	+12.8	+12.8
World bonds (Citigroup)	940.9	-0.3	+6.4	+6.4
EMBI+ (JP Morgan)	829.3	+0.3	+7.4	+7.4
Hedge funds (HFRX)	1,238.7 ^s	-0.2	+2.9	+2.9
Volatility, US (VIX)	11.7	+11.1	+14.0 (levels)	
CDSs, Eur (iTRAXX) ^t	56.4	+2.5	-21.8	-13.3
CDSs, N Am (CDX) ^t	59.7	-0.1	-12.0	-12.0
Carbon trading (EU ETS) €	5.8	+8.0	-11.9	-2.2

Sources: IHS Markit; Thomson Reuters. *Total return index.

^tCredit-default-swap spreads, basis points. ^sAug 15th.

Indicators for more countries and additional series, go to: Economist.com/indicators

The Economist commodity-price index

	% change on			
	Aug 8th	Aug 15th*	one month	one year
Dollar Index				
All Items	145.3	143.2	-0.8	+3.4
Food	153.2	147.6	-5.7	-7.2
Industrials				
All	137.1	138.6	+5.2	+18.4
Nfa [†]	129.9	129.8	-1.3	+3.6
Metals	140.1	142.3	+8.0	+25.4
Sterling Index				
All items	203.9	202.6	+0.4	+4.3
Euro Index				
All items	153.9	151.9	-2.0	-0.6
Gold				
\$ per oz	1,254.4	1,271.2	+2.3	-5.7
West Texas Intermediate				
\$ per barrel	49.2	47.6	+2.5	+2.1

Sources: Bloomberg; CME Group; Cottlook; Darmenn & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional

[†]Non-food agriculturals.

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Putting things straight

Heather Heyer, legal assistant, was killed at the Charlottesville rally on August 12th, aged 32

TO HER friends, it seemed as if Heather Heyer was always sounding off about something. Why was the world so unfair? Why did one particular kid get bullied on the school bus? Why could her gay friends not get married? Why did Alfred Wilson, her lovely division manager at Miller Law, who was college-educated and hipster-elegant, get followed when he went to the store, just because he was black? Why did some friends have such bad luck that they had to crash with her for months because they had nowhere to go? She was happy to let them. But she wondered, and she complained. If you're not outraged, she posted, you're not paying attention.

She shed tears about it, too. A Facebook post or a news item would set her off at the computer, even at work. She cried about cruelty and unfairness and racist insults, and posted a link to a video entitled: "If You're Scared of Islam, Meet a Muslim". She was so upset about a policeman in Fort Worth, Texas, dragging a black woman along the ground, that she called for him to be fired. The election of Donald Trump was the worst; it made her desperate about

her country. She had posted Bernie Sanders's picture on her Facebook page, hoping.

It wasn't that she was sad by nature. She was bubbly, funny, strong-minded and, at 32, happy with herself, even if she put on weight too easily (cigarettes helped with that), and even if her hair had too much natural curl (she'd found products that really worked to sort the hair out, until some of her profile pix drew "Wow!" and "Saaaaamokin!"). Purple was her colour, a nice strong statement: purple clothes whenever possible, and Violet as the obvious name for her sweet little chocolate chihuahua, all big ears and big dark eyes looking wistfully into hers. Rather than sad, she was tender-hearted. She shed tears for happiness too, so that when she had been five years at Miller Law, and Larry Miller himself took her to lunch, gave her a bonus and told her she was very important to them, like family, she could only manage to sob how good it was, and give him a hug.

Hers was a tough job in the bankruptcy division: entering all the data about each case, taking in the documents and especially liaising with the clients, so they didn't feel daunted by the process. She knew nothing about law when she left high school, but Mr Wilson told her she was exactly what they needed, a "people person" to be on the front line with a reas-

suring smile. Her other job, which she kept going, was waitressing at Caturra on The Corner, right by the main grounds of the University of Virginia: a chic place if you had the quinoa-salmon combo, less so if you ordered the Caturra Mess, which was a pile of potatoes, ham and cheese with two eggs over easy and hollandaise. Online comments praised the friendly service; she was outraged that nobody tipped any restaurant staff enough.

At Miller Law ("We help you live your life") she had to deal with clients who just couldn't make ends meet, were being evicted, or were ill: like Steve, who had Parkinson's and felt swamped with bills for his medication; or Felicia, with six children, MS and nothing to pay the bills. She would hold their hand if they got emotional, tell them it was going to be OK. Then she would take them through the paperwork and remind them to send in their documents on time. Everything had to be done exactly right. She went to night classes, on top of everything else, to try to get a better understanding of it all. It made her sleep late some mornings, but Mr Wilson kindly adjusted his schedule to fit in with hers.

If only the world could be put so straight. Like the racism in Charlottesville, which broke out whenever people talked about moving the statue of Robert E. Lee out of Emancipation Park, as they called it now, and putting it somewhere else. (Someone had painted "Black Lives Matter" on the base of it, and you could still read it two years later, though the city had tried hard to scrub it off.) She had been born and raised in Ruckersville, north of town in the hills, which was 85% white and had more rural attitudes. But Charlottesville was 19% black, and still one of her boyfriends had told her he didn't like her being so friendly with Mr Wilson (she dropped that one fast); and still some folk gasped in horror at the mere thought of moving the statue. And then the white racists came storming in from all over to defend it.

How could they think that?

She was not an activist herself; there wasn't much time to be. She wouldn't have dreamed of, say, marching with Antifa behind a banner reading "The Only Good Fascist is a Dead Fascist". She didn't march with Black Lives Matter, either, or wave LGBTQ flags, though she supported them all. Her way was to stand up loudly for them, and to ask anyone who disagreed why they believed that? And how could they think it? But the sheer size of the white nationalist rally planned for August 12th made her feel, for the first time ever, that she really had to get out in the street. She and her friends could try to spread a different message, that Charlottesville was a place of love. Suddenly, she had to do more than just argue. More than just cry. ■

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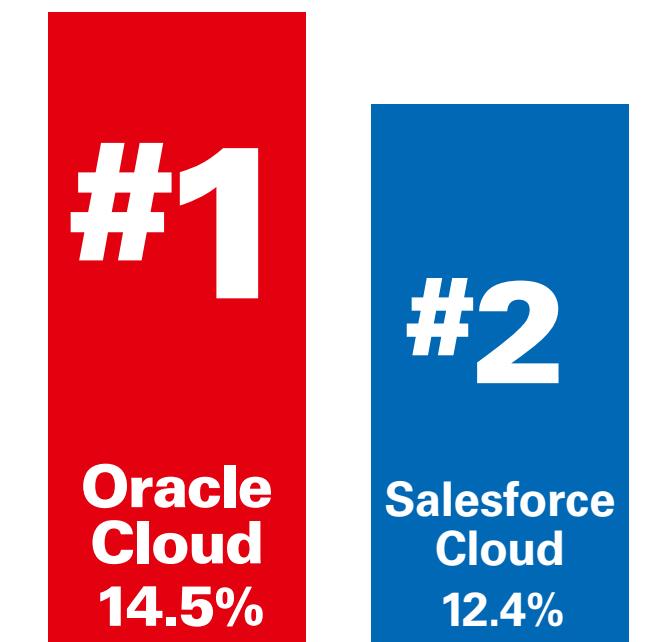
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