GENERATION UPHILL: A SPECIAL REPORT ON THE YOUNG

The Economist

JANUARY 23RD-29TH 2016

Nuclear weapons: Obama's \$1 trillion plan

China bids for silicon supremacy

Can you change an economist's mind?

Unstoppable Pentecostalists

Turkey's forgotten war

Who's afraid of cheap oil?





Contents



On the cover

Low energy prices ought to be a shot in the arm. Think again: leader, page 9. Plunging prices have neither halted oil production nor stimulated a surge in global growth, pages 17-19. Iran's economy has great potential, but will it be realised? Page 39. Russia's problems shift from acute to chronic, page 66. Stockmarket woes worsen, page 65. Venezuela's president and its opposition struggle to fix the economy, page 35

The Economist online

Daily analysis and opinion to supplement the print edition, plus audio and video, and a daily chart Economist.com

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Print edition: available online by 7pm London time each Thursday Economist.com/print

Audio edition: available online to download each Friday Economist.com/audioedition

Economis

Volume 418 Number 8973

Published since September 1843

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

Editorial offices in London and also:

Atlanta, Beijing, Berlin, Brussels, Cairo, Chicago, Lima, Mexico City, Moscow, Mumbai, Nairobi, New Delhi, New York, Paris, San Francisco São Paulo, Seoul, Shanghai, Singapore, Tokyo, Washington DC

6 The world this week

Leaders

- 9 The world economy Who's afraid of cheap oil?
- 10 Turkey's war on the Kurds Futile repression
- 10 Taiwan's election Dear prudence
- 11 Intelligence oversight Snoopers and scrutiny
- 12 The millennial generation Young, gifted and held back

Letters

14 On Saudi Arabia, rating police, David Bowie, investing, Poland

Briefing

17 Oil and the economy The oil conundrum

Asia

- 21 Taiwan's election A Tsai becomes a cheer
- 22 East Asia's talent agencies Penal colonies
- 22 Security in South-East Asia After Jakarta
- 24 Terrorism in Pakistan Shady war, shadow peace
- 25 Fiji's tainted politics Corking the genie
- 26 Banyan Hallucinations across the Taiwan Strait

China

- 27 Family relationships The rise of divorce
- 28 China and the Middle East A rare presidential tour

United States

- 29 Nuclear weapons Cruise control
- 30 The changing electorate No we can't
- 31 Poisoned water That Flinty taste

- 31 Wage insurance Creative compensation
- 32 University teachers Ratings agency
- 33 Rov Moore The prophet of decline
- 34 Lexinaton Karl Rove's history class

The Americas

- 35 Venezuela's crisis Heading for a crash
- 36 Caribbean tourism Bankruptcy in the **Rahamas**
- 36 Bolivian women Feminism v faith
- 38 Bello The success of Plan Colombia

Middle East and Africa

- 39 Iran's economy The peace dividend
- 40 Israel and Islamic State The caliphate eyes the Holy Land
- 40 Egypt's crackdown Remember, remember
- 41 Floating armouries Cruisin' with guns
- 42 Kenvan politics Rifts in the Rift

Special report: The young

Generation uphill After page 42

Europe

- 45 Turkey and the Kurds Widening the conflict
- 46 Religious diplomacy Turkey's mosqued objectives
- 46 Bosnia's new visitors Ottoman comfort
- 47 Renzi and the EU Troublemaker
- 48 Charlemagne An ill wind for Merkel



Nuclear Barack Obama's administration began with a vision to get rid of nuclear weapons. Today it has a \$1 trillion plan to renew them, page 29



Kurds Turkey's president must give up trying to crush the Kurds. Instead, he should reopen peace talks: leader, page 10. A campaign against the PKK turns south-eastern Turkey into a war zone, page 45



The young The world's young are an oppressed minority. Unleash them: leader, page 10. The millennials are the brainiest, best-educated generation ever. Yet their elders often stop them from reaching their full potential. See our special report after page 42. Taiwan's next president courts the young, page 21



Pentecostalism Charismatic Christianity thrives among people on the move, page 53. Belief in divine punishment may be a useful evolutionary adaptation that helps humans overcome selfishness, page 76



Semiconductors China wants to become a silicon superpower, and plans to spend colossal sums to achieve its goal, page 57



Stubborn economists
Persistent ideological
divisions undermine the value
of economics: Free exchange,
page 70. The fashion for
making employees collaborate
has gone too far: Schumpeter,
page 63

Britain

- **49 The snoopers' charter** Of warrants and watchers
- 50 Petition against Trump Not welcome
- **50 Pension policy** A tangled web
- **51 Bagehot**Dominic Cummings, an optimistic Eurosceptic

International

- **53 Pentecostalism...** Ecstasy and exodus
- 54 ...in Brazil...
 Modesty and ostentation
- 55 ...and in South Korea
 Down the mountain

Business

- **57 Semiconductors**Chips on their shoulders
- **59 Airlines in America...** A cosy club
- **60 ...and in Europe**Don't get carried away
- **60 Engineering firms**Hanging loose
- **61 Vietnamese companies**Gold stars
- **62 Media**Easy on the ears
- **63 Schumpeter**The fad for workplace collaboration

Finance and economics

- **65 Stockmarkets**The bear necessities
- **66 Russia's economy** Phase two
- **67 The impact of refugees**For good or ill
- **67 Investment fraud**The cockroaches of finance
- **68 Buttonwood**Endangered dividends

- **69 China's P2P lending boom** Taking flight
- **69 American banks**Not yet out of the woods
- **70 Free exchange**Are economists dogmatists?

Science and technology

- **71 The origin of coal** Rocking the world
- **72 Zika fever**Virus chequers
- 73 Medicine Curing multiple sclerosis
- **73 Social science**Done, bar the counting
- **74 Planetary science**And then there were nine

Books and arts

- **75 Indonesia's man tiger** Burning bright
- **76 Garth Greenwell's debut**Come as you are
- **76 Religion and psychology** God is watching you
- 77 Central banks
 Avoiding the next collapse
- 78 The magic of Velázquez
 With brush and eye
- **78 Dadaab and its refugees** Cheek by jowl

80 Economic and financial indicators

Statistics on 42 economies, plus new passenger-car registrations, 2015

Obituary

82 Tancrède MeletThe artist of the void



Indonesian writer Brash, worldly and wickedly funny, Eka Kurniawan may be South-East Asia's most ambitious writer in a generation, page 75. The eastern fringe of the Muslim world worries about Islamic State's influence, page 22

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The world this week

Politics



Sanctions on Iran were lifted after the regime was found to be in compliance with its obligations to dismantle parts of its nuclear programme. Yet America almost immediately imposed a new set of sanctions on companies and people linked to Iran's ballisticmissile programme. Iran also freed four Iranian-Americans it had held prisoner, including a reporter from the Washington Post, in exchange for seven Iranians held in America.

The UN said that Islamic State has enslaved as many as 3,500 people in Iraq. Most of these are women and children from the minority Yazidi community. Speaking in Paris, America's defence secretary, Ashton Carter, said America and six other countries were stepping up their military campaign against is in Iraq and Syria.

Members of the two main factions in Libya's civil war formed a unity government as part of a peace process brokered by the UN. But several militias in control of different parts of the country, including some in the two main factions, rejected the deal.

In Burkina Faso jihadists attacked a hotel in the capital, Ouagadougou, killing at least 30 people. The attack, an echo of one last year in neighbouring Mali, was the first by Islamists in the country.

The letter of the law

Standard & Poor's, a rating agency, downgraded Poland's credit rating from A- to ввв+ over concerns about the rule of law in the country. The agency

said changes to Poland's media law and to the composition of its constitutional court, made by the new right-wing government of the Law and Justice party, implied that institutional checks and balances could be threatened. Poland has been placed under review in a European Commission rule-oflaw procedure.

In Britain a public inquiry into the murder in 2006 of Alexander Litvinenko, a KGB defector, found that Vladimir Putin, Russia's president, had "probably" approved the killing following a feud. Litvinenko was poisoned by tea laced with radioactive polonium-210 at a restaurant in London, Two Russian men accused of the murder deny any involvement.

François Hollande unveiled a plan to boost job creation in France, which provides subsidies to small firms if they hire young or unemployed workers and more vocational training. Economists are sceptical of the plan. The French president has promised to bring France's unemployment rate down before running for a second term in 2017.

Firsts all round



Taiwan elected Tsai Ing-wen as president, the first female one in the Chinese-speaking world. Ms Tsai's Democratic Progressive Party (DPP) also won its first majority in the island's legislature. The DPP favours Taiwan's formal independence from China, but Ms Tsai says she wants to maintain the status quo. She is likely to be more cautious than was her predecessor, Ma Yingjeou of the Kuomintang, in pursuing free-trade and other agreements with China.

Gunmen killed 22 people and left 17 others injured in an attack on Bacha Khan University in north-west Pakistan. Four assailants were killed by security forces. It is not yet clear whether they were linked with militants who have carried out other deadly attacks in recent months.

A Swedish human-rights activist, Peter Dahlin, was shown on Chinese television apparently confessing to crimes. State media said Mr Dahlin, who works for a Beijing-based human-rights group, had "sponsored activities jeopardising China's national security". Earlier a publisher from Hong Kong, Gui Minhai, who had gone missing in Thailand, was also shown on Chinese TV saving he had turned himself in to the authorities in relation to a drinkdriving conviction 12 years ago.

China's leader, Xi Jinping, began his first trip as president to the Middle East. He travelled to Saudi Arabia and Egypt, and is also due to go to Iran. More than half of China's imports of crude oil come from the Middle East.

North Korea's official media said scientists in the country had invented an alcoholic drink that does not cause hangovers. It is said to be made of a type of ginseng and glutinous rice. Implausible claims are a North Korean staple.

Economic mismanagement

Venezuela's president, Nicolás Maduro, declared a state of economic emergency and asked parliament for powers to reform the economy by decree for 60 days. After withholding the release of economic indicators for more than a year, the Central Bank reported that inflation in the 12 months to September 2015 was 141.5% and that GDP shrank by 7.1% over the same period.

Colombia's government and the FARC guerrilla army asked the UN to send an unarmed mission to monitor a ceasefire between them after a peace agreement is signed. The joint

request is an indication that negotiators in Havana are close to reaching a final agreement to end a conflict that has lasted for more than 50 years.

Iude Célestin, who came second in the first round of Haiti's presidential election in October, said he will boycott the run-off on January 24th because of alleged fraud. The leader after the first round was Iovenel Moïse, who has the backing of the current president, Michel Martelly.

Overstepping his authority?

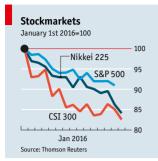
America's Supreme Court took up a case that challenges orders issued by Barack Obama in November 2014 to lift the threat of deportation from up to 5m illegal immigrants and allow them to work. The orders were blocked when 26 states, led by Texas, filed suit in lower courts against the Obama administration.

Scientists at the National Oceanic and Atmospheric Administration confirmed that 2015 was the **hottest** year on record. The average global temperature was 0.9°C (1.62°F) above the long-term average for the 20th century. Cold comfort for those living in the northern hemisphere as various cold snaps start to bite.



In an unusually stilted performance, Sarah Palin, John McCain's running-mate in 2008, endorsed Donald **Trump** for president. A day earlier Mr Trump was the hot topic in Britain when Parliament debated a voter petition to ban him from the country for making Islamophobic statements. The government said it couldn't comment on individual immigration cases. >>

Business



Global markets had another rocky week, as rapidly falling oil prices reignited concerns about the health of the world economy. With oil stockpiles rising, partly because mild winter weather has reduced the demand for fuel, Brent crude dropped to below \$28 a barrel. Now that sanctions hindering Iran's oil sales have been lifted, the International Energy Agency has warned that oil markets "could drown in oversupply" if the forecast surplus of 1.5m barrels a day is not cut.

Oil spillover

Declining oil prices were the main factor behind a fall in annual profit at **Shell**; it thinks it made up to \$10.7 billion last year compared with \$19 billion in 2014. Total said its profit would be 20% lower. In Azerbaijan, where the economy is dependent on oil, the government imposed stiff capital controls amid an economic crisis. It recently abandoned a peg to the dollar.

Markets were also perturbed by news that China's economy grew at its slowest pace since 1990 last year. GDP increased by 6.9%, compared with 7.3% in 2014. Underscoring the official economic rebalancing that is under way, services accounted for more than half of output for the first time, while manufacturing's share dropped to 40.5%. Steel production contracted for the first time in 25 years.

The slowing Chinese economy is not stopping Chinese firms from launching foreign takeovers. In the latest sizeable deal Haier, China's biggest

maker of large electrical appliances, agreed to buy General Electric's white-goods business for \$5.4 billion. GE had tried to sell the division to Electrolux, but the deal fell apart over antitrust concerns. Foxconn, a Taiwanese assembler of gadgets for Apple, was reported to have offered around \$5 billion to buy Sharp, a struggling Japanese electronics firm. A fund backed by Japan's government was also said to be considering a bid for Sharp.

Hold on, hold on

Mark Carney, the governor of the Bank of England, suggested that the central bank was not contemplating raising interest rates soon, because the British economy faces repercussions from turbulence in the world economy. This week more cuts were announced in the British steel industry, which has shed 5,000 jobs. The markets now do not expect rates to rise until 2017, but Mr Carney reiterated that any decision would "depend on economic prospects, not the calendar". The pound sank to its lowest level against the dollar since 2009.

America's big banks started reporting their earnings for the final three months of 2015. A legal charge to settle allega-

tions that it mis-sold mortgage securities before the financial crisis reduced net profit at Goldman Sachs to \$765m. Morgan Stanley's profit came in at \$908m, despite an ailing debt-trading business. A solid quarter at Bank of America helped boost annual profit to \$15.9 billion, its most since 2006. IPMorgan Chase's profit for 2015 was \$24.4 billion, its best year ever.

Deutsche Bank warned that legal and restructuring charges it has incurred will contribute to a loss for the fourth quarter. Revenue will come in below expectations because of "challenging market conditions". Its share price, already under pressure amid uncertainty about the bank's strategy, plunged.

Separate allegations of wrongdoing at Renault and Fiat Chrysler hurt their share prices (prompting a brief suspension of trading in Fiat's shares on the Milan exchange). Renault said it would recall 15,000 cars, and offered to fix hundreds of thousands more. because tests showed they exceeded emissions limits. The company's offices have been searched recently by French authorities investigating the issue. Fiat Chrysler's shares fell

after two car dealerships in Chicago accused it of manipulating sales figures. The carmaker said that the allegations were "baseless" and had been made by "disgruntled" dealers.

Walmart's announced that it would close 269 underperforming stores in the United States and Latin America. These include all its Walmart Express stores in America. It had opened these primarily in urban areas to compete with discount grocers.

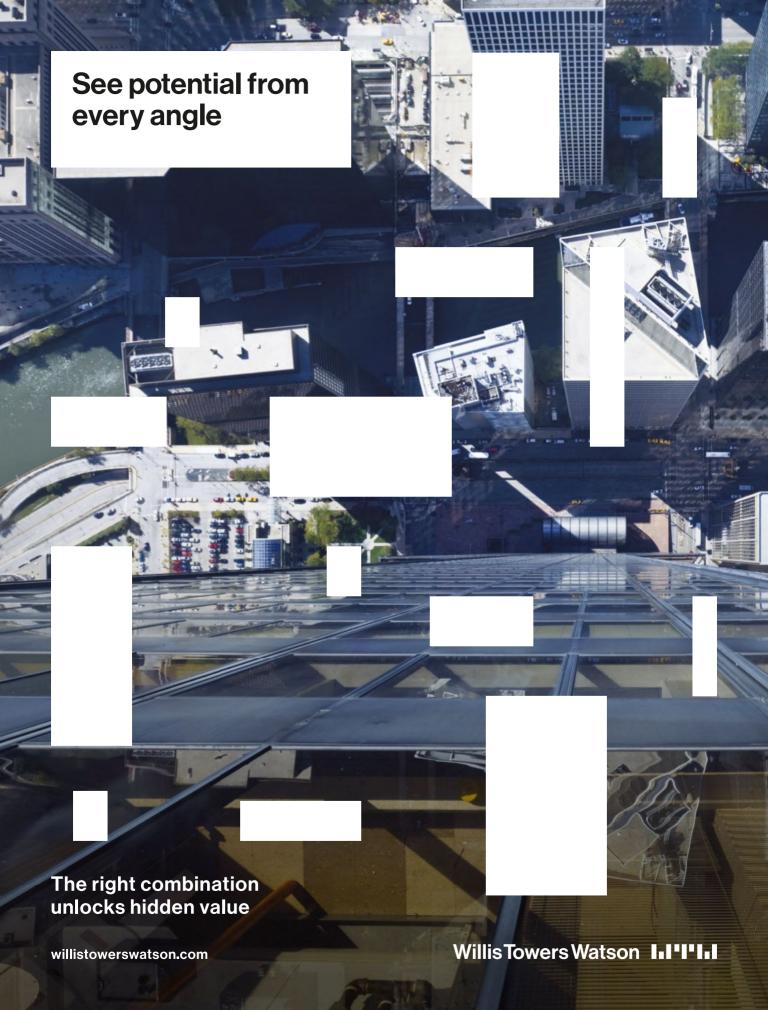
Spanish Onion

Univision, the largest Spanishlanguage broadcaster in the United States, bought a 40% stake in the Onion. The company's digital officer said he expected the satirical news site "to play a key part in the 2016 presidential-election process". He wasn't joking.

At the other end of the media spectrum, WHSmith, a British retailer that used to dominate high-street sales of books and stationery but is now less storied, had its best Christmas in years because of the craze for colour therapy to reduce stress (colouring books and pencils for adults).

Other economic data and news can be found on pages 80-81





Who's afraid of cheap oil?

Low energy prices ought to be a shot in the arm for the economy. Think again



ALONG with bank runs and market crashes, oil shocks have rare power to set monsters loose. Starting with the Arab oil embargo of 1973, people have learnt that sudden surges in the price of oil cause economic havoc. Conversely, when the price

slumps because of a glut, as in 1986, it has done the world a power of good. The rule of thumb is that a 10% fall in oil prices boosts growth by 0.1-0.5 percentage points.

In the past 18 months the price has fallen by 75%, from \$110 a barrel to below \$27. Yet this time the benefits are less certain. Although consumers have gained, producers are suffering grievously. The effects are spilling into financial markets, and could yet depress consumer confidence. Perhaps the benefits of such ultra-cheap oil still outweigh the costs, but markets have fallen so far so fast that even this is no longer clear.

The new economics of oil

The world is drowning in oil. Saudi Arabia is pumping at almost full tilt. It is widely thought that the Saudis want to drive out higher-cost producers from the industry, including some of the fracking firms that have boosted oil output in the United States from 5m barrels a day (b/d) in 2008 to over 9m b/d now. Saudi Arabia will also be prepared to suffer a lot of pain to thwart Iran, its bitter rival, which this week was poised to rejoin oil markets as nuclear sanctions were lifted, with potential output of 3m-4m b/d.

Despite the Saudis' efforts, however, producers have proved resilient. Many frackers have eked out efficiencies. They hate the idea of plugging their wells only for the wildcatter on the next block to reap the reward when prices rebound. They will not pack up so long as prices cover day-to-day costs, in some cases as low as \$15 a barrel (see page 17). Meanwhile oil stocks in the mostly rich-country OECD in October stood at 267 days' net imports, almost 50% higher than five years earlier. They will continue to grow, especially if demand slows by more than expected in China and the rest of Asia. Forecasting the oil price is a mug's game (as the newspaper that once speculated about \$5 oil, we speak from experience), but few expect it to start rising before 2017. Today's price could mark the bottom of the barrel. Some are predicting a trough of as low as \$10.

The lower the better, you might say. Look at how cheap oil has boosted importers, from Europe to South Asia. The euro area's oil-import bill has fallen by 2% of GDP since mid-2014. India has become the world's fastest-growing large economy.

Yet the latest lurch down is also a source of anxiety. Collapsing revenues could bring political instability to fragile parts of the world, such as Venezuela and the Gulf, and fuel rivalries in the Middle East. Cheap oil has a green lining, as it drags down the global price of natural gas, which crowds out coal, a dirtier fuel. But in the long run, cheap fossil fuels reduce the incentive to act on climate change. Most worrying of all is the corrosive new economics of oil.

In the past cheap oil has buoyed the world economy be-

cause consumers spend much more out of one extra dollar in their pocket than producers do. Today that reckoning is less straightforward than it was. American consumers may have been saving more than was expected. Oil producers are tightening their belts, having spent extravagantly when prices were high. After the latest drop in crude prices, Russia announced a 10% cut in public spending (see page 66). Even Saudi Arabia is slashing its budget to deal with its deficit of 15% of GDP.

Cheap oil also hurts demand in more important ways. When crude was over \$100 a barrel it made sense to spend on exploration in out-of-the-way provinces, such as the Arctic, west Africa and deep below the saline rock off the coast of Brazil. As prices have tumbled, so has investment. Projects worth \$380 billion have been put on hold. In America spending on fixed assets in the oil industry has fallen by half from its peak. The poison has spread: the purchasing managers' index for December, of 48.2, registered an accelerating contraction across the whole of American manufacturing. In Brazil the harm to Petrobras, the national oil company, from the oil price has been exacerbated by a corruption scandal that has paralysed the highest echelons of government.

The fall in investment and asset prices is all the more harmful because it is so rapid. As oil collapses against the backdrop of a fragile world economy, it could trigger defaults.

The possible financial spillovers are hard to assess. Much of the \$650 billion rise in emerging-market corporate debt since 2007 has been in oil and commodity industries. Oil plays a central role in a clutch of emerging markets prone to trouble. With GDP in Russia falling, the government could well face a budgetary crisis within months. Venezuela, where inflation is above 140%, has declared an economic state of emergency.

Other oil producers are prone to a similar, if milder, cycle of weaker growth, a falling currency, imported inflation and tighter monetary policy. Central banks in Colombia and Mexico raised interest rates in December. Nigeria is rationing dollars in a desperate (probably doomed) effort to boost its currency.

There are strains in rich countries, too. Yields on corporate high-yield bonds have jumped from about 6.5% in mid-2015 to 9.7% today. Investors' aversion spread quickly from energy firms to all borrowers. With bears stalking equity markets, global indices are plumbing 30-month lows (see page 65). Central bankers in rich countries worry that persistent low inflation will feed expectations of static or falling prices—in effect, raising real interest rates. Policymakers' ability to respond is constrained because rates, close to zero, cannot be cut much more.

Make the best of it

The oil-price drop creates vast numbers of winners in India and China. It gives oil-dependent economies like Saudi Arabia and Venezuela an urgent reason to embrace reform. It offers oil importers, like South Korea, a chance to tear up wasteful energy subsidies—or boost inflation and curb deficits by raising taxes. But this oil shock comes as the world economy is still coping with the aftermath of the financial crash. You might think that there could be no better time for a boost. In fact, the world could yet be laid low by an oil monster on the prowl.

Turkey's war on the Kurds

Futile repression

Turkey's president must give up trying to crush the Kurds. Instead, he should reopen peace talks



FOR many years Turkey's recipe for combating Kurdish nationalism was to pretend that Kurds did not exist. Even as Turkish troops battled the Kurdistan Workers' Party (PKK), government propaganda maintained that Kurds were a subgroup of

Turks and that their language, banned from official use, was a dialect of Turkish. To his credit, Recep Tayyip Erdogan, Turkey's president, has never indulged in such fantasies. His Justice and Development (AK) party pursued peace negotiations with Abdullah Ocalan, the founder of the PKK, and moderate Kurds. Alas, in recent months, as the world has focused on the tragedy taking place in Iraq and Syria, Mr Erdogan has thrown those achievements away, relaunching Turkey's war on Kurdish militants with a deadly new ferocity.

Hundreds are dead, many of them civilians. About 200,000 people have been displaced, adding to Turkey's burden of millions of Syrian refugees (see page 45). Districts across the south-east are under curfew. The army is using tanks and artillery against PKK-aligned youth militias dug in behind barricades filled with explosives. Parts of Diyarbakir, the biggest Kurdish-populated town in south-eastern Turkey, resemble the rubble-strewn wastelands of Syrian cities like Aleppo.

The PKK bears much of the blame. Last summer it began killing Turkish troops and police, supposedly in retaliation for Turkish collusion with Islamic State (1s). The jihadists had sought to annihilate Kobane, a Kurdish enclave in Syria, in full sight of Turkish troops who stood by; and they carried out a suicide-bomb attack against Kurdish activists in the Turkish town of Suruc. By breaking the ceasefire, the PKK has stirred suspicions that it wants to carry the Kurds' successful fight against Is in Syria back into Turkey.

Whether the PKK's action was a rush of emotion or premeditated, Mr Erdogan exploited it to end peace talks with the Kurds and launch a full-scale military campaign. By playing on Turkish nationalism, he propelled his troubled AK party back to victory in the election in November. But the repercussions are dire for Turkey as a whole. Its democracy is under attack. Anyone criticising the war, including moderate Kurdish politicians, is persecuted. What remains of the independent media is being silenced. Turkey, a bastion of stability, is being sucked into the Middle East's ever-expanding war zone.

Mr Erdogan may never have peddled the myth that the Kurds do not exist, but he has succumbed to a different fantasy: that he can end Kurdish nationalism by force. Turkey has already wasted decades trying to do so. Returning to suppression is futile, since Kurds form a large minority and control havens in Syria and northern Iraq. Instead Mr Erdogan will be drawn into a familiar vicious cycle, as the attempt to crush insurgents alienates moderate Kurds and creates recruits.

The PKK, too, is indulging in fantasies. Turkey will never allow the Kurdish chunk of the country to secede or let its fighters take over militarily as they tried to do in the 1990s. Nor will America, however much it may look to the Kurds as the most reliable force against is in Syria and Iraq, offer them any succour in destabilising Turkey, a vital NATO ally. If anything, America and Europe need Turkey more than ever to help them stop refugee flows and bring peace to Syria.

Point the guns the other way

A return to peace talks, on the basis of greater autonomy for Kurds within Turkey, which Mr Ocalan has already accepted, offers the only solution. The West must urge both Turks and the Kurds to see that they should be fighting is, not each other. It will be impossible to end the civil war in Syria if Mr Erdogan insists on waging a war of his own in Turkey.

Taiwan's remarkable election

Dear prudence

By rights, Taiwan should be a fully sovereign country today; Tsai Ing-wen must accept that it cannot yet be one



THAD been widely predicted, yet the landslide victory for Tsai Ing-wen in Taiwan's presidential race on January 16th, along with the emphatic performance of her Democratic Progressive Party (DPP) in the legislative election, is nevertheless

remarkable (see page 21). The vibrancy of the campaigning; the engagement of young voters; a smooth expected transfer of power; Asia's first female leader not to come from a political dynasty: there is much to celebrate. A dictatorship has budded amazingly into a mature democracy, a country with stable in-

stitutions and impressive prosperity, ranking 33rd in the world by income per person, richer than Portugal or Greece.

Rightly, neighbours have been quick to congratulate Ms Tsai. All, that is, except powerful China, which deems Taiwan to be a renegade province that must return to the motherland, and if necessary be forced to. For all that Taiwanese resent being dictated to, and Ms Tsai's own party leans towards formal independence, the new president must accept that history constrains Taiwanese aspirations, and her options. Not to do so would jeopardise Taiwan's future—and the region's peace.

The Taiwanese, for the most part, voted for Ms Tsai not on the "one-China question" but to improve living standards at home, as voters in mature democracies tend to. A donnish ex-

pert on trade law, Ms Tsai picked up a party in tatters in 2008 after its first, disastrous, presidency. Since then the DPP, founded by human-rights activists persecuted during the thuggish days of the Nationalist or Kuomintang (кмт) dictatorship, has shown growing competence in local government. Competence, not political ideology, is how it smashed the KMT's unbroken lock on the legislature. The KMT's once-mighty machine, built on cash and cronvism, has hit the buffers; it faces a Herculean task to reinvent itself along more modern lines.

China's Communist Party, much happier to deal with its old KMT foe than with the DPP, is displeased. But at least it is not fulminating (see Banyan on page 26). Ms Tsai should swiftly demonstrate to President Xi Jinping that her priority is not to seek to upset the balance across the strait but to take on domestic concerns: build more affordable housing, fix the crisis in the pensions system and raise the minimum wage. She should do more to liberalise the economy and remove obstacles to the creation of new businesses.

Yet she cannot ignore relations with the mainland altogether. Indeed they may yet come to define her presidency. Not least, China is Taiwan's biggest trading partner. Ms Tsai has promised transparency in trade and investment deals with China. The KMT's secrecy sparked protests two years ago that

greatly undermined Ma Ying-jeou, the outgoing president. His successor must find ways to explain to autocrats, who themselves rule opaquely, why more scrutiny of agreements will lead to their greater acceptance in Taiwan. And when it comes to her promise to seek membership of the American-led freetrade area, the Trans-Pacific Partnership, she should urge China to join the club in tandem, as the two countries did when they entered the World Trade Organisation in 2002.

Swallow your pride, Ms Tsai

Sooner or later China will press Ms Tsai to affirm the formula that has guided cross-strait relations: that there is but "one China", even if both sides disagree as to quite what that means. This will be hard for her, given that such a fudge does not reflect the changing view of compatriots increasingly inclined to think of themselves as Taiwanese, not Chinese. Yet she must continue the reconciliation across the strait that began under Mr Ma. Even before her inauguration in May, she should offer to meet Mr Xi for a meeting of no preconditions. Throughout, her watchword should be patience. Real, de jure sovereignty for Taiwan can probably come only if a thuggish China, today persecuting rights activists, evolves into a more liberal state. Impossible? Taiwan has done it.

Intelligence oversight

Snoopers and scrutiny

Britain's planned law on intelligence oversight could become an example to other countries



 $\mathbf{F}^{ ext{EW}}$ balances are harder to strike than those involved in running a spy agency. After a terrorist attack, voters demand action and politicians respond by granting their spies greater powers to bug and snoop, as with America's Patriot Act in 2001

and the wide-ranging surveillance law passed after the attacks in France last year. Yet these very powers can, if abused, distort the political system, chill freedom of expression and tilt the scales of justice. When the full extent of clandestine activities come to light, as with Edward Snowden's revelations about America's National Security Agency, many feel queasy and demand that the spooks are reined in again.

The better part of valour

So a lot is riding on Britain's attempt to update the law governing the domestic activities of its spy agencies (see page 49). The draft bill will make explicit how the electronic-intelligence agency, GCHQ, may (with a warrant) plant bugs on computers and other devices, collect and analyse bulk information (such as mobile-phone activity and web-browsing records) and read private messages. Get the details right, and Britain can provide a model of how to balance security and freedom; get them wrong, and centuries of freedom might shrivel.

The bill's biggest success is its self-restraint. It does not require firms to weaken the encryption they sell to customers, as politicians in several countries, including Britain, would like. If people want security on the internet, they have no alternative to strong encryption. The agencies have other means of collecting data, including bugging phones and computers.

The draft bill is also right to require companies to retain, at least for a time, data about mobile-phone and internet activity that may, subject to a warrant, be of use to future investigations. Intelligence agencies need to be able to look back at the history of a suspected terrorist's contacts and movements.

Elsewhere, however, the bill could be better. It rightly strengthens GCHQ's powers to pursue terrorists, gangsters and foreign spies. And it offers extra safeguards: new judicial commissioners will review warrants which, as now, will be issued by the home secretary. Politicians should have ultimate responsibility; if things go wrong, they carry the can. But the bill will work best if it is backed by a consensus. For that reason it needs to reassure those who fear that politicians may abuse their powers. Instead of holding their posts at the prime minister's behest, the commissioners should be appointed as judges are and their dismissal should require a vote in Parliament. To avoid "capture", they should serve a single fixed term.

In addition, the proposed system merely requires the commissioners to check that a warrant has been issued lawfully and reasonably—broadly the same standard applicable to judicial review of other government decisions. But the extra secrecy with which intelligence agencies operate means that is not enough. The commissioners need a reserve power to weigh warrants on their merits. Also missing is explicit protection for lawyers' communications with their clients.

Just as important as the nuts and bolts of the new law is its implementation. GCHQ's demands may be legal, but if they are too costly or intrusive, companies dealing with technology and data will simply move abroad. For all these reasons, other countries should watch Britain closely.

The millennial generation

Young, gifted and held back

The world's young are an oppressed minority. Unleash them



IN THE world of "The Hunger Games" youngsters are forced to fight to the death for the amusement of their white-haired rulers. Today's teen fiction is relentlessly dystopian, but the gap between fantasy and reality is often narrower than

you might think. The older generation may not resort to outright murder but, as our special report this week on millennials describes, in important ways they hold their juniors down.

Roughly a quarter of the world's people—some 1.8 billion—have turned 15 but not yet reached 30. In many ways, they are the luckiest group of young adults ever to have existed. They are richer than any previous generation, and live in a world without smallpox or Mao Zedong. They are the best-educated generation ever—Haitians today spend longer in school than Italians did in 1960. Thanks to all that extra learning and to better nutrition, they are also more intelligent than their elders. If they are female or gay, they enjoy greater freedom in more countries than their predecessors would have thought possible. And they can look forward to improvements in technology that will, say, enable many of them to live well past 100. So what, exactly, are they complaining about?

These children that you spit on

Plenty. Just as, for the first time in history, the world's youngsters form a common culture, so they also share the same youthful grievances. Around the world, young people gripe that it is too hard to find a job and a place to live, and that the path to adulthood has grown longer and more complicated.

Many of their woes can be blamed on policies favouring the old over the young. Consider employment. In many countries, labour laws require firms to offer copious benefits and make it hard to lay workers off. That suits those with jobs, who tend to be older, but it makes firms reluctant to hire new staff. The losers are the young. In most regions they are at least twice as likely as their elders to be unemployed. The early years of any career are the worst time to be idle, because these are when the work habits of a lifetime become ingrained. Those unemployed in their 20s typically still feel the "scarring" effects of lower income, as well as unhappiness, in their 50s.

Housing, too, is often rigged against the young. Homeowners dominate the bodies that decide whether new houses may be built. They often say no, so as not to spoil the view and reduce the value of their own property. Over-regulation has doubled the cost of a typical home in Britain. Its effects are even worse in many of the big cities around the world where young people most want to live. Rents and home prices in such places have far outpaced incomes. The youngsters of Kuala Lumpur are known as the "homeless generation". Young American women are more likely to live with their parents or other relatives than at any time since the second world war.

Young people are often footloose. With the whole world to explore and nothing to tie them down, they move around more often than their elders. This makes them more produc-

tive, especially if they migrate from a poor country to a rich one. By one estimate, global GDP would double if people could move about freely. That is politically impossible—indeed, the mood in rich countries is turning against immigration. But it is striking that so many governments discourage not only cross-border migration but also the domestic sort. China's hukou system treats rural folk who move to cities as second-class citizens. India makes it hard for those who move from one state to another to obtain public services. A UN study found that 80% of countries had policies to reduce rural-urban migration, although much of human progress has come from people putting down their hoes and finding better jobs in the big smoke. All these barriers to free movement especially harm the young, because they most want to move.

The old have always subsidised their juniors. Within families, they still do. But many governments favour the old: an ever greater share of public spending goes on pensions and health care for them. This is partly the natural result of societies ageing, but it is also because the elderly ensure that policies work in their favour. By one calculation, the net flow of resources (public plus private) is now from young to old in at least five countries, including Germany and Hungary. This is unprecedented and unjust—the old are much richer.

The young could do more to stand up for themselves. In America just over a fifth of 18- to 34-year-olds turned out to vote in the latest general election; three-fifths of over 65s did. It is the same in Indonesia and only slightly better in Japan. It is not enough for the young to sign online petitions. If they want governments to listen, they should vote.

However, the old have a part to play, too. The young are an oppressed minority—albeit an unusual one—in the straightforward sense that governments are systematically preventing them from reaching their potential.

That is a cruel waste of talent. Today's under-30s will one day dominate the labour force. If their skills are not developed, they will be less productive than they could be. Countries such as India that are counting on a demographic dividend from their large populations of young adults will find that it fails to materialise. Rich, ageing societies will find that, unless the youth of today can get a foot on the career ladder, tomorrow's pensioners will struggle. What is more, oppressing youngsters is dangerous. Countries with lots of jobless, disaffected young men tend to be more violent and unstable, as millions of refugees from the Middle East and Africa can attest.

They're quite aware of what they're going through

The remedy is easy to prescribe—and hard to enact. Governments should unleash the young by cutting the red tape that keeps them out of jobs, and curbing the power of property-owners to stop homes from being built. They should scrap restrictions on domestic migration and allow more cross-border movement. They should make education a priority.

It is a lot to expect from political leaders who often seem unequal to the task of even modest reform. But every parent and grandparent has a stake in this, too. If they put their shoulders to the wheel, who knows what they might accomplish.

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Letters

Saudi Arabia's problem

Your briefing on the Saudi regime's blueprint for survival undervalued the comparative dimension ("Young prince in a hurry", January 9th). In a globalising world where transnational economic ties, information technologies, migration, awareness of what is going on in different parts of the world and the chipping away of borders affect ever greater parts of societies, authoritarian or "strongman" regimes are vulnerable to rapidly shifting pressures.

It may appear that such regimes can bring stability to unevenly fragmenting countries, but they become even more dependent on rents, especially from resources (the "resource curse") and on cheap exports, cheap labour and the like. Maintaining these comparative advantages often requires repression and austerity. They therefore have to deal with vicious cycles of disillusionment, resentment and ethnic divisions that spill across borders.

When these bottom-up pressures mesh with uneven international trends, of which the falling oil price is but one, these regimes improvise, often making things worse in the medium-to long-term. We have seen this across the world at different speeds and with different ramifications, from Nicolás Maduro's Venezuela to Vladimir Putin's Russia to Africa and now China. The developed world is at a loss how to react. International interventionism just seems to exacerbate the process. Saudi Arabia is one such regime, caught between the inside and the outside.

Democratisation would obviously be the preferred alternative, but democratic regimes historically have usually grown out of long phases of civil war, authoritarianism and breakdown. We are likely to have to go through such a neomedieval phase before the restructuring process can begin. PHILIP CERNY Professor emeritus of politics University of Manchester

Reading your fascinating piece on Saudi Arabia I couldn't help but recall a passage from Alexis de Tocqueville's "The Ancien Régime and the Revolution": "Experience teaches us that, generally speaking, the most perilous moment for a bad government is one when it seeks to mend its ways." Tocqueville recognised the statecraft that is needed in order to avoid disaster when embarking on radical reform. MICHAEL WILLIAMS Letchworth, Hertfordshire

Although the House of Saud has suffered two catastrophic setbacks during its long dominance, it has managed rebirth in both cases. This is the third Saud dynasty that we are witnessing, the third flower on a vine that is rooted as far into the past as the creation of Britain, that is to say, some 300 years. Characterising the kingdom as a "post-colonial Arab state", as if its basis is the Sykes-Picot agreement, is not helpful. Given its repeated incarnations, the House of Saud's foundation appears more likely to be a special resonance with something in the soul of the Arab peninsula. From that more-encompassing perspective, the challenges of reform, regional influence, population, economic diversity and even oil wealth itself cast far less compelling shadows. CRAIG MCLANE New Carrollton, Maryland

RateMyPolice

The teenagers building an app to rate service from the police have a great idea ("Revenge of the nerds", January 2nd). The police need not be worried and should get ahead of the game by doing this themselves. There is already welldeveloped IT on crime reporting to achieve crime prevention, but most police agencies in America have no system at all to understand the reactions of citizens to their efforts. Only a few survey the community regularly.

Like websites where students rate professors, ad hoc ratings of police will be fraught with problems. But systematic,

scientific and regular measures of police services could be subject to review and oversight. The police would benefit from having this information. CYNTHIA LUM Director Centre for Evidence-Based Crime Policy George Mason University Fairfax, Virainia

A musical child



I was grateful for the insight and sensitivity in your obituary of David Bowie (January 16th). But it is not true that he "grew up as David Jones, a sharp-toothed kid from dull suburban Bromley whose parents held no aspirations for him". David's parents, especially his father, "John" Jones, encouraged him from the time he was a toddler. His mother, Peggy, spoke often of our deceased grandfather, who was a bandmaster in the army and played many wind instruments. David's first instruments, a plastic saxophone, a tin guitar and a xylophone, were given to him before he was an adolescent. He also owned a record player when few children had one.

When he was 11 we danced like possessed elves to the records of Bill Haley, Fats Domino and Elvis Presley. David's father took him to meet singers and other performers preparing for the Royal Variety Performance. I remember one afternoon in the late 1950s when David was introduced to Dave King, Alma Cogan and Tommy Steele. "My son is going to be an entertainer, too" he said. "Aren't you, David?" "Yes, Daddy," David squeaked in his childish highpitched voice, his face flushed and beaming with pride.

Although Uncle John never lived to see David's huge success, he was convinced it would become a reality. My beloved David fulfilled and exceeded all his father's dreams. KRISTINA AMADEUS Cousin of David Bowie Romney Marsh, Kent

Investing in people

Free exchange (January 2nd) lamented the lack of attractive options for investing in physical capital. But imagine if investment in human capital was considered on an equal footing. The Brookings Institution has developed the Social Genome Project to examine such options. For instance, it estimates that investing in well-evaluated programmes for poor children will increase their expected income by roughly ten times the costs of the projects and improve their chances of reaching the middle class.

American companies could return some of the \$2 trillion they hold in profits overseas to invest in "human-resource bonds". Now that's an attractive option. ARNOLD PACKER Former chief economist of the US Senate Budget Committee San Diego

Taking a wrong Torun

As a native of Torun I was glad to see my home town earning a mention in The Economist, if for the wrong reasons ("Courting disaster", January 2nd). Throughout the years, I got used to Torun being mocked as a home of religious zealots and backwardness rather than the birthplace of Nicolaus Copernicus and gingerbread. A popular bumper-sticker stating that Torun apologises for Radio Maryja is here to stay. MICHAL KLOS Torun, Poland

Letters are welcome and should be addressed to the Editor at The Economist, 25 St James's Street, London SW1A 1HG E-mail: letters@economist.com More letters are available at: Economist.com/letters

Executive Focus



International Rubber Study Group

Appointment of Secretary-General of the IRSG

Applications are invited for the post of Secretary-General of the International Rubber Study Group (IRSG), a Singapore-based intergovernmental organisation concerned with the natural and synthetic rubber and related industries.

Qualifications

Candidates must have a recognized University Degree or equivalent qualifications. Candidates must demonstrate strong management, analytical and communication skills. Knowledge of the synthetic and natural rubber and related industries is a plus. Personal attributes required include fluent written and spoken English, additional language knowledge is welcome. Candidates must have integrity, impartiality and the ability to work effectively with senior officials in Governments, international organisations and the world rubber industry. They must possess the administrative and interpersonal skills necessary to run an international organisation, including knowledge of intergovernmental relations and the organisation of international conferences. The hands-on abilities required to guide and motivate a small, specialist staff are also essential. A reasonable level of computer literacy is also required.

The post of Secretary-General as the Chief Executive Officer of the Group, is remunerated at grade D1 of the United Nations Professional Staff salary scales.

The terms of the appointment will be initially for four years from 1 January 2017. Applicants must be nationals or citizens of Member countries of the International Rubber Study Group. For further information on the IRSG and how it operates including the job description and salary information, visit the IRSG website: http://www.rubberstudy.com.

The closing date for full applications will be **28 February 2016**. Applicants should submit their Curriculum Vitae with a cover letter to the

Secretary-General, International Rubber Study Group, email: secgen@rubberstudy.com



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¹⁶ Executive Focus

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These are unpaid appointments, but expenses to twice-yearly Board meetings in Brighton (UK) and to occasional meetings in developing countries will be reimbursed.

To apply, please visit www.aidsalliance.org/jobs. The deadline for applications is 5 February 2016 at midnight (UK time).

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The oil conundrum

Plunging prices have neither halted oil production nor stimulated a surge in global growth

IL traders are paying unusual attention to Kharg, a small island 25km (16 miles) off the coast of Iran. On its lee side, identifiable to orbiting satellites by the transponders on their decks, are half a dozen or so huge oil tankers that have been anchored there for months. Farther down Iran's Persian Gulf coast is another flotilla of similarly vast vessels. They contain up to 50m barrels of Iranian crude-just what a world awash with oil could do without.

The lifting of nuclear-related sanctions against Iran on January 16th puts those barrels at the forefront of the country's quest to recapture a share of international oil markets that it has been shut out of for much of the past decade. The prospect of Iran swiftly dispatching its supertankers to European and Asian refineries to undercut supplies from Saudi Arabia, Iraq and Russia helped push the world's main benchmarks, Brent and West Texas Intermediate (WTI), to their lowest levels since 2003 on January 20th; WTI tumbled by 6.7% to under \$27 a barrel, its biggest one-day fall since September (see chart 1).

The slide marks the latest act in a dramatic reversal of fortunes for the oil industry that is, in turn, roiling the global economy. Less than a decade ago the world scrambled for oil, largely to fuel China's commodity-hungry growth spurt, pushing prices to over \$140 a barrel in 2008. Stateowned oil giants such as Saudi Aramco had access to the cheapest reserves, forcing private oil firms to search farther afield-in the Arctic, Brazil's pre-salt fields and deep waters off Angola-for resources deemed ever scarcer. Investors, concerned that the oil majors could run out of growth opportunities, encouraged the search for pricey oil, rewarding potential future growth in production as much as profitability.

Now the fear for producers is of an excess of oil, rather than a shortage. The addition to global supply over the past five years of 4.2m barrels a day (b/d) from



America's shale producers, although only 5% of global production, has had an outsized impact on the market by raising the prospects of recovering vast amounts of resources formerly considered too hard to extract. On January 19th the International Energy Agency (IEA), a prominent energy forecaster, issued a stark warning: "The oil market could drown in oversupply."

Last year the world produced 96.3m b/d of oil, of which it consumed only 94.5m b/d. So each day about 1.8m barrels went into storage tanks—which are filling up fast. Though new storage is being built, too much oil would cause the tanks to overflow. The only place to put the spare barrels would be in tankers out to sea, like the Iranian oil sitting off Kharg, waiting for demand to recover.

For oil producers that is an alarming prospect, vet for the most part warnings such as those of the IEA have gone unheeded. This poses two puzzles. When, in November 2014, Saudi Arabia forced OPEC to keep the taps open despite plummeting prices, it hoped quickly to drive higher-cost producers in America and elsewhere out of business. Analysts expected a snappy rebound in prices. Though oil firms have since collectively suspended investment in \$380 billion of new projects, as yet there is no sign of a bottom. Projections for a meaningful recovery in the oil price have been pushed back until at least 2017.

The economic impact of the oversupply is another enigma. Cheaper fuel should stimulate global economic growth. Industries that use oil as an input are more profitable. The benefits to consuming nations typically outweigh the costs to producing ones. But so far in 2016 a 28% lurch downwards in oil prices has coincided with turmoil in global stockmarkets. It is as if the markets are challenging long-held assumptions about the economic benefits of low energy prices, or asserting that global economic growth is so anaemic that an oil glut will do little to help.

Iran is the most immediate cause of the bearishness. It promises an immediate boost to production of 500,000 b/d, just when other members of OPEC such as Saudi Arabia and Iraq are pumping at record levels. Even if its target is over-optimistic, seething rivalry between the rulers in Tehran and Riyadh make it hard to imagine that the three producers could agree to the sort of production discipline that OPEC has used to attempt to rescue prices in the past.

Even if OPEC tried to reassert its influence, the producers' cartel would probably fail because the oil industry has changed in several ways. Shale-oil producers, using technology that is both cheaper and quicker to deploy than conventional oil rigs, have made the industry more entrepreneurial. Big depreciations against the dollar have helped beleaguered economies such as Russia, Brazil and Venezuela to maintain output, by increasing local-currency revenues relative to costs. And growing fears about action on climate change, coupled with the emergence of alternative-energy technologies, suggests to some producers that it is best to pump as hard as they can, while they can.

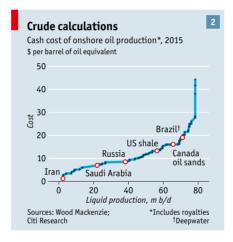
This is not the first time OPEC has overestimated the effectiveness of what, during the era of John Rockefeller's Standard Oil, used to be called "a good sweating": attempting to flood the market with cut-price oil to drive competitors out of business. In the mid-1980s the cartel sought to use low prices to undercut producers in the North Sea, but failed. They enacted a policy to recoup market share from their non-OPEC rivals, but ended up trying to defeat each other, further weakening prices. It took several years for oil prices to recover.

It's a time-worn miscalculation. In his book "The Prize", Daniel Yergin quotes an American academic writing as far back as 1926 about the "spectacle" of massive overproduction. "Oil producers were committing 'hara-kiri' by producing so much oil," the scholar wrote. "All saw the remedy but would not adopt it. The remedy was, of course, a reduction in the production."

Yet there is also a reason for keeping the pumps working that is not as suicidal as it sounds. One of the remarkable features of last year's oil market was the resilience of American shale producers in the face of falling prices. Since mid-2015 shale firms have cut more than 400,000 b/d from output in response to lower prices. Nevertheless, America still increased oil production more than any other country in the year as a whole, producing an additional 900,000 b/d, according to the IEA.

During the year the number of drilling rigs used in America fell by over 60%. Normally that would be considered a strong indicator of lower output. Yet it is one thing to drill wells, another to conduct the hydraulic fracturing ("fracking") that gets the shale oil flowing out. Rystad Energy, a Norwegian consultancy, noted late last year that the "frack-count", ie, the number of wells fracked, was still rising, explaining the resilience of oil production.

The roughnecks used other innovations to keep the oil gushing, such as injecting more sand into their wells to improve flow, using better data-gathering techniques and employing a skeleton staff to keep costs down. The money is no longer flowing in. America's once-rowdy oil towns, where three years ago strippers could make hundreds of dollars a night from itinerant oilmen, are now full of



abandoned trailer parks and boarded-up businesses. But the oil is still flowing out. Even some of the oldest shale fields, such as the Bakken in North Dakota, were still producing at the same level in November as more than a year before.

The shale industry also benefited from financial engineering. Last year at least half of the firms involved had hedged the oil price to protect revenues. Some went bankrupt, but most have managed to sweet-talk bankers into keeping the credit flowing—at least until the latest crisis.

It is not just the shale industry that managed to keep its head above water longer than expected. Those extracting in more expensive places, such as Canada's oil sands and Brazilian pre-salt, have too. Canada, whose low-quality benchmark oil, West Canada Select, is trading below \$15 a barrel, giving it the ignominious title of the world's lowest-value crude, is one of the non-OPEC countries expected to add most to global supply this year. So is Brazil, despite debt and corruption at its state oil company, Petrobras.

Meanwhile, the oil majors have said they will slash tens of thousands of jobs and billions of dollars in investment, but they too are reluctant to abandon projects that may add to future production. Shell, an Anglo-Dutch company, took the rare decision to abandon exploration in the Arctic and a heavy-oil project in Canada but its current output of 2.9m b/d in 2015 was only just shy of the previous year's 3.1m b/d. In the industry at large, the incentive is to keep producing "as flat out as you can", once investment costs have been sunk into the ground, says Simon Henry, Shell's chief financial officer. He says it is sometimes more expensive to stop production than to keep pumping at low prices, because of the high cost of mothballing wells.

Simon Flowers of Wood Mackenzie, an industry consultancy, says that even at \$30 a barrel, only 6% of global production fails to cover its operating costs. It may be uneconomic to drill new deepwater wells at prices under \$60 a barrel, he says, but once they are built it may still make economic sense to keep them running at prices well below that (see chart 2). Such resilience is used by some to justify why they expect prices to remain "lower for longer".

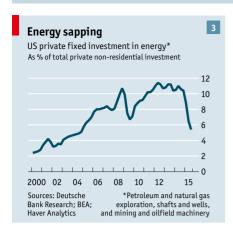
In theory a long period of low oil prices should benefit the global economy. The world is both a producer and a consumer: what producers lose and consumers gain from a drop in prices sums to zero. Conventionally, extra spending by oil importers exceeds cuts in spending by exporters, boosting global aggregate demand.

The economies that have enjoyed the strongest GDP growth in the past year have indeed been oil importers: India, Pakistan and countries in east Africa. It is hard to explain the consumer-led recovery in the euro area without assuming a positive impact from lower oil prices. In the IMF's latest forecast, published on January 19th, the handful of big economies that were spared downgrades to GDP growth—China, India, Germany, Britain, Spain and Italy—were all net oil importers.

Where are the windfalls?

There are doubts that this holds true everywhere. America is both a large producer and consumer of oil. At the start of 2015, IPMorgan, a bank, reckoned that cheap oil would boost GDP by around 0.7%-a boost to consumers' purchasing power equivalent to 1% of GDP, offset by a smaller drag from weaker oil-industry investment. It now reckons the outcome was between a contraction of 0.3% and a boost of a measly 0.1%. Consumers may have saved more of the windfall than had seemed likely and the share of oil-related capital spending in total business investment in America, which had steadily risen for years, has fallen by half (see chart 3).

Add in the indirect effects of the downturn in the oil industry and the net impact of cheap oil may even have been a bigger decline than JPMorgan's most pessimistic estimate. That has been the experience of >>>



▶ the MSC Industrial Supply Company, an American retailer of hinges, brackets, power tools and maintenance equipment to manufacturers. It does not rely directly on orders from oil companies, yet this month its boss, Erik David Gershwind, said that fallout from the oil shock had had a noticeable impact on sales. "The indirect exposure is, I think, what's taken everybody by surprise, not only at MSC but in the broader economy, and it's ugly."

Unsurprisingly some of the biggest splashes of red ink in the IMF's latest forecast revisions were reserved for countries where oil exploration and production has played a significant role in the economy: Brazil, Saudi Arabia, Russia (and some of its oil-producing neighbours) and Nigeria. Weaker demand in this group owes much to strains on their public finances.

Russia has said it will cut public spending by a further 10% in response to the latest drop in crude prices (see page 66). The oil industry accounts for 70% of tax revenue in Nigeria. When the oil price plunged in 2008-09, it was able to draw on savings it had salted away in an oil-stabilisation fund. But in June the country's president, Muhammadu Buhari, said the treasury was "virtually empty". Saudi Arabia has deeper pockets but, with a budget deficit that reached 15% of GDP last year, even it has been forced to cut public spending.

The old calculus that such countries were able to smooth spending through the oil-price cycle has become less reliable. To a larger degree than in the past, oil producers have spent windfall revenues, and now have been forced to cut back. This compounds the effect on aggregate demand of falling investment in the oil industry.

Perhaps more worrying is the way the oil-price drop is compounding the effect of financial fragility worldwide. Low interest rates in America and Europe after 2009 drew rich-world investors into emerging markets, creating a lending boom. Corporate debt in emerging markets rose from 50% of GDP in 2008 to 75% in 2014. The lesson of recent history is that a rapid build-up in debt leads to trouble. Along with construction, the oil and gas industry saw a big increase in corporate debt, according to the IMF's latest Global Financial Stability Report. Lower oil revenues make it harder to service this burden.

When the oil price slumped in 2008-09 oil-producing countries were able to cut interest rates and borrow abroad to prop up demand. Now investors are charier of risk. The end of the Federal Reserve's programme of bond buying ("quantitative easing") in 2014 and the recent increase in interest rates has drawn money back to America, boosting the dollar and tightening global monetary conditions.

Oil producers, notably in Latin America, are having to tighten domestic monetary policy to tackle inflation, in part caused by big falls in their currencies. Brazil's central bank has kept interest rates high, even though its economy is deep in recession. Central banks in Colombia and Mexico raised rates in December. The same strains are evident in oil-rich Nigeria and Angola, the largest and third-largest economies in sub-Saharan Africa. The easier financial conditions in the years after 2009 gave policymakers in Africa a false sense of their own resilience, says Stuart Culverhouse of Exotix, a broker.

Investors appear to be rethinking how risky assets should be priced in rich countries, too. This is as much a response to concerns about the strength of China's economy as to the damage a sharp fall in oil prices might wreak. Worries about delinquent borrowers in the oil industry triggered a sharp rise in their yields in America's junk-bond market at the end of last year. The yields on junk bonds issued by other sorts of borrowers rose in apparent sympathy. Even yields on investmentgrade bonds are edging up.

Stockmarket bears are quick to point out that higher real interest rates on corporate bonds make it harder to justify elevated share prices. Central bankers in rich countries say they worry that a long period of near-zero inflation is entrenching beliefs that prices will remain endlessly flat. The real rate of interest rises when expectations of inflation fall and it is hard for policymakers to respond to this as rates are already close to zero.

Since the start of the year, the supply shock from Iran has also been accompanied by fears of a demand one from China. The bungled handling of China's stockmarket and currency has raised fears about the economy, which has spilled over into the oil market. As global financial markets have descended into turmoil, there are mounting worries about the resilience of the global economy, too. That, in turn, raises anxiety about future oil demand.

Macroeconomic concerns are paramount, but there are also microeconomic ones. Lower fuel subsidies in some oil-producing countries, aimed at plugging budget deficits, are encouraging car owners to

drive less miles. China has said that it will not allow petrol prices to fall in line with oil below \$40 a barrel, which will have the same effect. Even in the United States, the link between cheap petrol and gas-guzzling is less strong than it was. Part of the reason, analysts say, is that vehicles are more fuel-efficient.

Green and black

After the Paris summit on climate change in December some pundits reckon that the latest oil crisis reflects a structural change in oil consumption because of environmental concerns-what some call "peak demand". It is true that as climate consciousness grows, oil companies are developing more gas than oil, hoping to deploy it as an energy substitute for coal. But it may be too early to assume that the era of the petrol engine is coming to an end.

More likely, the oil price will eventually find a bottom and, if this cycle is like previous ones, shoot sharply higher because of the level of underinvestment in reserves and natural depletion of existing wells. Yet the consequences will be different. Antoine Halff of Columbia University's Centre on Global Energy Policy told American senators on January 19th that the shale-oil industry, with its unique cost structure and short business cycle, may undermine longer-term investment in high-cost traditional oilfields. The shalemen, rather than the Saudis, could well become the world's swing producers, adding to volatility, perhaps, but within a relatively narrow range.

Big oil firms would then face some existential questions. In the future, should they carry on as before, splurging on expensive vanity projects in hard-to-reach places, at the risk of having "unburnable" reserves environmental concerns mount? Should they reinvest their profits in shale or in greener technologies? Or should they return profits to shareholders, as some tobacco companies have done, marking the beginning of the end of the fossil-fuel era? Whatever they do, the era of oil shocks is far from over.



Ready for a shock



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Taiwan's political landslide

Not trying to cause a big sensation

As much as anything, victory for Tsai Ing-wen and her party represents a generational change

THE had led in the opinion polls for Tai-Owan's presidential election for months. Yet the margin of Tsai Ing-wen's victory surprised many. She won 56% of the votes in a three-way race, with her chief contender, Eric Chu of the Nationalist Party or Kuomintang (кмт), trailing badly (see chart on next page). Ms Tsai will become the island's first female leader, while Mr Chu has already resigned as party chairman.

The outcome of the election to Taiwan's parliament, the Legislative Yuan, was more striking still. Ms Tsai's Democratic Progressive Party (DPP) won 68 of the 113 seats up for grabs, compared with only 35 for the кмт, which has lost its hold on the legislature for the first time since Chiang Kai-shek set up on the island in 1949. The KMT is now in the wilderness even if Ma Ying-jeou, president since 2008, limps on until Ms Tsai's inauguration in faraway May.

Already, change is under way. An old guard of national and local figures who have dominated politics for years is shuffling off the stage. Such is the bad blood in the KMT that the prime minister, Mao Chikuo, rebuffed Mr Ma's efforts to persuade him to stay on as caretaker-even leaving the president standing in the cold outside his home while refusing to meet him. Ms Tsai (pictured above with colleagues) says that her transition team will work closely with the KMT and others in the coming months. She is open to non-DPP politicians getting cabinet posts in areas where her party lacks expertise, like defence. But whether the political shock on January 16th can accommodate her promise of a consensual approach is unclear.

Across the country, the enthusiastic participation of younger and more liberal voters in the election has emphasised a sense of generational change. Activists from the Sunflower Movement of 2014 that opposed Mr Ma's policy of strengthening economic ties with China are now freshminted politicians, accounting for the Legislative Yuan's third-biggest grouping, the New Power Party. One of them is a front man of a heavy-metal rock group. It would have made old lawmakers' black-dyed hair stand on end-had the election not pushed so many of them aside.

But at the crest of the wave is Ms Tsai. At 59, she is of an older generation than many of those who voted for her, and is not a natural guitarist, but she embodies a progressive spirit-supporting gay marriage, for instance. A former legal academic and trade expert, her somewhat mousy, low-key air seems to engender trust-and, no one doubts, conceals an iron will.

Above all she appealed by wanting to improve livelihoods. Her refrain was a message of generational equity: promising a fairer life for younger Taiwanese who struggle to afford housing, worry about job prospects and think that they will have to pick up the tab for a looming pensions crisis. Her call to boost energy from renew-

Also in this section

- 22 East Asia's talent agencies
- 22 Security in South-East Asia
- 24 Terrorism in Pakistan
- 25 Fiji's army-tainted politics
- 26 Banyan: Fleeting clouds over Taiwan

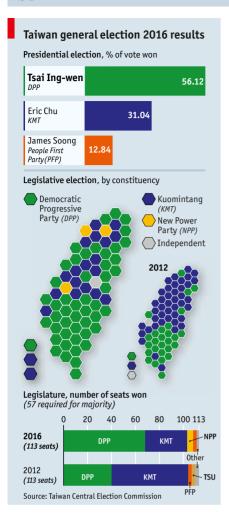
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ables while promising to make Taiwan nuclear-free within a decade appeals to those worried about the environment being at the mercy of the big energy firms. Yet Ms Tsai, who once helped negotiate Taiwan's entry into the WTO, is not anti-business. In the face of diplomatic pressure from China, she wants Taiwan, with its huge export machine, to strike more trade deals. She has already announced that she will negotiate a free-trade pact with Japan. Membership of the American-led Trans-Pacific Partnership is also in her sights. Elsewhere, she says that Taiwan must find better ways to encourage innovation, including by removing the barriers to new businesses, and cut its reliance on contract manufacturing, amid cheaper competition elsewhere. A measure of Taiwan's malaise is that the economy hardly grew last year.

Be careful what you wish for

It will be hard to turn things around quickly. Ms Tsai's plans for incentives to landlords to help provide 200,000 units of social housing are imaginative, and could boost growth. Restructuring industry to place more emphasis on design, marketing, logistics and services will prove much harder. Meanwhile, some of Ms Tsai's ideas appear questionable. Promising to go after assets that the KMT purloined following the defeat in 1945 of Taiwan's Japanese overlords may make sense from the point of view of "transitional justice". But it will hardly help engender the cross-party collaboration she says she seeks. As for scrapping nuclear power without thinking adequately about its replacement, it seems to promise a grave electricity shortage in the future-the kind of crisis that could scupper anyone's presidency.

That kind of crisis aside, the hardest part of Ms Tsai's time in office is likely to be managing relations with China across the >>



▶ Taiwan Strait. Under Mr Ma relations only improved, with 23 cross-strait economic agreements and, in November, an unexpected meeting between him and President Xi Jinping in Singapore. Yet stronger economic ties seemed to many Taiwanese not to benefit them, while the perceived secrecy of the negotiations engendered the Sunflower Movement.

Ms Tsai will be cooler on Chinathough not chilly. Mr Xi insists that China continue to endorse the so-called "1992 consensus", in which China's Communists and the KMT agreed there was but one China while differing on what that meant (see Banyan on page 26). Ms Tsai has resisted endorsing the consensus. But she has rowed her party a long way back from its $desire \, to \, declare \, formal \, independence-an$ act that would invite a military response against the island of 23m people. In her victory speech, she appealed to China's leaders, emphasising that both countries should search for an acceptable way to interact "based on dignity and reciprocity". She says she wants to "set aside differences" and build on the cross-strait dialogue to date. Probably, most Taiwanese approve, as does America, Taiwan's protector. Now Ms Tsai's unfiery manner must persuade China, too.

East Asia's talent agencies

Twice bitten

SEOUL, TAIPEI AND TOKYO

Youngsters pay a high price for their stardom

MILLIONS in Taiwan woke up on election day to a video of a 16-year-old pop star, Chou Tzu-yu, making an abject apology. Her sin had been to seem to back Taiwan's independence, by flaunting its national flag on television. "There's only one China," she parroted in the video. It smacked of a lynching and did no harm to Tsai Ing-wen with her call for Taiwan to distance itself from China, whose hand many saw in the bullying.

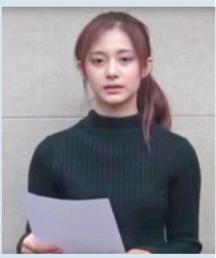
In fact, a more likely culprit was Ms Chou's employer, JYP Entertainment, a South Korean talent agency. Its shares plunged after Chinese television cancelled a lucrative booking for Ms Chou's group, Twice. With more contracts under threat, it seems likely Ms Chou was pushed in front of the camera to smooth ruffled Chinese feathers.

Like the Japanese companies they mimic, South Korea's talent agencies have a fearsome reputation for controlling their young stars. In 2014 the government set new rules to protect underage recruits. Many endure years-long boot camps, living in dormitories; many have to undergo plastic surgery.

Also dragged to say sorry this week were the five, now middle-aged, members of Japan's most popular boy band, SMAP. They scotched rumours of a split, but the terseness of their apology for "causing trouble" made it clear they were not there entirely by choice. SMAP's agency, Johnny & Associates, has for years been dogged by accusations that it exploits its young charges, commercially

and even sexually. Japanese television depends heavily on the roster of stars it and other entertainment companies provide, and so is suspected of turning a blind eye to their excesses.

Many young stars are banned from dating. In 2013 Minami Minegishi, of the all-girl group Akb48, shaved her head and made a tear-stained act of contrition after being snapped emerging from a tryst at her boyfriend's apartment. The Tokyo District Court struck a blow for her and others this week. It rejected a suit by a talent agency against one of its former stars for breaking her contract by dating a fan. The court said the contract "restricted her freedom to pursue happiness".



A sorry spectacle

Security in South-East Asia

After Jakarta

INGAPORE

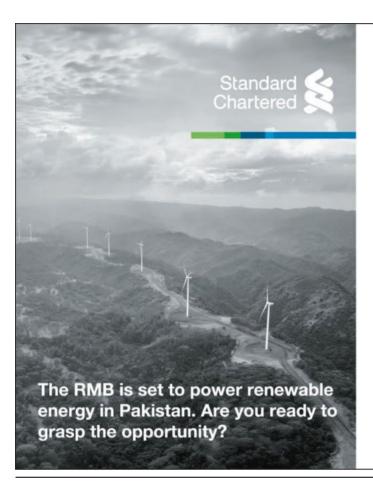
The eastern fringe of the Muslim world worries about Islamic State's influence

POR decades, South-East Asia has had two lucky bulwarks against militant Islam: the peaceful, tolerant form of their faith practised by most South-East Asian Muslims; and the relative incompetence of local jihadists. But South-East Asia's tradition of syncretic Islam has been threatened by stricter forms imported from the Middle East, seen as more modern and correct. Violent jihadism seems to be following the same pattern, if the bloody violence in central Jakarta, Indonesia's capital, on January

14th, is anything to go by.

Four civilians and four terrorists died in the bombing of a Starbucks and a traffic-police post, and a long shoot-out with the police, that day. Authorities believe that an Indonesian, Bahrun Naim, planned the attack from Syria. He heads a South-East Asian unit fighting with Islamic State (IS) in Syria and Iraq. Governments in the region have long feared something like this.

Indonesian police have since arrested at least 13 suspected terrorists, and killed >>



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Jakarta's Syrian shock

another. In Malaysia the police arrested a man suspected of planning to blow himself up at a bar, and three other Malaysians were sent back by Turkey after allegedly trying to cross into Syria to join 1s. This week Singapore said that late last year it arrested and prepared to repatriate 27 Bangladeshi construction workers suspected of plotting terrorism back home.

Beyond this flurry of activity lie deeper questions about how to respond to the threat. Islamists have long been active in South-East Asia. Members of Jemaah Islamiya (JI), dedicated to establishing a South-East Asian caliphate, were behind the bombing in 2002 of a Bali nightclub that killed more than 200. They are suspected of other bombings of western targets in Indonesia and the Philippines.

After the Bali bombing the Indonesian police created Detachment 88, an elite counter-terror squad financed and trained by America and Australia. It killed or captured much of JI's leadership. The Philippines, Malaysia and Thailand also arrested JI higher-ups. The group is weakened.

But the threat never entirely receded. And some now fear that is could establish a base in South-East Asia. The region offers plenty of remote areas outside state control in which militants can hide. Both the Philippine island of Mindanao and southern Thailand have endured long-running insurgencies waged by Muslim minorities.

Just as veterans who fought the Soviets in Afghanistan boosted regional jihadist capacity in the early 1990s, many worry that returning fighters from Syria will do the same today. The Soufan Group, a security consultancy, estimated in a December report that at least 600 South-East Asians had gone to fight with is. It is unclear how many have returned. The report says 162 people (including women and children) have returned to Indonesia from is territory. Sidney Jones, who runs the Institute for Policy Analysis and Conflict in Jakarta, believes that the number of trained fighters who have returned is much lower. Some are in custody, but Peter Chalk of the RAND Corporation, an American think-tank, says the Indonesian authorities lack "a good feel about how many have returned...and what they're doing in terms of radicalising

Of course, is has also proved adroit at radicalising from afar. Thousands of Indonesians have publicly pledged allegiance to the group, and Mr Naim appears to have found local jihadists to carry out the attacks. At least one was said to have been radicalised, like many others, in an Indonesian prison. Ms Jones says Mr Naim used encrypted messages on social media in an effort to inspire attacks in Malaysia. Singapore's home-affairs minister, K. Shanmugam, warned this week that "It is not a question of 'if', but 'when'," Singapore will suffer a terrorist attack. He said the government would roll out new measures "covering both the hard and soft aspects of Singapore's security".

Counter-terrorism strategies worked before may prove less effective against transnational entities such as 15, which inspire online self-radicalisation and lone-wolf attacks. In Indonesia supporting or joining is is not illegal, though the government is mulling broader counter-terrorism laws with powers of preventive detention. The country's two biggest Muslim social movements-Muhammadiyah and Nahdlatul Ulama-have been trying to counter jihadist propaganda.

In Malaysia, however, the government itself has thoroughly politicised Islam, leaving little room for dissent from its harshest rules. A study last year found more than 70% of Malaysia's ethnic-Malay, Muslim, majority support hudud laws such as stoning for adultery. Another found that 11% of Malays viewed is favourably. ■

Terrorism in Pakistan

Shady war, shadow peace

DELHI AND ISLAMABAD

Another attack brings out Pakistan's conspiracy theorists

VERY time India and Pakistan inch to- ${f L}$ wards ending their ancient enmity, something bad seems to happen. On January 2nd it was an attack by armed infiltrators on an Indian air-force base near the border with Pakistan that left seven servicemen dead. On January 20th Pakistan suffered a crueller blow when terrorists invaded Bacha Khan University, a co-ed establishment near Peshawar. Four gunmen killed at least 20 people, most of them students, before being shot dead themselves. It was a ghastly echo of a massacre of 141 people, mainly students, at a school in the same region just over a year ago. With more imagination than evidence, Pakistani conspiracy theorists saw India behind both acts of violence on their soil.

The attack on the Indian air base at Pathankot followed a surprise visit by Narendra Modi, India's prime minister, to his Pakistani counterpart, Nawaz Sharif-the first by an Indian prime minister since 2004. They promised to resume long-suspended high-level talks over such vexed questions as disputed Kashmir. When Indian intelligence tied the air-base attackers to Jaish-e-Muhammad (јем), a Pakistani group with known links to the country's opaque and powerful security services, it seemed part of a familiar pattern.

Those services have acted in the past to snuff out similar whiffs of rapprochement. A visit to Pakistan in 1999 by the then Indian prime minister, Atal Bihari Vajpayee, was swiftly followed by a brief but nasty war, provoked by Pakistan, on the "line of control" separating Indian- and Pakistaniheld parts of Kashmir. Shortly after peace talks were held in Agra in 2001, the Indian parliament building came under attack by gunmen believed to be from Jem. The terror attacks launched in Mumbai in 2008 by Lashkar-e-Taiba, another group patronised by the Pakistani armed forces, punctured yet another round of peaceful overtures.

But Pakistan's security services always whisper a counter-narrative. As with the school attack, they suggest via co-operative voices in the Pakistani press that India had a hidden hand in the attack on Bacha Khan University. In fact, both attacks were claimed by Tehreek-e-Taliban Pakistan (TTP) or the Pakistani Taliban. It has sought vengeance since the army in 2014 launched a fierce campaign against it in North Waziristan near the border with Afghanistan. "Our desi liberals would never believe that India is supporting TTP to des▶ tabilise Pakistan," read a sneering tweet from a prominent Pakistani editor, using a derogatory term for a local product.

Yet Pakistan offers no evidence of Indian involvement in attacks on its territory. whereas Indian officials have offered "actionable intelligence" linking Jem to the air-base attack, and invited Pakistan to send its own investigators. Indeed, on January 13th Pakistan announced that it had rounded up members of Jem, closed some of its offices and shut down its websites.

Pakistan's apparent response to Indian

prodding sent an encouraging signal that the Pathankot incident was not simply another case of its army using militants to scupper peace efforts by a civilian government. Optimists note other hopeful signs. India responded with unusual caution to the attack, suggesting that talks with Pakistan should be postponed briefly rather than cancelled. On the Pakistani side the army chief, Raheel Sharif, associated himself personally with the crackdown on јем-а recognition that Pakistan must bring its Frankensteins to heel.

Fiji's army-tainted politics

Corking the genie

WELLINGTON

Keeping the peace abroad seems to have a troubling impact at home

 ${f E}^{
m ARLIER}$ this month in Fiji's capital, Suva, a convoy of lorries, carrying 25 sealed shipping containers and under a heavy military guard, dodged the potholes along Mead Road and snaked into the Oueen Elizabeth Barracks. In the containers were Russian weapons, ammunition and vehicles supposed to be destined for use by Fiji's international peacekeepers in the Sinai desert in Egypt and along the Israel-Syria frontier on the Golan Heights. The opposition cried foul, claiming that the arms had entered the country illegally, without proper police authorisation. Some dared suggest the weapons might even be for the purpose of threatening the opposition.

The opposition politicians seem not to have appreciated how firmly the police have been under the control of the army since the (South African) chief of police, Ben Groenewald, resigned in November. He left in protest, accusing the armed forces of undermining his investigation into police brutality-they had even recruited the suspects into the army's own ranks, despite the allegations hanging over them. Mr Groenewald's successor is a soldier with a murky human-rights record, Brigadier-General Sitiveni Oiliho. He has set about clearing out the constabulary's senior officers.

Fiji appears much more stable than it was in the troubled years after a coup in December 2006. FijiFirst, the party of the coup leader turned prime minister, Frank Bainimarama, obtained a thumping 59% majority in elections in September 2014 and holds 32 of Parliament's 50 seats. While the opposition is in disarray, the government benefits from an economy growing at 4% a year, as hordes of Australians flock to Fiji's magnificent beaches. A lively reform programme has won Mr Bainimarama many admirers among his country's 890,000 citizens. It involves building roads and bridges, delivering free education and legal aid, and providing cash handouts to small businesses.

Abroad, the prime minister walks taller these days, having once been widely seen as a pariah. In some places he was always welcome. In 2013 in Moscow, Mr Bainimarama brokered a deal with the Russian prime minister, Dimitry Medvedev, for the supply of equipment for Fijian peacekeepers. The next year Fiji abstained in the UN vote on Russia's annexation of Crimea.

Beneath the surface, the place looks less happy. The islands' indigenous people, known as i-Taukei, make up three-fifths of the population and communally own most of the land. Many of them despise the FijiFirst government. That is partly because they particularly hate the 2013 constitution, which describes all the country's citizens as "Fijians" where before only the indigenes earned that title. A third of the population are ethnic Indians. Some indigenes claim to be suffering the kind of cultural annihilation that befell Australia's Aborigines and New Zealand's Maoris. Others dislike Mr Bainimarama's reliance on his attorney-general, a Muslim, who also serves as finance minister. They divine an Islamic conspiracy to control the country. Paranoia runs rife in Mr Bainimarama's Fiji.

Efforts to forge breakaway "Christian states" in the provinces of Nadroga-Navosa and Ra last year echoed indigenous fears. At the time Mr Groenewald said that the movements resembled harmless cults. Mr Bainimarama took the perceived threat more seriously, ordering an army clampdown.

Though he stepped down as military commander in 2014, he keeps his grip on the armed forces. Last August Brigadier-General Mosese Tikoitoga was pushed aside as armed-forces chief. He showed too much independence by promoting his choice of officers to the senior command and by barring Mr Bainimarama's personal bodyguards from the officer's mess at the Oueen Elizabeth Barracks. He will now be exiled to Ethiopia, as ambassador.

Meanwhile, the UN remains hungry for Fiji's blue helmets. They are a nice little earner for the government, too, but dispatching all those soldiers has repercussions back home. The first peacekeepers set off, for Lebanon, in 1978. Since then Fiji's armed forces have overthrown the government three times: first in 1987, unleashing the coup genie; then late in May 2000; and then Mr Bainimarama's coup. You have to give them something to do on home leave.

In 2014 the Nusra Front in Syria, linked to al-Qaeda, briefly captured 45 of Fiji's peacekeepers. The incident triggered a call for more modern military equipmentleading to the Russian weapons. Hence the worries that their arrival in Suva may only increase the odds of Fiji's fragile democracy being overthrown again.



Mr Bainimarama's lively reform programme

Banyan | Hallucinations and fleeting clouds

In responding to an unwelcome election result in Taiwan, China has few good options



THE first, Long March, generation of Chinese Communist lead-📘 ers always seemed impatient to see Taiwan "reunified" with the mainland. This unfinished business of the Chinese civil war, which ended in 1949 with the defeated Nationalists, the Kuomintang or KMT, confined to the island as their last redoubt, was too sacred a mission to leave to their callow successors. But the last Long Marchers have died out and Taiwan is still independent in all but name, with no deadline set for its return. In 2013 Xi Jinping, the leader of the current, fifth, generation, suggested China's patience was wearing thin, and that the issues could not be passed on for ever to the next generation. He called for political talks.

Yet the results of the elections in Taiwan on January 16th suggest such talks-and unification itself-are farther away than ever. Mr Xi is much the most powerful leader in decades of a country mightier than for centuries; but it is not clear what he can do about this.

China still threatens to take Taiwan by force, should it declare formal independence. No leader could abandon the aim of eventual reunification. For Mr Xi it is part of the "China dream" of fully restored national pride and prestige. But China's approach to Taiwan has sometimes been surprisingly pragmatic. In cold-war days, China took to scheduling shelling on alternate days. In better times, the two sides have managed a thriving economic relationship with no official ties whatsoever.

In recent years China's Taiwan strategy has relied more on blandishments than bludgeoning. In particular, the eight-year administration since 2008 of President Ma Ying-jeou has seen a flurry of cross-strait agreements to foster greater economic integration. But the perceived failure of the KMT's China-friendly policy to put fizz into Taiwan's economy was a big factor in the sweeping election win by the Democratic Progressive Party, or DPP, whose roots are in the Taiwan independence movement.

So the election result repudiates the idea that Taiwan might ever become truly "part of China". This puts China in a bind. Its initial official reaction implies no drastic change of course. The state press pointed out that this was not a vote for the "hallucination" of independence. Indeed, the DPP's president-elect, Tsai Ingwen, talks of stability and the status quo. So, perversely, victory is portrayed by China as evidence of the success of its policy: even the DPP cannot afford to roll back the advances in cross-strait relations, and its rule will anyway be as transient as a "fleeting cloud". The DPP's previous stint in power, under Chen Shui-bian between 2000 and 2008, ended disastrously. He was jailed for corruption after Mr Ma trounced him at the polls.

For several reasons, however, the apparently rosy Chinese view of the election, presumably intended in part to gloss over an embarrassing setback, may not last long. An early challenge will be finding a form of words that allows China to talk to a DPP government. It insists that the DPP must adhere to the "1992 consensus", a semi-official agreement that there was but "one China", albeit defined differently by the two sides. Ms Tsai will find that hard. Though a pragmatist, she is beholden to her party, which has long denied any such consensus. The stakes are raised by Mr Xi himself. In Singapore in November, when he granted Mr Ma the first meeting since 1949 between leaders of Taiwan and China, he stressed the importance of maintaining the one-China fiction.

So China may feel it has to start punishing Taiwan for its recalcitrance. It has plenty of levers without having to resort to crude military menaces—as it did in 1996, when it lobbed shells across the strait. Diplomatically, for example, only 21 countries (and the Holy See) recognise Taiwan rather than the government in Beijing. Most are small and poor. Recent years have seen a truce in the war of diplomatic attrition, in which countries were induced to switch in return for aid. If China breaks the truce, a number of countries might swiftly abandon Taiwan. China will also keep an eagle eye on how its diplomatic partners adhere to "the one-China principle". American arms sales to Taiwan, of which a package worth \$1.8 billion was approved last month, may again become a big issue in relations between China and America.

China will also do its best to continue to thwart Taiwan's attempts to join multilateral organisations and sign free-trade agreements. It did allow Taiwan under Mr Ma to sign FTAS with two countries that have diplomatic relations with China, New Zealand and Singapore, but not to join multilateral talks. It has excluded Taiwan from its new Asian Infrastructure Investment Bank, and could probably exert enough pressure to keep it out of the American-led free-trade area, the Trans-Pacific Partnership, even though China itself is not a party.

It could also apply direct economic pressure. The mainland is the market for 25% of Taiwan's exports and the destination for most of its foreign direct investment. Taiwan, on the other hand, accounts for just 4% of China's total trade. An easy economic sanction would be to cut the quotas for mainland Chinese tourists. More than 4m visited in 2014 (up from 280,000 in 2008), about 40% of all visitors to Taiwan; but numbers fell sharply during the election campaign, perhaps because the authorities did not want people to get a taste for that sort of thing.

Bully for you

Yet China knows that turning from suitor to bully is likely to prove counter-productive in winning over public opinion in Taiwan. Increased contacts with the mainland seem to have only heightened a sense among ordinary Taiwanese of their distinct identity. Punishing them for this will hardly help. At least, unlike Mr Chen, Ms Tsai seems determined to try not to raise mainland hackles. So the hope is that both sides get on with improving cross-strait relations, while pretending that they do not have wholly opposed visions of where they are leading. For Mr Xi, however, with a dream to realise, pretending may not be good enough.

Also in this section 28 Xi's Middle Eastern tour



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Family relationships

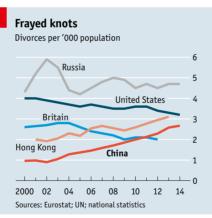
Divorce: a love story

While the government talks up family values, marriage break-ups are soaring

7ANG YOURONG's wife kicks him as $oldsymbol{1}$ they walk upstairs and he falls back a few steps, then follows again at a distance up to the cramped offices of a district-government bureau handling divorces in Chongqing, a region in the south-east. After more than 20 years of marriage, Mr Yang's wife has had several affairs; she is "quick tempered", he says (she had slapped him earlier, he claims). At the bureau, divorce takes half an hour and costs 9 yuan (\$1.40). It is administered a few steps away from where other couples get married and take celebratory photographs. Mr Yang and his wife have second thoughts, however; they return home, still arguing. Most couples hesitate less.

Divorce rates are rising quickly across China. This is a remarkable transformation in a society where for centuries marriage was universal and mostly permanent (though convention permitted men to take concubines). Under Communist rule, traditional values have retained a strong influence over family relationships: during much of the Mao era, divorce was very unusual. It became more common in the 1980s, but a marriage law adopted in 1994 still required a reference from an employer or community leader. Not until 2003 were restrictions removed.

The trend reflects profound economic and social change. In the past 35 years, the biggest internal migration experienced by any country in human history has been



tearing families apart. Traditional values have been giving way to more liberal ones. Women are becoming better educated, and more aware of their marital rights (they now initiate over half of all divorce cases). Greater affluence has made it easier for many people to contemplate living alone—no longer is there such an incentive to stay married in order to pool resources.

As long as both sides agree on terms, China is now among the easiest and cheapest places in the world to get a divorce. In many Western countries, including Britain, couples must separate for a period before dissolving a marriage; China has no such constraints. In 2014, the latest year for which such data exist, about 3.6m couples split up-more than double the

number a decade earlier (they received a red certificate, pictured, to prove it). The divorce rate—the number of cases per thousand people—also doubled in that period. It now stands at 2.7, well above the rate in most of Europe and approaching that of America, the most divorce-prone Western country (see chart). Chongqing's rate, 4.4, is higher than America's.

Helped by the huge movement of people from the countryside into cities, and the rapid spread of social media, the availability of potential mates has grown with astonishing speed, both geographically and virtually. But many migrants marry in their home villages and often live apart from their spouses for lengthy periods. This has contributed to a big increase in extramarital liaisons. Married people previously had limited opportunities to meet members of the opposite sex in social situations, according to research by Li Xiaomin of Henan University. Peng Xiaobo, a divorce lawyer in Chongqing, reckons 60-70% of his clients have had affairs.

Such behaviour has led to much soulsearching. The notion that "chopsticks come in pairs" is still prevalent; propaganda posters preach Confucian-style family virtues using pictures of happy, multi-generation families. (President Xi Jinping is on his second marriage but this is rarely mentioned.) Many commentators in the official media talk of separation as a sign of moral failure; they fret that it signifies the decline of marriage, and of family as a social unit-a threat, as they see it, to social stability and even a cause of crime. The spread of "Western values" is often blamed.

But marriage is not losing its lustre. In most countries, rising divorce rates coincide with more births out of wedlock and a fall in marriage rates. China bucks both these trends. Remarriage is common too. The Chinese have not fallen out of love >> ▶ with marriage—only with each other.

It is tradition itself that is partly to blame for rising divorce rates. China's legal marriage age for men, 22, is the highest in the world. But conservative attitudes to premarital relationships result in Chinese youths having fewer of them than their counterparts in the West (they are urged to concentrate on their studies and careers, rather than socialise or explore). Living together before marriage is still rare, although that is changing among educated youngsters. People still face social pressure to marry in their 20s. Their inexperience makes it more than usually difficult for them to select a good partner.

Couples' ageing relatives are part of the problem too. Yan Yunxiang of the University of California, Los Angeles, says "parent-driven divorce" is becoming more common. As a result of China's one-child-per-couple policy (recently changed to a two-child one), many people have no siblings to share the burden of looking after parents and grandparents. Thus couples often find themselves living with, or being watched over by, several—often contending—elders. Mr Yan says the older ones' interference fuels conjugal conflict. Sometimes parents urge their children to divorce their partners as a way to deal with rifts.

Women are more likely to be the ones who suffer financially when this happens. Rising divorce rates reflect the spread of more tolerant, permissive values towards women, but legislation tends to favour men in divorce settlements. A legal interpretation issued in 2003 says that if a divorce is disputed, property bought for one partner by a spouse's parents before marriage can revert to the partner alone. That usually means the husband's family: they often try to increase their child's ability to attract a mate by buying him a home.

In 2011 the Supreme Court went further. It ruled that in contested cases (as about one-fifth of divorces are), the property would be considered that of one partner alone if that partner's parents had bought it for him or her after the couple had got married. In addition, if one partner (rather than his or her parents) had bought a home before the couple wed, that person could be awarded sole ownership by a divorce court. This ruling has put women at a disadvantage too: by convention they are less often named on deeds.

In practice, if the couple has children the person with custody often keeps the home—more often the mother. Yet the court's interpretation sets a worrying precedent for divorced women. Their difficulties may be compounded by the two-child policy, which came into effect on January 1st. If couples have two children and both partners want custody, judges often assign parents one child each. Marriage and the family are still strong in China—but children clearly lie in a different asset class.

China's foreign policy

Well-wishing

BEIJING

Xi Jinping's tour of the Middle East shows China's growing stake there

SINCE he took over as China's leader in 2012, Xi Jinping has been a busy globetrotter. Last year he visited more countries than Barack Obama, America's president (14 against 11). Heedless of whether his hosts are powerful, puny or pariahs, he has flown everywhere from America to the Maldives and Zimbabwe. Mr Xi wants to project China's rising power—and his role in promoting that—to foreign and domestic audiences. But until this week, he had not set a presidential foot in the Middle East.

The trip, under way as The Economist went to press, began in Saudi Arabia (whose king, Salman bin Abdul Aziz, is pictured with Mr Xi). He then visited Egypt and was due to finish his tour in Iran. No Chinese president had toured the region since 2009. China's leaders had worried about getting embroiled in the region's intractable disputes. But China has a big stake in the Middle East. It is the world's largest oil importer and gets more than half of its crude from the region (see chart). Mr Xi's much ballyhooed "new Silk Route", aimed at linking China and Europe with the help of Chinese-funded infrastructure, runs across the Middle East. Chinese companies are already building expressways and harbours there.

The timing of Mr Xi's tour is tricky. Tensions between Saudi Arabia and Iran are particularly high after Saudi Arabia executed a Shia cleric earlier this month and angry Iranians responded by storming the Saudi embassy in Tehran. But the lifting of Western sanctions on Iran on January 16th (see page 39) allowed Mr Xi to display even-handedness by visiting both countries, without upsetting Western powers. Mr Xi, like his predecessors, likes to present China as a non-interfering champion of peace. (Xinhua, China's state-run news



agency, said this week that the West's "meddling hands" were "more of a mortal poison than of a magic potion" in the Middle East.) But Mr Xi is not keen to play a central role as peacemaker. China's first "Arab Policy Paper", released on January 13th, is a vague, waffly document. It talks of "building a new type of international relations", but is devoid of new ideas.

Zhang Ming, a vice-foreign minister, said this week that economic development was the "ultimate way out" of conflict in the region. By expanding its trade and investment links with the Middle East, China hopes discontent and conflict there will gradually dissipate. In addition to crushing dissent, it is trying a similar approach in Xinjiang, a province in western China with a large Muslim population—so far without success.

In the long run, China may find it hard to avoid taking sides. To some extent it has already done so in Syria: it talks to representatives from both the Syrian government and the opposition, but by vetoing UN resolutions on intervention it tilts, in effect, in the government's favour. The presence of a growing number of Chinese citizens in the Middle East may challenge China's non-interventionist approach. After a Chinese national was executed by Islamic State in November, China promised to strengthen protection of its citizens abroad. Its new rules of Middle Eastern diplomacy could end up resembling familiar Western meddling.



Walking a fine line



Also in this section

- 30 The changing electorate
- 31 Flint's poisonous water
- 31 Wages and robots
- 32 Grading university teachers
- 33 Roy Moore, prophet of decline
- 34 Lexington: Karl Rove's history class

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Nuclear weapons

Cruise control

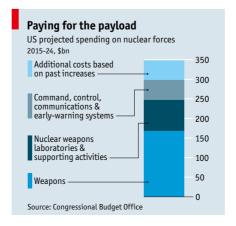
Barack Obama's administration, which began with a vision to get rid of nuclear weapons, has a trillion-dollar plan to renew them

WENTY-FIVE years ago, television ■ viewers around the world were introduced to America's cruise-missile technology. As journalists stood filing their reports from the roof of the Al Rashid hotel in Baghdad, Tomahawk missiles were caught on camera sweeping through the city's streets on their way to targets struck with uncanny accuracy. Designed at the height of the cold war as a nuclear missile, subsequently armed with a conventional warhead, the Tomahawk has been in the vanguard of most American air campaigns since the first Gulf war. Yet plans to develop a successor, the long-range stand-off missile (LRSO), before the old ones are retired in 2030-part of the Obama administration's plan to overhaul America's nuclear deterrent over the next 30 years at a cost of \$1 trillion—are now under attack.

William Perry (defence secretary from 1994 to 1997, in charge of developing the airlaunched cruise missile at the Pentagon during the late 1970s) and Andy Weber (the assistant secretary of defence responsible for nuclear programmes for five years, to 2014) caused a stir in October by calling for the cancellation of plans to build a fleet of 1,000 air-launched, nuclear-armed missiles. This would save \$25 billion.

Their argument is that nuclear-armed cruise missiles are a "uniquely destabilising type of weapon", because potential foes cannot tell whether they are being attacked with a missile carrying a conventional warhead or a nuclear one. Scrapping the LRSO, they say, "would not diminish the formidable us nuclear deterrent in the least". Arms-control experts fear that the justifications from the Pentagon for the new missile, and for a highly accurate new nuclear bomb, suggest that cold-war doctrines, controversial at the time, such as escalation control and limited nuclear-warfighting, are being dusted off.

Hillary Clinton, who is generally thought to be more hawkish than Barack Obama, was asked while campaigning in Iowa for her take on the "trillion-dollar" nuclear programme. She replied: "Yeah, I've heard about that. I'm going to look into



that. It doesn't make sense to me." Mrs Clinton's remark betrays the pressure she is under from her left-wing rival, Bernie Sanders. But many Democrats feel a sense of acute disappointment that Mr Obama has not, in their eyes, lived up to the vision of a world free of nuclear weapons, one he described in the speech in Prague in 2009 that helped to win him his somewhat premature Nobel peace prize.

Some of the most expensive parts of the nuclear programme are not disputed, even by liberal Democrats. Few argue against the replacement of the 14 Ohio-class ballistic-missile submarines which will begin to wear out in the late 2020s. The bill for that is likely to be around \$140 billion for 12 new boats. More questionable is the air force's bid last year to replace the 440-strong Minuteman III land-based missile force at a cost of \$62 billion. A study in 2014 by the RAND Corporation judged that incremental modernisation might cost only a third as much, and could sustain the missile system for several more decades. Some, like Gordon Adams of the Stimson Centre, a think-tank, argue that land-based missiles are no longer necessary to maintain nuclear deterrence. They are the minority. The counter-argument is that as long as Russia builds all the 700 deployed missiles and bombers it is allowed under the New START treaty, America's land-based force will still be needed—if only as a "sink" providing targets to absorb a nuclear strike.

The arguments are therefore focused on the new cruise missile and a \$10 billion new version of the free-fall nuclear bomb called the B61-12, which will replace four older variants. The venerable B-52 bomber will be adapted to take the missile and will soldier on until 2040. The stealthy B-2 bomber, which entered service in 1997, will be able to carry both weapons. A nuclearcapable version of the much-delayed F-35 Joint Strike Fighter will be fitted to take the bomb. In addition a new aircraft, the Long Range Strike Bomber, (LRS-B) will be built as the principal carrier for the two weapons. In October the air force awarded Northrop Grumman the \$55 billion contract to develop and build around 100 of these bombers, which should enter service in 2025 as the B-3.

With such an advanced bomber flying into view, the argument for a new longrange missile is now weaker. Besides, the new bombs the B-3 will carry are much more sophisticated than their predecessors. With computerised guidance, manoeuvrable tailfins and a warhead whose explosive power can be dialled up and down from 50 to 0.3 kilotons (from three times the yield of the Hiroshima bomb to 2% of it) to reduce collateral damage, they will be accurate to within 30 metres.

Yet in nuclear deterrence such technological advantages bring their own problems. Precisely because it is so accurate and its yield can be made so small, the new bomb could make crossing the nuclear threshold a lot easier and therefore more tempting for commanders. Critics see it as encouraging a return to something like "flexible response", a cold-war concept which many at the time thought risky, because it unsettled the apocalyptic logic of

But advocates of both weapons reckon that it is their detractors who are stuck in the past. Clark Murdock of the Centre for Strategic and International Studies led three other think-tank teams in "Project Atom", a report on America's nuclear future published last June. Mr Murdock concluded that if the extended deterrence America offers close allies is to remain credible, it will need smaller, more discriminating weapons as part of its nuclear arsenal.

That is because, despite the Iran deal, more rogue states may acquire nuclear capability. Russia, too, is placing a greater emphasis on low-yield nuclear weapons as a way of offsetting America's still-overwhelming conventional military superiority. Mr Murdock and Pentagon strategists fear that if America only has hugely powerful ballistic missiles at its disposal, it will be, in effect, "self-deterred" from responding to limited nuclear attacks (or threats of them) from opponents.

Other factors, too, suggest that new nuclear weapons will survive the campaign against them. Franklin Miller, a veteran nuclear strategist now at the Scowcroft Group, points out that Mr Obama would never have persuaded the Senate to ratify the New START treaty in 2010 had he not pledged to renew America's nuclear weapons on land, sea and in the air. That agreement allows for what is known as the "bomber discount", which counts an aircraft carrying several bombs as a single warhead. The LRS-B will be able to carry internally a payload of cruise missiles, the new B61-12 bombs or a smaller stand-off missile with a conventional warhead. It is improbable that any president would forgo that option while Russia retains it.

Nor is cost destined to loom as large as some expect. Kori Schake of the Hoover Institution says that with sequestration budgets caps now more or less abandoned, future defence budgets will be under less strain. The Centre for Strategic and Budgetary Assessments estimates that even at its peak in 2027, the complete modernisation plan will claim only 5% of the Pentagon's budget. Nuclear deterrence follows its own logic. So does paying for it.

The changing electorate

No we can't

WASHINGTON, DC

Why 27m Hispanic voters will count for surprisingly little in November

F AMERICA had laws making voting Lompulsory, as Australia and Brazil do, then a new report recording the size of the Hispanic electorate would have Democrats dancing jarabes of joy. The report, based on census numbers crunched by the Pew Research Centre, a non-partisan thinktank, predicts that a record 27.3m Hispanics will be eligible to vote in the elections of 2016. That is good news for the left. Even before Donald Trump decided to build his Republican presidential campaign on a foundation of ugly nativism, accusing Mexico of sending rapists and other criminals to flood America and vowing to build a wall on the southern border, Hispanic voters have strongly favoured Democrats in recent presidential elections. They handed Barack Obama more than 70% of their votes in 2012, in part after the Republican candidate, Mitt Romney, vowed to make life so wretched for illegal migrants

Could do better US Hispanic eligible voters Presidential election years, m 30 Total of which: voted 25 20 15 10 96 2000 04 08 16* Source: Pew Research Centre *Forecast that they would "self-deport".

On paper at least, the Pew report offers a second reason for celebration on the left. The Hispanic electorate will not just be larger than ever in 2016, it will be astonishingly young. Almost half of all Latinos eligible to vote this year will be "millennials", or young adults aged 18-35. For comparison, just over a quarter of whites eligible to vote will be millennials. Nationwide, young people are another bulwark of Democratic voting, with three-fifths handing their votes to Mr Obama in 2012.

Unfortunately for Democrats, America does not have compulsory voting. That fact has an outsize impact among ethnic, racial and socio-economic blocs with low rates of turnout. As the Pew report notes, with each recent election the number of Latinos who can vote hits a new high. But at the same time, the number of Latinos who do not vote also hits a new high.

America is home to about 57m Hispanics, out of a total population of around 321m. But more than half of them are not citizens or are too young to vote. Add on low rates of turnout, and only just over 11m Latinos voted in 2012. This is something of a chicken-and-egg puzzle. Because Hispanics have influenced few elections, many see no merit in voting, and political parties have often only paid lip-service to wooing them. Though immigration was often in the headlines in 2012, less than half of the 23m Hispanics eligible to vote in that presidential election turned out. The apathy of young Hispanics was striking: in 2012 just 37.8% of Latino millennials who could have voted did so. Half said they were not even registered to vote.

The causes are many. Youth is a big one, made worse by relatively low levels of education (though Hispanic numbers are improving). Geography is a big piece of the puzzle. Just over half of all Hispanic eligible voters in 2016 will live in California, Texas and New York, and "those aren't battleground states" says Mark Hugo Lopez, director of Hispanic research at Pew.

Hispanics are not without clout, though. They live in impressive numbers in three swing states, Florida, Nevada and Colorado. Watch Florida with special care. More than one presidential election was arguably swung by Cuban-Americans, who are traditionally more conservative than other Hispanics and mostly live in Florida. But younger Cuban-Americans are less conservative (though Senator Marco Rubio of Florida, a 44-year-old contender for the presidency, whose parents moved from Cuba, is a flinty Republican). Roughly a million Puerto Ricans now live in Florida, many after fleeing economic misery on their home island. Puerto Ricans are American citizens and can vote as soon they reach the mainland. In Miami, Tampa and Orlando at least, politics this year will have a distinct Hispanic accent.



Poisoned water

That Flinty taste

How Michigan's state government endangered the people of Flint

"HOUGH the most abundant supply of I fresh water in the world is on their doorstep, the residents of Flint, Michigan cannot drink what flows from their taps. Facing demands for both his resignation and even a criminal prosecution for his part in the poisoning of Flint, Rick Snyder, the Republican governor of Michigan, sounded contrite in his state-of-the-state address on January 19th. "I am sorry, and I will fix it," Mr Snyder said. "You deserve better." He pledged to release all his emails from 2014 and 2015, so that the public can see how he has handled the crisis. He said he would ask the legislature for \$28.5m for Flint's immediate needs, such as the bottled water and water filters that National Guard troops are distributing to residents. Mr Snyder declared a state of emergency in Flint on January 5th. The federal government followed suit on January 16th.

The trouble began far earlier, in April 2014. On the watch of a manager, Darnell Earley, who had been appointed by the state to manage the near-bankrupt city, Flint began to draw its water from the Flint river instead of Lake Huron to save money. The gritty rustbelt metropolis, where General Motors (GM) was founded in 1908, has been run by a series of emergency managers since 2011. It has lost half its population since the 1960s, as GM cut its local workforce from 80,000 to around 5,000; fewer than 100,000 people now live there. More than 40% of the city's mostly black population live below the poverty line. Crime and unemployment rates are sky-high. Around 15% of Flint's houses are abandoned, making it one of the few towns where college students can buy detached houses.

"Our children have every imaginable obstacle to leading a successful life, and now they also have lead poisoning," says Mona Hanna-Attisha, a paediatrician who was one of the first to uncover what was happening in Flint. Dr Hanna-Attisha explains that the water from the Flint river is unusually corrosive, but was not treated to stop it from eating away at the lining of the city's water pipes, as prescribed by federal guidelines. When pumped through the ageing network it exposed the lead tubes beneath, allowing the metal to leach into drinking water. Treating the water for corrosion would have cost \$100 a day-peanuts compared with what Michigan is now spending on mitigating the disaster.

Residents of Flint complained immediately after the switch to river water that the stuff coming out of their taps had a brownish colour and a strange smell. Their worries were dismissed. The then-mayor of Flint, Dayne Walling, made a point of drinking Flint water on television. Officials stonewalled when a team of researchers, led by Marc Edwards of Virginia Polytechnic Institute and State University, came to Flint in August last year and found elevated lead levels in the water samples they tested. Towards the end of September Dr Hanna-Attisha warned that, after checking hundreds of samples from Flint's toddlers, she found that the lead levels in their blood had doubled or even tripled since the

switch from Lake Huron water. State regulators insisted the water was safe.

The turning point came at the start of October, when state officials changed their minds and accepted Dr Hanna-Attisha's findings. For the first time Mr Snyder admitted that lead was a problem. In mid-October Flint's water supply was switched back to Lake Huron. Yet Flint's tap water is still not safe; the damage done to the pipes cannot readily be undone, which means lead can still find its way into the water.

At this stage it is hard to determine how many children under six have been poisoned, but doctors say that all 9,000 children that age in the area must be considered at risk. (The youngest are the most vulnerable to lead poisoning.) "No level of lead is safe," says Eden Wells, the chief medical executive of Michigan's Department of Health and Human Services. Lead poisoning can lead to aggressive behaviour, learning disorders, Attention Deficit Disorder, hearing loss, anaemia, kidney damage and lowered 1Q.

According to Mr Edwards of Virginia Tech, relief workers say some of the residents they have been sent to help are ignored because they come from the government, which people in Flint no longer trust. "Some people have not taken a bath since October," he adds. John Austin of the Michigan Economic Centre, a think-tank, believes the debacle is making the state look third-world. Mr Snyder is unlikely to resign, but the lead now lodged in the tissue and organs of Flint's children will overshadow the rest of his term and calls into question the competence of the Environmental Protection Agency.

Wage insurance

Creative compensation

WASHINGTON, DC

Insuring workers against lower wages is one of the left's better ideas

OSEPH SCHUMPETER knew that innovation brings some costs. The bank-teller makes way for the cash machine; e-mails push the postal service into decline. Technological advance benefits the economy as a whole by raising incomes and boosting productivity, but it harms the unfortunate few who have built careers in the destroyed industry. On January 16th President Barack Obama unveiled a proposal which seeks to even things out.

Mr Obama wants the government to provide workers with wage insurance. If a worker blamelessly loses her job and takes a new one which pays less-and less than \$50,000 the government would make up half the shortfall for two years, up to a total >> ▶ of \$10,000. An estimate from 2007 suggests this would cost \$3 billion-4 billion a year. That means it could be financed with a tax, which supporters would describe as an insurance premium, of around \$25 per year, per worker. The proposal is likely to remain theoretical for the foreseeable future; it has few takers among Republicans, who control Congress and therefore the budget. Yet as an example of how the American left is thinking about how to respond to globalisation and automation it is worth examining, not least because whomever the Democrats nominate as a presidential candidate in July is likely to borrow it.

The government already offers the same terms to workers over 50 who lose their jobs as a result of foreign competition. The logic of this proposal is the same: trade benefits all consumers by filling shops with cheap imports, but harms those whose jobs disappear overseas. Why, ask advocates of wage insurance, should this apply only to trade-related job losses? Is a factory worker replaced by a robot any less deserving than one who is displaced by foreign goods?

The costs of having to switch careers can be severe, because employees lose seniority and firm-specific skills, such as how to use particular tools or software. From 2011 to 2013, 4.3m workers were displaced from jobs they had held for at least three years. Three in five found a job by January 2014; of those, over 20% lost more than a fifth of their income. Transport and utilities workers were hardest hit; 40% of those who found jobs faced losing a big chunk of their income.

If the wage loss persists over a career, it can total hundreds of thousands of dollars. But whereas Americans can insure themselves against other catastrophes, like a fire or a burglary, they cannot do so against a robot taking their job. That is probably the result of adverse selection: workers in industries where machines are on the march will be especially keen to buy insurance, while those who feel safe will steer clear, leaving insurers with only bad risks.

Some firms offer top-ups to state-provided unemployment insurance, which is paid during episodes of joblessness. But whereas the government can offer a flat rate, by requiring everyone to participate, premiums in the private market vary with risk. According to IncomeAssure.com, insuring 50% of a \$50,000 income sets back a government administrator in Texas less than \$2 per month; the same coverage costs a construction worker in Mississippi \$76 a month. It does not help that unemployment insurance varies wildly across states-something else Mr Obama would like to change.

The White House claims that wage insurance would encourage workers to find new jobs quickly, because the insurance payments are limited to two years, and

Grading university teachers

Ratings agency

NEW YORK

Students judge their teachers. Often unfairly

STUDENTS may be reluctant to speak up in class, but they are more than happy to express their views of their teachers anonymously online. That provides a potentially useful pool of data. With assistance from Enrico Bertini and Cristian Felix of New York University, The Economist has analysed 1,289,407 reviews of 1,066 professors and lecturers in New York state.

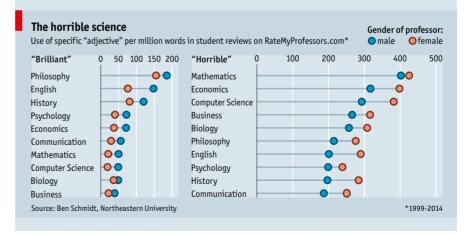
Most of the commentary is innocuous: professors are praised for their brilliance and generosity, and admonished for being boring or tough graders: "This prof makes u work your butt off but u still won't get an A". But the outliers are startling. One student complained of a professor who resembled "one of those worm guvs who is always drinkin coffee" from the film "Men in Black". More flatteringly, an adoring student termed her teacher "a philosophy love-God", and remarked that her life's goal was to "become the mother of his million intellectu-

Students assign grades based on three criteria: "helpfulness", "clarity" and "easiness" (the diligence and brainpower of the teachers apparently count as less relevant). Professors tend to receive good marks in the first two categories, averaging 3.7 out of 5 for both categories, but slightly lower marks for "easiness". This

is in part because the perceived difficulty of courses varies so much by discipline: in general, academics teaching quantitative subjects tended to receive lower ratings for ease. Sociologists earned an average easiness rating of 3.4 out of 5, notably higher than the 2.9 earned by physicists. Philosophy is boring, but (or therefore) its teachers count as brilliant.

Teachers could also benefit from a bit more of the scrupulous attention paid on modern campuses to sexual equality. Earlier analysis by Ben Schmidt of Northeastern University showed that the language used to describe professors was heavily gender-dependent. Men were more likely than women to be described as "intelligent" or "funny", but less likely to be described as "nice" or "mean".

Even dire ratings aren't necessarily condemnations of teaching ability: one study from 2007 found that professors' overall ratings were significantly correlated with both how easy their courses were and how attractive they were perceived to be, while another study from last year found that mathematics professors with Asian surnames tended to receive poorer reviews because students had difficulty with their accents. Professorial brilliance is too intangible to distil into a single score. Not that anyone would do that to students.



kick in only once the person finds a new job; every month they are out of work is a month they miss out on both wages and wage insurance. A pilot programme in Canada in the 1990s, a rare example of a similar policy in another country, found that insurance increased the proportion of displaced workers finding jobs within six months by four percentage points. Average earnings fell by 5%, though-presumably because insured workers were less likely to hold out for a higher-paying job.

As a response to worries about robots, apps and immigrants competing away middle-class jobs, wage insurance makes more sense than, say, trade barriers or a steeply higher minimum wage. One benefit of the policy is that once suitably insured, workers might be less inclined to oppose economic liberalisation.

Roy Moore

The prophet of decline

It would be a mistake to dismiss Alabama's chief justice as an outlandish fanatic

IN THE anteroom of Roy Moore's office hangs a large photograph of the granite slab that once cost him his job. The picture is one of the room's three depictions of the Ten Commandments, which also include a pair of wooden tablets carved by Mr Moore himself. Those caused a kerfuffle when he was a circuit-court judge in the 1990s—a warm-up for the row in which a federal court ruled that the monument in the photo violated the constitution, Mr Moore refused to remove it from the rotunda of Alabama's judicial building, and, in 2003, was ousted as the state's chief justice. The religious memorabilia are now more discreet, but Mr Moore, reinstated in 2012, is not. He has picked a fight over an issue that has assumed apocalyptic proportions for many devout Americans: gay marriage.

On January 6th he instructed Alabama's probate judges, responsible for issuing marriage licences, not to grant them to same-sex couples. He argues that a prohibition of the Alabama Supreme Court last year remains in effect—despite the subsequent judgment of the federal Supreme Court, in a case technically involving four other states but universally seen as definitive, and indeed an order of a federal district court regarding Alabama itself. Under a principle of state autonomy Mr Moore calls "parallelism", he says only a further decision of the Alabama Supreme Court, over which he presides, or a judgment of the national one directly pertaining to Alabama, can reverse the previous ruling.

Naturally, Mr Moore-who sports miniature crucifixes on his lapel and signet ring-cannot speculate about his court's eventual response. In the past, though, he has described homosexuality as an "inherent evil"; referring to a 19th-century judge, he reiterates his view that gay marriage means the "destruction of the foundation of our country". He will vouchsafe that sometimes—as in the case of Dred Scott, a slave whose petition for freedom it denied-America's Supreme Court mistakenly deviates from the constitution.

Although most of Alabama's probate judges ignored his manoeuvre, it "caused a great deal of confusion", says one. For Richard Cohen of the Southern Poverty Law Centre, an advocacy group, this was another fireable offence. Mr Cohen-who coined Mr Moore's sobriquet, the Ayatollah of Alabama-reckons that, whereas over the monument Mr Moore merely defied a federal court himself, now he has suborned



Justifying the ways of God to men

others to do so as well. His reasoning, says Mr Cohen, is "completely deceptive and legally bogus". "When you stand up for the truth these days," comments Mr Moore, "you are going to be attacked."

Perhaps he will be defenestrated again. But the real question about Mr Moore is not whether he will get the boot; nor if, morally or legally, he is right about gay marriage, or can stave it off. It is whether, in modern America, he is quite the outlandish gargoyle that his critics suggest.

O Captain! My Captain!

The son of an itinerant construction worker, he grew up in poverty but made it to West Point, the elite military academy: he insists the portrait of Jefferson Davis, and busts of Robert E. Lee and Stonewall Jackson, which also decorate his office are tributes to fellow West Pointers rather than to the Confederacy. As a disciplinarian military policeman in Vietnam, he was known as "Captain America" and feared a fragging (ie, being killed by his compatriots). Later he had stints on an Australian cattle station and as a professional kickboxer.

Military service, self-improvement, faith: Mr Moore's is an all-American résumé. He is representative in a more literal way, too. He has twice run unsuccessfully in the Republican primary for Alabama's governor; he is uncharacteristically cov about whether he might try again ("Who knows what I will do in the future?"). In the past he dabbled with a presidential bid, but, he says, didn't have the money to compete. Nevertheless, he has twice been elected as chief justice, on the second occasion after being forcibly ejected. And while he insists that his opinions are based on law, not popular approval, they undeniably reflect many Alabamians' views. In a state referendum in 2006, 81% voted to preserve the heterosexual definition of marriage.

It isn't just Alabama: Mr Moore's preoccupations have increasingly become the nation's, as a glance at the Republican presidential contest attests. His principle of "parallelism", flimsy as it sounds, is an extreme version of the concern for states' rights, and claims of overreach by federal authorities, to which many candidates subscribe. They in turn reflect the tensions of an ever more fissiparous nation, including over another of his bugbears: government's proper relationship with God.

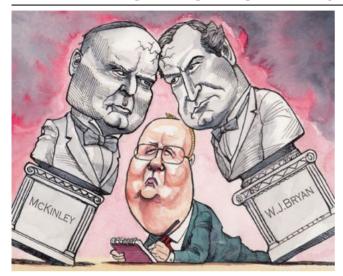
America, he contends, was founded on "the God of the holy scriptures". The theocratic implication is that non-Christians live and worship there on sufferance; indeed, Mr Moore has questioned whether Muslims should serve in Congress, since the constitutional protection of freedom of worship "conflicts with Islamic doctrine". Again, that doubt has been echoed by leading Republicans. Lots of ordinary Americans agree that social change, such as recognition of gay marriage, "is not to be dictated by a court", and that judges have sometimes "usurped the role of the legislature". Many agree, too, that the religious freedom of Christians is imperilled-a liberty, Mr Moore says, invoking Thomas Jefferson, granted by God, not government.

The writings of the Founding Fathers are among those Mr Moore likes to recite, by heart and at length. He celebrates-and mourns-the virtues and values of George Washington and his peers in the poetry he has composed, too: "I'm glad they're not here with us to see the mess we're in/ How we've given up our righteousness for a life of indulgent sin." Those lines capture his underlying lament: for America's moral decline. When pressed, he concedes that the abolition of slavery was a wrinkle in this narrative, but maintains that people can instead be slaves to poverty or tyranny.

That is a remarkable stance for an official whose building in Montgomery is across the road from a church once led by Martin Luther King. But such nostalgia is hardly unusual. More Americans may yearn for the 1950s than for the 1770s, but the belief that the country's precepts have been forsaken, and its greatness lost, is widespread, powerful and poisonous. A gargoyle he may be, but Mr Moore is made up of recognisable parts. ■

Lexington | Karl Rove's history class

The mastermind of the past two Republican presidential majorities finds solace in 1896



FOR the moment at least, this is not the most frightening election that America's pro-business establishment has faced. "The Triumph of William McKinley", a new book by Karl Rove, the campaign strategist who helped George W. Bush to victory in two presidential elections, makes a good case that for captains of industry, Wall Street bosses and Republican leaders, the contest of 1896 felt more perilous. The country was in grim shape then, deep in an economic slump. Hundreds of banks had failed. Armies of jobless men roamed the land. Business owners slept in their shops, guns in hand. Farmers faced ruinous debts.

Amid such misery arose a populist Democrat of prodigious talents: William Jennings Bryan. This young Nebraskan, who had served two terms in Congress, loathed the bankers of Wall Street, calling "agitation" the "only means" to change the "vicious system of finance"-a system that he vowed to "destroy". In 1896 a speech to the Democratic National Convention propelled him to the presidential nomination. A blast at tycoons who "corner the money of the world", Bryan's address ended with a call to issue dollars unbacked by gold-understood by his audience as a cry to let the dollar depreciate, slashing the real value of debts that, in his words, pressed a "crown of thorns" on workers' brows. Bryan thundered in closing: "You shall not crucify mankind on a cross of gold." The response in the hall, Mr Rove records, was a roaring, weeping, hat-throwing frenzy. What followed was the first presidential contest of the modern era. Railways allowed Bryan to travel the equivalent of three-quarters of the way round the world, giving hundreds of speeches to impassioned crowds. By election day he had been seen by between 2m and 3m people-in a country in which just 13.6m cast votes for a president.

Yet Bryan lost to his Republican opponent—a former soldier and governor of Ohio, William McKinley, who stood for thrift, industry and "sound money". Business backers gave McKinley the means to distribute 250m pieces of election literature. Special trains brought supporters to hear McKinley speak from the front porch of his house in Canton, Ohio. By the campaign's end 750,000 people had visited his home town and trampled his flowerbeds to see him, 150,000 of them in a single weekend.

McKinley, a Republican, had more than rich donors and impressive campaign organisation. He grasped the need to pursue a

politics of "addition" that contrasted with Bryan's divisive rhetoric, which fired up his base but did little to enlarge it. As governor of Ohio, McKinley had defended Catholics from bigoted attacks, earning praise from church leaders. He addressed black Republicans in Georgia. His presidential campaign organised supporters' clubs for ethnic Germans, Scandinavians and other hyphenated Americans (aides even formed a "Wheelmen" club for daredevil fans of a modern novelty, the bicycle). McKinley thus broadened the electoral battlefield, forcing Democrats to expend resources defending states they had previously taken for granted.

Mounting McKinley

He also had credibility with working-class voters, a key voting bloc feeling "jolted by depression and technological change". He earned that credibility with unblushing economic nationalism, and specifically his support for protectionist tariffs to curb foreign competition. Finally, McKinley accepted that the election would be a fight about whether to have a tight or loose money supply, after a fumbling start in which he attempted to straddle the issue. This was in effect a proxy for class war, pitting—in Bryan's sweeping words—the "idle holders of idle capital" against "the struggling masses". In the nick of time McKinley found the language to mount a populist counter-attack, presenting "sound money" as a way to ensure that workers earned dollars of enduring value.

Jump to 2016, and establishment Republicans long to repeat McKinley's feat: finding the right populist phrases to sell a broadly conventional, business-friendly policy platform, albeit one fortified with a dose of economic nationalism. Mr Rove is himself a past master at this. But this is not the past. Today's Republican grandees are grappling with a candidate, Donald Trump, offering something altogether more potent: demagogic language to sell a demagogue's programme. Mr Rove draws shrewd lessons from McKinley's win for Republicans fighting the next general election. Should an establishment-friendly, enlarge-the-tent Republican-a Senator Marco Rubio, say-win the presidential nomination, he could do worse than study McKinley, and his successful arguments against bank-bashing, soak-the-rich Democratic populism (if a Bryan can be beaten back, a Bernie Sanders surely can). But such a Republican first has to survive the presidential primary season. For all his experience, Mr Rove seems short of ideas about how his party gets from here to there.

In an interview, Mr Rove describes a 2016 Republican platform that amounts to the same policies as ever, sold with a bit more nationalist vim and even more scorn for President Barack Obama. He does not share McKinley's taste for protectionism, instead suggesting that free trade with Pacific nations can be sold as a nationalistic win, by arguing that Asian countries are "scared to death of China" and "want to do a deal with us". He pushes back at those prominent Republicans wondering whether to join nativists in calling for curbs on all immigration, legal and illegal, in a bid to woo blue-collar voters. "I think most people don't understand" the difference between 500,000 or 250,000 skilled migrants arriving on work visas, Mr Rove suggests. What really concerns them is a sense of a changing country, so that "you walk in some place and the notices are in English and Spanish." He thinks Republicans can constructively harness voter anger with Mr Obama and his "seeming unwillingness" to listen to such concerns, without sounding "antagonistic" to immigrants. In short, he hopes that McKinley's heirs still have time to take their party back. That is true, but may not remain so for much longer.



Also in this section

- 36 Bankruptcy in the Bahamas
- 36 Feminism v faith in Bolivia
- 38 Bello: The success of Plan Colombia

Venezuela's crisis

Heading for a crash

CARACAS

The president and the opposition are talking to each other. That does not mean they will fix the economy together

opposition-controlled ENEZUELA'S parliament, the first in nearly 16 years, has been sitting for less than a month. It has been an eventful period. The opposition gained and lost its two-thirds majority; the country's Supreme Court declared that all its acts would be null and void, then relented. Venezuela's president, Nicolás Maduro, overhauled his government and seeks new powers to tackle an "economic emergency". The Central Bank published vital economic indicators for the first time in more than a year. What is not clear is whether all this is leading the country away from an economic and political crash or more rapidly towards one.

Some signs are encouraging. The confrontation between the National Assembly and the Supreme Court ended after three opposition deputies, who had taken their seats in defiance of a ruling by the court, agreed to step aside while an investigation takes place into charges of electoral fraud in their state. This denied the opposition a two-thirds majority, but allowed the regime to recognise parliament's legitimacy. On January 15th Mr Maduro, a former bus driver, delivered his state of the union speech before a hostile legislature for the first time. The mocking rebuttal by Henry Ramos Allup, parliament's new president, was broadcast live-another first.

Some of Mr Maduro's recent decisions suggest openness to dialogue. One is the appointment of Aristóbulo Istúriz, a former mayor of Caracas, to be the country's vice-president. He replaces Jorge Areazza, the son-in-law of the late Hugo Chávez, the founder of Venezuela's failing "Bolivarian revolution". Unlike Mr Areazza, the new vice-president is respected both by the opposition and within chavismo. Mr Ramos has spoken to Mr Istúriz at least twice. Their conversations helped end the standoff between parliament and the Supreme Court. Mr Ramos expects Mr Istúriz to be a "facilitator" of communication.

Whether talking will lead to useful action is uncertain. On January 15th the Central Bank partly owned up to the dire state of the economy. It said that in the 12 months to September inflation was 141.5% while GDP shrank by 7.1% over the same period. Even those numbers probably understate the awfulness. The IMF reckons the economy shrank by 10% last year and that inflation is now over 200%.

Why inflation is a conspiracy

There is little sign that president and parliament agree on why things are so badapart from the collapse in the price of oil, virtually the only export-or what to do about it. In his three-hour speech Mr Maduro once again blamed shortages, inflation and a weak currency on an "economic war" waged by speculators and foreigners. Mr Ramos retorted, with more accuracy, that "the economic model is wrong."

Mr Maduro's economic emergency de-

cree would give him sweeping powers over the economy for 60 days. That could be dangerous. In shaking up his cabinet Mr Maduro gave the job of economic tsar to Luis Salas, a sociologist who comes from the far-left fringes of chavismo. He regards inflation as a capitalist conspiracy against consumers and denies that the Central Bank helps cause it by printing money to finance the budget deficit. Other members of the new economic team, including Rodolfo Medina, the finance minister, and Miguel Pérez Abad, who brings a business background to the industry ministry, are more moderate. But it is not clear how much influence they will have.

Mr Maduro admitted that "the time has come" to raise the price of petrol, which is virtually given away. That is a big reason for the government deficit, which was 24% of GDP last year. Beyond that, it is not clear how he would use the new powers he is asking parliament to grant him. The proposals drawn up by Mr Salas urge businesses to increase production, but without lifting price controls or suggesting a way to raise imports of supplies. There will be no cuts to social spending.

Some in the opposition suspect the government is laying a trap. If the assembly rejects Mr Maduro's plan, it risks being accused of denying protection to popular social programmes. If it accepts, it will renounce its power to intervene in the economy. Parliament had still not decided when The Economist went to press.

Other issues could yet refreeze relations between the legislature and the government. The opposition plans to pass an amnesty law to free scores of political prisoners, which Mr Maduro has already vowed to reject. Mr Ramos has not retreated from his promise to remove the president by constitutional means within six months. A crack-up will be hard to avoid. ■

Caribbean tourism

No dice

The bankruptcy of a big resort buffets the Bahamas

 $\textbf{E}^{\text{MBRACE}} \text{ ocean breezes and stellar} \\ \text{views," coos the website of a hotel at}$ the Baha Mar resort in Nassau, the capital of the Bahamas. Sadly, although the winter tourist season is in full swing, no one will be taking up that tempting offer soon. The Baha Mar's two 23-storey blocks and its 2,300 rooms stand empty; the Jack Nicklaus "signature" golf course is deserted; in the casino, which sprawls across two acres, the slot machines are silent.

The Baha Mar missed its first ribboncutting in December 2014. It hired 2,000 staff and stocked its casino with \$4.5m cash in preparation for a second deadline the following March. But with three days to go the resort was still not quite ready. A longsimmering quarrel between its main investor and the Chinese contractor, which had broken out early on, boiled over. The opening was put off again. It is not clear when, if ever, it will happen.

Tourists who had booked their rooms vented their rage on Twitter. For the Bahamas the disaster is much bigger. The project's \$3.5 billion cost is two-fifths the size of the country's GDP. At full strength, its workforce of 5,000 employees would represent more than one in 40 Bahamian workers. The resort was expected to generate more than a tenth of the country's GDP.

The archipelago sorely needed the lift that Baha Mar had promised to give it. Although it is the region's second-richest economy, income from tourism, its biggest industry, has faltered for most of this century. It took a knock after the 9/11 terrorist attacks in 2001, and suffered further from the housing-market debacle in the United States. The number of tourists has dropped from around 1.6m in 2006 to 1.3m in 2015.

The American embassy has warned its citizens about the country's high crime rate. Bahamian hoteliers dread the day when Cuba begins to draw American tourists in large numbers. In August, with the opening of Baha Mar in doubt, Standard and Poor's downgraded the Bahamas' credit rating.

The causes of the debacle are murky. Sarkis Izmirlian, the main shareholder, accuses the construction company, China Construction America (CCA), of poor management, missed deadlines and a failure to meet "standards of excellence". Under the terms of loans from China's Export-Import Bank, he could not fire the builder. CCA claims that Mr Izmirlian, whose father made a fortune selling African peanuts, drove up costs by demanding changes to the design.

He filed for bankruptcy at a court in Delaware in June 2015, hoping for protection from creditors while he restructured the company. But a judge rejected the suit, and in September a Bahamian court appointed provisional liquidators. This puts the Chinese creditors in control, and Mr Izmirlian's \$850m investment in grave jeopardy.

He can expect little support from the Bahamian government, which counts on Chinese investment. CCA owns a former Hilton hotel and has a "master plan" for redeveloping downtown Nassau. Hutchison Whampoa, a conglomerate from Hong Kong, owns a huge container terminal on the island of Grand Bahama and a big hotel, among other things. Mr Izmirlian, a Swiss citizen, has less clout. In August, the immigration and foreign affairs minister threatened to revoke his residency permit.

The Bahamas' prime minister, Perry Christie, says it may cost \$600m to complete the project, though who will provide that is unclear. There has been talk of a deal involving Sol Kerzner, a South African who built the Atlantis, Nassau's other big resort. But he is 80 years old; his son, thought to have been his heir, died in a helicopter crash. The Fosun Group, a Chinese conglomerate that owns Club Med, which has a resort in the Bahamas, is said to be interested. Mr Christie hopes that the Baha Mar's convention centre will open in time to host the annual meeting of the Inter-American Development Bank in April. The stellar views will have to wait.

Bolivian women

Feminism v faith

María Galindo, a fiery feminist, takes on Christianity

*UMMONED to the prosecutor's office On December 17th for questioning in an investigation of "damaging public property", María Galindo was unapologetic. She turned up wearing headgear that mashed up Lady Liberty's crown with traditional indigenous dress that was itself scrawled with the graffiti that landed her in trouble: "fiscalia rima con porqueria", or roughly "prosecutor rhymes with crap". The insult was provoked by prosecutors' inept handling of investigations into the murders last year of several women in La Paz. Now the prosecutors are going after Ms Galindo and her fellow protesters.

With her partly shaved pate and theatrical eye shadow, Bolivia's most prominent feminist stands out in a crowd. Mujeres Creando (Women Creating), the group she



Anti-church lady

founded in 1992, has been daubing walls with graffiti, staging performances and engaging in acts of civil disobedience ever since to protest homophobia and maltreatment of women, Tradition-minded Bolivians call her an anarchist and revile her lesbianism. She describes herself as a rebel.

Her rebelliousness has not lessened even though Bolivia for the past decade has been governed by leftists who see themselves as champions of the oppressed. Evo Morales is the first Bolivian president to hail from the country's indigenous majority. A new constitution, enacted in 2009, repeatedly affirms the principle of equality of the sexes.

To little purpose, argues Ms Galindo, who is polite and soft-spoken despite the fierceness of her views. "The government's position is utterly incoherent," she contends. Mr Morales's party, the Movement To Socialism (MAS), is an "agglutination of caudillos' interests and does not represent progressive ideas at all". The underlying problem, she thinks, is Christianity, especially the evangelical sort that has taken root in indigenous communities. No doubt there is some truth in this claim. It also allows activists such as Ms Galindo to blame bigotry and violence on European influences rather than native ones. "Homophobia is not an indigenous idea," she asserts. "It was introduced by the church."

The influence of Catholicism has ebbed but that of newer churches, such as Pentecostalism and Mormonism, has risen (see page 53). In a survey conducted in 2013 17% of Bolivians described themselves as evangelicals. The MAS has increasingly aligned itself with these churches, says Pedro Portugal, a writer on indigenous affairs. Early results from a survey of attitudes toward homosexuals among lawmakers in parliament show that many are influenced by fundamentalist Christianity.

Bolivia's constitution allows indigenous groups to manage their affairs in such matters as justice and land use in accordance with their "customs and practices". The norms are Christian, not traditional, >>



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• feminists charge. "Allowing indigenous groups to decide how and whether they apply the law is simply an abdication of the state's responsibilities," says Sonia Montaño, a former head of gender affairs at the Economic Comission for Latin America and the Caribbean. She wants ordinary civil and criminal law to apply.

Activists say Bolivia's president is part of the problem. Mr Morales calls himself a "feminist who makes macho jokes." But few activists were amused by his recent response to rumours about the health minister's sexual orientation: "I don't want to think that you are a lesbian."

Such attitudes make it hard to fight discrimination against homosexuals and abuse of women. Bolivia's levels of domestic violence are the worst in South America, according to a study in 2013 by the Pan American Health Organisation. More than half of women who have been in a relationship say they have been physically or sexually abused by their partners.

In politics, there is progress. Under the constitution parties must field as many female candidates as male ones in elections. Half of government ministers must be women. In district elections held in March 2015, the number of women elected sur-

passed that of men for the first time. Ms Galindo is unimpressed. "Many of them are simply ornaments," she says.

Her crusade against churches will continue. Last July, women from Mujeres Creando prepared for the visit of Pope Francis by gathering at the cathedral in La Paz dressed as pregnant nuns. "Every day your church crucifies women," read a placard denouncing its opposition to abortion. Riot police hauled the demonstrators away. Ms Galindo calls the influence of the church "colonialism's open wound." Perhaps, but some of the attitudes she is fighting may also be home-grown. ■

Bello A new plan for Colombia

Juan Manuel Santos seeks support for peace in Washington

T IS rare nowadays to find an American foreign policy that is a clear success. Yet that applies to Plan Colombia. When it was devised in 1999 by the administrations of Bill Clinton and Andrés Pastrana, then Colombia's president, the country was on the brink of becoming a failed state, with much of its territory at the mercy of guerrillas, paramilitaries and drug traffickers. The plan, under which the United States has provided Colombia with almost \$10 billion in mainly military aid, had plenty of critics. Too skewed towards trying to win the unwinnable war on drugs by spraying coca fields from the air, and too compromised by giving money to an army stained by human-rights abuses, they said.

The critics missed the point. Plan Colombia was sold politically in the United States as a crackdown on drugs, but in reality it was always first and foremost a counter-insurgency strategy. For Colombia to be a viable democracy, it needed a stronger state able to provide security to its citizens and to tame the illegal armies, which were financed by the world's cocaine habit. It worked. Colombians backed the strategy-American aid was more than matched by increased domestic spending on security. Under Álvaro Uribe, who followed Mr Pastrana as president, the paramilitaries demobilised and the FARC guerrillas were battered so hard that they agreed, in 2012, to start peace talks with the government of Juan Manuel Santos, Mr Uribe's successor (and his former defence minister).

All being well, the talks will culminate in an agreement by March 23rd, and the FARC's demobilisation. So it is appropriate that Barack Obama has invited Messrs Santos, Uribe and Pastrana to Washington on February 4th to commemorate "15 years of bipartisan co-operation through



Plan Colombia", along with George W. Bush and Mr Clinton. Mr Pastrana, a largely forgotten figure, was quick to accept. The election campaign in the United States may make it hard for Messrs Bush and Clinton to do so. According to Semana, a newsweekly, Mr Uribe, too, may stay away, vitiating one of the meeting's tacit aims-to shore up bipartisanship in Colombia.

Mr Uribe has become a vitriolic foe of Mr Santos. He accuses the president of "handing the country over to the FARC". That is a wild exaggeration. But there is indeed plenty to criticise in the 63-page agreement on justice finalised on December 15th. FARC leaders accused of war crimes will go before a special Peace Tribunal. Provided they confess, they will be eligible for alternative penalties that include five to eight years of "effective restriction of liberty and rights" and engaging in projects to help victims of the conflict. At their laxest, the penalties could see FARC commanders working to strengthen their own political base by, for example, helping displaced peasant farmers. And meanwhile, they will be free to take part in politics.

The agreement offers "worrying levels

of impunity" for serious crimes, says Iván Duque, a senator from Mr Uribe's party. Human Rights Watch, an advocacy group, concurs. It fears that the tribunal, whose composition has yet to be agreed, may not be independent.

Nevertheless, the agreement does hold the FARC to account. And after three years of hard talking, it is the most the government could extract from the muchweakened, but undefeated, guerrillas. The alternative is years of further conflict and the FARC's disintegration into criminal bands. That is why the United States is supporting the peace process.

Peace is not quite a done deal. The two sides have still to agree on means to put the FARC's weapons beyond use (this week they agreed to ask the UN to monitor the process). Mr Santos has promised a plebiscite on the final agreement; a bill in Congress would cut the turnout required from 50% to 13% of the electorate.

And then it must be implemented. Mr Santos will go to Washington with a request for a new Plan Colombia-some \$500m or so a year for up to ten years for rural development, public services and justice in former conflict areas. Though there will be a "few voices of dissent" from Mr Uribe's supporters, there will be "broad bipartisan support" in the United States Congress, according to Michael Shifter of the Inter-American Dialogue, a think-tank in Washington. But at a time of fiscal constraint, the applause may not be backed with much money.

Plan Colombia thus risks becoming a victim of its own success. That would be a shame. Certainly Colombia, a middle-income country, must put up most of the money for peace. But its public finances have been clobbered by the oil crash. Having come so far, it deserves support on the home straight.



Iran's economy

Waiting for the peace dividend

BEIRUT AND TEHRAN

The economy has great potential, but will it be realised?

THERE were no street parties. When ▲ sanctions relating to Iran's nuclear programme were lifted on January 16th, it was instead Iranians' deep cynicism that prevailed. "Quick, prepare the [immigration] forms," some joked on social media, scoffing at the idea that tourists would suddenly come pouring in.

Nor was Hassan Rohani, Iran's president, able to enjoy the moment. Within days of the announcement the Guardian Council, a body of jurists and theologians, barred a majority of reformist candidates from running in parliamentary elections next month. Then on January 18th America slapped new sanctions on those involved in Iran's missile programme.

Yet the next few weeks-and the speed of the economy's response to the lifting of sanctions-will be crucial in determining the direction that Iran takes over coming vears. Next month the country also votes for members of the Assembly of Experts, a committee that will choose the next supreme leader, who outranks the president. To keep the hardliners at bay, Mr Rohani, who himself must seek re-election next year, will have to persuade them of the virtues of a more liberal, less state-run, more outward-looking economy.

To do so he has to hope for a quick turn in the fortunes of the world's 18th-largest economy (by purchasing-power parity). Yet overcoming the lingering effects of its isolation will be no easy task. "It took years to put the sanctions on, and removing them will be a process," says Ramin Rabii, who runs Turquoise Partners, an Iranian investment firm. Foreign banks, some of which faced swingeing fines for having facilitated trade with Iran, complain about inconsistencies in official sanctions lists published by different countries and fret they may again face prosecution for violating sanctions still in place, or new ones.

Iran's most immediate benefit will be the unfreezing of assets abroad worth at least \$32 billion. (American officials put the figure at \$55 billion; others give still higher numbers.) Iran plans to spend a chunk of this on railways, airports and aircraft; it is close to clinching a deal with Airbus to buy 114 new planes, and says it needs 400.



Also in this section

- 40 The caliphate eyes the Holy Land
- 40 Egypt's crackdown
- 41 Floating armouries
- 42 The rift in Kenyan politics

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Much of the rest of the cash, say Iranian officials, will help sort out the country's banks, which were pushed to the brink of insolvency, if not into it, by the previous administration of Mahmoud Ahmadineiad. Up to a fifth of all bank loans are said to be non-performing and several banks are bust, not least because the government instructed them to lend even when they thought it imprudent. Some critics fret that the money will instead be used to fund terrorism and Shia militancy abroad.

Another quick win will come from Iran's readmission to the global banking system and payment networks such as SWIFT. This will help drive down the cost of imports since, in recent years, Iranian businessmen have not had access to letters of credit. As a result they had to pay upfront in full for imports. Ending such restrictions could add up a percentage point to annual growth, the IMF reckons. Industry should benefit within months.

Over the longer run Iran should be able to attract foreign investment, which has fallen in recent years (see chart). Among Iran's attractions are a young, well-educated and largely urban population of 80m. European delegations have flooded into Tehran in the past 18 months, but they still need convincing that the country is politically stable and friendly to business.

The most attractive industries are food and drink, pharmaceuticals and other consumer goods. Many Iranians want European brands rather than the Chinese ones that dominated the market under sanctions. "We used to sell high-quality Italian washing machines, but our customers have gone elsewhere to buy Chinese imports," says Ramin Farahi, a salesman near Tehran's Grand Bazaar. Foreign hotel chains are also poised to invest.

The biggest prize for investors may be carmaking. The automotive industry em->> Ploys hundreds of thousands of workers, but output is shoddy. Some expect that production could bounce back by the end of this year to 1.6m vehicles, matching the high point achieved in 2011. Renault and Peugeot, which have a long history in Iran, are already back.

The government's priority is probably to increase production of oil—which made up 17% of GDP and 30% of the government's income in 2014—by 500,000 barrels per day (b/d), to about 1.5m b/d. In time it hopes to get back to the 3m-4m b/d it used to pump before sanctions. But because of the slump in world prices, oil will be less of a cash cow than was once hoped and Iran will struggle to get investment from debtladen international oil companies.

Iran's economy is far more diverse than those of other oil producers in the region, such as Saudi Arabia, its regional rival. By most estimates its GDP could grow by 5-8% a year, despite weak oil prices.

Quite apart from the lifting of sanctions, Mr Rohani's team realises that it needs to address a raft of problems in an economy that was sorely mismanaged by Mr Ahmadinejad. Corruption is rife: Transparency International, a Berlin-based watchdog, ranks Iran 136th in its corruption perceptions index. In addition, the World Bank puts Iran at a lowly 118th in its ease-ofdoing-business index. Capital markets need developing. Firms need access to finance. Unemployment and underemployment are rife and labour productivity is low. Now that sanctions are being lifted, the regime will no longer be able to blame foreigners for Iran's woes. Yet unless he can show quick progress, Mr Rohani may well be punished at the ballot box for the sins of his predecessor.

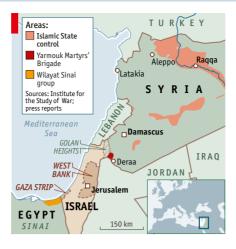
Israel and Islamic State

The caliphate eyes the Holy Land

GOLAN HEIGHTS

Israel faces the jihadists in Syria, in Sinai and perhaps even at home

FROM the military observation points overlooking the spot where Israel's frontiers meet those of Syria and Jordan, Israelis can clearly see the positions of Liwa Shuhada al-Yarmouk—the Yarmouk Martyrs' Brigade. It is only one of many dozens of Syrian rebel groups, yet Israeli officers half-jokingly describe the fighters, mainly Syrians from nearby villages, as "Daesh lite". The brigade, which may have between 600 and 1,000 men, has sworn allegiance to Abu Bakr al-Baghdadi, the "Caliph" of Islamic State (1s), also known by its Arabic acronym, Daesh. The black flag of 1s forms part of its logo.



So far, at least, the group has concentrated on skirmishing with the Syrian army and with rival rebel groups, and on securing its strongholds on the slopes of the Golan. But the Israelis are worried that, as Is is pushed back in other parts of Syria and Iraq, its leaders may decide to take over the Yarmouk Martyrs' Brigade and use its bases for attacks on Israel or Jordan.

Is has yet to attack Israel. Its main forces in southern Syria are about 80km (50 miles) from Israel's borders. Last month, Is put out a recording, purporting to be the voice of Mr Baghdadi, saying that "with the help of Allah we are getting closer to you every day. The Israelis will soon see us in Palestine." On January 18th Lieutenant-General Gadi Eizenkot, the chief of staff of Israel's armed forces, warned that "the success against Is raises the probability we will see them turning their gun-barrels towards us and also the Jordanians".

The most direct and likely avenue of attack is across Israel's frontier with Syria. That is because the situation there is already chaotic; is bases and civilian villages are close to Israel; and the terrain is mountainous. "A vacuum where no one is in control will always be the most dangerous location we should be looking at," says a senior Israeli officer. Israel has toughened its border defences on the Golan, with new fences and sensors. It now stations regular forces there instead of reservists.

But is may also choose other places from which to attack. Wilayat Sinai, which means the "Sinai province" of 1s, has been operating on Israel's western border for five years. It declared allegiance to 1s in late 2014 and claimed responsibility for blowing up a Russian airliner last October, killing 224 people. But it is embroiled in a bloody insurgency against Egypt's security forces. Israel, which is discreetly providing the Egyptians with intelligence and military help, says that is shares routes for smuggling arms and other supplies with Hamas, the Islamist group that controls Gaza. These could be used for launching future attacks on Israel.

The Israelis are also worried that radi-

cal Palestinians who are citizens of Israel may be working for 1s. So far they reckon that about 50 of them have gone to Syria to join 1s. "There are more Swedes than Israelis fighting with Daesh," says an Israeli intelligence man. Others say they are confident that Israel's security service is better than its European counterparts at monitoring 1s activity in its own territory. Even so, they fret that 1s could become popular among young Palestinians in Israel, and in the West Bank and Gaza, where many are disillusioned both with the Palestinian Authority and with Hamas, its rival.

"Is is here and it's no secret," says Reuven Rivlin, Israel's president. "I'm not talking about the borders of Israel, but about Is within. Research, arrests, witnesses, open and classified analysis all indicate clearly that Is's popularity is growing and that even Israeli Arabs are actually joining up with it." Vigilance along Israel's borders may not be enough.

Egypt's crackdown

Remember, remember

CAIRC

The government tries to forget an inconvenient anniversary

THEIR main objective is to create fear," says Mohamed Lotfy of the Egyptian Commission for Rights and Freedoms, a pressure group, referring to a series of arrest of activists as the government intensifies a long-running crackdown on dissent. Indeed, even as Mr Lotfy speaks, his phone rings: the police have arrested three more people.

A colleague, Ahmed Abdullah, himself sought by the security services, is putting on a brave face. Sitting in a café in Cairo, Mr Abdullah is sure he will be arrested—perhaps worse, he says, implying that the police might shoot him. "It is part of the price that we should pay for freedom."

The government, on the other hand, appears nervous. In the months leading up to the fifth anniversary on January 25th of the uprising against Hosni Mubarak, the ousted dictator, the current government led by the strongman Abdel-Fattah al-Sisi has tried to dispel any danger of a repeat. Protests in 2014 and 2015 led to dozens of deaths and hundreds of arrests. Clerics, labour leaders and television hosts have been enlisted in the effort to keep people off the streets.

Activists claim they have no big plans for protests this year. But the government is rounding up perceived troublemakers with unrestrained vigour, adding to the tens of thousands of political detainees already languishing in Egyptian prisons.

Most are accused of associating with outlawed groups, such as the Muslim Brotherhood, or organising protests, which are banned. Journalists and administrators of several Facebook pages have also been targeted. Police have even raided a theatre and art gallery in downtown Cairo.

A feature of the government's crackdown is the secrecy surrounding many of the detentions. Mr Lotfy's group says that between August and November more than 340 people "disappeared" into government custody. That does not count Sinai, where the government has blocked access due to an Islamist insurgency. The total is "not less than 1,000", says Sherif Mohie Eddin of the Egyptian Initiative for Personal Rights, another pressure group. He says the secrecy is deliberate, a charge denied by the interior ministry.

Most of the disappeared are liberal activists or Islamists, but the reasons for some disappearances are not at all clear. Mostafa Massouny, a young video editor, was getting food in downtown Cairo when he vanished on June 26th. Through various channels his family learned of his detention and was told he would be released. But now there is no official trace of him. "Egypt has eaten my friend," says one of his colleagues.

If there was any hope that the new parliament might act as a check on the regime's ruthlessness, that has been dashed. Most lawmakers have pledged their support for Mr Sisi. When not mugging up for TV cameras or taking selfies, they found time to pass a terrorism law that is likely to ensnare activists. The crotchety head of the committee on human rights, Mortada Mansour, has called January 25th "the worst-ever day in Egypt's history". Some officials hope to reclaim the date by renewing its prior designation as a day for celebrating the police. They have certainly been working hard.



Floating armouries

Cruisin' with guns

A brisk business in safeguarding guns

TN OCTOBER 2013 the Seaman Guard ▲ Ohio, a Sierra Leone-flagged ship, was intercepted just under 11 nautical miles off the coast of India by the local coastguard. The grey-hulled vessel looked like a naval ship-bristling with antennae and radarbut was chartered by AdvanFort, a private security firm based in Washington, DC. It had 35 crew and carried 35 guns and thousands of rounds of ammunition. On January 11th this year all those aboard-among them Britons, Estonians and Ukrainianswere convicted of entering Indian waters with illegal weapons. They were sentenced to five years in prison.

The case offers a glimpse into a world not often seen by landlubbers. The Seaman Guard Ohio was a "floating armoury", a ship that loiters semi-permanently in international waters, acting as a hotel and base for private security guards hired to protect ships from Somali pirates. They are typically stationed in waters off Sudan, Sri Lanka or the United Arab Emirates, waiting for their customers-merchant ships in need of protection—to pass by.

Guards hop aboard a client's ship with their guns, then ride it through the piracy "high risk area" (HRA). Since armed guards first started protecting ships against Somali pirates about a decade ago, no ship with them aboard has been successfully hijacked. Now about 40% of ships rounding the Horn of Africa carry armed guards, according to IHS Jane's, a research company.

Once the ship has passed back into safe waters the guards disembark to another armoury. Then they fly home or jump aboard the next ship going the other way. This arrangement keeps guns out at sea, avoiding bothersome and inconsistent national laws. When they stray too close to land, as the Seaman Guard Ohio allegedly did. they can run into legal trouble. Armoury operators market their services online. Some vessels feature wi-fi, television rooms and gyms to keep guards happy, along with safes to store weapons.

No official register of floating armouries exists, so it is impossible to count them reliably. But at least 15-20 lurk in and around the Indian Ocean, according to one seasoned guard. He reckons thousands of military-grade weapons are stored aboard the vessels.

The British government has tried to regulate the industry. It has issued licences for "private maritime security companies" to use certain armouries that it deems safe and professionally run. Tom Frankland, a director at Sovereign Global UK, a firm that runs two floating armouries (but unlike AdvanFort does not itself guard cargo ships) says his firm's craft are regulated by the governments of Djibouti and Britain, which sets strict rules on how they can be used only in self-defence.

Armouries have done brisk business since governments and marine insurers first demarked an official HRA in 2010. At the peak of Somali piracy in 2012, shipowners would pay about \$45,000 per trip for armed guards. Insurers often insisted they have them, reckoning that this would reduce the risks of them having to pay out millions in ransoms if a ship were hijacked. Yet competition has driven down rates charged by security firms and standards are falling as less highly-regulated companies enter the market. A boss of one British-owned armoury worries that the use of such firms could lead to weapons entering the black market.

"You used to see teams of Royal Marine Commandos and Navy Seals guarding ships," says one naval officer involved in patrolling the waters off the Horn of Africa. "Now you get three [untrained men] sharing a rusty AK-47." Moreover, the industry itself is facing tougher times. On December 1st the HRA was shrunk, thanks to a steep drop in the number of pirate attacks-itself the result of more guards as well as patrols by mainly western navies. That is good news for shipowners, but bad news for their guards. Adding to the uncertainty is a chance that Somali piracy will make a comeback in 2016. IHS says strife in Somalia, coupled with a forecast for months of clement weather, have put Somali pirates in its "top 10 risks" for 2016. If piracy rebounds, some old sea dogs of war may get another lease of life.

Kenyan politics

Rifts in the Rift

Election tensions are already rattling Kenya's most combustible region

DRIVE west out of Nairobi and you quickly realise how astonishing the topography around the Kenyan capital is. After an hour or so crawling in traffic past tea fields and farmers selling sheep skins and fresh vegetables, motorists suddenly find themselves on an escarpment from which the land simply drops away. On the horizon, mist clings to the top of Mount Longonot, a dormant volcano. Before it, a patchwork of tiny green farms stretches across the valley floor like a carpet.

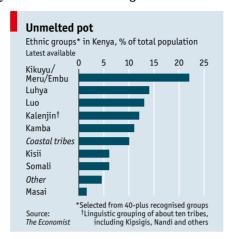
This is the central part of the Rift Valley, a vast depression that stretches thousands of miles. It is Kenya's breadbasket and its most densely populated region. Its flower farms, tea fields and coffee plantations provide much of the country's exports, as well as employment for thousands of workers. Its geothermal energy plants provide Nairobi with cheap electricity; its lakes provide water and its farms food.

In politics, too, the Rift Valley plays a central role. It contains a key constituency that Uhuru Kenyatta, Kenya's president, needs to win over if he is to be returned to office in an election due next year. Mr Kenyatta, who is from the Kikuyu, Kenya's largest tribe, won in 2013 by forging an alliance with William Ruto, a politician who is popular among the Kalenjin-speaking people who are numerous in the Rift. Yet with Mr Ruto arraigned at the International Criminal Court (ICC) in The Hague on charges of instigating violence after disputed elections in 2007, and the economic boom slowing across Africa, what happens over the next year in the Rift Valley will be crucial to Kenya's fate.

Polling day is more than 18 months away, but electioneering is already under way. In Nakuru, the biggest city in the region, the office of the Kenyan electoral commission buzzes with young workers clutching application forms for jobs as officials. As many as 1.5m voters will be registered over the next few months, says Ezekiel Muiruri, the local administrator.

On the shore of Lake Naivasha, the election is beginning to worry some. Here, tourist camps sit alongside acres of greenhouses from which, every day, millions of roses are flown to Europe and the Far East. The farms are flourishing: between 1995 and 2014, the annual volume of flowers exported rose from 29,000 tonnes to 137,000, drawing workers from across Kenya.

Yet this influx of migrants means that the area around Naivasha is no longer so



dominated by either the Kikuyu or Kalenjin. Its kaleidoscopic tribal mix has long made Kenyan politics jumpy and sometimes violent. Tribal tension is always liable to boil over during elections and the Rift Valley remains a political cauldron.

For the first decade-and-a-half after independence in 1964 the Kikuyu, led by Jomo Kenyatta (the current president's father) were on top. Then, under President Daniel arap Moi, the Kalenjin started to call a lot of the shots. In 2002 Mr Moi was succeeded by Mwai Kibaki, who reasserted Kikuyu power. But this was challenged at the polls in late 2007 by an alliance led by Raila Odinga, the head of a particularly aggrieved tribe, the Luo, alongside Mr Ruto, the Kalenjin's main torchbearer.

When the results of that election were contested places like Naivasha and Nakuru erupted in violence that shattered the

country during the first part of 2008. At least 1,300 people were killed and 300,000-plus displaced. At Karagita, a slum that borders the lake, a group of men fret about the possibility of ethnic violence similar to what happened after the election in 2007. "The way politicians are speaking now makes me nervous," says Julius, a tailor, hunched over his ageing sewing machine. He fears that politicians will once again whip up ethnic tensions.

Most Kenyan analysts think Messrs Kenyatta and Ruto could easily win again if they stick together. But that is not assured. One problem is the case at the ICC: for the past two years, Mr Ruto, with the backing of the entire Kenyan government, has been seeking to have the charges thrown out. But instead proceedings have moved slowly. On January 12th, he appeared in The Hague. Many of Mr Ruto's supporters question why he is still in the dock when charges against Mr Kenyatta have been dropped. If Mr Ruto is convicted, his alliance with Mr Kenyatta may crumble.

Another problem is that although in 2013 Mr Ruto was able to deliver the crucial Rift Valley votes of the Kalenjin, he is not the only politician representing them. Gideon Moi, a senator and the son of the former president, and Isaac Ruto, a county governor (no relation to William), are two potential challengers.

The government also faces two further challenges to its popularity. The first is a slowing economy. Despite the fall in oil prices and a weaker currency, flower exporters say their margins are narrowing, mainly because many of their costs are incurred in strengthening dollars. Inflation is surging. So too are interest rates as the central bank tries to stabilise a currency that has fallen sharply. Another issue is that instead of the usual pre-election splurge, the government is having to tighten its belt to deal with a fiscal deficit that reached almost 9% of GDP in 2015. Whatever happens in the run-up to elections, the Rift Valley will be at the centre of it.



Beware the cliff edge



SPECIAL REPORT THE YOUNG

January 23rd 2016







MASTERS IN FINANCE RANKED 4TH WORLDWIDE BY FINANCIAL TIMES

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Generation Uphill

The millennials are the brainiest, best-educated generation ever. Yet their elders often stop them from reaching their full potential, argues Robert Guest

SHEN XIANG LIVES in a shipping crate on a construction site in Shanghai which he shares with at least seven other young workers. He sleeps in a bunk and uses a bucket to wash in. "It's uncomfortable," he says. Still, he pays no rent and the walk to work is only a few paces. Mr Shen, who was born in 1989, hails from a village of "mountains, rivers and trees". He is a migrant worker and the son of two migrants, so he has always been a second-class citizen in his own country.

In China, many public services in cities are reserved for those with a hukou (residence permit). Despite recent reforms, it is still hard for a rural migrant to obtain a big-city hukou. Mr Shen was shut out of government schools in Shanghai even though his parents worked there. Instead he had to make do with a worse one back in his village.

Now he paints hotels. The pay is good—300 yuan (\$47) for an 11-hour day—and jobs are more plentiful in Shanghai than back in the country-side. His ambition is "to get married as fast as I can". But he cannot afford to. There are more young men than young women in China because so many girl babies were aborted in previous decades. So the women today can afford to be picky. Mr Shen had a girlfriend once, but her family demanded that he buy her a house. "I didn't have enough money, so we broke up," he recalls. Mr Shen doubts that he will ever be able to buy a flat in Shanghai. In any case, without the right hukou his children would not get subsidised education or health care there. "It's unfair," he says.

There are 1.8 billion young people in the world, roughly a quarter of the total population. (This report defines "young" as between about 15 and 30.) All generalisations about such a vast group should be taken with a bucket of salt. What is true of young Chinese may not apply to young Americans or Burundians. But the young do have some things in common: they grew up in the age of smartphones and in the shadow of a global financial disaster. They fret that it is hard to get a good education, a steady job, a home and—eventually—a mate with whom to start a family.

Companies are obsessed with understanding how "millennials"

CONTENTS

4 Jobs
The walled world of work

6 EducationTrain those brains

8 Mobility
High hopes meet high
fences

9 Family Smaller, smarter families

10 ViolenceOf men and mayhem

11 When the young get older Their time will come

A list of sources is at **Economist.com/specialreports**

An audio interview with the author is at Economist.com/audiovideo/ specialreports

ACKNOWLEDGMENTS

Many people contributed their ideas and experiences to this special report. Besides those named in the text and those who wish to remain anonymous, the author would like to thank:

Aduwan Ahmad, Margee Ensign, Yevgeny Ginzburg, Ange-Mireille Gnao, Charles Hayes, Alice Huang, Selim Jahan, Kamarul Kamarulzaman, Peggy Liu, Mattias Lundberg, Jack Ma, Felix Marquardt, Dmitriy Maslennikov, Alexei Navalny, Renugaa Sharma, Nell Whitehead, Galvin Wong, Tony Wong, King Chai Woon and Fahmi Zainol.



▶ think, the better to recruit them or sell them stuff. Consultants churn out endless reports explaining that they like to share, require constant praise and so forth. Pundits fret that millennials in rich countries never seem to grow out of adolescence, with their constant posting of selfies on social media and their desire for "safe spaces" at university, shielded from discomforting ideas.

This report takes a global view, since 85% of young people live in developing countries, and focuses on practical matters, such as education and jobs. And it will argue that the young are an oppressed minority, held back by their elders. They are unlike other oppressed minorities, of course. Their "oppressors" do not set out to harm them. On the contrary, they often love and nurture them. Many would gladly swap places with them, too.

In some respects the young have never had it so good. They are richer and likely to live longer than any previous generation. On their smartphones they can find all the information in the world. If they are female or gay, in most countries they enjoy freedoms that their predecessors could barely have imagined. They are also brainier than any previous generation. Average scores on intelligence tests have been rising for decades in many countries, thanks to better nutrition and mass education.

Yet much of their talent is being squandered. In most regions they are at least twice as likely as their elders to be unemployed. Over 25% of youngsters in middle-income nations and 15% in rich ones are NEETs: not in education, employment or training. The job market they are entering is more competitive than ever, and in many countries the rules are rigged to favour those who already have a job.

Education has become so expensive that many students rack up heavy debts. Housing has grown costlier, too, especially in the globally connected megacities where the best jobs are. Young people yearn to move to such cities: beside higher pay, they offer excitement and a wide selection of other young people to date or marry. Yet constraints on the supply of housing make that hard.

For both sexes the path to adulthood—from school to work, marriage and children—has become longer and more complicated. Mostly, this is a good thing. Many young people now study until their mid-20s and put off having children until their late 30s. They form families later partly because they want to and partly because it is taking them longer to become established in their careers and feel financially secure. Alas, despite improvements in fertility treatment the biological clock has not been reset to accommodate modern working lives.

Throughout human history, the old have subsidised the young. In rich countries, however, that flow has recently started to reverse. Ronald Lee of the University of California, Berkeley, and Andrew Mason at the University of Hawaii measured how much people earn at different ages in 23 countries, and how much they consume. Within families, intergenerational transfers still flow almost entirely from older to younger. However, in rich

countries public spending favours pensions and health care for the old over education for the young. Much of this is paid for by borrowing, and the bill will one day land on the young. In five of 23 countries in Messrs Lee and Mason's sample (Germany, Austria, Japan, Slovenia and Hungary), the net flow of resources (public plus private) is now heading from young to old, who tend to be richer. As societies age, many more will join them.

Politicians in democracies listen to the people who vote—which young people seldom do. Only 23% of Americans aged 18-34 cast a ballot in the 2014 mid-term elections, compared with 59% of the over-65s. In Britain's 2015 general election only 43% of the 18-24s but 78% of the over-65s voted. In both countries the party favoured by older voters won a thumping victory. "My generation has a huge interest in political causes but a lack of faith in political parties," says Aditi Shorewal, the editor of a student paper at King's College, London. In autocracies the young are even more disillusioned. In one survey, only 10% of Chinese respondents thought that young people's career prospects depended more on hard work or ability than on family connections.

All countries need to work harder to give the young a fair shot. If they do not, a whole generation's talents could be wasted. That would not only be immoral; it would also be dangerous. Angry young people sometimes start revolutions, as the despots overthrown in the Arab Spring can attest.

Jobs

The walled world of work

Youth unemployment is a massive waste of resources

CRISTINA FONSECA CAUGHT pneumonia a week before her final exams. "I thought I would die," she recalls. When she recovered, she reassessed her priorities. As a star computer scientist, she had lots of job offers, but she turned them all down. "I realised that I didn't want to spend my life doing anything that was not really worthwhile."

She decided to start her own business. After a year of false starts she co-founded a company called Talkdesk, which helps other firms set up call centres. By using its software, clients can have one up and running in five minutes, she claims.

Ms Fonseca's success helps explain why some people are optimistic about the millennial generation in the workplace. At 28, she is providing a completely new service in support of another service that did not exist until quite recently. She lives in Portugal but does business all over the globe.

She sounds very much like several other young entrepreneurs your correspondent met while researching this report, such as a Russian who set up a virtual talent agency for models (castweek.ru); an Asian-American electric cellist who teaches people how to make new sounds using a laptop (danaleong.com); and a Nigerian starting a new publishing house for African romantic novelists (ankarapress.com).

Elite youth today are multilingual, global-minded and digitally native; few can remember life before the internet or imagine how anyone coped without it. The best-known of them changed the world before they turned 30, including Facebook's Mark Zuckerberg, Google's Sergey Brin and Larry Page, and Instagram's Kevin Systrom. The global economy works well for such people. Digital startups require far less capital than, say, building a factory, and a brilliant piece of software can be distributed to millions at minimal cost. So today's whippersnappers of great wealth have made their money much faster than the Rockefellers and Carnegies of old.

But the world of work has been less kind to other young folk. Florence Moreau, a young architect in Paris, had the double misfortune to leave university in 2009, when the world economy was on its knees; and to be French. "I really need a full-time,

protections with extreme racial preferences. Firms must favour black job applicants even if they are unqualified, so long as they have the "capacity to acquire, within a reasonable time, the ability to do the job". Some 16% of young Brazilians and a stunning 63% of young South Africans are unemployed. Globally, average youth unemployment is 13% compared with the adult rate of 4.5%. Young people are also more likely than older ones to be in

temporary, ill-paid or insecure jobs.

Joblessness matters for several reasons. First, it is miserable for those concerned. Second, it is a waste of human potential. Time spent e-mailing CVs or lying dejected on the sofa is time not spent fixing boilers, laying cables or building a business. Third, it is fiscally ruinous. If the young cannot get a foot on the career ladder, it is hard to see how in time they will be able to support the swelling number of pensioners. Fourth, joblessness can become self-perpetuating. The longer people are out of work, the more their skills and their self-confidence atrophy, the less appealing they look to potential employers and the more likely they are to give up and subsist on the dole.

This "scarring" effect is worse if you are jobless when young, perhaps because that is when work habits become ingrained. Thomas Mroz of the University of North Carolina, Chapel Hill, and Tim

Savage of Welch Consulting found that someone who is jobless for a mere six months at the age of 22 will earn 8% less at 23 than he otherwise would have done. Paul Gregg and Emma Tominey of the University of Bristol found that men who were jobless in their youth earn 13–21% less at age 42. And David Bell of the University of Stirling and David Blanchflower of Dartmouth College found that people who were unemployed in their early 20s are less happy than expected even at the age of 50.

"The first ten years are essential. They shape careers in the long term," says Stefano Scarpetta of the OECD, a think-tank for mostly rich countries. This is when people develop the soft skills that they do not pick up at school, such as conscientiousness, punctuality and teamwork.

Over the next decade more than 1 billion young people will enter the global labour market, and only 40% will be working in >>



The first ten years are essential. They shape careers in the long term. This is when people develop the soft skills that they do not pick up at school

permanent job," she says. Under France's 3,800-page labour code, workers on permanent contracts receive generous benefits and are extremely hard to get rid of. So French firms have all but stopped hiring permanent staff: four-fifths of new employees are on short-term contracts. Ms Moreau has had eight jobs, none lasting for longer than 16 months. With a small child at home, she has to keep looking for the next one. "It's tiring," she sighs. One employer suggested that she should become an "entrepreneur", doing the same job as before but as a contractor, so that the firm could keep her on indefinitely without incurring heavy ancillary costs. She refused.

Insiders voutsiders

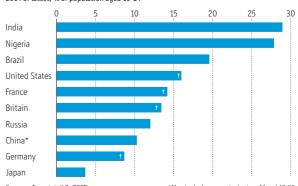
Youth unemployment in France (using the ILO definition of youth as 15-24-year-olds) is 25% and has been scandalously high for three decades. Occasionally the government tinkers with labour rules, but voters have little appetite for serious reform. Ms Moreau rejects the idea that insiders enjoy too many legal protections, and that this is why outsiders find it so hard to break in. She blames exploitative employers, and doubts that any government, left or right, will fix the problem.

Rigid labour rules are tougher on young workers than older ones. People without much experience find it harder to demonstrate that they are worth employing. And when companies know they cannot easily get rid of duds, they become reluctant to hire anyone at all. This is especially true when the economy is not growing fast and they have to bear the huge fixed cost of all the older permanent employees they took on in easier times.

France is not alone in having such problems. In the euro area, Greece, Spain and Italy all have rules that coddle insiders and discourage outsiders. Their youth unemployment rates are, respectively, 48%, 48% and 40%. Developing countries, too, often have rigid labour markets. Brazilian employees typically cost their employers their salary all over again in legally mandated benefits and taxes. South Africa mixes European-style labour

What a waste

Young people not in employment, education or training (NEETs) 2014 or latest, % of population aged 15-24



Sources: Eurostat; ILO; OECD *May include some students †Aged 15-29

▶ jobs that currently exist, estimates the World Bank. Some 90% of new jobs are created by the private sector. The best thing for job creation is economic growth, so policies that promote growth are particularly good for the young. Removing regulatory barriers can also boost job creation. Mr Scarpetta applauds recent attempts in Spain, Italy and Portugal to make labour rules a bit more flexible, but argues that such laws should generally be much simpler. For example, it would be better to scrap the stark distinction between temporary and permanent contracts and have only one basic type of contract in which benefits and job security accumulate gradually. Denmark shows how a labour market can be flexible and still give workers a sense of security. Under its "flexicurity" system companies can hire and fire easily. Unemployed workers are supported by the state, which helps them with retraining and finding new jobs.

Trade unions often favour a minimum wage. This can help those who already have jobs, but if it is set too high it can crowd out those with the fewest skills and the least experience, who tend to be young. It makes more sense to subsidise wages through a negative income tax, thus swelling take-home pay for the lowliest workers without making them more expensive for the employer. But this costs taxpayers money, so many governments prefer to raise the legal minimum wage, passing the cost on to others. America's Democratic Party is pushing to double the federal minimum wage, to \$15 an hour—a certain job-killer.

Putting the tyke into tycoon

Making it easier for young people to start their own business is essential, too. They may be full of energy and open to new ideas, but the firms they create are typically less successful than those launched by older entrepreneurs. The young find it harder to raise capital because they generally have a weaker credit history and less collateral. They usually also know less about the industry they are seeking to enter and have fewer contacts than their older peers. A survey by the Global Entrepreneurship Monitor found that businesses run by entrepreneurs over the age of 35 were 1.7 times as likely to have survived for more than 42 months as those run by 25-34-year-olds.

Young sub-Saharan Africans show the greatest enthusiasm for starting their own business: 52% say they would like to, compared with only 19% in rich Western countries. This is partly because many have little choice. There are fewer good jobs available in poor countries, and in the absence of a welfare state few people can afford to do nothing.

Bamaiyi Guche, a Nigerian 17-year-old, is a typical example of a poor-country entrepreneur. He goes to school from 8 to 12 every morning, then spends the afternoon in the blazing sun selling small water sachets to other poor people without running water in their homes. He makes \$1 a day, half of which goes on his school fees. He wants to be a doctor one day.

Some youngsters from well-off families forge careers as "social entrepreneurs", seeking new ways to do good. Keren Wong, for example, recognises that she was "born into privilege". (Her parents were prosperous enough to support her at Cornell University.) A Chinese-American, she now runs a non-profit called BEAM which connects teachers in rural Chinese schools so they can swap ideas for teaching more effectively.

Alas, there is a huge mismatch everywhere between the skills that many young people can offer and the ones that employers need. Ms Fonseca says she cannot find the right talent for Talkdesk. "I need very good engineers, very good designers and people who speak very good English. But there aren't enough of them," she says. As economies grow more sophisticated, demand for cognitive skills will keep rising. The world's schools are not even close to meeting it.

Education

Train those brains

Practically all young people now go to school, but they need to learn a lot more there

JASCHA DÖKER IS a big man with a big beard, a nose ring and tattoos. His father is Turkish, his mother Austrian. He works as an electrician at the Salzburg Festival, a celebration of classical music in Mozart's home town. He is not an opera fan—he likes the orchestra but not the singing—yet he does his bit to bring Austrian high culture to a global audience.

As well as working, Mr Döker, who is 18, attends the Landesberufsschule, a vocational school. Classes mix theory with hands-on practical work. One classroom has an oven and a dishwasher; another has a mock-up of part of a production line; another lets students control an imaginary "smart building".

The school moves with the times. "We used to train lots of television and radio repair men, but now people just throw these things away," says Eberhard Illmer, the director. The basic philosophy, though, remains the same: the school works closely with local employers, who send their apprentices there to ensure that they acquire skills that are in demand. Asked if he fears unemployment, Mr Döker says: "I'm not worried about that."

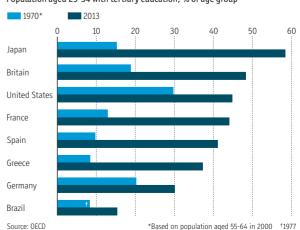
Vocational schools in Germany and Austria have a fine reputation, and for good reason. They recognise that not every young person will benefit from a purely academic education. "When I was at school I got bored," says Mr Döker, "but the technical education here is great." Youth unemployment in both countries is half the average for the euro area.

Not all education systems serve the young so well. At a village meeting in the Indian state of Uttar Pradesh, parents were told that after attending the village school for five years, most of their children could not read a simple story. Many could not even recognise the letters of the alphabet.

This came as a shock. One parent stood up and said to the headmaster: "You have betrayed us. I have worked like a brute my whole life because, without school, I had no skills other than those of a donkey. But you told us that if I sent my son to school, >>>

Hitting the books

Population aged 25-34 with tertiary education, % of age group



his life would be different from mine. For five years I have kept him from the fields and work...only now I find out that he is 13 years old and doesn't know anything. His life won't be different. He will labour like a brute, just like me." The headmaster retorted: "It is not our fault. We do what we can with your children. But you [are] right, you are brutes and donkeys. The children of donkeys are also donkeys."

One of the people at the meeting was Lant Pritchett, an American economist now at Harvard. He argues that Indian public schools are wretched because they are unaccountable. They have to meet government targets for enrolling pupils, but they do not have to demonstrate to parents or anyone else that the children are learning anything. Barely half the teachers bother to show up on any given day. A study cited in Mr Pritchett's book, "The Rebirth of Education: Schooling Ain't Learning", found that after eight

years of school, 60% of Indian children could not use a ruler to measure a pencil.

The good news is that in recent decades all countries, rich or poor, democratic or despotic, have made huge strides in getting young people into classrooms. In 1950 the average adult over 15 had received just three years of schooling; by 2010 the figure had risen to eight. In rich countries it went up from six to 11 years over that period, and in poor ones it shot from two to seven. These are remarkable figures. Modern Zambians or Haitians spend longer in school than the average Italian did in 1960. Furthermore, university, once the preserve of a tiny elite, has become a rite of passage for the global middle class. Some 41% of 25-34-year-olds in rich countries now have tertiary education, up from 26% in 2000. Developing countries are catching up fast.

The bad news is that how much people actually learn in classrooms and lecture halls varies widely. In developing countries, which account for the majority of pupils, many schools are atrocious. PISA, the OECD's international benchmark for 15-year-olds' attainment in science, maths and reading, does not cover the poorest nations, but results in several low-to-middle-income countries are disappointing. A Finnish student is 170 times more likely than a Mexican one to be a "top performer" in the PISA science test. In the maths test, more than 60% of the Brazilians would be among the bottom 10% in South Korea. In most developing countries ranked by PISA, more than half the students achieved only very basic competence in maths. In rich countries only a fifth did this badly.

Those who cannot read or manipulate numbers earn less. Robert Barro of Harvard and Jong-Wha Lee of Korea University estimate that, on a global average, the wages of those who have completed secondary school are about 77% higher than of those with only primary schooling, and college graduates make 240% more. If developing countries are to realise the "demographic dividend" from a young, energetic population, those young people will have to be educated better.

Since the biggest gaps in test scores are between rich countries and poor ones, you might think that money played a big part. Yet "resources per se have little to no statistically significant impact" on how much pupils learn, concludes Mr Pritchett. Rich countries have doubled or tripled spending on schools since around 1970, to little effect. America spends twice as much as Poland, yet both countries' 15-year-olds get similar results on PISA.



Sure beats media studies

South Africa spends more than Kenya but does much less well.

Many educational fads are harmful. One survey found that 85% of American parents thought they should praise their children to bolster their self-esteem, but studies suggest that undeserved praise makes children complacent. Amanda Ripley, the author of "The Smartest Kids in the World", describes how an American student visiting one of Finland's outstanding schools was surprised to see so few gleaming trophies on display.

What works

Good school systems come in many shapes. Sweden and the Netherlands have voucher-like systems, where parents can spend public money on the private or public schools of their choice. South Korea has a centralised system in which public-school students also use private crammers to get through a high-stakes exam at 18. Finland went from also-ran to world-beater by insisting that only the brightest graduates could become teachers, whereas in America "almost anyone who claim[s] to like children" can find a place on a teacher-training course, says Ms Ripley. And what works in one country may not travel easily to another. For example, Dieter Euler of the University of St Gallen found that Teutonic vocational schools cannot easily be replicated in other countries where governments, firms and unions do not have the same close relationship.

The quality of teachers clearly matters, and in countries with great schools they tend to be well paid. But if the system is dysfunctional, offering them more money is pointless. In parts of India teachers' pay is so high that people who have no interest in teaching pay large bribes to be hired.

Nearly all systems, public or private, produce some excellent schools. To improve results across the board, Mr Pritchett urges decentralisation. Central governments should set standards and make sure that private schools are not preaching jihad, but headmasters should have the power to hire and fire teachers and good schools should be allowed to drive out bad ones. Crucially, performance should be independently measured. Brazil's education reforms after 1998 loosened federal control and let the money follow the child. As a result, Brazilian students achieved the largest gain on PISA maths tests in 2003-2012.

Overall, young people are better educated than ever before. But as H.G. Wells once put it, history is "a race between education and catastrophe". No nation can afford to slow down.

Mobility

High hopes meet high fences

Moving around is good for young people, but governments stand in their way

WHEN TENG PENGFEI was 16, he asked his parents for money to travel around China. They refused, so he threatened to get on his bike and pedal hundreds of miles to Beijing anyway. "You can't stop me," he told them. They paid up.

After school he went to Griffith University in Australia. He was an only child, and at first his parents provided financial support. Eventually he earned enough from part-time jobs to pay his own bills. He imported exercise machines from China and sold them on eBay, making "quite a lot of money".

He moved back to China because his parents were un-

well-a common reason for returningand found a job in a bank, but did not enjoy it. So he left and started his own company. He now manages TNT Partners and CareerFrog, firms that help Chinese who study abroad find jobs back in China.

Young adults like Mr Teng are more mobile than any other age group. They are old enough to leave the parental home but have not yet acquired a family of their own to tie them down. They can fit their lives into a small bag-especially now that their book and music collections are stored in the cloud-and catch the next bus to adventure. A global Gallup poll found that 19% of 15-29-year-olds wanted GDP would double, Mr Clemens estimates. For political reasons, that is very unlikely to happen. In America, liberal immigration bills die in Congress. In Europe, the surge of refugees from Syria and the Paris terror attacks have reinvigorated xenophobic political parties and jeopardised free movement within the EU. Voters fret that some immigrants might be terrorists, which very occasionally turns out to be true. They also fear that the in-

If all international borders were completely open, global

comers will poach jobs from the native-born. Some studies find that unskilled migrants depress pay by a tiny amount for unskilled locals. But overall immigrants bring complementary skills, new ideas and entrepreneurial zest, so they tend to boost growth. Also, because they are mostly young, healthy and working, they typically pay more in taxes than they receive in benefits.

Movement within countries follows a similar pattern. Migrants, again mostly young, go where the best jobs are. This has led to rapid urbanisation. Today 54% of the world's people live in cities, up from 30% in 1950. The UN predicts that by 2050 the proportion will rise to 66%. Poor countries are urbanising fastest because they started off more rural. In sub-Saharan Africa 64% of

young people who work scratch a living from the soil; in South Asia it is 45%. Almost any city job pays better than work on the land: in developing countries, nonfarm workers add four times as much value as agricultural workers. In China, urban wages are three times rural ones.

Westerners looking at the crowded shantytowns around Manila or Nairobi cannot imagine why anyone would leave a picturesque village to live there. Migrants see it differently. They are giving up lives of back-breaking toil, stifling tradition and periodic hunger. They are moving to places with bright lights, better wages and infinite variety. Victor Daniel left Yobe, a cotton-growing state in Nigeria, and moved to Lagos, the country's commercial capital, when he was 18. Now he works in a bar for \$110 a month plus a bed. "I needed to find my own freedom," he says. "Life is better in Lagos."

In rich countries young people-especially the brightest—are clustering in big, vibrant cities. A quarter of Londoners are aged 25-34, for example, nearly twice the share in the rest of England. A survey of students at Harvard found that only 26% planned to return to their home state after graduation; 64% planned to work in New York, California, Massachusetts or Washington, DC.



Moving tends to make people more productive, especially if it is from a poor country to a rich one

to move permanently to another country—more than twice the proportion of 50-64-year-olds and four times the share of over-65s who felt the same way (see chart, next page).

Young adults are more footloose within their own country, too. The average American moves house 6.4 times between the ages of 18 and 45 but only 2.7 times thereafter, the census shows. And in developing countries, young people are 40% more likely than their elders to migrate from the countryside to a city.

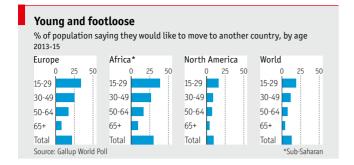
Such mobility is a good thing. In the absence of a war or flood, it is voluntary. People move because they think they will be better off elsewhere. Usually they are right. If they are wrong, they can always return home.

Moving tends to make people more productive, especially if it is from a poor country to a rich one. Michael Clemens of the Centre for Global Development, a think-tank, estimates that if a typical migrant from a poor to a rich country is allowed to work, he can earn three to five times more than he did at home. (And this assumes that he learns no new skills, though he probably will.) To win such a prize, migrants will take huge risks. A study by Linguère Mbaye of the African Development Bank found that those heading from Senegal to Europe were prepared to accept a 25% chance of dying in the attempt.

Networks and soulmates

In the knowledge economy, it pays to be close to lots of other bright people to bounce ideas off. It also pays to be plugged into global networks-and the cities that are most attractive to native youngsters are often also the most attractive to immigrants. Nearly half of Canada's immigrants live in Toronto, for example, and 40% of America's live in New York, Los Angeles, Miami, Chicago or San Francisco. Another attraction of big cities is that they house vast numbers of single adults, so they are great places to meet a soulmate.

Both internal and cross-border migration are often temporary. Migrants may stay for a few years and then take their savings, experience and contacts home with them, as Mr Teng did. But governments try to discourage them from moving in the first place. Most obviously, they erect barriers at national borders to



keep foreigners out. More surprisingly, they try to deter internal migration, too. China's hukou system is the most egregious example, but there are many others. When the UN surveyed 185 countries in 2013, it found that 80% of governments had policies to reduce migration from the country to the cities.

Some such policies-such as promoting rural development-are benign. Others are not. India makes it hard for poor people to obtain public services if they move to a new state. Indonesia used to move inhabitants from densely populated Java to more remote islands, stopping only in June 2015.

More subtly, onerous planning rules in almost all countries block the construction of new homes in the cities where young people most want to live. Property owners, who tend to be older, favour these rules because they make their homes more valuable. (Christian Hilber and Wouter Vermeulen estimate that they double the cost of property in Britain, for example.)

Hence the refrain heard from young people everywhere: that housing is unaffordable. Hence, too, the large number who still live reluctantly with their parents. American women aged 18-34 are more likely to live with parents or relatives now than at any point since 1940. "I don't know anyone my age who lives in central London without [parental] support," says Peter Fuller, an intern at a bank. "I'm 24. I need a sense of independence. It's hard to get that when you're living at home." ■

Smaller, smarter **families**

Love and marriage have become more individualised

HO YI JIAN sits in a trendy café in Kuala Lumpur, swiping through images of single women on Tinder, a dating app created by millennials. On the balcony outside, models in Islamic headscarves are taking part in a fashion shoot.

Malaysia, like much of the world, is a confusing mixture of piety and tradition on the one hand and secular individualism on the other. In the countryside sharia courts sentence adulterers to canings. City people are more liberal. Mr Ho, who works from home as a freelance researcher, uses his smartphone to find single women who live nearby. But he observes that unlike Westerners, Malaysians use the app to arrange dates, not hook-ups.

Young people's experience of sex, love and marriage is undergoing gigantic shifts. The most visible one is that dating apps allow them to fish in a larger pond than their parents did. Three other trends are less obvious but more important. First, puritanical attitudes to sex (and the variety of human yearnings) are mostly in retreat. Second, marriage is evolving from a contract between families into a contract between individuals. And third, couples are having fewer children, later.

In some parts of the world the traditional approach to all these things remains dominant. Sex before marriage is still frowned upon or even outlawed. Gay people are persecuted. Marriages are arranged between families, sometimes without the bride's (or, less commonly, the groom's) consent. Women give birth early and often.

Consider the story of Aisha Abdullai. She lives in northeast Nigeria, where women have on average 6.3 babies. Ms Abdullai was forced to marry young. "My stepmother did not like me," she recalls, "so they thought it was better to marry me off. He was 50 and I was 13. I kept running away but they brought me back to him. He was lying with me when I was 13. I didn't start my period until I was 14, and at 15 I got pregnant." Her education ended abruptly. She spent all day cooking, cleaning and caring for her stepchildren.

Her husband eventually divorced her for refusing to sleep with him any more. Her child died. Her parents made her marry another man, with whom she had two more children. His family did not like her and he, too, divorced her. She is angry at her parents for making her marry men she disliked. Had she remained in school, she says, she "could have done something" with her life. She is 28.

Not now, darling

Stories like Ms Abdullai's are growing rarer. The proportion of young women who married before they were 15 fell from 12% worldwide in 1985 to 8% in 2010, according to UNICEF. The share who wed before their 18th birthday fell from 33% to 26%. Women are becoming more educated, which makes them less likely to put up with forced or early marriages.

Arranged unions are declining, too. At the beginning of the 20th century at least 72% of marriages in Asia and Africa were arranged by the families. That figure has fallen by 40% or more, estimates Gabriela Rubio of the University of California, Los Angeles. In some countries, such as China, Japan and Indonesia, they have all but vanished. "It's my marriage, not my family's," says Lu Xinyan, a Chinese student.

In other places, such as India, Pakistan and Bangladesh, arranged marriages (defined broadly) are still at least 95% of the total. But they are evolving. In India, parents used to suggest a suitable match and their children could say no. Now, at least among educated urbanites, the children are more likely to find their own partners, whom the parents may veto. This is not yet Westernstyle individualism, but it is a big step towards it.

An argument often advanced for arranged marriages is that parents can make a more clear-headed choice, unfogged by lust, so they can filter out the charming drunkard or the selfish beauty. Yet the institution has always had an economic rationale, too. Marriages cement ties between families. This can act as a kind of insurance, Ms Rubio argues. If one family raises pigs and the other grows rice, the pig farmers can help the rice-growers in years when the rice crop fails, and vice versa.

As societies grow richer, the calculation changes. Economic security comes from staying longer in school, not forming alliances with pig farmers. So young people are marrying later, in order to complete their own education, and having fewer children, so they can lavish more education on each of them.

A preference for smaller families has taken hold nearly everywhere, even in poorer countries. The global fertility rate has halved since 1960, from five babies per woman to 2.5. The pressure to educate children is bound to intensify further as tech-

THE YOUNG

nology advances, so families will keep getting smaller. "I'd like to have two children eventually. I'm not sure I could afford more and still give them a good education," says Hiqmar Danial, a student in Malaysia, where the fertility rate has fallen from six to two since 1960.

The spread of liberal attitudes to love and marriage empowers individuals, especially young women, but it causes its own complications. One is the increasing fragility of the nuclear family, especially in the rich world. The proportion of children born outside marriage in OECD countries tripled between 1980 and 2007, from 11% to 33%, and divorce rates doubled between 1970 and 2009. Many women can now walk out of disagreeable or abusive marriages, so men have to treat their wives better. But the lack of a stable family can be disastrous for children. Those who do not live with two biological parents do worse at school, earn less as adults and raise less stable families of their own. In rich countries, working-class families have grown far more fissile than middle-class ones. Only 9% of births to American women with college degrees are outside marriage; for high-school dropouts the figure is 57%.

The most educated and ambitious couples delay having children the longest. Some leave it too late and find they cannot have any. The only way for young women to combine high-powered careers with parenthood is for men to share domestic tasks equally, says Cristina Fonseca, the young founder of Talkdesk, the Portuguese technology firm. Men her age, she explains, "are clearly adapting. They cook and do laundry." Surveys bear this out. American fathers who live with their kids do 2.6 times as much child care and housework as they did in 1965, according to the Pew Research Centre.

Some scholars fret that young Westerners are so self-absorbed that they find parenting harder than their own parents did. Keith Campbell, Craig Foster and Jean Twenge analysed data from 48,000 respondents and found that once children arrive, young American couples today suffer a greater drop in marital satisfaction than previous generations did. "When you're used to calling the shots, and then the baby dictates everything, it's hard to keep your sanity, much less get along with your spouse," writes Ms Twenge, a professor at San Diego State University.

Another possibility is that middle-class parents are stressed because they set themselves such high standards. They invest more time in their children than their own parents did, shuttling them to extra maths and flute lessons in the hope that they will get into a good university. Bryan Caplan, the author of "Selfish Reasons to Have More Kids", argues that middle-class parents in rich countries would be happier, and do their children no harm, if they let them run wild a bit more.

Think of the expense Total fertility rate, births per woman Sub-Saharan Africa 6 World South Asia China North America European Union 1970 75 80 85 90 95 2000 05 10 13 Source: World Bank

Violence

Of men and mayhem

Young, single, idle males are dangerous. Work and wedlock can tame them

IN AUGUST 2014 Boko Haram fighters surged through Madagali, an area in north-east Nigeria. They butchered, burned and stole. They closed schools, because Western education is sinful, and carried off young girls, because holy warriors need wives.

Taru Daniel escaped with his father and ten siblings. His sister was not so lucky: the jihadis kidnapped her and took her to their forest hideout. "Maybe they forced her to marry," Mr Daniel speculates. Or maybe they killed her; he does not know.

He is 23 and wears a roughed-up white T-shirt and woollen hat, despite the blistering heat in Yola, the town to which he fled. He has struggled to find a job, a big handicap in a culture where a man is not considered an adult unless he can support a family. "If you don't have money you cannot marry," he explains. Asked why other young men join Boko Haram, he says: "Food no dey. [There is no food.] Clothes no dey. We have nothing. That is why they join. For some small, small money. For a wife."

Some terrorists are born rich. Some have good jobs. Most are probably sincere in their desire to build a caliphate or a socialist paradise. But material factors clearly play a role in fostering violence. North-east Nigeria, where Boko Haram operates, is largely Islamic, but it is also poor, despite Nigeria's oil wealth, and corruptly governed. It has lots of young men, many of them living hand to mouth. It is also polygamous: 40% of married women share a husband. Rich old men have multiple spouses; poor young men are left single, sex-starved and without a stable family life. Small wonder some are tempted to join Boko Haram.

Beware the youth bulge

Globally, the people who fight in wars or commit violent crimes are nearly all young men. Henrik Urdal of the Harvard Kennedy School looked at civil wars and insurgencies around the world between 1950 and 2000, controlling for such things as how rich, democratic or recently violent countries were, and found that a "youth bulge" made them more strife-prone. When 15-24-year-olds made up more than 35% of the adult population—as is common in developing countries—the risk of conflict was 150% higher than with a rich-country age profile.

If young men are jobless or broke, they make cheap recruits for rebel armies. And if their rulers are crooked or cruel, they will have cause to rebel. Youth unemployment in Arab states is twice the global norm. The autocrats who were toppled in the Arab Spring were all well past pension age, had been in charge for decades and presided over kleptocracies.

Christopher Cramer of the School of Oriental and African Studies in London cautions that there is no straightforward causal link between unemployment and violence. It is not simply a lack of money that spurs young men to rebel, he explains; it is more that having a job is a source of status and identity.

Throughout history, men have killed men roughly 97 times more often than women have killed women. The reasons are biological. In all cultures, the appetite for mayhem peaks in the late teens or early 20s, "just when males are competing more fiercely for mating opportunities, as in other mammals", notes Matt Ridley in "The Evolution of Everything". In "Homicide", >>>



A bad day in Nigeria

Martin Daly and Margo Wilson put it like this: "Any creature that is recognisably on track towards complete reproductive failure must somehow expend effort, often at risk of death, to try to improve its present life trajectory." Wars, alas, give young men a chance to kill potential rivals (ie, other men) and seize or rape women. From Islamic State to the Lord's Resistance Army in Uganda, rebel forces often let their troops treat females as spoils.

In some parts of India and China, where girl babies are routinely aborted, millions of young men are doomed to eternal bachelorhood. Mr Urdal found that Indian states with surplus males were more likely to suffer armed conflict—and by 2050 India could have 30% more single men hoping to marry than single women. In China, too, areas with extra men tend to have higher rates of rape and forced prostitution.

The polygamy powder keg

Any system that produces a surplus of single men is likely to be unstable. Polygamous societies suffer "higher rates of murder, theft, rape, social disruption, kidnapping (especially of females), sexual slavery and prostitution," note Joseph Henrich, Robert Boyd and Peter Richerson in "The Puzzle of Monogamy". The Mormon church banned polygamy in 1890 but some breakaway enclaves still practise it. They solve the problem of surplus males by expelling teenage boys from their isolated communities for minor infractions. In southern Utah your correspondent met Kevin (he would not give his surname), who was thrown out of such a sect at 17 for playing video games. He said it was odd how the elders almost never expelled girls.

Nigeria's new president is determined to crush Boko Haram militarily. Meanwhile, other organisations such as the American University of Nigeria are trying to prevent young people from turning to violence. Previously radical imams preach peace; others teach job skills. Will this work?

A study by Christopher Blattman of Columbia University and Jeannie Annan of the International Rescue Committee offers hope. They looked at more than 1,000 ex-fighters in Liberia, where a civil war had just ended. This was not a promising group. Besides knowing how to kill people, they had few skills. Only 27% of its members were literate, even though they had spent an average of six years at school. All were making a living

SPECIAL REPORT

THE YOUNG

from crime: mining illegally or stealing rubber from plantations. And war was beckoning them again. A conflict had broken out across the border in Ivory Coast, and both sides were recruiting Liberian veterans with signing bonuses of \$500-\$1,500—a fortune for men who were making an average of \$47 a month.

There was every reason to expect that these men would soon dig up their buried AK-47s. But a non-profit called Action on Armed Violence offered half the men a package of agricultural training, counselling and farming kit (such as seeds, piglets and tools) worth \$125, in two instalments. The results were striking. The ex-fighters who were helped to farm got better at it, so they spent more time farming and less on illicit work. They made \$12 a month more than the control group and showed less interest in going to fight in Ivory Coast. They were 51% less likely to say they would sign up as mercenaries for \$1,000 and 43% less likely to say they had met with recruiters.

As the world ages, it is becoming more peaceful. Since medieval times the murder rate in most Western countries has fallen by a factor of nearly 100, estimates Stephen Pinker in "The Better Angels of Our Nature". The past decade has seen the fewest war deaths of any in recorded history. Hard though it is to believe in the age of Islamic State, the world is heading for what Mr Urdal calls a "geriatric peace".

When the young get older

Their time will come

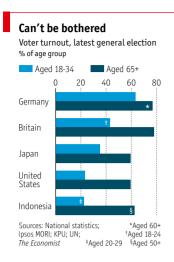
Ignore the moral panic about lazy, self-obsessed millennials. The world will be fairer when they run it

SOME PEOPLE DESPAIR of the young. Books such as "Generation Me" by Jean Twenge and "The Road to Character" by David Brooks describe young Americans as deluded narcissists. Having constantly been told they are special, they are now far more likely than their elders to believe that "if I ruled the world, it would be a better place" or that "somebody should write a biography of me."

They are materialistic, too. About 65% of American college students expect to become millionaires, and some are not too fussy about how they get to the top. In one study of high-school students, 95% admitted to having cheated in tests. The millennials' expectations of life are so out of kilter with reality that "they will probably get less of what they want than any previous generation," frets Ms Twenge.

Moral panic is not confined to America. Chinese parents worry that their "little emperors" have grown up lazy, spoiled and promiscuous. When a video of a young couple having sex in the fitting room of a trendy clothes shop in Beijing went viral last year, officials vowed to arrest the culprits, spluttering that their behaviour was "against socialist values". Young Beijingers just laughed; a number made pilgrimages to the store to take defiant

THE YOUNG



selfies outside.

Where some see a generation in crisis, others think the young are adapting quite well to the challenges of a changing world. They flit from job to job not because they are fickle but because job security is a thing of the past. They demand flexible hours and work-life balance because they know they don't have to be in the office to be productive. They spend six hours a day online because that is how they work, and also how they relax. Their enthusiasm

for new ideas (and lack of spare cash) has kickstarted money-saving technologies from Uber to WhatsApp. They take longer to settle down and have children, but so what? They will also be working far later in life than their parents did.

What will the world be like when today's young people are in charge? Some worry that it will be more cynical. In China, for example, eight out of ten students say they want to join the Communist Party, but of those who do, only 4% are motivated by a belief in the system, observes Eric Fish in "China's Millennials: The Want Generation". Party membership opens doors, and millennials grab opportunities where they can.

Others take a cheerier view. When the millennials rule, society will be "more meritocratic and better governed," says a young journalist in Malaysia, where the 62-year-old prime minister has given a confusing explanation of why nearly \$700m was found in his bank accounts. (He denies wrongdoing.) When the millennials rule, the world may also be greener. They have shown great ingenuity in using resources more efficiently by sharing cars, bikes and spare rooms with strangers.

The world will surely grow socially more liberal. Young people nearly everywhere are more comfortable with homosexuality than their elders, partly because they are less religious but mostly because they know more openly gay people. In rich countries the debate is practically over; in developing nations the liberals are winning. A Pew poll in 36 countries found the



They're so vain; I bet they think this article's about them

young to be more tolerant than the old in 30 of them, often dramatically so: 18-29-year-old South Koreans were four times likelier to be gay-friendly than those over 50. Most millennials in China and Brazil now approve of same-sex marriage, an idea unheard of a generation ago. Even more agree that "people are exploring their sexuality more than in the past."

The young are less racist than the old, too. In a survey by JWT, an advertising agency, 86% of youngsters in Brazil, Russia, India and China agreed that "my generation is accepting of people from different races," and 76% said they differed from their parents on this topic. American students are so sensitive to any hint of racism that they sometimes see bigotry where there is none. When a professor at Yale suggested that students should be free to choose their own Halloween costumes, activists furiously protested that without strict rules, someone might wear an offensive one. Still, today's over-



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sensitivity is vastly preferable to the segregation of yesteryear.

Tolerance is unlikely to erode as the millennials grow older.

They may grow more fiscally conservative as they earn more and notice how much of their pay is gobbled up by tax. They may move to the suburbs and buy a car when they have children. But they will not suddenly take against their friends who look different or love differently.

In several countries the young are warier than their elders of their governments using military force, partly because they are the ones who get drafted. Young Chinese are less likely than their parents to favour sending in troops to settle territorial disputes, despite the Communist Party's efforts to fire them up with an aggrieved nationalism. American millennials see global warming as a bigger threat than China or Islamic fundamentalism; for older Americans it is the other way around.

In every generation, the young are the first to take to the streets to demand reform. Sometimes their fury leads nowhere, but autocrats still fear it. That is why China's government rolled tanks over the Tiananmen Square protesters, and why it censors social media today. Young Africans, for their part, may not put up indefinitely with gerontocrats such as 91-year-old Robert Mugabe of Zimbabwe and 82-year-old Paul Biya of Cameroon.

In democracies, young people will some day realise that signing online petitions is no substitute for voting (just as their elders started voting when they acquired grey hairs and mortgages and sent their children to government schools). When the young show up at polling stations, democratic governments will heed their views. And when the millennials start calling the shots more widely in society, they will do so for a long time. For thanks to steady advances in medical technology, they will remain healthy and able to work for longer than any previous generation. Indeed, if scientists' efforts to crack the "ageing code" in human genes bear fruit, many of them will live past 120.

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Turkey and the Kurds

Widening the conflict

A campaign against the PKK turns the country's south-east into a war zone

THE birds of Diyarbakir are doing very Little perching these days. Just when they manage to settle on a satellite dish, a blast of artillery or machine-gun fire sends them dashing skyward. The humans who live here are distraught, too. "We can barely get any sleep," says a woman walking her son to school just outside the Sur district, the city's historic centre, where Turkish forces are battling militants aligned with the Kurdistan Workers' Party (РКК).

In July the PKK, which has waged a decades-long war for Kurdish self-rule, returned to killing Turkish police and soldiers after a two-year ceasefire. The group accused Turkey of tacitly supporting Islamic State (18). (The jihadists had tried to wipe out the Syrian Kurdish border town of Kobane as Turkish soldiers looked on, and have killed scores of Kurds in bomb attacks across Turkey.) Turkey responded with air raids on PKK camps and a crackdown in the largely Kurdish south-east. Since then, fighting in Diyarbakir and other Kurdish cities has killed at least 230 Turkish security officers, up to 240 civilians and hundreds of PKK fighters, says the International Crisis Group, a think-tank. Last week a РКК car bomb killed a police officer, three children and two other civilians.

In Diyarbakir Turkish tanks, along with 2,000 police and soldiers, appear bent on burying in rubble the PKK fighters still holed up in Sur. The region's governor, Huseyin Aksoy, has heard reports of 50 to 70 militants left in the old city. He insists that the army has trained most of its firepower on the militants' booby-trapped ditches and barricades: "The heavy weapons are not being used against people."

Locals disagree. Residents fleeing Sur say swathes of their neighbourhood have been destroyed by artillery fire. Historical sites, including a 16th-century mosque and a newly restored Armenian church, have been damaged, says Ahmet Ozmen, deputy head of the local bar association. In November the bar's president, Tahir Elci, was shot dead during a gun battle moments after making a televised plea for peace.

The local economy, which was just emerging from decades of war, is again reeling. Metin Aslan, of the local chamber of commerce, estimates the cost to Diyarbakir alone at more than \$300m; the un-



Also in this section

- 46 Turkey's Islamic diplomacy
- 46 Arab tourism to Bosnia
- 47 Renzi challenges the EU
- 48 Charlemagne: An ill wind for Merkel

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employment rate threatens to climb from 16% last year to over 30%. The city's gleaming new international airport, a reminder of the faith investors once placed in peace talks between the PKK and the government, is nearly empty.

The PKK, its ambitions fanned by Western support for Kurdish victories over is in Syria, is facing a reality check in Turkey. Its fighters may hold out for a few more weeks in Sur, Silopi and Cizre, but it stands little chance of wresting territory from a government that boasts NATO's second-biggest army and has few qualms about using force. Yet the rebels may not care. The longer the fighting lasts, the more recruits are driven into the group's arms, says Cengiz Candar, a Turkish analyst: "The way they see it, even if they lose militarily...they stand to gain politically."

The ruling Justice and Development (AK) party of President Recep Tayyip Erdogan also feels it has little to gain from de-escalation. After a decisive win in November's election, brought about in part by the fighting and a surge in Turkish nationalist sentiment, Mr Erdogan believes he has a mandate to pummel the rebels. "As unfeasible as it is, Turkish voters are focused on eradicating the ркк," says Akin Unver, an academic. "That's the dream the government sold to the electorate."

Mr Erdogan, who for years has wanted to change the constitution to grant himself an executive presidency, may even be considering another snap poll after two ballots last year. "He thinks he can get another 5% of the vote," says Mr Unver. That could be enough to keep the pro-Kurdish Peoples' Democracy Party (HDP) out of parliament and give AK enough votes to change the constitution.

AK was once the party that broke taboos by acknowledging the Kurds' past persecution. Now prosecutors have placed >>

Turkey's religious diplomacy

Mosqued objectives

TTRAN

Turkey is sponsoring Islam abroad to extend its prestige and power

MEGA-MOSOUE is growing on A George W. Bush Street in Tirana, the Albanian capital, near the country's parliament. When finished, it will be the largest mosque in the Balkans-one in a long string of such projects bankrolled by Turkey. By its own estimate, Turkey's directorate of religious affairs, known as the Divanet, has helped build over 100 mosques and schools in 25 countries. In Bosnia, Kosovo, the Philippines, and Somalia, it has restored Islamic sites damaged by war and natural disaster. In Gaza it is rebuilding mosques destroyed by Israeli military operations in 2014. Current projects alone are expected to cost \$200m. All of the money comes from private donations, insists Mazhar Bilgin, a senior Divanet official.

Critics suspect Turkey's president, Recep Tayyip Erdogan, of deploying mihrabs and minarets to revive his country's imperial heritage in former Ottoman lands. Secular nationalists in Albania, which was strictly atheist under communism, bristle at seeing their parliament dwarfed by a mosque, and urban planners complain about the project's bland, "McOttoman" design.

But most Albanians are sympathetic. While post-communist governments allowed Catholic and Orthodox Christians to build cathedrals in Tirana, Muslims were left out in the cold. Worshippers regularly found themselves praying outdoors, unable to squeeze into the city's tiny 19th-century mosque. It is not clear why Albania's government waited until 2013 to approve a new one.

Turkey's role in Albanian Islam goes beyond building mosques. Six of the country's seven Islamic seminaries are managed by foundations linked to the Gulen community. Turkey's development agency, TIKA, has completed 248 projects in Albania. Besides the fiscal aid, many Albanians welcome Turkish influence as a counterweight to the spread of Islamic militancy. According to Tirana's mufti, Ylli Gurra, up to 150 Albanian

nationals have joined Islamic State (18) jihadists in Syria. He blames the zealous salafist foundations from the Gulf monarchies that poured into the region in the 1990s. (Many were expelled after the September 11th attacks.) Mr Gurra says most Albanian Muslims reject such radicalism: "They have more affinity for Turkish Islam."

In fact, Muslims in Albania are far less devout and more pro-Western than their Turkish co-religionists. Meanwhile, Turkey's religious outreach is hobbled by an internecine conflict at home. Mr Erdogan's ruling Justice and Development (AK) party once worked hand in glove with the Gulen movement. All that changed two years ago, when the AK launched a vendetta against the movement, accusing it of orchestrating a corruption scandal that had tarred senior government figures. Scores of Gulenist bureaucrats remain behind bars.

During a 2015 visit to Albania for the groundbreaking ceremony of the new mosque, Mr Erdogan asked his hosts to shut down schools run by the Gulenists. Albanian officials turned down the request. Yet in Albania and elsewhere, Muslim communities that benefit from Turkish largesse still face pressure. "Erdogan is forcing them to take sides," says Kerem Oktem, a Turkish studies professor at the University of Graz.

The Diyanet, meanwhile, has extended its mosque programme to countries whose connection to Ottoman history is tenuous. In 2014 Mr Erdogan suggested that Cuba had been settled by Muslims long before it was spotted by Christopher Columbus, and unveiled a plan to build a new mosque there. Another mosque is under construction in Haiti. The building spree has become a vehicle for broadcasting Turkey's religious credentials to Muslim audiences domestic and foreign. The ultimate objective is "claiming new territory," says Mr Oktem. "It's about the idea that Turkey should be the leader of the whole Muslim world."

• over 1,100 Turkish academics under investigation for writing a letter calling for an end to military operations in the southeast. The producer and host of a TV show are under investigation after a caller pleaded for compassion for bystanders.

It is civilians who pay the greatest price. Of the roughly 24,000 residents caught in the fighting in Sur, at least 20,000 have fled the district. Yilcan Tas abandoned what

was left of her family's house last month. She, her husband and their six children now live in a pair of cramped rooms next to refugees from Syria. Ms Tas blames PKK militants for packing a ditch next to her house with explosives, putting her family's lives at risk, and the army for destroying the neighbourhood. "In the end, we are the ones who are wretched," she said. "We are the ones being ruined."



Bosnia's new visitors

Ottoman comfort

SARAJEVO

Arab tourists and investors are giving Bosnia a new shine

TWO decades ago a small wave of Arabs arrived in Bosnia, jihadists coming to fight on the side of the country's Muslim Bosniaks. Today another wave of Arabs is coming—this time for skiing, saunas and condos. In 2010 Sarajevo, the capital, registered about 1,000 tourists from the six Arab oil monarchies in the Gulf combined; in the first ten months of 2015, over 19,000 came from Kuwait and Saudi Arabia alone. Arab property investment has ballooned. For a country mired in bureaucracy and political stalemate, the new investments provide a welcome bright spot.

The thermal baths of the Sarajevo suburb of Ilidza have drawn tourists since Roman times, and took off as a resort under the Austro-Hungarian Empire. After the Bosnian war of 1992-95 the resort seemed doomed. But the past three years have seen an extraordinary renaissance. First came Libyan militiamen, benefitting from Bosnian expertise in therapy for wounded veterans. Other Arabs followed. Now estate agents, restaurants, hotels and dentists all advertise in Arabic.

In the café of the Hotel Hollywood (where NATO forces snatched two alleged al-Qaeda members in the weeks after the September 11th attacks), Ayyad Salim Al-Ayyad, a Kuwaiti estate agent, says business is "fantastic". A few tables over, Bosnians working for a Kuwaiti developer are doing the hard sell on their new condominium complex. Another estate agent

looks askance when a Bosnian woman asks about buying into a new holiday complex in nearby Hadzici. This is not the place for you, the agent explains; it has been built by a Saudi company for Arabs. The buyer might be better off in a development in Polinje, in the hills above Sarajevo, constructed by the Saudi Al-Shiddi group but marketed to wealthy Bosnians and Arabs alike.

Information on the Polinie development is available at the Sarajevo City mall—also built by the Al-Shiddi group, in 2014. In summer the mall is packed with Arab families, some of whom may be staying in the company's alcohol-free Hotel Bristol. This investment will be dwarfed, however, by a project in nearby Trnovo where construction is set to start in April. Buroj, a developer from Dubai, plans to build at least 3,000 villas, flats, a hospital and a sports stadium. The total investment could come to €2.5bn (\$2.7bn).

Arab tourists "feel at home here", says one travel agent. In mainly Muslim Sarajevo, much of the architecture and heritage is Ottoman, and halal meat is easy to find. There are few other countries where hiking and skiing are within striking distance of a mosque.

The property market, meanwhile, is targeted at middle-class buyers who would like a bolt-hole far from the war and chaos enveloping the Middle East, but who cannot afford London or Geneva. In Bosnia a new three-bedroom villa can be yours for €200,000. Because Bosnian law requires foreigners to buy property through a local company, data are hard to come by, but property agents' testimonies confirm that the market is thriving.

Bosnians are both delighted and worried by all this. The investment is welcome, but locals are wary of Arab visitors bringing with them stricter interpretations of Islam, as Arab religious charities have done over the past two decades. Al-Jazeera Balkans, Qatar's local-language television station, has been broadcasting from Sarajevo since 2011, and competes with Russian, Western and Turkish news organisations. A Qatari government "friendship fund" for Bosnian small businesses is preparing to open soon. Bosnians do not want to be caught in the middle of an international battle for hearts and minds.

Even FIPA, the Bosnian foreign investment agency, is curiously reticent about Arab construction projects. Gulf countries do not rank among the top 12 investing in Bosnia, the agency protests. (In part, this may be due to Gulf investments being made through third-country holding companies.) They have "no special relationship" with the country, and invest only "because they can make a profit, and not because they love Bosnia". One wonders whether investors would be expected to evince a disinterested love for Bosnia, if they were European.

Renzi and the EU

Troublemaker

Italy's prime minister is picking fights with Germany and the EU

TALY, a cabinet minister mused recently, f I was seen in the past as a country that did not make trouble. But that was in the past. Lately the left-right coalition of the prime minister, Matteo Renzi has provoked a succession of acrimonious disputes with the European Commission and Germany. This week, in the latest sign of Mr Renzi's determination to be the bad boy of Brussels, he sacked Italy's permanent EU representative, Stefano Sannino, a former Commission official who was seen as too accommodating. His replacement is the junior trade minister, Carlo Calenda, a member of Mr Renzi's Democratic Party.

The conflict burst into the open on January 15th, when Jean-Claude Juncker, president of the commission, accused Mr Renzi of attacking his institution at every turn. Mr Renzi replied that the days when Italy let itself be "remote-controlled" from Brussels were over. Four days later Manfred Weber, the German who leads the centreright group in the European Parliament, said Italy's prime minister was jeopardising the EU's credibility.

Mr Weber was referring to the sharpest of all the current disputes: Italy is blocking refugee aid funds the EU had promised Turkey as part of a deal to crack down on smuggling of migrants into Europe. Germans are especially bitter because Italy has been accused of failing to process migrants who arrive on its soil, instead hurrying them on to other EU states. Ministers in



Talk to the hands

Rome say they doubt that paying the Turks to hold back Syrian refugees will work. But Mr Weber claimed Italy's real motive is to secure concessions on other issues.

Talks with the commission over the sale of Italian banks' daunting inventory of non-performing loans are also bogged down. The urgency of the issue was underlined by a run on the shares of Monte dei Paschi di Siena, Italy's third-biggest lender. Rome wants to guarantee minimum prices for the loans. But the commission has vet to rule on whether that would constitute state aid. Here again, an extra ingredient sours the mix: many Italian officials believe the commission applies EU rules less strictly to Germany.

The bad loans reflect more than a decade of stagnation and Italy's slower-thanexpected recovery from the euro crisis. In December, parliament in Rome approved an expansionary budget aimed at speeding the recovery. But it would also slow Italy's reduction of its budget deficit and the repayment of its public debt, which in the euro zone is second only to Greece's as a proportion of GDP. Mr Renzi's ministers argue they are entitled to flexibility as a reward for structural reform, notably of the labour market. But Brussels may yet ask for adjustments. The budget's centrepiece, a €3.6 billion (\$3.9 billion) cut to taxes on first homes, looks more likely to woo middleclass voters than boost GDP.

The view in Berlin is that Mr Renzi's belligerence is intended to burnish his image at home. The Italian prime minister's personal ratings have fallen sharply since mid-2015 and in June he faces mayoral elections in several important cities. After a string of corruption scandals in Rome, there is a chance the capital could fall to the populist Five Star Movement (M5S).

This is where the issues at stake in Italy's rows with the EU become fuzzier. Seen from the Italian government's standpoint, Mr Renzi's electoral interests and those of the EU are identical. The alternatives to his left-leaning coalition are either the intermittently euro-sceptic M58, or a conservative government-led this time not by Silvio Berlusconi's centre-right Forza Italia party, but by the virulently euro-sceptic Northern League and its populist leader, Matteo Salvini. Polls show barely half the population favours the single currency any longer. In an article this week in the Guardian, a British newspaper, Mr Renzi argued that EU austerity fuels the rise of his populist rivals. According to this view, selfinterest would counsel the authorities in Brussels and Berlin to do all in their power to help Mr Renzi. That was also the view of Mr Renzi's predecessor, Mario Monti. But whereas the urbane Mr Monti, a former EU commissioner, opted mostly for quiet persuasion (sweet-talking the German chancellor, Angela Merkel), the swaggering Mr Renzi likes nothing better than a scrap.

Charlemagne | An ill wind

In Europe and at home, Angela Merkel's refugee policy is being blown away



[N BERLIN they speak of "Plan B"; in Brussels the fear is of the Uturn. Whatever the term, the prediction is the same: that Angela Merkel is on the brink of reversing the generous policy towards asylum-seekers that saw more than a million of them reach Germany last year. For now, Mrs Merkel sticks to her well-worn line: Wir schaffen das ("We will handle this"). Over the past six months she has slowly assembled a hard-headed, coherent migration strategy. But each of its elements is starting to give way.

First, numbers. The winter weather has dented the refugee flows to Greece from Turkey, but not as quickly as hoped. Over 1,600 a day have reached Greece this month, a higher rate than last July when the crisis was already in full swing. Border controls erected along the migratory route since then complicate the journey, but determined migrants still make it to Germany. Wrongfooted by the explosion in arrivals last autumn Mrs Merkel's government tightened asylum rules, but few were put off. A growing number of Moroccans and Algerians, hailing from poor but peaceful countries, are coming to Germany, exploiting the trail blazed by Syrians and Afghans. Meanwhile the howls from regional officials who must house and feed the arrivals grow ever louder: last week a mayor bussed 31 Syrians to the federal chancellery in Berlin, saying his small town could no longer cope.

To cut the numbers reaching Europe, Mrs Merkel has turned to realpolitik. German officials aim to strike deals with countries in the Maghreb and Asia to make it easier to return failed asylumseekers, and are prepared to use development aid as a weapon. Their main hopes, though, lie in an "action plan" the EU cooked up with Turkey in October, which promised money and other prizes in exchange for efforts to stem the migrant flows. Mrs Merkel believes that Turkey can help by disrupting people-smuggling networks and stepping up coastal patrols. But, despite the incentives, there is little sign of Turkish action so far. Without it, the refugee numbers will start to climb again once spring arrives.

To deal with the influx Mrs Merkel has backed an EU plan to register asylum-seekers arriving in Italy and Greece and to relocate them around the club, with national quotas calculated in Brussels. A million asylum-seekers should be no great burden for a union of 500m people. But the relocation scheme has flopped too: many countries want nothing to do with refugees, and refugees have no interest in most countries. So the Germans are changing tack, seeking allies willing to help them resettle hundreds of thousands of Syrians directly from Turkey. France is among the countries prepared to take in the same number of resettled refugees it agreed to take under the relocation scheme. But this will work only if the illegal flows fall dramatically, which means the Turkey deal must kick into gear.

In the meantime, Germany is beginning the difficult work of integrating hundreds of thousands of newcomers. The new-year horrors of Cologne, when hundreds of women were sexually assaulted by marauding groups of men, many of them Muslim asylum-seekers, focused minds on cultural differences. But bringing refugees into the workforce, the main engine of integration, represents at least as big a challenge. The assumption that Germany's tight labour market was tailor-made for job-hungry migrants has given way to the grim realisation that most are an ill fit for an economy mainly seeking highly skilled workers. The head of one business group reckons almost 80% of refugees have next to no skills at all.

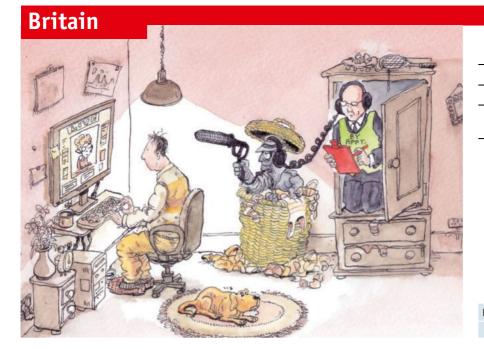
Mrs Merkel is racing against time. Her Christian Democratic Union and its coalition partners are increasingly restive. Cabinet ministers have openly challenged the chancellor's position. The anti-immigration Alternative for Germany party is notching up double-digit polling results for the first time. Refugees languish in supposedly temporary accommodation months after arriving in Germany. Mrs Merkel continues to insist that there can be no cap on the number of refugees Germany accepts, and the constitution agrees with her. But increasingly, reality does not.

Very well, alone

What if nothing works? Despite the pressure Mrs Merkel is unlikely to shut Germany's borders, because she wants to preserve the EU's passport-free Schengen zone. But other plans are being drawn up inside the chancellery, including a sealing of the Greece-Macedonia border across which most refugees travel to reach Germany. Once refugees see that Greece has become a dead end, says one German official, they will think twice about setting sail from Turkey. Other routes will no doubt emerge, perhaps across the Black Sea. But the plan might at least buy time.

Such schemes show how far Germany has travelled since its "welcome culture" lifted European liberals' hearts last summer. Back then Mrs Merkel's model presented an inspiring alternative to the small-minded xenophobia of leaders like Hungary's Viktor Orban. Now, after the chaos and trauma of the past six months, Mr Orban feels vindicated and the chancellor looks increasingly isolated. Germany has tried to lead in Europe, but others will not follow. To Mrs Merkel's immense frustration, other EU countries agree to policies like relocation and then ignore them. While German officials try to knit together the geopolitics of the crisis, from Iraq to Turkey and Russia, most other countries would prefer it simply to go away. As for the European Commission, which sometimes looks like the chancellor's last ally, it has gamely advanced common policies but is too weak to enforce them. "The European dream is vanishing," sighs one of its senior officials.

Mrs Merkel, to her credit, is desperate to keep it alive. But time is running out. Germany has perhaps two months to hope that the jigsaw pieces fall into place before the refugee flows pick up again, and each part of the job gets harder every day. Can Germany still handle this? We will continue to make the case, says a government official. "But nobody believes it." ■



The snoopers' charter

Of warrants and watchers

The law governing the intelligence agencies is being rewritten. Problems abound

PIES need secrecy and the public wants Oprivacy. So finding the right legal framework in which the intelligence and security agencies can do their work, includingwhen necessary-intruding into people's private lives, is inherently tricky.

Britain's laws on bugging and snooping are out of date. Written in a pre-internet era, they give sweeping powers to the home secretary to authorise the interception and collection of electronic information, and the planting of bugs (in spookspeak, "equipment interference"). Without a stronger legal basis, these powers could fall foul of European judges on humanrights and data-protection grounds.

Moreover, until the revelations by Edward Snowden, a fugitive American intelligence contractor now living in Moscow, most people had no idea of the reach of Britain's digital spy agency, the Government Communications Headquarters (GCHO), and how close its ties are with America's National Security Agency. The Snowden revelations infuriated digital-privacy advocates and also alarmed the technology industry, which feels squeezed between government demands and its customers' expectations.

The draft bill on investigatory powers going through Parliament attempts to sort out this mess. It follows the failure two years ago of a previous bill, dubbed the "snoopers' charter", and the hurried passage of a stopgap bill that expires this summer. The bill is under scrutiny by a joint committee of peers and MPS, which will report on February 11th.

Arguments rage over both form and content. Critics say the consultation is too hurried for one of the most important pieces of legislation in recent years. They object to the vagueness of some of the language (including new bits of jargon such as "internet connection records", which could mean the complete history of somebody's activity on the internet). The definition of these terms, and of such words as "urgent", "necessary" and "proportionate", will be contained in codes of practice, vet to be published.

For some, the fact that GCHO has long had the capabilities it now avows is no reason to accept them. The bulk collection of information, they say, breaches privacy. Overly zealous spooks might link databases, and trawl them looking for patterns, drawing conclusions purely on the basis of inference, with no redress for those concerned. The data could be passed to (or pinched by) other countries, notably America, which could then decide, say, to put innocent people on no-fly lists. British Muslims already complain of costly, humiliating and unexplained last-minute blocks on trips to America, apparently based on their behaviour on the internet. Warehouses of sensitive data are magnets for criminals and other malefactors.

Critics of the bill also worry about a

Also in this section

- 50 Petition against Trump
- 50 Pension policy
- 51 Bagehot: Dominic Cummings, an optimistic Eurosceptic

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conflict of laws, under which Britain might oblige them to hand over data about their clients even when another country expressly prohibits this. Big technology companies such as Google, Facebook and Apple have written to the parliamentary committee to highlight this danger, though they declined to send their bosses to give evidence in person.

Some of this is posturing. The bill does not mandate the creation of a central database of everybody's internet history. Nor, contrary to some claims, will it force technology companies to install back doors in their encryption software to meet requests from GCHQ. Most supposedly encrypted products are already transparent to their providers: it is only by analysing its users' e-mails and browsing activity, for example, that Google is able to sell advertisements tailored to their tastes.

The law authorises GCHQ to ask for help. But when it comes across genuinely uncrackable encryption ("end-to-end", in industry jargon), it has other options, such as planting software on the device concerned. The tech companies, say cynics, are pretending to show how fiercely they resist government requests, while remaining happy to co-operate in private.

The purported conflict of laws is somewhat overblown as well. GCHQ will not force a company to break other countries' laws (risking an embarrassing public spat). The bigger worry for the government is how to protect the agency's intelligence capabilities from judges in Luxembourg and Strasbourg, whose view of espionage is rooted not in the British tradition of royal prerogative and empire, but in continental memories of totalitarianism.

For this reason the bill introduces a new idea. The home secretary's warrants will be reviewed by judges, who will check them for lawfulness and reasonableness. The creation of these commissioners was recommended in a report last year by David Anderson, a lawyer who is the independent scrutineer of Britain's anti-terrorist legislation. The spooks have no objection. Their activities are already scrutinised retrospectively by commissioners. They would also like their warrants to have more legal force in foreign eyes.

The committee is now debating the commissioners' hiring, firing and remit. It is also mulling evidence from lawyers and media-freedom campaigners. Communications between lawyers and their clients enjoy almost bulletproof legal protection: spies too should be told explicitly to steer clear of them. Journalists fret that sources (especially whistle-blowers) may have insufficient protection.

Another issue is a provision in the bill requiring "communication service providers" (ie, internet and telecoms firms) to store customers' internet records. It is unclear what this will mean in practice, how intrusive it will be, what it will cost and whether, since people get on the internet in many different ways, it can even work.

The biggest divide is not over the technicalities of intelligence oversight, but in attitudes to what spies do. Some believe the agencies to be overmighty, beguiling politicians with tales of derring-do and lobbying zealously for their cause in the media. Such worries are not groundless. Parliament's intelligence and security committee was surprised and annoyed by a drooling series of articles that resulted after GCHQ gave the Times unprecedented access to its headquarters in Cheltenham.

Yet nobody has evidence that GCHQ acts unlawfully or menacingly under the existing system. Most Britons—and most politicians—think the spooks do a good job and, beset by fears of terrorism, crime, child abuse and foreign spies, want a legal structure that lets them keep at it. ■

Pension policy

A tangled web

The state pension system is about to change. Some people will lose out

BEWARE politicians who say they plan to simplify something. The details will often be more complex. That is especially true of the new pensions regime starting in April. The flagship proposal is a "flat rate" pension, fixed initially at £155.65 (\$220.35) a week. It will replace the confusing mix of a basic pension of £119.30, an earnings-related supplement and means-tested benefits. However, the term flat rate is a misnomer. Some retired people will get more than £155.65 because they will carry over earnings-related benefits from the old system. But others will get less.

Qualifying for the full rate requires a history of 35 years of national insurance contributions (NICS), with a minimum of ten years to get anything. There will be exceptions. Those who spend time caring for children or elderly relatives can count such years for qualification, although proving what they have done may be tricky. There will be means-tested benefits to ensure that those without any other income get at least £155 a week. But the means tests apply to couples, not individuals, so married people without the right NICS record may get less than the flat rate.

Many will find the new "simple" system as confusing as the old. In the first 20 years or so of the scheme, most retiring workers will be better off. But by 2040, the majority (those aged 40 or less now) will be worse off. That is because, under the old system, the earnings-related bit of their pension would have been higher than the



The young and the old

flat-rate payment. This is another example of the older generation benefiting at the expense of the young.

Nor is this the only complication. Workers in salary-linked pension schemes have "contracted out" of the earnings-related element of the state pension, so they paid lower NICS. But the new pension will stop contracting out, so employees' NICS will rise. That will translate into a pay cut in April. Worse, employers' NICS will go up too, and private-sector employers may try to recoup the cost by cutting pension benefits or raising employee contributions. For workers, that means a choice between cutting future or current pay.

The government is also under attack over a change to equalise the state pension age. From 1940, the state pension age was set at 65 for men and 60 for women; since husbands tended to be older than wives, the idea was that couples would retire together. But the European Court of Human Rights deemed this gap discriminatory, so the government legislated to equalise the pension age at 65, with the change being phased in between 2010 and 2020.

The cost of providing pensions has been rising as people have been living longer. So in 2011, the government decreed that the state pension age for both men and women should rise to 66 by 2020. For women born between 1953 and 1958, this means a big increase in retirement age, with very little warning. A group called Women Against State Pension Inequality has launched an e-petition to protest, especially against the failure to give individuals sufficient notice. Older women are less likely to be working than men and less likely to have private pensions. After getting more than 100,000 signatures, the petition will be debated in Parliament (see box), but change is unlikely.

This government has treated pensioners better than other benefit recipients, notably by maintaining the "triple lock" under which pensions rise by the bigger of wage rises, price inflation or 2.5%. But in the world of pensions, any change, however simple, will make some unhappy.

Petition against Trump

Donald Trump has topped another ranking, this time in Britain. An e-petition started by a woman from Aberdeen, where Mr Trump owns a golf club, suggested banning the Republican candidate from Britain for hate speech. It amassed a record 576,000 signatures, far more than the 100,000 benchmark for debate in Parliament. The debate, held on January 18th, concluded that his views are not welcome. This was noted in America so may have embarrassed the government. Yet e-petitions are meant to foster political engagement. The next two most popular concern migration, one against, one for. A petition not to ban Mr Trump got only 44,000 signatures; a third, for him to address Parliament, just 100.

Selected e-petitions to the British government, 2015-16 Signatures '000

Block Donald Trump from entering Britain 576.8

Stop all immigration until Islamic State is defeated 457.6

Accept and increase support for refugees in Britain 449.4

Make cannabis legal 236.8

Vote of no confidence in the health secretary 231.0

No military action against IS in Syria after Paris attacks 226.9

Vote of no confidence in the prime minister 199.2

No airstrikes in Syria 189.0

Fair pension changes for women born in the 1950s 126.9

Don't ban Trump from Britain

Source: House of Commons

Bagehot | An optimistic Eurosceptic

For Dominic Cummings, leaving the European Union is a first step in a British renaissance



N 2002 senior Conservatives met to stroke their beards after a $oldsymbol{1}$ second defeat to Tony Blair's mighty electoral machine. Somebody suggested a "Save The Pound day" to spotlight the prime minister's sneaky plan to adopt the euro. The Tories had held precisely such an event before the election, but Iain Duncan Smith, their new leader, reckoned it worth another shot. Dominic Cummings, his head of strategy, clutched his head in despair. "Just about the only thing less popular than the euro is the Tory party," he later observed, in the typically direct manner that infuriates right-wing Conservatives. After eight months in the job he quit, pronounced Mr Duncan Smith "incompetent...a worse prime minister than Tony Blair" and retired to an underground bunker in Durham to study Russian literature and Thucydides.

Today Mr Cummings—hair a chaotic thatch, speech brisk with a hint of the north-east—is again at the heart of politics. His focus is the EU, or rather getting Britain out of it. From a humming, glasswalled complex overlooking the Palace of Westminster he leads the campaigning efforts of Vote Leave, the largest of the outfits vying to be designated the official Out campaign in the impending referendum. Together with Matthew Elliot, its chief executive and a fellow libertarian veteran of anti-euro wars, he wants to create the biggest political upset in decades.

Mr Cummings was never a typical politico. He is "someone for whom the phrase 'doesn't suffer fools gladly' was invented", observes Tim Bale, a historian of the Conservative Party. He sees politics less on a Labour-Tory spectrum and more as part of a Herculean struggle between brilliance and mediocrity (how he and the pooterish Mr Duncan Smith ever thought they would get on is unclear). Unequivocally idealistic and about as silky-smooth as sandpaper, he found his calling as chief of staff to Michael Gove, first in opposition and then, despite efforts by Downing Street to block him, at the education department. There he bluntly informed civil servants of their shortcomings, fired off hectoring e-mails written in capitals, took a bulldozer to Mr Gove's softly-softly Liberal Democrat coalition partners and agitated to prise the state's fingers off schools, inject the exam system with new rigour and boost the teaching of science and maths.

If he demonstrated verve, it was because for him the Gove reforms were the method; the object was to change the soul. How? By transforming Britain into a meritocratic technopolis. That much Mr Cummings outlined in a 240-page essay in 2013, shortly before he left the education department. Between detours through nanotechnology, robotics and military strategy, he adumbrated a resilient society of "Odyssean" citizens capable of working across the sciences and arts and adapting to complex technology. Britain's post-imperial role should be as the world's "leading country for education and science". In this scheme Brussels, like corporatist Lib Dems and education bureaucrats, is a barrier to be knocked down. "Dom's Euroscepticism is an expression of his Nietzschean world view," says a former colleague.

The audacity of nope

Yet for Mr Cummings, the EU is not just another obstruction. Leaving it is nothing less than the key to a bold new Britain. Sitting down with Bagehot, he starts by comparing post-renaissance China with post-renaissance Europe; the first mandated harmonisation and declined, the second accommodated competitive differences and advanced. The EU, he posits, is making the old Chinese mistakes by regulating things like drug trials and oliveoil containers. This predilection, combined with a lack of democratic scrutiny, makes it "extraordinarily opaque, extraordinarily slow, extraordinarily bureaucratic" and utterly ill-suited to a fast world of "gene drives, lethal autonomous robotics, you name it". So Britain should leave, paving the way for a more dynamic, supple state; freeing British entrepreneurs from stultifying rules cooked up with the help of monopolistic conglomerates; and releasing cash that could seed a British version of DARPA, the American government's emergent-technology arm.

His problem is that many Outers prefer a more nostalgic vision of a post-EU Britain, one involving cream teas, birching and church on Sundays. Indeed, Mr Cummings finds himself on the front line of a battle between Vote Leave and Leave.eu, its main rival (backed by the UK Independence Party), which pushes a more socially conservative brand of Euroscepticism. On January 18th Arron Banks, the boss of Leave.eu, wrote to Mr Elliott describing Mr Cummings as "a liability and a danger" and "the only person apparently standing in the way of a formal merger" of the groups.

Vote Leave rebuffed the flirtation, but Mr Cummings undoubtedly carries risks. His liberal idealism (he is pretty unfussed about immigration, for example) does not chime with the small-c conservative voters on whom Out relies. He will struggle to work harmoniously with whichever cabinet ministers come out against the EU (Mr Duncan Smith is one). And he can be impractical. He once set up an airline linking Samara, in south-west Russia, with Vienna; it had one passenger, whom it somehow left behind when its first and only flight took off.

And yet. Mr Cummings inspires intense loyalty among those with whom he works closely. He had the political nose to advocate Tory modernisation years before David Cameron and George Osborne made it trendy. He is appealingly imaginative and original. In a profession in which shoehorning a reference to Uber into a speech passes for serious analysis, it is refreshing to come across somebody who thinks hard before he speaks. And he is genuinely optimistic—about human potential, democratic government and the power of science. Bagehot hopes he loses the battle over Britain's EU membership. But he wishes Mr Cummings well in his bigger war.

Events



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Indonesia's real GDP will rise by 5.2% in 2016, up from an estimated 4.8% in 2015, according to The Economist Intelligence Unit. The rate of expansion will pick up further in 2017-20 but looks set to remain below potential, averaging 5.4% a year, owing to slow progress on structural reform.

Some of President Joko Widodo's actions over the past few months—such as a cabinet reshuffle that favoured technocrats and a raft of deregulation measures—suggest that the pace of reform may be picking up. Yet critics charge that this is merely tinkering around the edges that won't provide the sort of boost Indonesia's economy so sorely needs. Will 2016 be a year of structural reform?

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54 Brazil's glitzy new churches

55 South Korea's charismatics

Global Pentecostalism

Ecstasy and exodus

LETTERKENNY, TRELAND

Charismatic Christianity thrives among people on the move

EJU HASSAN has come far, and so have ▲ most of his flock. Born near Lagos 50 years ago, he converted to Christianity as a young man and now ministers in the far north of Ireland to a multinational congregation. Like many a "reverse missionary" from the devout developing world to the secular north, he sees his task as repaying the lands that exported Christianity. "The Gospel was brought to Africa by English and Irish priests. White people also did bitter things, but we are still grateful for the faith and we are bringing it back."

His 100 followers are an outpost of Christendom's fastest-growing segment: people who seek an ecstatic experience described as "baptism in the Holy Spirit" and insist that biblical feats, from healing to exorcism to speaking in tongues, should be part of present-day worship. They are sometimes described as "charismatic" or "renewalist". Within this category are Pentecostal churches that stem from a revival begun in America over a century ago; subgroups within established churches, which after 1960 began worshipping in a similar way; and newer churches that use Pentecostal style and language, with a fresh stress on prosperity. This can mean offering business tips, involving the faithful in ventures or telling them that God will enrich them if they donate money.

Todd Johnson of America's Centre for

the Study of Global Christianity reckons that as of 2010, these charismatic worshippers amounted to a quarter of the world's 2.3 billion Christians; by 2025 he expects their number to reach 800m (see chart on next page). It is often noted by religionwatchers that Christianity globally is becoming more southern and exuberant. But the success of Pentecostalism and its imitators also highlights a more subtle point: the need for a kind of religion that is flexible enough to suit people in transit, whether between the southern hemisphere and the northern, between the countryside and the city, or between poverty and wealth.

Speaking in tongues

For uprooted peasants, too, coping with the anonymity of a megacity slum, charismatic churches provide a paradoxical blend of social support, discipline and emotional release. As Don Miller of the University of Southern California puts it: "Pentecostal worship is joyous, ecstatic and offers a sense of self-transcendence that fills a void in the lives of migrants-and exorcising demons, literally or metaphorically, can be a way of gaining control over individual or family problems." Migrants travelling between countries need the same balance of solidarity and catharsis, and are well served by the loose structure of charismatic churches, which can spring up quickly wherever the need arises.

Pastor Teju's is a typical tale. His chance to migrate came when the multinational firm he worked for as an accountant sent him from Lagos to England for training. Hearing that Ireland's economy was booming (in 2000), he got a job there. As his career progressed, so did his spare-time role as a pastor with another successful multinational concern, the Redeemed Christian Church of God (RCCG), a Nigeria-based organisation that ministers to the country's diaspora and all other comers.

His flock includes people from across Africa, and a few Irish looking for an alternative to Catholicism. His church claims to have thousands of communities worldwide. Though a prolonged slump means the pool of recruits in Ireland's northwestern tip may be drying up, globally it seems on track. In Nigeria its Redemption Camp attracts millions to its annual meetings. A 10,000-seat stadium in Texas acts as a hub in America and last year David Cameron paid a pre-election visit to its London gathering, where the faithful cheered the prime minister as he lauded the family, the Bible and self-improvement.

"Our people are very practical," says Pastor Teju. So too is his brand of religion. Like migrants in search of safety and prosperity, charismatic Christianity has proved adaptable, almost chameleonic. To people whose lives are in flux, it offers a mix of ecstasy, discipline and professional and personal support. In Brazil an initially sober kind of Pentecostalism has been replaced by a brasher kind (see next story). In South Korea (see page 55), a style of worship that suited a poorish, insecure country has been replaced by one that flaunts success.

Whatever their style, Pentecostal pastors are culturally closer to their flock than >> are the learned clerics of the Catholic or Lutheran churches; and they are numerous. A study in 2007 found that in Brazil Pentecostal churches had 18 times more clerics per believer than the majority Catholics. As Mr Miller points out, older churches move slowly because they are lumbered with hierarchies and rules; the Pentecostal world is one of quick startups, low barriers to entry and instant reaction to change.

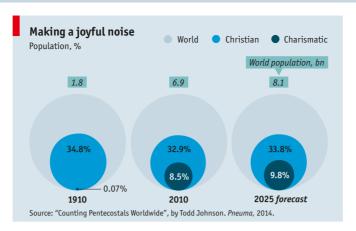
At worst, this flexibility shades into opportunism. In every country where Pentecos-

talism has thrived, its leading practitioners have faced investigations of their finances. In 2011 Forbes magazine estimated the combined worth of five Nigerian pastors as at least \$200m. In Brazil the faithful seem tolerant of pastors who are light-fingered with their tithes; many see giving as a virtuous act, regardless of the money's ultimate destination. Estevam Hernandes, one of Brazil's best-known preachers, cheerfully resumed his career after returning, in 2009, from five months in an American jail for smuggling undeclared cash.

Some, though, have emerged unscathed. Last year Britain's Charity Commission gave a clean bill of health to the British branch of one of Nigeria's richest churches, the Winners' Chapel. Or take Sunday Adelaja, a Nigerian-born cleric who is a player in the affairs of Ukraine. His Embassy of God church claims 25,000 followers (almost all white) in Kiev and outposts in over 20 countries. In 2009 he was questioned over the collapse of an investment firm which had touted for business in his church; he satisfied the police that he was not responsible.

In the past migrating religious groups either merged into their host societies or else pickled the culture of the old country in aspic. Thanks to technology, today's roaming worshippers have no such dilemma; a Nigerian or Brazilian in transit can adapt while maintaining contact with home. Globally dispersed Pentecostal churches meet both those needs. An outlying branch of the RCCG can offer job advice and a way to keep links with home. Global charismatic movements act as transmission belts along which ideas and worship styles can travel quickly. "A hymn can be composed in one continent and sung in another a few days later," says Allan Anderson of Birmingham University.

Like water, charismatic religion takes the path of least resistance. Philip Jenkins, a scholar of global Christianity, cites several little-noticed examples. Dubai is now a bastion of Pentecostal-style worship, among migrants; the Muslim authorities do not mind as long as local Emiratis are not proselytised. Thanks to a shared lan-



guage, Brazilian neo-Pentecostal churches do well in Angola and Mozambique. And though Filipino Christianity is almost entirely Catholic, the export variety, adapted to the diaspora's needs, is intensely charismatic, offering a combination of mysticism and practical advice. One movement, El Shaddai, claims 8m members across the world. Worshippers at its Manila base wave their passports in the air as they pray for successful travels.

Politically, too, Pentecostal churches

tend to be pragmatic rather than consistently conservative. Brazil's globally successful Universal Church of the Kingdom of God (UCKG) initially resisted the rise of the centreleft Workers' Party, but went on to back its presidential candidates, including Dilma Rousseff, the incumbent. In Ukraine Mr Adelaja was close to the 2004 Orange revolution but also wooed the pro-Russian president, Viktor Yanukovych. Peru's right-wing authoritarian leader, Alberto Fujimori, enjoyed Pentecostal support, but

in El Salvador, Pentecostal preachers strike a leftist tone. In America Latino Protestants (mostly charismatic) are contested electoral terrain. Almost all Pentecostal churches are anti-abortion and anti-gay, but the UCKG has made statements that are prochoice and comparatively gay-friendly.

Predicting the future of such a volatile phenomenon is difficult. But wherever people are on the move, and are culturally receptive to Christianity in some form, charismatic religion will surely follow.

Pentecostalism in Brazil

From modesty to ostentation

SÃO PAULO

How waves of migrants bring waves of religious change

RÁS, a dowdy part of central São Paulo, **B** has welcomed many newcomers. A century ago labourers came from Italy; from the 1950s to the 1980s migrants turned up from poor drought-prone parts of north-east Brazil, seeking work. Bolivians and Haitians are the latest arrivals. This churning mix has created the compost for charismatic worship, sprouting churches which have grown from a single congregation to embrace millions. Today Brás is a showcase of Brazilian faith, including several old and new kinds of Pentecostalism.

Data about religion in Brazil are inexact. According to the census, between 1980 and 2010 the number of Pentecostals rose from 3.9m to 25.4m. As a share of the population, it rose from 3.2% to 13.3%. But many of the 8% calling themselves "without religion" flit between Pentecostal churches. Meanwhile, the Catholic share has dropped from 89% to 65%. Pentecostals are poorer, blacker, less educated and younger than the average Brazilian, in contrast with traditional Protestant sects like Lutheranism. But they are generous. One study found that in 2002-03, when they made up 13% of Brazilians, they gave 44% of tithes collected

by churches in Brazil; Catholics, then 74% of the population, paid less than a third.

The seeds of this charismatic expansion were sown just over a century ago when two movements were started in Brazil, both by Europeans coming from Chicago where Pentecostal fire was crackling. The better known is the main Brazilian branch of the Assemblies of God, which counts nearly 70m followers around the world. The other, the Christian Congregation of Brazil, was founded in this part of São Paulo in 1910 by Luigi Francescon, a migrant originally from Italy. Though it has not spread beyond Brazil's borders, it now boasts 2.8m followers. As Pentecostals go, it is discreet. It refrains from proselytising; Francescon believed that God would lead people to church. Members dress conservatively; women eschew masculine or revealing clothes. Its services are orderly, and it shuns politics.

All that is in contrast to Brazil's most famous home-grown Pentecostal group, the newish but ultra-confident Universal Church of the Kingdom of God (UCKG). The church was started in 1977 by Edir Macedo, an ex-lottery official, coinciding with >> ▶ a wave of urbanisation and the spread of new communications technology. Mr Macedo shuns the asceticism of early Pentecostals: Forbes magazine estimates that his assets exceed \$1 billion, and he owns 16 broadcasting stations. In 1992 he was jailed for 12 days on charges of embezzlement and charlatanism, all later dropped.

The church's grandest building, the Temple of Solomon, stands in Brás and is modelled on the original, in ancient Jerusalem. Opened in 2014, it houses 10,000 worshippers and oozes confidence, rising 50 metres above low-rise houses and cheap hotels. Flags flutter for 200 countries where UCKG claims a presence. One recent Saturday, before a women-only service, its stadium-sized forecourt swarmed with sleek ushers. Keeping order were members of Uniforça, the church's youth wing, in yellow-and-black polo shirts. Hostesses in white gowns and golden sashes welcomed the worshippers.

A few hours earlier worship began at another UCKG church; the slightly smaller Brás Cathedral. Thousands of believers have been praying for "impossible" causes. "Make your wishes now!" their black pastor, with a boxer's build but a sweet tenor, intones. "God is listening!" Reinaldo, a 50year-old labourer, sighs that his list of requests is long; he commends the Monday job-seekers' service to your needy-looking correspondent.

Not everybody in Brás is Pentecostal. The modest Catholic church of Saint John the Baptist sits in the Temple of Solomon's shadow. By comparison it is shabby; its ethos reflects altruism, not pomp. Billboards offer help with beating alcohol or avoiding dengue fever. "We feed 50 homeless each week," says Hevilaine Pereira da Silva, the parish secretary. Playing down the outflow to rival churches, she insists: "Those who left were never the true faithful." But they are very numerous. ■

Pentecostalism in South Korea

Coming down the mountain

From hillside vigils to gleaming megachurches

UNDERSTAND Pentecostalism's L changing face in a country where it is thriving, take two snapshots of religious practice in Seoul. The first shows a oncecommon form of prayer that is now in decline, the second a style of worship that has grown hugely in popularity.

Start one night by joining a reverent band of 30 worshippers in the freezing darkness of a mountainside south of Seoul. These hardy faithful come to Mount Cheonggye once a week, arriving around 9pm and staying until midnight. Prayers, they say, work better in the dark, though points of light appear as some follow lyrics on phones. Each sits alone on the damp forest floor, praying loudly or singing softly, occasionally exclaiming.

The practice of praying on high ground began in the 1950s, after the division of the peninsula and a war which sent Pyongyang's once-lively Protestant community fleeing south. Back in the 1980s, says the group's leader, Kim Hyon-min, up to 30,000 people would pray, often for the country, on Samgak mountain north of Seoul. But this sort of service has lost its appeal, as some Koreans have switched to glitzier Pentecostal churches and others have fallen away altogether. This is one of the few mountainsides still open to latenight prayer near Seoul, says Mr Kim. Sometimes a few hundred come on a Fri-



Happy, clapping in Yoido

day, but that hardly matches the old days when "this mountainside was packed, [and] it was difficult to find a spot".

People are not as hungry as before, financially or materially, says Mr Kim. "We are blessed by God but...we have moved away from God. When the first Christians came down from Pyongyang they had nothing and experienced God's blessing. Now we have it all." Only the toughest con-

tinue to worship in high places: "We follow what Jesus did, he prayed...on the mountain. So we do, too."

Next, visit the Yoido Full Gospel Church, which has come a long way since 1958, when it was started by David Yonggi Cho in his mother-in-law's living room. It claims over 700,000 members, including daughter churches and online followers. Its main building holds 12,000-enough to make a big noise. Members seem untroubled by the founder's suspended threeyear jail sentence 2014 for a scam in which church officials were urged to buy overpriced shares from his son.

Even on a weekday morning, the basement lobby is nicely full for an hour-long act of prayer. Elderly men hand service sheets to worshippers, mostly middleaged women. A minister and some worshippers speak in strange tongues, raising their arms to the sky, some crying. Then crooners with microphones lead the congregation in song. Lyrics appear on screens flanking a colossal wooden cross. Most hymns laud the Holy Spirit; cameras swerve to the strongest singers.

An elder, Chang Ing-won, prays for the country's president and protection from North Korea's nuclear arms. Other dangers to be averted include Islamist terroristsand homosexuals. Another pastor explains his country's prosperity and North Korea's poverty with reference to the story in Genesis of how Joseph helped Egypt avert famine. Then he recalls Jeong Jaehoon, an emigrant to America who became boss of an aerospace company, and used divine help to solve engineering problems. The service is translated into English, Japanese and Chinese; at weekends, 17 languages are available.

For an aspiring urban community, this style of worship allows people to bring their yearnings and celebrate their achievements. In the wealthy Seoul suburb of Gangnam, there are megachurches for higher earners; Yoido represents an intermediate step on the ladder of success.

In one respect, the two congregations, one on a deserted mountain, the other in a crowded church, are similar. Among the people they dislike are shamans, practitioners of folk religion. Some see a paradox there; shamanism and Korean Pentecostalism both invoke invisible forces and believe in clairvoyance; Korean shamanists also practise night prayer on shelter-less peaks. But Mr Kim, the night-vigil leader, says commonality does not imply friendship: "They have their own mountains."

Some sociologists see things differently. As Kim Sung-gun of Seowon University puts it, Korean Pentecostalism has managed to appeal to both the middle class and the poor: the former with its happy mix of Christianity with modernity and the latter with its resemblance to shamanism. If he is right, this was clearly a winning recipe.





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- 59 Why America's air fares are still high
- 60 ...and why they will fall in Europe
- 60 A hands-off engineering group
- 61 Optimism about Vietnam's firms
- 62 Podcasts: the next big thing, again
- 63 Schumpeter: The fad for workplace collaboration

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Semiconductors

Chips on their shoulders

SHANGHAI

China wants to become a superpower in semiconductors, and plans to spend colossal sums to achieve this

THE Chinese government has been try-Ling, on and off, since the 1970s to build an indigenous semiconductor industry. But its ambitions have never been as high, nor its budgets so big, as they are now. In an earlier big push, in the second half of the 1990s, the government spent less than \$1 billion, reckons Morgan Stanley, an American bank. This time, under a grand plan announced in 2014, the government will muster \$100 billion-\$150 billion in public and private funds.

The aim is to catch up technologically with the world's leading firms by 2030, in the design, fabrication and packaging of chips of all types, so as to cease being dependent on foreign supplies. In 2015 the government added a further target: within ten years it wants to be producing 70% of the chips consumed by Chinese industry.

It has a long way to go. Last year China's manufacturers, both domestic and foreignowned, consumed \$145 billion-worth of microchips of all kinds (see chart, next page). But the output of China's domestic chip industry was only one-tenth of that value. And in some types of high-value semiconductor-the processor chips that are the brains of computers, and the rugged and durable chips that are embedded in cars-virtually all of China's consumption is imported.

To help them achieve their dream, the

authorities realise that they must buy as much foreign expertise as they can lay their hands on. In recent months, stateowned firms and various arms of government have been rushing to buy, invest in or do deals with overseas microchip firms. On January 17th the south-western province of Guizhou announced a joint venture with Qualcomm, an American chip designer, to invest around \$280m in setting up a new maker of specialist chips for servers. The province's investment fund will own 55% of the business. Two days earlier, shareholders in Powertech Technology, a Taiwanese firm that packages and tests chips, agreed to let Tsinghua Unigroup, a state-controlled firm from the mainland, buy a 25% stake for \$600m.

Officials argue that developing a homegrown semiconductor industry is a strategic imperative, given the country's excessive reliance on foreign technology. They can point to the taxpayers' money that politicians in America, Europe and other parts of Asia have lavished on their domestic semiconductor industries over the years.

China's microchip trade gap is, by some estimates, only around half of what the raw figures suggest, since a sizeable proportion of the imported chips that Chinese factories consume go into gadgets, such as Apple's iPhones and Lenovo's laptops, that are then exported. Even so, a policy of promoting semiconductors fits with the government's broader policy of moving from labour-intensive manufacturing to higheradded-value, cleaner industries.

Morgan Stanley notes that profit margins for successful semiconductor firms are typically 40% or more, whereas the computers, gadgets and other hardware that they go into often have margins of less than 20%. So if Chinese firms designed and made more of the world's chips, and one day controlled some of the underlying technical standards, as Intel does with personal-computer and server chips, China would enjoy a bigger share of the global electronics industry's profits.

In the government's earlier efforts to boost domestic manufacturing of solar panels and LED lamps, it spread its largesse among a lot of local firms, resulting in excess capacity and slumping prices. This time it seems to be concentrating its firepower on a more limited group of national champions. For instance, SMIC of Shanghai is set to be China's champion "foundry" (bulk manufacturer of chips designed by others). And HiSilicon of Shenzhen (part of Huawei, a maker of telecoms equipment) will be one of a select few champions in chip design.

Most intriguing of all, Tsinghua Unigroup, a company spun out of Tsinghua University in Beijing, has emerged in the past year or so as the chosen champion among champions, a Chinese challenger to the mighty Intel. Zhao Weiguo, the firm's boss, started out herding goats and pigs in Xinjiang, a remote province in north-western China, to where his parents had been exiled in the 1950s, having been labelled as dissidents. After moving to Beijing to study at the university, Mr Zhao made a fortune in electronics, property and natural re->> Sources, before becoming chairman and second-largest shareholder (after the university itself) at Tsinghua Unigroup.

The company's emergence from obscurity began in 2013 when it spent \$2.6 billion buying two Chinese chip-design firms, Spreadtrum and RDA Microelectronics. In 2014 Intel bought a 20% stake in its putative future rival, for \$1.5 billion, as part of a plan for the two to work together on chips for mobile devices, an area in which Intel has lagged behind. In May last year Tsinghua spent \$2.3 billion to buy a 51% stake in H3C, a Hong Kong subsidiary of Hewlett-Packard that makes data-networking equipment. And in November it announced a \$13 billion share placement to finance the building of a giant memory-chip plant.

Shopping for silicon savvy

Other Chinese firms have also been splashing out. Jiangsu Changjiang, a firm that packages chips, paid \$1.8 billion in 2014 to gain control of STATS ChipPac, a Singaporean outfit in the same line of business. In 2015 state-controlled JianGuang Asset Management paid a similar sum for a division of NXP of the Netherlands, which makes specialist chips for cellphone base stations. A group led by China Resources Holdings, another state enterprise, has made a \$2.5 billion takeover bid for Fairchild Semiconductor International, an American firm. But the undisputed leader of the "national team" buying up foreign chip know-how is Tsinghua.

"Many people suspect I'm a 'white glove' for the government," Mr Zhao declared recently, "but we're really just a very market-oriented company." That somewhat understates the official backing that it clearly enjoys: without this, it is hard to imagine the company affording the 300 billion yuan (\$45 billion) that Mr Zhao says

A chunkier chip Semiconductor-industry sales, worldwide, \$bn 50 100 150 200 250 300 350 2011 2015* in China to Chinese firms **Of which:** └ in China to foreign firms Chinese companies' share of global semiconductor sales. % "Fabless" chip designers Integrated chipmakers and foundries 6 12 2011 2015 Sources: McKinsey; IHS iSuppli; WSTS; IC Insights; company reports *Estimate

Tsinghua plans to spend on further deals over the next five years.

Chinese approaches to foreign semiconductor firms-unlike its firms' acquisitions of foreign consumer brands-have not always met with a warm reception. Tsinghua reportedly made a \$23 billion bid last year for Micron, a big American maker of DRAM-the type of memory chips used to store data on desktop computers and servers. But the bid faltered because of political opposition. The firm's overtures to SK Hynix, a South Korean maker of DRAM and flash-memory chips (as used in USB sticks and smartphones), were rebuffed in November. In December Tsinghua bought a 25% stake in Siliconware Precision Industries (SPIL), a Taiwanese chip packager and tester. The resulting political backlash prompted Advanced Semiconductor Engineering (ASE), a bigger Taiwanese chip packager, to launch a takeover bid for SPIL in December. Tsai Ing-wen, the main opposition candidate in Taiwan's presidential election, declared China's investments in the island's chip firms a "very big threat"and on polling day, January 16th, she emerged the victor.

As to whether China will realise its ambitions, or whether it will continue to be dependent on foreign chip technology, Taiwan's own experience is instructive. From the 1980s, it was highly successful in developing world-class chip foundries, such as TSMC, and in cultivating sparky designers of processor chips such as MediaTek. But in part that was because of good timing: the chip industry was moving towards a model of separating the design and the fabrication of chips, and Taiwan successfully rode that trend. But its more recent attempt to be big in memory chips was a disaster. Mark Li of Sanford C. Bernstein, a research firm, reckons that despite \$50 billion in capital expenditure during the late 1990s and 2000s, mostly financed by the government, Taiwanese firms met with "en masse failure in memory."

These firms lost further fortunes chasing market share. From 2001 to 2010, the global memory-chip business made \$8 billion in aggregate profits—but subtract the two successful South Korean makers, Samsung and sk Hynix, and everyone else lost nearly \$13 billion. Despite their vast outlays, reckons Mr Li, Taiwanese firms spent too little to reach the technology frontier and were expecting profits too early.

Douglas Fuller of Zhejiang University in Hangzhou argues that the maturing of the global semiconductor industry in recent years will make it harder still for China to crack. The incumbents in memory chips have become entrenched, especially after recent consolidation; and the chips themselves, with their associated software, are becoming much more complex, making it harder for Chinese firms to master them. ASE's chief operating officer,



Zhao: Chinese chip champion

Tien Wu, adds that Taiwanese firms were entering the chip market at a time when it was enjoying heady expansion; it will be more difficult for Chinese firms to succeed at a time of slow growth.

If China's putative chip champions are to succeed, they must accomplish three hard things. Lee Wai Keong, head of ASM Pacific Technology, a Hong Kong-listed supplier of equipment to the industry, believes that, first, Chinese firms must shift from "a culture of cost to a culture of innovation." He laughs when asked if firms like Tsinghua can buy in cutting-edge research through acquisitions, insisting there are "no short cuts in semiconductors." His scepticism is justified: export controls and other policy barriers in Taiwan, South Korea and America inhibit the transfer of the latest technologies to Chinese firms.

The mainland's chip firms mostly lag far behind global leaders in invention (though HiSilicon is a notable exception). Intel alone spends about four times as much on research and development as does the entire Chinese chip industry, calculates Christopher Thomas of McKinsey, a consulting firm. Besides pumping more into research, Chinese firms also need to attract many more experienced scientists and engineers. This is not impossible, given that Silicon Valley is teeming with brilliant people of Chinese extraction. But if firms like Tsinghua are to attract them, they must learn how to innovate globally, for example by running multiple R&D centres around the world.

That points to the second challenge: the need to shift to a global frame of mind. So >>

▶ far Chinese firms have been mostly catering to booming local consumption. But they must prepare for demanding global markets. Even Chinese firms, especially those serving foreign markets, are unlikely to remain satisfied with subpar chips just because they are made at home.

The final challenge may be the most daunting. Investors in China's chip firms need to get ready for a long, hard slog. Analysis by McKinsey reveals that across the global semiconductor industry, in memory or processor chips, and in design, fabrication or packaging, the top one or two firms in each area account for all profitswith the rest losing money.

A positive example China could follow, if it wants to avoid wasting its \$150 billion, is that of Samsung. It has become a semiconductor colossus by investing heavily in R&D, amassing an array of technical talent and accepting low returns for many years. Boosters argue that Chinese firms could pull this off, given that the government will be the main investor, and is in it as a strategic priority rather than for profit.

However, there is a potential contradiction in the way the government is implementing its latest plan. Burned by the poor outcome of previous efforts to promote microchips, solar panels and LEDS, officials are funnelling a large chunk of their initial investment-around \$30 billion-through a handful of state-backed investment funds. The hope is that these intermediaries will make more market-minded investments than bureaucrats did in the past. However, managing these funds so that they achieve this objective, even though outside investors will want a profitable exit before the government's 2030 target, will be no mean feat.

Even so, Morgan Stanley's analysts think Chinese firms have a fair chance at becoming world-class in certain parts of the industry. Local chip firms may have a strong hand in product areas such as televisions, mobile phones and computers, in which China dominates both production and consumption. Regulators may be tempted to tilt the playing-field further in their favour by dictating indigenous standards or imposing local-content requirements, though the risk is that China ends up with firms that are strong at home but lack global competitiveness.

In memory chips of either the DRAM or flash variety, Chinese firms' chances would be bolstered if they could persuade some of the largest foreign firms to form technology-sharing alliances, enlisting those firms to help overcome their home governments' curbs on technology transfer. In this, having deep pockets will be a great help. In September an offshoot of Tsinghua agreed to pump \$3.8 billion into Western Digital, an American maker of hard-disk drives. Its balance-sheet bolstered, Western Digital soon afterwards spent \$19 billion buying SanDisk, another American firm, which is among the world leaders in flash memory.

China's efforts to develop national champions in what it calls "pillar industries" have a decidedly chequered record. In carmaking, its attempts to make foreign firms share their technology through compulsory joint ventures with domestic makers have only entrenched local firms' dependence on their foreign partners. In commercial aircraft, a state aerospace conglomerate, COMAC, has spent years, and huge sums, developing planes that are still not ready for the market, and will be outdated by the time they arrive.

In the various parts of the microchip

business, Chinese firms may eventually catch up technologically, but in the process undermine the industry worldwide, as happened in solar panels, through excessive capacity-building. As Bernstein's Mr Li puts it, China "will not stop until it dominates the market, with value and economics being destroyed." Tsinghua's boss, Mr Zhao, is unabashed about his ambitions. "The chip sector is entering the era of giants, with accelerating integration," he declared recently, making it clear that he intends his firm to be one of the few surviving giants. The coming shakeout will separate the sheep from the goats, which is an area in which Mr Zhao happens to have some experience.

Airlines in America

A cosy club

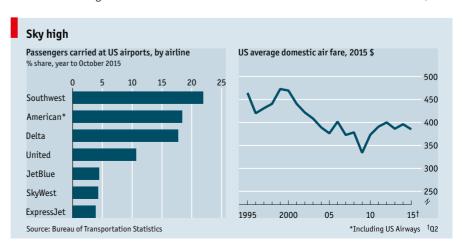
A lack of competition means high air fares

THE slumping oil price has cut the cost **■** of petrol, making it a lot cheaper for Americans to drive. Yet although the price of jet fuel—which makes up around 30% of airlines' costs-is down by more than half since January 2014, domestic air fares in America have barely budged (see chart).

Unsurprisingly, then, the country's four biggest airlines-Southwest, Delta, American and United—are coining it. On January 19th Delta kicked off the results season for the airlines, announcing record fourthquarter profits and forecasting that firstquarter margins in 2016 would be twice as high as in 2015. Analysts also expect its rivals to report bumper earnings for the most recent quarter. In July the Us Department of Justice launched an investigation into allegations of collusion over pricing and capacity between the big four (which they deny). But arguments abound on why air fares are so high in America-and what regulators should do to cut them.

Some think the fact that America's five biggest fund managers happen to be among the largest shareholders in each of the big four airlines discourages the carriers from competing vigorously. Together, for example, the five investors own around 17% of both American and Delta. In a paper published in April José Azar, an economist, and two co-authors looked at the data and concluded that this common ownership means ticket prices may be up to 11% higher than they would otherwise be. Mr Azar was the lead author of another study, published this month, which found similar effects from overlapping shareholders in American banks.

In Europe the industry's falling costs will translate into cheaper tickets (see box, next page). Low-cost carriers such as easy-Jet and Ryanair compete fiercely with older airlines such as BA and Air France, and >>



young upstarts such as Norwegian Air Shuttle and Wizz Air of Hungary are muscling into the market. The overlap among institutional shareholders in all these carriers is much smaller than in America. It is clear, to say the least, that the same economic forces are not present in North America as they are in Europe, says Jonathan Wober at CAPA, an aviation-research firm. Operating margins for North Ameri-

can carriers are likely to exceed 14% this year, around double those of airlines from Asia and Europe, reckons CAPA.

One reason for American carriers' fat profits is a rule banning foreigners from owning more than 25% of voting shares in a domestic carrier in America. Besides preventing the likes of Ryanair and AirAsia from creating wholly-owned American subsidiaries, the rule starves domestic challenger airlines of foreign capital. Analysts say Virgin America would have attacked the domestic incumbents more vigorously if Virgin Group, a British firm that holds an 18.6% stake, were able to inject more capital. Even an increase in the limit to 49.9%, as in the European Union, might encourage more foreign carriers to enter America in joint ventures with locals.

Perhaps a greater problem is that a shortage of take-off and landing slots at America's busiest airports makes it hard for challengers to achieve a decent share of the market. At 40 of America's 100 biggest hubs, a single carrier now operates more than half of the seat capacity. This pushes up prices. For instance, the merger of American and Us Airways in 2013 increased American's market share at Philadelphia's airport to 77%, resulting in fares there rising from 4% below the national average in 2013 to 10% above it now.

The Department of Justice has started to wake up to this. In November it blocked the sale of 24 slots at Newark airport to United, already its biggest operator. But so far there have been few other signs that the authorities are ready to brave the wrath of the incumbents and take the sort of vigorous action that is needed to make American air travel a competitive market.



Low-cost airlines in Europe

Don't get carried away

Falling fuel prices will soon be passed on to passengers

IN 2013, Europe's two largest low-cost carriers, Ryanair and easyJet, were having an annus horribilis. EasyJet's executives were battling its founder and biggest shareholder, Stelios Haji-Ioannou, over the airline's strategy. Ryanair issued two profit warnings, its first in ten years. Three years on, things look better. The two—which make up 47% of the low-cost market in Europe— are expected in the coming days to reveal strong results for the October-December quarter.

Both airlines say this success is a result of making their flights more attractive to businesspeople. Previously, their customers were mainly price-conscious holiday-makers who did not mind an uncomfortable flight as long as it was cheap. The big untapped market, easyJet and Ryanair's bosses twigged, was the short-haul business market, which was still dominated by pricey full-service airlines.

EasyJet led the way, reintroducing allocated seating in November 2012, as well as introducing add-ons such as airport-lounge access, to appeal to businesspeople not wanting to turn up to their meetings in a mess. In September 2013 Ryanair followed, when Michael O'Leary, its abrasive boss, announced plans to improve its customer service. In 2014 it also introduced "Business Plus", an option that charged extra for bundling back in some services corporate customers need, such as flexible ticketing and a hold-baggage allowance.

There are other, less obvious ways that the two carriers are making their

schedules more attractive to businesspeople, says John Strickland, an aviation expert at JLS Consulting. Ryanair, for instance, is moving flights to airports much closer to the cities they serve, such as in Brussels and Paris, to appeal to people for whom time is money. And flights to some lesser destinations are being dropped in order to increase capacity on popular business routes.

But the extent to which these changes have boosted bottom lines is easily overstated, says Douglas McNeill of Macquarie, a bank. EasyJet has struggled to increase its business-traveller numbers as a share of the total. Rising margins are more the result of falling oil prices.

As its hedging of fuel prices last year unwinds, Ryanair's margins will be lifted further by cheaper oil into 2016. But for both carriers and their rivals, the European market is so cut-throat that their excess profits will soon be competed away, especially since Ryanair and easy-Jet plan to keep expanding their capacity by up to 10% a year. RBC, a bank, forecasts that revenue per passenger will fall by 9% at Ryanair in 2016. Expansion by other budget carriers, such as Norwegian Air Shuttle, Wizz Air of Hungary and Vueling of Spain, will add to the downward pressure on fares.

In a race to the bottom, Ryanair will win: it still has the lowest unit costs in the industry. But with rivals snapping at its heels, its shareholders should enjoy the temporary windfall from falling oil prices—before customers grab it all.

Engineering conglomerates

Hanging loose

STOCKHOLM

Indutrade points to the benefits of being hands-off

WILLIAM HEATH ROBINSON would have felt at home at one of Indutrade's many factories. The English cartoonist, who drew outlandishly elaborate machines that performed simple tasks, could have made imaginative use of the endless variety of valves, hydraulic hoses, couplings and other parts churned out by the Swedish engineering group.

The illustrator-and indeed his American counterpart, Rube Goldberg-would also have admired how Indutrade structures itself. The parent firm, listed in Stockholm, sits atop 200 varied subsidiaries, so loosely bound together that little more than twine is involved. Disparate businesses have their own management, staffing policies and brands. Indutrade is no minnow, employing around 5,000 people, but it does so without a central personnel department, for example, trying as much as possible to leave its firms to set strategy and run operations. Its bosses have resisted the modern management fad for making their underlings collaborate incessantly (see Schumpeter).

The group is thriving. In the past five years Indutrade's shares have almost doubled, whereas the OMX Stockholm 30 Index has risen by just 15%, despite it being packed with other Scandinavian engineers. Recently it posted annual net sales of 11 billion Swedish krona (about \$1.3 billion), up by 26% on the year before. In the past 35 years annual sales growth has averaged 17%-and most of it has come from northern Europe, not from emerging markets. The group's operating margins have been reliably decent, usually over 10% (compared with, say, last year's 6.5% at Airbus, Europe's largest engineering group).

That pays for lots of shopping. Last year it bought 13 smaller manufacturers—for an average of about \$10m each-most of them Nordic or British. More will follow in 2016, as Indutrade also sniffs for targets in America, Canada and Germany.

The group's targets are typically a couple of decades old, and owned and run by their founders. Even when they sell, they often care deeply about the firm's future survival and growth, not just about getting the best price. Indutrade's reputation as a hands-off parent, its easy-going culture and its promise not to resell, all help to charm business owners. Some keep working for Indutrade long after selling up.

Indutrade is not unique. A bigger Nordic engineering group, AssaAbloy, has reached annual sales of 57 billion krona by mopping up firms that make assorted devices for opening and locking doors. Its total return to shareholders in the past five years, 25% a year on average, beats even Indutrade's 18%. A British engineering conglomerate, Melrose, is also a serial buyer of businesses, though it looks for ones it can fix up and sell on. It most recently did so last month, completing the £2 billion (\$2.8 billion) sale of a maker of water, gas and electricity meters to Honeywell of the United States. More usual is the Indutrade approach, holding what you buy. The challenge then is for bosses to keep a proper eye on a potentially sprawling business.

Growing by buying is not necessarily the best strategy for an engineering conglomerate, but it helps to spur bosses to think hard about competition and emerging threats to their markets. Engineering firms are alert to the risk that, as more of the value attached to their products derives from software and the gathering and analysis of data, they risk losing profits to the digital firms that provide such services. Johnny Alvarsson, Indutrade's quietly spoken boss, argues that having a loose governance model that allows for experimentation means the group is more likely to adapt to this new age.

Roland Haslehner of the Boston Consulting Group says what matters is less the chosen model of governing, and more whether it is applied consistently by capable managers. The centre might leave subsidiaries free to be entrepreneurial, or it might become an "integrator", setting strategy, overseeing operations and offering support services to all its companies.

Whereas the looser approach has the benefit of being more flexible, the integrators ought in principle to be more efficient. However, ThyssenKrupp, a massive German conglomerate that controls 670 engineering companies, shows that this is not always the case. It has a strong headquarters but does not allow small firms' spirit to flourish, says an analyst. Its boss, Heinrich Hiesinger, admitted in his most recent annual report that the firm's situation is unsettled, noting that it had just turned a tiny

profit, the first in a decade.

Indutrade could surely cut costs by getting its many businesses to share more operations but it prefers them to preserve the advantages of being small, which include the fact that workers and customers like it that way. Mr Alvarsson says a number of people have noted the similarities with Warren Buffett's Berkshire Hathaway, a compulsive buyer and holder of a far broader variety of businesses. E-mails and meetings are kept to a minimum; bureaucracy is discouraged; the head office is small. The manager of the best-performing subsidiary gets a small award at the group's annual party.

Vietnamese companies

Gold stars

HO CHT MINH CITY

Foreign firms and investors are cheerful once more about Vietnam's prospects

HEN he left a job in banking to join a **V** "company that sells fish sauce" in Vietnam, Michael Nguyen's parents wondered if he was throwing away a lucrative career. Now a big cheese at Masan Group, one of the country's largest listed companies, the Vietnamese-American seems happy with his gamble. Masan's brands meet a big chunk of the local demand for pungent sauces, noodles and freeze-dried coffee-and in December the firm accepted a \$1.1 billion investment from Singha, a Thai brewer, to help finance an assault on Vietnam's frothy beer market.

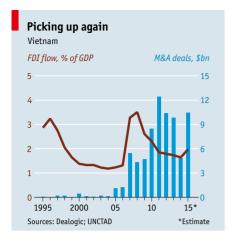
Singha's purchase of a 25% stake in Masan's consumer-goods arm and 33% of its

brewery capped a busy 12 months for mergers and acquisitions in the country. Their combined value in 2015 is reckoned to have been around \$10 billion (see chart, next page). Overall foreign direct investment into Vietnam began to pick up, after a slump following the financial crisis. More big deals are "percolating", reckons Fred Burke of Baker & McKenzie, a law firm. This month All Nippon Airways of Japan said it would pay \$108m for an 8.8% stake in Vietnam Airlines. The government may soon sell a \$1 billion chunk of Sabeco, the country's biggest brewer, and a stake of around \$2.5 billion in Vinamilk, a dairy firm.

All this reflects renewed optimism for ▶



A whole lot of sauce



Vietnam, a country of 93m people with a median age of around 30 and an economy expanding by nearly 7% a year. Its consumer sector is particularly appealing. Vinamilk's revenues have been growing more than 20% annually; per-capita beer consumption is the highest in Asia after China and Japan, and rising. Masan's latest wheeze is animal feed, as it hopes to gain from the rising consumption of fresh meat.

In part the country has benefited from its neighbours' weaknesses. Despite lower productivity and limited local supply chains, Vietnam's manufacturers are gradually taking business from China, where wages are higher. Elsewhere in the region, Indonesia is shrinking back into protectionism; political scandals are unsettling Malaysia. And Thailand's companies are keen on tie-ups in Vietnam, to flee low growth and irascible military rule at home.

But foreign enthusiasm has also been greatly boosted by a barrage of trade agreements which the government negotiated in 2015-not just the American-led Trans-Pacific Partnership but also a hodgepodge of treaties with places including Europe, South Korea and Japan. Meanwhile a new law on investment and enterprise, passed in 2014 but only implemented last summer, has cut red tape. Vietnam ranks midtable in the World Bank's ease-of-doingbusiness index, but is inching upwards. Foreigners often find it easier to operate in Vietnam than in China, and its recent reforms compare favourably with those elsewhere in South-East Asia, says Alberto Vettoretti of Dezan Shira, a consulting firm.

There are plenty of frustrations, nonetheless. The unusual esteem which has accrued to Vinamilk—praised at home and abroad as a paragon of corporate governance—says as much about the grimmer standards among other Vietnamese firms. Even many well-run ones have a disconcerting taste for adventurism: Mr Nguyen promises that Masan will be picky with its investments, after its bet on a tungsten mine turned sour.

There is also more for the government to do. Despite a few recent exceptions, re-

Media

Easy on the ears

NEW YORK

Podcasts are gaining audience, but have yet to attract the biggest advertisers

TIS hard to identify the moment when podcasting took off, because it keeps having them. In June last year Barack Obama showed up at a Californian man's garage to tape a podcast ("WTF with Marc Maron"), while "Serial", a podcast series about disputed real-life stories that was launched in 2014, has surpassed 100m downloads.

Listeners will be forgiven if they feel they have heard this story before. Podcasts were meant to have arrived a decade ago. But they remain a tiny market for advertisers—\$50m to \$80m annually in America compared with \$16 billion on terrestrial radio. Can podcasts finally hit the big time as a business?

There are reasons for optimism. The audience has grown quickly. In 2006 11% of Americans aged 12 or over had listened to a podcast; by 2015 that had tripled, according to Edison Research and Triton Digital (an ad-technology firm). Technology is pushing podcasts into listeners' ears. In 2014 Apple put a podcast app on the iPhone that is all but indelible. In 2015 Spotify and Pandora added podcasts to their music-streaming services. As increasing numbers of cars get wireless-internet connections, that will give podcasts another fillip.

An industry to support podcasting is developing. In 2015 two former bosses of Westwood One, a broadcaster, launched DGital Media, which hosts and monetises podcasts. In July E.W. Scripps, another broadcaster, bought Midroll, a firm which connects podcasts to advertisers,

for \$50m. Firms like Art19 allow advertisers to update and insert ads into podcasts, including back catalogues.

For presenters, podcasting can be lucrative. In October Bill Simmons, a sports pundit who had a popular podcast at the ESPN network, launched one under his own name with multiple sponsors. With 20m downloads in the first three months, Mr Simmons could gross more than \$5m in his first year. In December Gimlet Media, a podcast network started by Alex Blumberg, a radio journalist, raised \$6m at a valuation of \$30m.

Still, most podcast ads are for smallish niche businesses. There are two obstacles to attracting big-budget advertisers. One is that it is hard to know who is listening to podcasts, rather than just downloading them. The second is that, so far, few podcasts have a big enough audience. "You're either buying a premium podcast or you're not buying," says Teddy Lynn of Ogilvy, an ad agency. However, Mr Lynn believes podcasts will one day be "bundled" for sale as TV shows are, and that the audiences will prove attractive for advertisers because they are "highly engaged", not passive listeners.

That is surely true of "The Nerdist Podcast", a chat show started in 2010 by Chris Hardwick. In its first year it had no revenues. In 2012 Legendary Entertainment, a film studio, bought it. Now it grosses millions of dollars a year. Mr Hardwick says the show helped dispel the myth that podcasts were "just this thing you did in your mom's basement."

form of the flabby state sector has been a let-down, with many state firms selling only tiny slivers of equity. A promise to lift caps on foreign ownership of listed firms—for the moment limited to 49% in most industries—is bogged down in bureaucratic twaddle. Kevin Snowball of PXP Vietnam Asset Management says the representatives of foreign institutional investors who turned up "in droves" late last year were disappointed at the limited liquidity of, and restricted access to, Vietnam's stockmarkets that they encountered.

All this makes more important the decisions to be reached at the five-yearly congress of the Vietnamese Communist Party, which began in Hanoi on January 21st. By the time it concludes, on the 28th, some or all of the country's top officials could be replaced. Most of Vietnam's local and foreign businesspeople would like to see Nguyen Tan Dung, its prime minister for

the past ten years, retain high office. He holds some blame for leading Vietnam into a deep banking crisis from which it is only now emerging, but he is also credited for a competent clean-up and for the many pro-business policies which have followed. Yet the latest rumour is that Mr Dung, and perhaps some of his younger allies, will be sidelined by a conservative faction loyal to Nguyen Phu Trong, the present party leader.

That would somewhat dampen spirits among businesspeople and investors. But it need be no disaster. Analysts worry that the pace of liberalisation could soften, but few expect the direction of reform to reverse. For one thing, Mr Dung's trade deals mean that once-vague party promises have now been written into international treaties, notes a Vietnamese economist and government adviser. "The only way is forward," he insists.

Schumpeter | The collaboration curse

The fashion for making employees collaborate has gone too far



N MODERN business, collaboration is next to godliness. Firms $oldsymbol{1}$ shove their staff into open-plan offices to encourage serendipitous encounters. Managers oblige their underlings to add new collaborative tools such as Slack and Chatter to existing ones such as e-mail and telephones. Management thinkers urge workers to be good corporate citizens and help each other out all the time.

The fashion for collaboration makes some sense. The point of organisations is that people can achieve things collectively that they cannot achieve individually. Talking to your colleagues can spark valuable insights. Mixing with people from different departments can be useful. But this hardly justifies forcing people to share large noisy spaces or bombarding them with electronic messages. Oddly, the cult of collaboration has reached its apogee in the very arena where the value of uninterrupted concentration is at its height: knowledge work. Open-plan offices have become near-ubiquitous in knowledge-intensive companies. Facebook has built what is said to be the world's biggest such open space, of 430,000 square feet (40,000 square metres), for its workers.

Hitherto, knowledge workers have largely suffered in silence or grumbled in private because their chances of promotion have come to be influenced by their willingness to collaborate. But a backlash is setting in: the current Harvard Business Review (HBR) has a cover story on "collaborative overload"; and Cal Newport of Georgetown University has just brought out a book called "Deep Work: Rules for Focused Success in a Distracted World".

A growing body of academic evidence demonstrates just how serious the problem is. Gloria Mark of the University of California, Irvine, discovered that interruptions, even short ones, increase the total time required to complete a task by a significant amount. A succession of studies have shown that multitasking reduces the quality of work as well as dragging it out. Sophie Leroy of the University of Minnesota has added an interesting twist to this argument: jumping rapidly from one task to another also reduces efficiency because of something she calls "attention residue". The mind continues to think about the old task even as it jumps to a new one.

A second objection is that, whereas managers may notice the benefits of collaboration, they fail to measure its costs. Rob Cross and Peter Gray of the University of Virginia's business school estimate that knowledge workers spend 70-85% of their time attending meetings (virtual or face-to-face), dealing with e-mail, talking on the phone or otherwise dealing with an avalanche of requests for input or advice. Many employees are spending so much time interacting that they have to do much of their work when they get home at night. Tom Cochran, a former chief technology officer of Atlantic Media, calculated that the midsized firm was spending more than \$1m a year on processing e-mails, with each one costing on average around 95 cents in labour costs. "A free and frictionless method of communication," he notes, has "soft costs equivalent to procuring a small company Learjet."

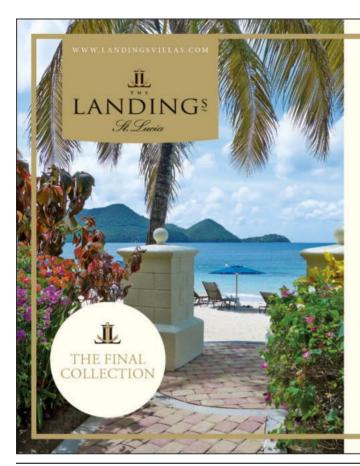
Mark Bolino of the University of Oklahoma points to a hidden cost of collaboration. Some employees are such enthusiastic collaborators that they are asked to weigh in on every issue. But it does not take long for top collaborators to become bottlenecks: nothing happens until they have had their say-and they have their say on lots of subjects that are outside their competence.

The biggest problem with collaboration is that it makes what Mr Newport calls "deep work" difficult, if not impossible. Deep work is the killer app of the knowledge economy: it is only by concentrating intensely that you can master a difficult discipline or solve a demanding problem. Many of the most productive knowledge workers go out of their way to avoid meetings and unplug electronic distractions. Peter Drucker, a management thinker, argued that you can do real work or go to meetings but you cannot do both. Jonathan Franzen, an author, unplugs from the internet when he is writing. Donald Knuth, a computer scientist, refuses to use e-mail on the ground that his job is to be "on the bottom of things" rather than "on top of things". Richard Feynman, a legendary physicist, extolled the virtues of "active irresponsibility" when it came to taking part in academic meetings.

What gets measured...

Why have organisations been so naive about collaboration? One reason is that collaboration is much easier to measure than "deep work": any fool can record how many people post messages on Slack or speak up in meetings, whereas it can take years to discover whether somebody who is sitting alone in an office is producing a breakthrough or twiddling his thumbs. The more junior the knowledge worker is, the more likely he is to spend his time doing things that are easy to measure rather than engaging in more demanding but nebulous work. A second reason is that managers often feel obliged to be seen to manage: left to their own devices they automatically fill everybody's days with meetings and memos rather than letting them get on with their work.

What can be done to restore balance in a world gone collaboration-mad? Few people have the freedom of a Franzen or a Feynman to unplug themselves from the world. But employees—particularly young ones-need to recognise the long-term costs of working in a constant state of distraction. The HBR article points out that there is an overlap of only 50% between "the top collaborative contributors in any organisation and those individuals deemed to be the top performers." About 20% of company stars keep themselves to themselves. So organisations need to do more to recognise that the amount of time workers have available is finite, that every request to attend a meeting or engage in an internet discussion leaves less time for focused work and that seemingly small demands on people's time can quickly compound into big demands. Helping people to collaborate is a wonderful thing. Giving them the time to think is even better.



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Stockmarkets

The bear necessities

Stockmarket woes worsen

EAR markets are triggered, by conven-**B** tion, when share prices fall by more than 20%. So the widespread stockmarket declines on January 20th took Tokyo's Nikkei 225, London's FTSE 100 and France's CAC-40 into bear-market territory (see chart), since all had declined at least that much since their highs of last year. Mind you, another old saw is that bear markets do not end until prices pass their previous peak; on that measure, the Nikkei 225, which is less than half its 1989 high, is still caught in a 26-year-long bear run.

The rich world is not alone in its ursine infestation. China's CSI 300 index is more than 40% below last year's high. The FTSE All-World Index, having breached the 20% mark, ended down 19% on January 20th. Indeed New York, although hit hard that day (the Dow Jones Industrial Average fell more than 500 points at one stage, before rebounding a bit), is one of the few big markets not to have entered bearish territory.

Among the primary causes of the selloff is worry about China's economic health, despite the latest GDP numbers, published this week, that were in line with forecasts of 6.9% growth. Investors fear that the real numbers are worse than the official data suggest, and see the sharp fall in commodity prices, particularly oil (see page 17), as evidence for the hypothesis of weaker Chinese demand.

In a sense, equity markets are only

catching up with the bearish implications of moves in other markets, such as the rise last year in corporate-bond spreads (the interest-rate premiums paid by riskier borrowers). Higher spreads usually reflect fears that more borrowers will default in the face of adverse economic conditions. Investors have also been rushing for the perceived safety of government bonds, with the yield on ten-year American Treasuries falling back below 2%. In June it was nearly 2.5%.

Forecasts for global growth this year are being revised down, as they have been for the past few years. The IMF has cut its estimate from 3.6% to 3.4%. World trade has also been worryingly sluggish, with vol-



Also in this section

- 66 Russia's hobbled economy
- 67 The economic impact of refugees
- 67 Psst! Want to buy a cure for ebola?
- 68 Buttonwood: Endangered dividends
- 69 China's P2P lending boom
- 69 American banks' unending woes
- 70 Free exchange: Are economists really dogmatists?

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umes falling in the first half of 2015.

So far manufacturing appears to have been hit harder than services, with industrial production in America falling in each of the last three months of 2015. But a wide range of companies are facing a squeeze in profits. Macy's, a retailer, IBM, a computerservices company, and Shell, an oil giant, all recorded big declines in their latest results. Overall, the profits of the constituent companies of the s&P 500 index in the fourth quarter of 2015 are expected to be down by almost 5% on the same period a year earlier.

Part of the sell-off in global equities may reflect this reduced outlook for profits. In a recent survey of fund managers by Bank of America-Merrill Lynch, more than half expected profits to decline further over the next 12 months. Cash now makes up 5.4% of portfolios, the third-highest level since 2009. But fund managers are not as bearish as they might be: a net 21% of them have a bigger weighting in equities than usual and only 12% expect a global recession in the next year.

Some also blame the Federal Reserve for pushing up interest rates in December. To the extent that monetary policy, via both low rates and quantitative easing, has pushed up asset prices since 2009, the fear is that tighter policy may drag those prices back down. But the stockmarket decline may be altering the outlook for monetary policy, too.

Back in September, when the markets were suffering another tumble, the Fed stepped back from a rate rise, citing fears about a slowing global economy. Judging by the futures market, investors think the Fed will take fright again: they are now expecting it to raise rates only once this year, when previously they had been expecting three increases.



Russia's economy

Phase two

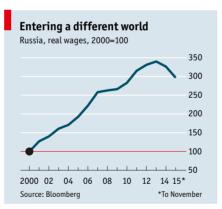
MOSCOW

Russia's economic problems move from the acute to the chronic

MITRY MALIKOV, a wavy-haired crooner, normally sings schmaltzy love tunes. But his latest clip, which he calls "A New Year's Appeal to the Rouble", captures the zeitgeist in Russia. "Sure, it's a bit tough, but happiness is ahead," he belts. "Just wait, just wait, don't fall." Despite his plea, the rouble is falling: on January 21st it dropped to more than 85 to the dollar, a record low. References to the economic "crisis" pepper daily conversation; news broadcasts lead with breathless coverage of the oil markets, and even the patriarch of the Russian Orthodox church was asked his thoughts on the exchange rate during his annual Christmas interview.

Russia's economy had a torrid 2015. As the oil price tumbled from its mid-2014 peak of over \$100 a barrel, Russia's exports and government revenues, heavily dependent on oil and gas, collapsed. GDP shrank by nearly 4%; inflation ran close to 13%. Having lost half its value against the dollar in the second half of 2014, the rouble dipped a further 20% in 2015. But in the autumn the contraction slowed. Vladimir Putin, Russia's president, triumphantly declared that "the peak of crisis" had passed.

Recent turbulence in the oil market has put hopes of a speedy recovery to rest. The IMF reckons GDP will contract again this year, by 1%. Senior officials speak morosely of a "new reality", acknowledging that their energy-driven growth model has exhausted itself. Yet Russia is unlikely to see a repeat of the acute problems that befell it in



late 2014. For one thing, Russian businesses have much healthier finances. Their foreign debt has fallen by a third since 2014. From now until May, firms and banks are due to repay less than they did in December 2014 alone. The second half of the year will be about as easy.

The banking sector is looking better, thanks to a raft of measures from the central bank to recapitalise it and to allow greater forbearance on souring debts. The big oil companies, meanwhile, have coped with a weak currency. Their operating expenses are priced in roubles but most of their revenues come in dollars. Progressive oil and gas taxes have also helped: when prices fall, the state budget absorbs much of the pain. Total oil production grew by 1.4% in 2015, reaching record highs. The profitability of beasts like Rosneft, Lukoil

and Bashneft is higher than it was in 2014, according to Moody's, a rating agency.

The government's finances, however, are shaky. The budget for 2016 assumes an average oil price of \$50 a barrel, which was to have produced a deficit of 3% of GDP. However, the arithmetic of Russia's public finances is unforgiving: the budget deficit rises by roughly 1% of GDP for every \$5 drop in the oil price. At the current \$30 a barrel (and assuming no change in spending plans or the exchange rate), the deficit would probably hit 7%.

Yet Mr Putin has decreed that the deficit should not exceed 3%. In response, the finance ministry has called for cuts of 10% (defence and social spending are largely exempt). Officials have also suggested privatising state assets. All this, though, is unlikely to yield enough to plug the growing deficit. Filling the gap by issuing bonds would be expensive: yields are high. Moreover, Russia's default in 1998-99 left its elite with an aversion to debt.

The government can always tap its rainy-day fund, but it holds only \$50 billion, down from \$90 billion a year ago. If the budget deficit hits 6% of GDP the fund will be empty by the end of the year, says Timothy Ash of Nomura, a bank. A second fund, which is supposed to finance pensions, holds a further \$70 billion, but many of its assets are illiquid.

If the government runs out of ready cash, Mr Putin may be tempted to repeat a well-worn trick—printing roubles. But that would boost inflation and hasten the rouble's decline, further sapping the purchasing power of Russian firms and families. Deep cuts to government spending, on the other hand, will also add to the travails of the non-oil economy.

Russians face a fundamental degradation of their quality of life, says Natalia Zubarevich of the Independent Institute for Social Policy, a think-tank. Real wages fell by 9% in 2015 and 4% in 2014, the first dip since Mr Putin came to power in 2000 (see chart). GDP per person is down from a post-Soviet peak of close to \$15,000 in 2013 to around \$8,000 this year. While official unemployment is just 6%, wage arrears are up. More than 2m people fell into poverty in 2015, and the share of families that lack funds for food or clothes rose from 22% to 39%. Pensions are normally indexed to inflation, but in 2016 they will rise by just 4%.

In turn, consumer spending, once the engine of Russia's economy, has withered. Retail sales dropped by 13%, year on year, in November. Foreign travel during the recent holiday season dipped by 30% compared with a year ago. Even those seeking darker escapes are finding them ever less affordable: the price of heroin (mainly smuggled >>>

Award: Philip Coggan, our Buttonwood columnist, was named "Journalist of the Year" by the CFA Society of the UK for his article "What's Wrong with Finance".

• from Afghanistan) has doubled in roubles over the past year.

In theory the 25% fall in the inflation-adjusted exchange rate in the past year provides a golden opportunity to diversify away from hydrocarbons. To a foreign buyer, labour is now cheaper in Russia than in China. However, foreign investment is wilting too. FDI inflows, which were sliding before the crisis, fell from a quarterly peak of \$40 billion in early 2013 to \$3 billion in the second quarter of 2015. Foreigners are likely to become net divestors soon. Small wonder that manufacturing production was down by 5% year on year in the first half of 2015; agricultural output is stagnant. The first, most dramatic phase of Russia's crisis may indeed be behind it, as Mr Putin claimed. But for ordinary Russians, phase two will not seem much better.

The economic impact of refugees

For good or ill

Europe's new arrivals will probably dent public finances, but not wages

THE welcome accorded the 1.1m refu-L gees arriving in Germany in 2015 is cooling fast. On January 19th 44 members of parliament in the governing coalition sent a cross letter to their boss, Angela Merkel, who is the refugees' chief advocate. "Our country is about to be overwhelmed," they complained. Yet more migrants may be on their way: there are 8m displaced people within Syria, and 4m more in neighbouring countries.

Humanity dictates that the rich world admit refugees, irrespective of the economic impact. But the economics of the in-



Good for pensions

Investment fraud

The cockroaches of finance

Boiler-room scams remain common and are evolving

WHEN Thomas Guerriero came knocking, pulses quickened at Oxford City, a club in the sixth tier of English football. The snappily dressed American appeared to be building a thriving conglomerate that included sports teams and private universities. He bought a 50% stake and talked of propelling the club into the big time.

The tie-up appears to have been an own-goal. Mr Guerriero's stake has been frozen as he awaits trial in America on ten charges, including fraud and witnesstampering. (He denies wrongdoing.) Oxford City has lost face, but little money: its assets are safely parked with the charity that owns the other 50%. Others have fared worse: prosecutors allege that Mr Guerriero ran a "boiler room"-a brokerage that uses high-pressure tactics to sell shares and other investments of little or no value to unwary individuals over the phone-which bilked 150 American investors out of \$6.5m.

Boiler rooms trade on coercion and intimidation, and this one was no exception, say prosecutors. Victims were told that their conversations had been recorded and were legally binding agreements to buy, and that if they reneged they

would face late fees and property liens. It is alleged that one even liquidated an annuity to hand over \$250,000.

The heyday for boiler rooms was the dotcom boom of the 1990s, when Jordan Belfort, the "Wolf of Wall Street", strutted his stuff. Today, online and e-mail-based fraud is seen as a bigger problem. But the steady stream of convictions suggests that old-style boilers remain common. The Guerriero case is one of dozens of its type brought by the SEC in recent years.

Crime-busters worry that scams are evolving. While stock fraud has waned, says a regulator, there has been a "significant rise" in boiler-room tactics being used to sell things like carbon credits, fine wine, rare earth metals and even bogus Ebola treatments.

America remains the world's investment-fraud capital, but police in Britain-where investors lost an estimated £1.7 billion (\$2.8 billion) to such scams in the 12 months to September 2014-fret that the City of London could become infested with financial cockroaches. They are leading a multi-agency crackdown. Britain's Financial Conduct Authority runs a website, ScamSmart, that lists more than 1,000 dodgy operators.

flux still matters, not least because it colours perceptions of the new arrivals. One fear is that immigrants will compete for work and drag down wages. Another is that they will pinch the public purse.

When it comes to their pay packets, Germans need not fret. Evidence suggests that immigration has only a small impact on employment or wages. Unskilled workers and existing migrants are most vulnerable, as they are the closest substitutes for the new arrivals. But the effects are still measly. For example, a recent paper by Stephen Nickell of Oxford University and Jumana Saleheen of the Bank of England found that a ten-percentage-point rise in the share of migrants working in menial jobs, such as cleaning, depressed wages for such positions by just 2%.

This wage-dampening can even have positive side-effects. Mette Foged and Giovanni Peri studied refugees arriving in Denmark between 1991 and 2008, and found that they did nudge low-educated natives out of lowly jobs. But rather than sulking on the dole, the displaced natives switched to jobs that involved less manual labour, sometimes with higher salaries.

The evidence on the likely fiscal impact of refugees is murkier, as adding up the tax

paid and benefits received by any individual or group is tricky. Those who try tend to find only small differences between immigrants and natives. The OECD, a club of mostly rich countries, assessed the effect of immigrants on its members' finances in 2007-09. It found they made a net fiscal contribution of around 0.35% of GDP on average, with relatively little variation from country to country.

But the experience of past immigrants may not be much use in assessing the impact of the new lot. Immigrants were a fiscal burden in Germany in part because lots of them are pensioners, who tend to drain the public finances. The new arrivals, in contrast, are young, with a long working life ahead of them.

There are also differences between refugees and other legal migrants. A new paper from the IMF uses existing immigrants to Europe from Afghanistan, Eritrea, Iran, Iraq, Somalia, Syria and the former Yugoslavia as proxies for the latest wave of refugees, since most of them come from those countries. Relative to other immigrants, people from those countries who have been in Europe for less than six years are 17 percentage points more likely to rely on benefits as their main source of income ▶ and 15 percentage points less likely to be employed, even after controlling for things like age, education and gender. This gap does shrink the longer the migrants have been in Europe, but it is still there for refugees who have been in residence for more than 20 years.

These barriers suggest that it will be a while before refugees pay more in tax than they receive in state support. A study of Australian refugees found that they paid less tax than they received in benefits for their first 15-20 years of residency. Of course, the newest arrivals in Europe could be very different. Information on their education is scarce, but there are some glimmers of evidence that they are relatively skilled. Still, given that most European countries redistribute income from rich to poor, as long as they are poorer than the average native, they will probably receive net transfers.

The influx will not be bank-breaking, however. In the very short run, the IMF estimates that refugees will add around 0.19% of GDP to public expenditure in the European Union (0.35% in Germany) in 2016. This will add to public debt, and given higher joblessness among refugees, unemployment will rise. But looking only at

their fiscal impact is too narrow a focus. Later on, as the new arrivals integrate into the workforce, they are expected to boost annual output by 0.1% for the EU as a whole, and 0.3% in Germany. They should also help (a little bit) to reverse the upward creep of the cost of state pensions as a share of GDP, given their relative youth.

Of course, these figures are highly uncertain, and depend on how many more refugees arrive, how quickly their asylum applications are processed and how soon they find jobs. Governments can make their impact more benign by accelerating all those steps. ■

Buttonwood Watch what they pay

Dividend income has become harder to find

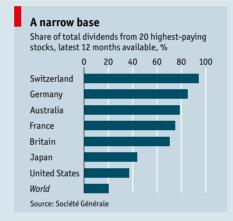
IVIDENDS provide the vast bulk of Dlong-term returns from equities. Work by Elroy Dimson, Paul Marsh and Mike Staunton of the London Business School shows that the real annual total return from American shares since 1900 has been 6.4%. Capital gains supplied just a third of that figure; reinvested dividends accounted for the rest.

So the outlook for dividends ought to be crucial for equity investors. They should be concerned that, in some markets, dividend income is concentrated in a small number of stocks (see chart). In Australia, Britain, France, Germany and Switzerland, more than 70% of the dividends come from just 20 companies.

That leaves investors' income dependent on the fortunes of just a few industries. Banks were big dividend-payers until the financial crisis of 2008; energy and mining companies have been good sources of income since then. But falling commodity prices are leading energy companies to reduce their payouts. Last year 504 American companies cut their dividends, according to Standard & Poor's, a credit-rating agency, compared with 291 in 2014. Energy companies made up nearly half of the dividend-cutting group in the fourth quarter.

As a result of these cuts, dividends are growing more slowly than before. In the fourth quarter of 2015, dividends rose by \$3.6 billion in cash terms, compared with a \$12 billion increase in the same period of 2014. Investors who need income are now relying on the pharmaceutical and health-care sectors; research by Andrew Lapthorne of Société Générale, a bank, shows that the three largest stock holdings of global income funds are Pfizer, Roche and Johnson & Johnson.

The narrow base of dividend provision is important when it comes to judg-



ing the attractiveness of equities. In some markets, dividend yields are higher than government-bond yields; in Britain, for example, the FTSE All-Share index yields 4% whereas 10-year gilts offer just 1.7%. For some, this makes equities a bargain.

Until the 1950s it was the norm for equities to have a higher yield than bonds. Shares were perceived to be riskier than government bonds so investors demanded higher payouts for owning them. But opinion changed as the market began to be dominated by institutional investors—pension funds and insurance companies. Their size allowed them to own diversified portfolios, in which the consequences of the failure of an individual firm were much reduced. Thus hedged, they piled into equities to capitalise on the tendency of dividends to grow over time. Interest payments on bonds, in contrast, are fixed, which was a particular problem in the inflationary environment of the 1960s and 1970s. As a result the dividend yield dropped below the government-bond yield in most markets and stayed there.

Since the financial crisis of 2008, the ratio seems to have undergone another fun-

damental shift. Government bonds are valued for their safety, particularly in a world of low inflation. A high yield on an equity, meanwhile, may simply suggest that investors expect the dividend to be cut. Shares in BHP Billiton, a mining group, have plunged along with commodity prices. That makes their yield, calculated using last year's dividend, look extremely high, at 12%. But analysts expect the dividend to be cut in half this year. Investors may also be seeking a higher overall dividend yield on equities to reflect the riskier nature of the income stream now that dividends are more concentrated among fewer companies.

What about share buy-backs? They are an alternative source of income for investors; for some, they are a more tax-efficient way of receiving cash. But buy-backs are much more variable than dividends: the amount spent on them by non-financial companies in the s&P 500 index fell from over \$400 billion in 2007 to under \$70 billion in 2009, according to Deutsche Bank. Companies can quietly trim their buy-back programmes; a dividend cut is a public sign of trouble. And, of course, investors who sell their shares in a buvback need to find some other asset to replace that source of income.

Investors ignore dividends at their peril. In more than a century of data, across 19 countries, the LBS academics found that annual returns from the markets with the highest dividend yields were eight percentage points higher than those from the lowest-yielding markets. So during the current reporting season, smart investors will be looking not just at notional earnings (which can be a highly subjective measure) but at the cold, hard cash that companies are shelling out.

Economist.com/blogs/buttonwood

China's P2P lending boom

Taking flight

SHANGHAT

The allure and the peril of Chinese fintech companies

NE of the supposed virtues of peer-topeer lenders—websites that connect borrowers to people with money to lend-is transparency. They often publish a range of information about those seeking loans (credit history, employment status, income), so that the investors stumping up the money know what they are getting into. So it is fitting that Imperial Investment, a Chinese P2P firm, is impressively transparent about its own circumstances. Earlier this month it published four separate notices from police, employees and family pleading for its runaway founder to return. "Our faces are bathed in tears," the employees wrote.

Chinese media were far more phlegmatic about the woes of Imperial Investment, which has facilitated 935m yuan (\$142m) in loans since its launch in 2013. "Runaway P2P bosses are no longer newsworthy," declared the Jinling Evening News. At the end of 2015, nearly a third of all Chinese P2P lenders (1,263 out of 3,858) had run into difficulties, according to Online Lending House, an industry website. It classifies them according to the nature of their troubles: halted operations, disputes, frozen withdrawals or, as in the case of Imperial, bosses who have absconded. Running away may sound rather extreme but it turns out to be popular: 266 P2P bosses have fled over the past six months, by Online Lending House's count. Although most of the firms in trouble are small, a few bigger ones have also come unstuck: Ezubao, China's biggest P2P lender, which has arranged \$11 billion-worth of loans, is one of the firms with frozen accounts.

Chinese P2P lenders' many and varied problems might be expected to deter investors. Yet some of the bigger, better-run firms are still attracting serious money. In December Yirendai, the consumer arm of P2P lender CreditEase, became the first Chinese "fintech" firm to go public abroad, listing on the New York Stock Exchange with a valuation of around \$585m. Earlier this month Lufax, a platform for a range of products including P2P loans, completed a fundraising round that valued it at \$18.5 billion, setting it up for a keenly anticipated IPO. Both companies pride themselves on their risk controls.

The optimistic scenario is that wellmanaged fintech firms will bring muchneeded competition and efficiency to China's sclerotic banking system, and profit handsomely while at it. The biggest lenders in China are mammoth state-owned banks, which tend to favour lending to state-owned enterprises over lending to private firms. That cedes plenty of space to P2P firms to build up their customer base and deliver credit to previously overlooked segments of the economy.

The worry, though, is that the sudden rush of money into P2P could push even good firms into bad lending decisions. Outstanding P2P credit rose more than tenfold over the past two years, from 31 billion yuan at the start of 2014 to 439 billion yuan at the end of last year. Average lending rates, meanwhile, fell from nearly 20% to 12.5%. Should inflows to P2P firms slow, lending rates will not be the only thing to spike higher: so too will the incidence of runaway bosses.

American banks

Not yet out of the woods

The good times are ending before they had really begun

 $\mathbf{F}^{ ext{OR}}$ a spell last year American banks seemed poised to reattain the sort of double-digit returns that have largely eluded them since the financial crisis. A robust market for takeovers and public offerings was producing a flurry of fees. Credit quality, which had collapsed in the crisis, was "pristine", according to Jamie Dimon, the boss of JPMorgan Chase, America's biggest bank by assets-something that was allowing banks to reduce the provisions they had made to cover soured loans. The rash of swingeing fines that had been disfiguring profits had largely dissipated (although Goldman Sachs recently agreed to pay \$5 billion to settle charges that it knowingly peddled dodgy mortgage-backed securities). And then there was the Federal Reserve's decision to raise interest rates in December for the first time in nearly a decade, which held out the prospect of a growing margin between the rates banks pay de-

Getting gloomier Earnings per share for 2016, analysts' forecasts, \$ Made in January: 2014 2015 J.P. Morgan America Citibank Wells Fargo Source: Bloomberg

positors and those they charge borrowers.

Glimmers of that sunnier outlook can still be seen in the big American banks' annual results. JPMorgan Chase reported a record annual profit on January 14th of \$24 billion. Bank of America and Citigroup posted their biggest profits since 2006 (although the return on equity at both is a fraction of what it once was). Yet share prices in the banking sector have fallen by more than 20% since July, with half of the decline coming in the first weeks of 2016.

In part, the poor performance of bank shares stems from the broader gloom in global markets. But investors have also noticed that the growth in banks' profits comes more from falling costs than from rising revenue. Worse, the trends that propelled profits upwards in 2015 appear to be reversing. Analysts have cut their forecasts for profits in the coming year (see chart).

The worsening outlook for the world economy has made markets much more sceptical that the Fed will continue raising rates. Whereas members of the Fed's ratesetting committee predicted in December that rates would rise by a full percentage point this year, markets now expect an increase of only a quarter of a point. The prospect of higher lending margins, in other words, is evaporating. Yet December's increase has curbed the hugely profitable business of refinancing mortgages.

The volatility in markets, meanwhile, is causing takeovers and issuance of shares and debt to atrophy. There is supposed to be a bright side to the turmoil, since volatility typically boosts trading revenues. But many investment banks have curtailed their trading operations under regulatory pressure. That has left them ill placed to capitalise on the turmoil. Banks have been beefing up wealth-management arms even as they curb trading, in the hope they will provide steadier profits at less risk. But falling markets also harm these, since costs are fixed but revenues come in the form of a percentage of the shrinking value of assets under management.

In addition, instead of reducing provisions, banks are now adding to them. The main culprit is the collapsing oil price, which is crushing energy firms. JPMorgan Chase, for example, set aside \$124m in the final quarter of last year to cover any losses in its loans to energy firms.

None of these problems is fatal. According to Goldman Sachs, Citi has the biggest exposure to energy firms among banking behemoths, at a modest 3.3% of its loan book. Recent years have been lean in part because banks have been building up their buffers rather than racking up big profits. Although many banks struggle to earn a decent return, the number that are failing or in trouble is near a record low, according to the Federal Deposit Insurance Corporation, a regulator. For investors, however, that is scant consolation. \blacksquare

Free exchange | All at sea

Ideological divisions in economics undermine its value to the public



DISMAL may not be the most desirable of modifiers, but economists love it when people call their discipline a science. They consider themselves the most rigorous of social scientists. Yet whereas their peers in the natural sciences can edit genes and spot new planets, economists cannot reliably predict, let alone prevent, recessions or other economic events. Indeed, some claim that economics is based not so much on empirical observation and rational analysis as on ideology.

In October Russell Roberts, a research fellow at Stanford University's Hoover Institution, tweeted that if told an economist's view on one issue, he could confidently predict his or her position on any number of other questions. Prominent bloggers on economics have since furiously defended the profession, citing cases when economists changed their minds in response to new facts, rather than hewing stubbornly to dogma. Adam Ozimek, an economist at Moody's Analytics, pointed to Narayana Kocherlakota, president of the Federal Reserve Bank of Minneapolis from 2009 to 2015, who flipped from hawkishness to dovishness when reality failed to affirm his warnings of a looming surge in inflation. Tyler Cowen, an economist at George Mason, published a list of issues on which his opinion has shifted (he is no longer sure that income from capital is best left untaxed). Paul Krugman, an economist and New York Times columnist, chimed in. He changed his view on the minimum wage after research found that increases up to a certain point reduced employment only marginally (this newspaper had a similar change of heart).

Economists, to be fair, are constrained in ways that many scientists are not. They cannot brew up endless recessions in test tubes to work out what causes what, for instance. Yet the same restriction applies to many hard sciences, too: geologists did not need to recreate the Earth in the lab to get a handle on plate tectonics. The essence of science is agreeing on a shared approach for generating widely accepted knowledge. Science, wrote Paul Romer, an economist, in a paper* published last year, leads to broad consensus. Politics does not.

Nor, it seems, does economics. In a paper on macroeconomics published in 2006, Gregory Mankiw of Harvard University declared: "A new consensus has emerged about the best way to understand economic fluctuations." But after the financial crisis

prompted a wrenching recession, disagreement about the causes and cures raged. "Schlock economics" was how Robert Lucas, a Nobel-prize-winning economist, described Barack Obama's plan for a big stimulus to revive the American economy. Mr Krugman, another Nobel-winner, reckoned Mr Lucas and his sort were responsible for a "dark age of macroeconomics".

As Mr Roberts suggested, economists tend to fall into rival camps defined by distinct beliefs. Anthony Randazzo of the Reason Foundation, a libertarian think-tank, and Jonathan Haidt of New York University recently asked a group of academic economists both moral questions (is it fairer to divide resources equally, or according to effort?) and questions about economics. They found a high correlation between the economists' views on ethics and on economics. The correlation was not limited to matters of debate—how much governments should intervene to reduce inequality, say—but also encompassed more empirical questions, such as how fiscal austerity affects economies on the ropes. Another study found that, in supposedly empirical research, right-leaning economists discerned more economically damaging effects from increases in taxes than left-leaning ones.

That is worrying. Yet is it unusual, compared with other fields? Gunnar Myrdal, yet another Nobel-winning economist, once argued that scientists of all sorts rely on preconceptions. "Questions must be asked before answers can be given," he quipped. A survey conducted in 2003 among practitioners of six social sciences found that economics was no more political than the other fields, just more finely balanced ideologically: left-leaning economists outnumbered right-leaning ones by three to one, compared with a ratio of 301 in anthropology.

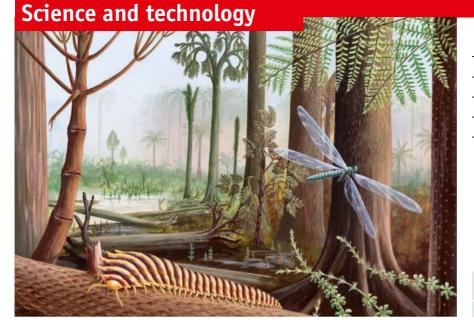
Moreover, hard sciences are not immune from ideological rigidity. A recent study of academic citations in the life sciences found that the death of a celebrated scientist precipitates a surge in publishing from academics who previously steered clear of the celebrity's area of study. Tellingly, papers by newcomers are cited far more heavily than new work by the celebrity's former collaborators. That suggests that shifts of opinion in science occur not through the changing of minds so much as the displacement of one set of dogged ideologues by another.

Agree to agree

But even if economics is not uniquely ideological, its biases are often more salient than those within chemistry. Economists advise politicians on all manner of important decisions. A reputation for impartiality could improve both perceptions of the field and the quality of economic policy.

Achieving that requires better mechanisms for resolving disputes. Mr Romer's paper decried the pretend "mathiness" of many economists: the use of meaningless number-crunching to give a veneer of academic credibility to near-useless theories. Sifting out the guff requires transparency, argued John Cochrane of the University of Chicago in another recent blog post. Too many academics keep their data and calculations secret, he reckoned, and too few journals make space for papers that seek to replicate earlier results. Economists can squabble all they like. But the profession is of little use to anyone if it cannot then work out which side has the better of the argument.

^{*}Studies cited in this article can be found at www.economist.com/economists16



The origin of coal

The rock that rocked the world

More than any other substance, coal created modern society. But what created coal?

OR 60m years of Earth's history, a per $oldsymbol{\Gamma}$ iod known to geologists as the Carboniferous, dead plants seemed unwilling to rot. When trees expired and fell to the ground, much of which was swampy in those days, instead of being consumed by agents of decay they remained more or less intact. In due course, more trees fell on them. And more, and yet more. The buried wood, pressed by layers of overburden and heated from below by the Earth's interior, gradually lost its volatile components and was transformed into a substance closer and closer to pure carbon.

The result was the coal that fuelled the Industrial Revolution, providing power for factories and railways, gas for lighting, a reducing agent for turning ore into iron and steel, the raw ingredients for drugs, dves and other chemicals, and the energy that has generated most of the world's electricity. Yet the abundance of Carboniferous coal is a puzzle. Forests began in the Devonian, the period before the Carboniferous, and have existed ever since. Not all coal is Carboniferous but, as the chart overleaf shows, the spike in coal accumulation then was far higher than anything which happened subsequently. Indeed, the very name Carboniferous alludes to this fact.

So why, the curious ask, was it then in particular that so much coal was created? The swamps certainly helped. Lacking oxygen, they would have slowed the activities of wood-destroying micro-organisms. But swamps are not uniquely Carboniferous. To explain the special boost coal got in this period, it has been suggested that the micro-organisms around at the time were not up to the job of rotting wood. Changes in plant chemistry which let trees grow tall, this hypothesis goes, stymied these microorganisms, making much plant material indestructible. It is an intriguing idea. But a paper just published in the Proceedings of the National Academy of Sciences, by Kevin Boyce of Stanford University and his colleagues, takes issue with it. Instead, Dr Boyce thinks abundant Carboniferous coal, swamps and all, is an accident caused by the movement of the continents.

Reach for the skies

The idea that Carboniferous micro-organisms could not properly digest wood depends on a hypothetical evolutionary time lag. The first vascular plants (those with internal channels to move water around) evolved in the Silurian, the period before the Devonian. Vascularisation meant a plant could suck water up its stem, and thus grow tall. This led to a race, conducted throughout the Devonian, to be tallest and thus able to capture light without being overshadowed. The consequence was trees-and therefore forests.

Trees have to be strong, though, otherwise they will collapse. Part of their strength comes from cellulose, an ancient material composed of long chains of sugar molecules, which forms the walls of plant cells. But what really encouraged trees'

Also in this section

- 72 An emerging viral disease
- 73 Curing MS with stem cells
- 73 Facebook and Dunbar's number
- 74 A new planet in the solar system?

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evolution was the advent of a second molecule, lignin. This is made of phenols, and phenols are much harder to digest than sugars-so hard, the thinking goes, that it took until after the Carboniferous was over for organisms that could do so to evolve. Meanwhile, the fallen forests simply piled up in the swamps. Though some of their cellulose was consumed, their lignin hung around and became coal.

That thought is supported by analysis of the evolution of fungi. Molecular clocks, which measure rates of genetic change, suggest lignin-digesting enzymes did indeed first appear in this group (which are the main agents of rotting) in the Permian, the period immediately following the Carboniferous. Dr Boyce and his colleagues, however, do not believe it.

Their disbelief is based on a painstaking analysis of Macrostrat, a database of all that is known about the stratigraphy of North America, together with an examination of which types of plant dominated the floras of stratigraphic units containing a lot of coal.

The trees of the Carboniferous were not like those of today. Moreover, which types of tree predominated varied over the vast span of time that it covered. One pertinent observation Dr Boyce and his team make is that the peak of coal formation coincided with the dominance of a group called the >>

The Richard Casement internship

We invite applications for the 2016 Richard Casement internship. We are looking for a would-be journalist to spend three months of the summer working on the newspaper in London, writing about science and technology. Applicants should write a letter introducing themselves and an original article of about 600 words that they think would be suitable for publication in the Science and Technology section. They should be prepared to come for an interview in London or Washington, DC, at their own expense. A stipend of £2,000 a month will be paid to the successful candidate. Applications must reach us by January 29th. These should be sent to: casement2016@economist.com

72 Science and technology The Economist January 23rd 2016

Ivcopsids. Yet lycopsid trunks were composed mostly of tissue called periderm, which corresponds to modern bark and contains little lignin. Forests that existed both before and after these lycopsid woods (but before the supposed evolution of lignin-digesting fungi) had many more lignin-rich species in them, but have yielded far less coal.

Moreover, though Permian rocks in North America do not contain much coal, those in China do. That does not seem consistent with idea that lignin-consumption rates suddenly increased. And, although the fossil record cannot show which enzymes were present in fungi in the past, it does show that fungi were just as diverse and active in the Carboniferous as in the Permian. Altogether, then, the abundant coal of the Carboniferous does not seem to be the result of lackadaisical fungal effort. So, in Dr Boyce's view, the evolutionary-delay hypothesis simply will not do.

Destroying a hypothesis is one thing. But it also helps if you have something to put in its place. And Dr Boyce and his colleagues have one on offer. They think the Carboniferous coal measures were a consequence of continental drift.

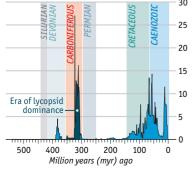
During the Carboniferous, the continents were moving around quite a bit. Such movement, particularly when it involves continents colliding (which it did), warps them. That causes mountains and basins to form. It is the basins which interest Dr Boyce. The downwarping that created them meant they would have flooded regularly, bringing sediment that buried the tree-laden bogs, preserving them not so much from micro-organisms as from erosion.

That local subsidence happened during the Carboniferous is not news. Geologists of the 19th century concluded as muchthough they knew nothing of continental drift. But previous explanations for abundant coal, such as the evolutionary-lag one, have tended to concentrate on biology. Dr Boyce is suggesting that the actual cause was geological. Buried by subsi-

Coal measures

Source: PNAS

Accumulated organic sediment*, km³/myr, '000



*Peat, lignite, coal and tar; North America only dence, the coal could not be eroded, and thus survived to the present day.

During the Permian, however, continental movement ceased for a time, as all of the world's landmasses came together in a single supercontinent, known as Pangaea. Not only did this stop the downwarping, it also dried the climate out (for the average point on land is farther from the ocean's moist air in a supercontinent than in a group of smaller ones), meaning there were fewer swamps. Less coal was created. and more eroded than before. It was not until the Cretaceous, some time after Pangaea had broken apart again, that coal formation and preservation resumed. According to Dr Boyce's hypothesis, it is therefore no coincidence that the secondmost abundant source of coal today is rocks of the Cretaceous and the subsequent Caenozoic.

If his hypothesis is correct, then, it is the grinding movement of the continents that is ultimately responsible for the Industrial Revolution. No continental drift, no coal. No coal, and humanity, if, indeed, such a species had evolved at all, might still be tilling the fields.

Zika fever

Virus chequers

SÃO PAULO

A newly emerging disease is threatening the Americas

ZIKA, a mosquito-borne virus that arrived in Brazil last May, is an avid traveller—and an increasingly feared guest. It has since found its way into 17 other countries in the Americas. Until October, Zika was not thought much of a threat: only a fifth of infected people fall ill, usually with just mild fever, rash, joint aches and red eyes. Since then, though, evidence has been piling up that it may cause birth defects in children and neurological problems in adults. On January 15th America's Centres for Disease Control and Prevention (CDC) advised pregnant women not to travel to countries where Zika is circulating.

The virus was first isolated in 1947, from a monkey in the Zika forest in Uganda. Since then it has caused small and sporadic outbreaks in parts of Africa and South-East Asia. In Brazil, for reasons yet unclear, it quickly flared into an epidemic after its arrival—by official estimates infecting as many as 1.5m people.

Alarm bells started ringing in October, when doctors in Pernambuco, one of Brazil's north-eastern states, saw a huge increase in babies born with microcephaly: an abnormally small head, often with consequent brain damage. In the next four

months more than 3,500 cases of microcephaly were reported in Brazil. That compared with fewer than 200 a year in the five years before 2015. None of the known causes of the condition—which include genetic abnormalities, drugs, alcohol, rubella infection and exposure to some chemicals during pregnancy—seemed a plausible culprit.

Last week, CDC scientists announced the best evidence so far that Zika can pass from mother to fetus: they found the virus in four Brazilian babies with microcephaly who had died in the womb or shortly after birth. Previously, Brazilian researchers had found Zika in the amniotic fluid of women carrying fetuses with microcephaly.

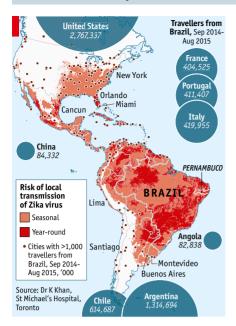
There is another fear. After Zika arrived in Brazil, and also in El Salvador, both saw a sharp increase in severe neurological and autoimmune problems, including Guillain-Barré syndrome, which can lead to paralysis. These also surged in French Polynesia after Zika broke out there in 2013.

Working out the extent to which Zika, alone or combined with other things, is to blame for any of this is tricky. Dengue and chikungunya-mosquito-borne with similar symptoms-are common where Zika is making the rounds. According to Scott Weaver of the University of Texas, tests that spot Zika work only during its infectious phase, which lasts just a few days. After that, they are often useless if the patient has had dengue or been vaccinated against yellow fever. And only laboratories that can do sophisticated molecular tests are in the game in the first place. All of which means that most cases of Zika are missed, and many are misdiagnosed.

Bearing these caveats in mind, researchers are mining the available surveillance data for answers. More solid results will come from prospective studies, set up recently, which are tracking pregnant women in Brazil, looking at whether those who catch Zika are more likely to have babies with birth defects.

Researchers in America and other countries have begun work on a vaccine. Unlike the one for Ebola, though, which had been in the pipeline for a decade when the epidemic in West Africa began, a Zika vaccine is "at ground zero", says Alan Barrett, also of the University of Texas. That is where potential antiviral drugs are, too.

The spread of Zika makes attacking disease-carrying mosquitoes all the more important. Mostly, Zika is transmitted by Aedes aegypti, which is also the vector of dengue and yellow fever. This insect lives in tropical climes, but Aedes albopictus, found as far north as New York and Chicago, and in parts of southern Europe, can also do the job, though it is not clear how efficiently. A paper published last week in the Lancet shows where Zika could become endemic (see map). But places where air-conditioning, screened windows and



> mosquito control are the norm are unlikely to see outbreaks flare up.

In December, Brazil decreed a national public-health emergency. This has removed bureaucratic hurdles to the purchase of insecticides for mosquito larvae. equipment for health workers and the like-and prompted speculation about whether this bureaucracy was necessary in the first place. It also enabled the deployment of the army to help 310,000 health workers in the mosquito-eradication drive. Brazil was declared free of A. aegypti in 1958, after a campaign that included regular fumigation and visits to ensure households got rid of standing water, where mosquitoes like to breed. Since then, the insect has bounced back. Might the fear of Zika help finish the job properly this time? ■

Medicine

Curing multiple sclerosis

Stem cells are starting to prove their value as medical treatments

HIRTY years ago a young haematolo-▲ gist called Richard Burt was training at Johns Hopkins University, in Baltimore. He noticed that after leukaemia patients had received a treatment to wipe out their immune systems, they needed to be re-immunised against diseases such as measles and mumps. Although the patients in question had been vaccinated as children, the therapy for their blood cancer had erased this cellular memory. Dr Burt turned to his teacher, William Burns, and ask whether the same might be possible in autoimmune diseases. "I could see a light go on in his eyes. 'You should try it in multiple sclerosis' he said." Thus began decades of painstaking work.

Multiple sclerosis (Ms) happens when the body's immune system learns to attack its own nerve fibres in the same way that it learns to attack invading pathogens. Nobody really understands what causes this misplaced learning. But Dr Burt's idea did not depend on knowing that. He just wanted to wipe the memory out, in the way that the memory of a vaccination is wiped out by chemotherapy. By 2009 Dr Burt, now at Northwestern University, in Chicago, had proved that his treatment worked in patients with the most common form of the disease, relapsing remitting Ms. The treatment involves using lower-dose chemotherapy to kill the white blood cells that are responsible for attacking nerve fibres, and then rebooting the immune system using stem cells collected from the patient before treatment began.

Stem cells are the source from which more specialised cells develop. Those found in bone marrow, known as hematopoietic stem cells, produce the many different cells found in blood, including the white cells implicated in Ms. In Dr Burt's therapy such stem cells are extracted from a patient, stored until after the chemotherapy, and then infused back into him. Ten days later, he can go home.

It is effective. Although there is a relapse rate of around 10% within five years, many who have been treated in randomised trials in Brazil, Britain and Sweden feel as though they have been cured. Proving they actually have been means waiting for the results of the trials, and watching how participants fare over many years. Already patients have been seen to improve for two years after treatment.

This work should give drug companies some pause for thought. They are already facing criticism for the high prices of MS drugs. Moreover, though such drugs can slow the progression of the disease, they cannot do what the stem-cell therapy seems able to, which is to reverse it and improve patients' quality of life-for example by allowing them to walk again.

Last year a study published in Neurologu found that the cost of Ms drugs had risen five to seven times faster than the general inflation rate for prescription drugs. Medicines that cost \$8,000 to \$11,000 20 years ago were between \$59,000 and \$62,000 in 2013. On top of this come bills for doctors, MRI scans, blood draws and lab work. By contrast, Dr Burt reckons, a stem-cell transplant in America costs, all in, \$120,000—and that sum would be lower in countries with less-expensive healthcare systems. Indeed, doctors in Britain think the treatment should cost hospitals about £30,000 (just over \$40,000). At those sorts of prices, stem cells are set to give Ms drugs a real run for their money.

More broadly, this is good news for proponents of stem-cell therapies in general. Leukaemia is mostly treated these days with hematopoietic stem cells. Delete Blood Cancer, a British charity, is encouraging people around the world to register to donate stem cells. Registration can be done with a cheek swab, to show the genetic make-up of the potential donor's immune system. The cells themselves, if needed, are collected via a blood donation. And other conditions, too, seem susceptible to the stem-cell approach. Mesoblast, an Australian company, received approval last September for a stem-cell treatment for graft-versus-host disease, in which the immune system rejects a transplanted tissue. It has a number of other products in advanced trials, in areas such as chronic heart failure and chronic low-back pain. Stemcell therapy, so long promised, is starting to become a reality.

Social science

Done, bar the counting

Online social networks do not change the fundamentals of friendship

TOW many Facebook friends do you have? For some, the answer can be a signal of social success, and the numbers claimed can be enormous: Facebook permits 5,000 of them (though these might include products and companies as well as people). But Robin Dunbar, a psychologist at Oxford University, has long reckoned that claims of vast numbers of Facebook friends do not say much about actual human relationships. This week, as he describes in a paper in Royal Society Open Science, he is even more certain.

Dr Dunbar is the eponymous originator of Dunbar's number, a rough measure of the number of stable relationships that individuals can maintain. He came up with it in 1993, when he was studying the brains of social primates. He found a correlation between the average size of each species's neocortex (a recently evolved part of the brain) and that of their social groups. Extrapolating the results to humans, he reckoned, meant they should have social circles-of close friends and relatives, and frequently seen acquaintances-of about 150 people. And that is what he found. From the sizes of Neolithic villages to the centuries of Roman legions, humans seem to have organised themselves in the past into groups of 100-200.

Things have changed a bit since Neolithic and Roman times, though, and many wonder what effects modern technology might have on the size of such circles. Per->>



Friends to the end

haps there is indeed a cognitive limit, imposed by the brain's internal architecture, on how large a social structure can be maintained. But there may also be another limit: time. Maintaining 150 friendships face-to-face consumes a lot of that. Cobbling together many times this number of connections online, though, is a doddle.

Previous attempts to decide between these possibilities have tended to come down on the cognitive-limit side of the fence. But they have been criticised for looking at unrepresentative groups of people: students (inevitably), scientists and particularly heavy users of social networks. The latest try, in which Dr Dunbar piggybacked on a survey organised by a biscuit-maker, has overcome that. It is the first national-scale, randomly sampled study to investigate the matter.

The survey asked 2,000 people, chosen because they were regular social-network users, and a further 1,375 adults in full-time employment, who might or might not have been such users, how many friends they had on Facebook. The results showed, to no surprise whatsoever on the part of Dr Dunbar, that the average number of Facebook friends in the two groups were Dunbar-sized numbers: 155 and (when those who did not use Facebook at all were excluded) 187, respectively.

Other details matched Dr Dunbar's earlier work, too. This described a pair of smaller socially relevant numbers—a support clique (people you would rely on in a crisis) of about five and a sympathy group (those you would call close friends) of about 15. Such cliques and groups turned up in detailed answers to questions about Facebook users' relations with others.

These results, then, confirm that what constrains an individual's number of friends is neurological. Even though social networks like Facebook could help people handle far more social interactions than Dunbar's number describes, it seems the human brain simply cannot keep up.

Planetary science

And then there were nine

A giant planet may be lurking in the solar system's outer reaches

THE past two decades have seen astronomers' catalogue of planets expand over two-hundredfold, as new techniques and better telescopes have found more than 2,000 of them orbiting stars other than the sun. But in the solar system itself, the list of planets has actually shrunk—Pluto having been downgraded from that status in 2006. The number of the sun's planetary companions has thus fallen from nine to eight.

Now, a pair of astronomers from the California Institute of Technology think they have evidence that will restore the sun's tally to its previous value. Their analysis of objects orbiting in the Kuiper Belt, a ring of frozen asteroids that circle beyond the orbit of Neptune (and of which Pluto is now regarded as the largest member), suggests to them that something about ten times as massive as Earth has distorted those orbits. If you knew where to look, this planet-sized object would be visible through a suitable telescope. And Konstanin Batygin and Michael Brown believe they do know.

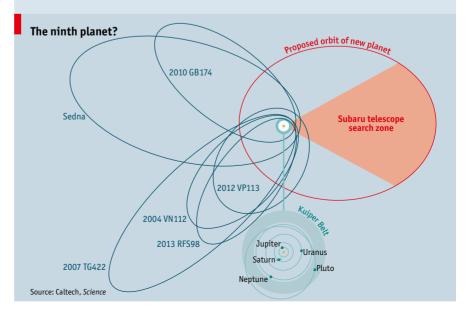
As they write in the Astronomical Journal, they have analysed the orbits of Kuiper-Belt objects and found six that behave in a peculiar way. As the diagram shows, the points of closest approach of these objects to the sun, known as their perihelia, almost coincide. Moreover, these perihelia all lie near the ecliptic—the plane of Earth's orbit and also, approximately, that of the other planets—while the objects' orbits are all angled at 30° below the ecliptic. The chance of all this being a coincidence, the two re-

searchers estimate, is about seven in 100,000. If it is not a coincidence, it suggests the six objects have been shepherded into their orbits by the gravitational intervention of something much larger.

A computer analysis Dr Batygin and Dr Brown performed suggests this something is a planet weighing 5-15 times as much as Earth, whose perihelion is on the opposite side of the sun from the cluster, and which thus orbits mainly on the other side of the solar system from the objects its orbit has affected. This planet's perihelion would be 200 times farther from the sun than Earth's, and the far end of its orbit might be as much as six times that distance away. This gives a search zone, and Dr Batygin and Dr Brown are using Subaru, a Japanese telescope, to perform that search.

Given other demands on Subaru's time, it might take five years for this search to find (or not find) the hypothetical planet. But looking at some existing data from the Widefield Infrared Survey Explorer, a satellite, might also show it, if it is there to be seen.

Ironically, it was Dr Brown as much as anyone who was responsible for Pluto's downgrading, for he discovered Eris, an object almost as big as Pluto, in 2005. That discovery did much to damage Pluto's planetary credentials. By his own admission, he was sceptical that the anomalies he and Dr Batygin have investigated actually would point to the existence of a replacement ninth planet. He is a sceptic no longer. Whether he is actually right may soon become apparent.





Also in this section

- 76 Garth Greenwell's novel of desire
- 76 Religion and psychology
- 77 The limitations of central banks
- 78 The magic of Diego Velázquez
- 78 The refugees of Dadaab

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Indonesian literature

Burning bright

Brash, worldly and wickedly funny, Eka Kurniawan may be South-East Asia's most ambitious writer in a generation

ASSIVE, chaotic, endless and, despite **IVI** it all, also charming, Jakarta can seem less a city than some sort of organic life form inexorably consuming north-western Java. More people live in greater Jakarta than in Australia; its residents send out more tweets than those in any other city. Yet millions of Jakartans also live in slums with pirated electricity and no running water. Traffic clogs the streets from dawn until well after nightfall-kita tua di jalan ("We grow old in the streets"), complain the city's eternally harried drivers-and people from every corner of Indonesia cram into every available corner of the city.

Eka Kurniawan, a young novelist, lives on the outskirts with his wife and daughter. When he sits down for a meeting at one of central Jakarta's many shopping malls at 4.30pm, he says traffic will make it impossible for him to get back home before 10. Mr Eka may well be glad of the chance to sit still for a while. In the past few months he has appeared at book festivals in Melbourne, Brisbane, Brooklyn and Frankfurt-where Indonesia was the national guest of honour. Last year his American publisher, New Directions, whisked him around the country on a six-city book tour. Benedict Anderson of Cornell University, a luminary of South-East Asian studies who has recently died, called him "Indonesia's most original living writer of novels and short stories", and proclaimed him a successor to Pramoedya Ananta Toer, author of the social-realist "Buru Quartet", and the man many consider to be Indonesia's greatest-ever novelist.

Now 40, Mr Eka has published four books of short stories and three novels, only two of which have so far been translated into English: "Beauty is a Wound" (New Directions), which is being published in 27 languages and was included in eight international lists of best books of 2015, and "Man Tiger" (Verso), which has been nominated for the 2016 Man Booker International prize. The English-language rights to his third novel, "Love and Vengeance", have recently been acquired by New Directions and Pushkin Press; publication is set for 2017.

If Mr Eka feels burdened by other people's expectations, he does not show it. Small, slight and bespectacled, with a thoughtful elfin manner and a ready grin, he looks perhaps half his age, and chats freely and easily, without any apparent writerly agony. Mr Eka is Sundanese, and grew up in a small town in West Java which he used in "Beauty" as a model for Halimunda, the fictional setting that acts, as in William Faulkner's novels, as a prism that filters and refracts Indonesia's history. For a time he ran a souvenir shop, like Kliwon, the determined, sweet, relentlessly level-headed rebel in "Beauty".

When not working on novels Mr Eka

blogs and writes for television-"soap operas, and whatever else they order from me". Like many writers, he says, "I always think about doing something else. But in the end I sit down and write again." And again and again: he has a book called "O"-a fable, he says, modelled on George Orwell's "Animal Farm"—coming out later this year in Indonesian.

The two books available in English are strikingly different. "Beauty is a Wound" is a sprawling work-seen through the eyes of Halimunda's gangsters, rebels, prostitutes and gravediggers-that obliquely covers the history of Indonesia from the late colonial period onwards, through the 31year rule of Indonesia's second president, Suharto. Its opening line is hard to match: "One afternoon on a weekend in March, Dewi Ayu rose from her grave after being dead for 21 years." The author said he spent much of his youth reading sastra picisanpulp fiction filled with sex and violence, and his work has plenty of both.

Mr Eka bristles at the suggestion that "Beauty" is fictionalised history: "I tried to make it a joke about a historical novel," he says, "and the joke is that you can't have a historical novel." "Beauty" is not about Indonesian history; it is about characters buffeted by that history. In its scope and seamless weaving of the fantastical and the quotidian, it owes a hefty debt to Gabriel García Márquez, though Mr Eka's magical realism is much earthier and less lyrical than his Latin American predecessor's (in a nifty bit of irony, the only character able consistently to use magic to his advantage is Kliwon, a communist who disavows religion and superstition).

The second book, "Man Tiger", is slimmer and a quicker read-a murder mystery of sorts, though the first sentence reveals both murderer and victim. Even the mo->>

American fiction

Come as you are

What Belongs to You. By Garth Greenwell. Farrar, Straus & Giroux; 194 pages; \$23. To be published in Britain by Picador in April

A YOUNG American teacher working in post-Soviet Bulgaria encounters a seductive hustler in the men's room of the National Palace of Culture. Mitko is slender and beautiful, utterly at ease yet achingly remote. What follows is the poignant story of the two men's unequal dance of need and longing. "What Belongs to You", a first novel by Garth Greenwell, an American writer with a growing reputation, is a sensitive, almost nostalgic, meditation on desire.

The strength of this slim book is the vibrant, heartbreaking character Mr Greenwell creates in Mitko: object of the unnamed narrator's desire, fear, obsession and, ultimately, pity. He is a sweet, increasingly desperate product of a broken country, a child of the East who sells sex to survive. Mitko's attractiveness stems as much from "a kind of bodily sureness or ease that suggested freedom from doubts and self-gnawing" as from his brazen sexuality. Throughout their brief relationship, the narrator minutely observes both Mitko and his country, as well as his own past. Yet he remains opaque, as estranged from the reader as he is from himself.

This alienation, the narrator reveals, is rooted in early experiences of rejection for his awakening homosexuality. In the novel's remarkable central section, told in one unbroken rush of past impressed upon the present, he recalls watching a boy he loved receive fellatio from a girl. "I've sought it ever since," he thinks; "the combination of exclusion and desire I felt in his room." The central theme of gay identity has led some to liken "What Belongs to You" to powerful coming-out narratives by such writers as James Baldwin and André Aciman. Edmund White,

a writer and critic whose novel "A Boy's Own Story" (1982) is a classic of the genre, has called it a "masterpiece". (Indeed, Mr Greenwell's novella, "Mitko", the seed for this novel, won a novella prize and was nominated for a Lambda award for gay writing.)

Yet the book is less about gay experience, in all its interpersonal and social dimensions, than it is a study of obsession and the self. Intense introspection makes it feel like a book from another age. Mr Greenwell, a poet, writes in the elaborate, melancholic voice of the midcentury novel of Mitteleuropa. Events are related in long, winding sentences punctuated by asides, filtered through the narrator's gaze; attention is lavished on landscape, often pregnant with meaning. The tone may be apt for a post-communist world caught in aspic; it can also feel mannered. Still, his language is often beautiful: "How helpless desire is outside its little theatre of heat." The narrator's "humiliating need...has always, even in my moments of apparent pride, run alongside my life like a snapping dog".

All this self-scrutiny can leave the reader hungry for deeper exploration of the questions raised by the novel's setting. The theme of the innocent abroad is not new, yet the complex dynamics of Mitko's precarious existence and the ethics of their transaction are barely addressed. Ultimately, this is a story about chances and the unequal possibilities for escape for those emerging from different forms of wreckage. The Westerner feels regret, but shows startlingly little awareness of his privilege; Mitko is simply the canvas on which he projects his need. A bigger, deeper novel might have remedied this shortcoming, elevating this to a major novel of gay life. As it is, Mr Greenwell offers a tender portrait of the longing for connection and acceptance that inhabits us all, gay or straight.

tive is no mystery. Yet it is a testament to Mr Eka's gift as a storyteller, particularly his skill at ratcheting up and tactically releasing tension, that he keeps readers enthralled nonetheless. Margio, the protagonist, is a sort of Javanese Raskolnikov (Dostoyevsky's protagonist in "Crime and Punishment"), though technically it is not he, but a white tiger living inside him, that does the killing. Mr Eka calls this his most personal book: "There is a parallelism between me and Margio...In Indonesia we keep our anger, we repress our anger, but in

the end...the tiger comes out, and we don't know how to handle this tiger."

Such concern for the personal rather than the political, and his rejection of conventional realism in "Beauty", exorcises the ghost of Pramoedya's socialist-realism. Writing towards the end of colonialism, Pramoedya wanted most of all to give Indonesians an identity. If he was the nation's Zola, Mr Eka is shaping up to be its Murakami: approaching social concerns at an angle rather than head-on, with hefty doses of surrealism and wry humour.



Religion and psychology

In the hands of an angry God

God Is Watching You: How the Fear of God Makes Us Human. By Dominic Johnson. Oxford University Press; 286 pages; \$27.95 and £18.99

ANY people think that religious belief is inherent to human psychology. This does not mean that specific beliefs are wired, but that the brain is predisposed to believe in supernatural agents. Some proponents of this idea argue that supernatural beliefs have hijacked innocent or otherwise useful features of the mind. But Dominic Johnson argues in "God Is Watching You", belief in God—specifically, in supernatural forces that can punish—is a useful evolutionary adaptation.

Mr Johnson has doctorates both in evolutionary biology, where most of the research in the belief instinct has been done, and political science. He assembles wellknown features of the mind in a tidy case. Human brains have a "hyperactive agency-detector device", seeing agents (spirits, gods and the like) in natural phenomena and random happenings. This is useful. There is little harm if you overreact to something that turns out not to exist. But underestimating a rustling in the undergrowth, which might conceal a predator, could be fatal, leading to evolutionary selection of a tendency to see agents everywhere. The instinct is easily triggered, even in atheists. Even pictures can set it off: in >> ▶ one experiment, an office honour-system to pay for shared coffee got more contributions when someone taped a picture of a pair of eyes on the collecting tin.

Another component in the belief instinct is a belief in justice, the idea that most people get what they deserve. (This may be one reason why even 30% of those Americans unaffiliated with any church nonetheless believe in punishment in hell.) A third factor is the tendency in most people to put greater emphasis on punishment than on reward: losing \$100 is far more painful than winning the same amount is pleasing.

Why would belief in an angry god be any use? When humans developed language, they could spread word of cheating, freeriding and the like. Raping your neighbour's mate might once have made evolutionary sense—spreading your own genes at little cost-but "in a clever and gossiping species, knowledge of selfish actions could spread and come back to haunt us" in the form of a furious husband or a village mob. Since cheating is now costlier, belief in an invisible monitor helps people avoid those costs, and so survive with their reputations intact, and pass on their genes.

So much for the evolutionary biology. Mr Johnson brings his political science into the picture by arguing that societies which punish cheaters are more likely to survive and grow. He quotes John Locke, a 17thcentury English philosopher: "Those who deny the existence of the Deity are not to be tolerated at all. Promises, covenants and oaths, which are the bonds of human society, can have no hold upon or sanctity for an atheist." Those bonds and covenants allow societies to co-ordinate action and plan for the future.

Mr Johnson's own research into 186 preindustrial cultures found that moralising religious beliefs were more prevalent in larger and more complex societies; these were more likely to be policed, use money and pay taxes. Others have noticed that religious kibbutzim in Israel are thriving, whereas secular socialist ones are in decline. The fact that moralising religious beliefs are more prevalent in more complex societies does not prove that one caused the other. But the striking number and variety of examples add credence to Mr Johnson's theory.

This book is not a detailed account of religious belief. Nor does Mr Johnson bother grappling with modern theologians' subtle andabstract ideas of God and hell. His subject is the mind, not the deity, and he finishes by musing how resilient religious thinking has proved to be in the face of science: "Learning religion is part of human nature. Learning science is a battle against human nature."

Mr Johnson does not seem a pious man himself. But unlike atheists such as Richard Dawkins and Sam Harris, he is not out to embarrass religious belief and chase its subscribers from the public square. The religious instinct is too deep-seated, he thinks. Instead, critics of superstition are best advised to work with the grain of human psychology rather than against it, finding more benevolent ways to satisfy human yearning for something "out there". What form such an atheist religion should take, though, God only knows.

Central banks

Shifting the burden

The Only Game in Town: Central Banks, Instability and Avoiding the Next Collapse. By Mohamed El-Erian. Random House; 296 pages; \$28

THE past seven years have been an L extraordinary period for central bankers. Not only have they cut interest rates to zero (and even below) in the developed world; for the first time in their history central banks have greatly expanded their balance sheets, buying government bonds and other assets. Most economists agree that vigorous action was needed in the wake of the financial crisis in 2007-08 in order to head off a repeat of the Great Depression. Nevertheless, the sheer scale and protracted nature of such monetary stimulus is now a cause for concern among some commentators; have the banks permanently distorted the economy? In December the Federal Reserve made the first, tentative step towards normality, with a quarter-point rate increase.

Mohamed El-Erian, a former IMF economist and executive at the Pimco fund management group, is the latest to sound the alarm. While central banks "averted tremendous human suffering", he argues that they have failed to generate what the Western world really needs-"the combination of high, durable and inclusive growth together with genuine financial stability".

Worse still, politicians have come to rely on central bankers to provide the main source of economic stimulus. As a result, Mr El-Erian asserts, they have failed to force through reforms that were badly needed. The long period of easy monetary policy has pushed up asset prices and thus wealth inequality. It has also meant that the appetite for financial risks (market speculation, in other words) is greater than the willingness of businesses to take economic risks by increasing investment.

Other problems include high long-term unemployment, a loss of trust in authority and the failure to co-ordinate economic policy. The global economy is rapidly

approaching a T-junction, he argues, where the road heads in two diametrically opposite directions. One will lead to higher growth, reduced financial risk and a lessening of inequality; the other will see all those measures head in the wrong direction.

Mr El-Erian does a good job of describing the problems. But the book falters when he tries to set out his plan for taking the right path away from the T-junction. He cites a number of necessary measures, including revamping the education system, strengthening infrastructure, improving labour competitiveness and flexibility, while simultaneously closing tax loopholes and increasing marginal tax rates on the wealthy in order to reduce inequality. But he only touches on these issues; a lot more detail is needed. Improving education may be a good idea, but it will be a decade or so before today's schoolchildren have any impact on labour productivity. How will growth be improved in the meantime?

Instead of answering such questions, he launches into a meandering section about the need for new thinking to deal with "bimodal distributions" (his T-junction metaphor). Just when readers want to get into the meat of the debate on economic policy, they are served a chapter called "Translating Awareness into Optionality, Resilience and Agility". Mr El-Erian is right that employers need to embrace diversity in hiring, but that subject does not belong in a book on central banking.

In a sense, however, the disappointing ending symbolises the state of economic debate. Central banks have provided all the help they can, and the burden of improving long-term growth ought to fall on politicians. But no one can agree on precisely what needs to be done.



The magic of Diego Velázquez

With brush and eye

The Vanishing Man: In Pursuit of Velázquez. By Laura Cumming. Chatto & Windus; 304 pages; £18.99. To be published in America by Scribner in April

EDOUARD MANET, a French Impressionist artist, considered him "the greatest painter that ever was". To Laura Cumming, art critic of the Observer, a British Sunday paper, Diego Velázquez, whose precocious talent propelled him to the position of sole portrait painter to Philip IV of Spain at just 24, is something more. Shattered by the death of her father when she was in her late 20s, Ms Cumming retreated to Madrid. It was there she first saw Velázquez's late masterpiece, "Las Meninas", an enigmatic group portrait of the long-faced Spanish Habsburgs. She was transfixed. The princess, the dwarf and the artist himself looked out at her, as she looked at them, and in that moment they were alive again. Somehow the painting held back death: "He gave me the consolation to return to my own life."

This spiritual experience prompted Ms Cumming to look for historical records of other personal encounters with art. One she found concerned John Snare. In October 1845 Snare, a bookseller, peered closely at the painting he had come 30 miles (48km) to see sold at auction, a supposed Anthony Van Dyck of the young King Charles I. Licking a finger, he rubbed at the grimy varnish: "I never can forget the impression as the tones came alive like magic." He was sure this was no Van Dyck, but the famous "lost Velázquez" painted while the English prince was in Spain courting the infanta. Snare's quest to prove this conviction would consume his whole life, leading him from provincial prosperity in Reading to ruin and isolation in a coldwater tenement on Broadway.

Ms Cumming's book is thus a double biography, alternating between the life and endeavours of Velázquez and those of this humble man who loved him, framed in a fragment of memoir by a woman who loves them both. Like Snare, Ms Cumming is an evangelist for Velázquez, this book her case for more conversions. Through explorations of his work, she illuminates the innovations with which he would transform painting. His subjects do not inhabit a specific place, but rather a moment in time, which the painting shares with the viewer. From Velázquez's former slave to the king himself, each is portrayed with respect as he or she fixes the viewer with that unsurpassed intensity of gaze. With almost no preparatory studies, he



So hard to capture him

translated his subjects onto the canvas in a flurry of expressive colour. Up close, they dissolve into what Kenneth Clark, a British historian and one-time director of the National Gallery, once called "a salad of beautiful brushstrokes"; yet step back, and the colours resolve into likenesses of remarkable realism.

Among the delights in this book are the many vignettes and miniature histories that punctuate the narrative—the socioeconomic significance of the stiff white golilla collar in Philip IV's bankrupt court, the establishment of the Stuyvesant Institute in New York and the circumstances of the first world boxing title. As compelling and entertaining as a detective novel, this is an engaging book, comparable to C. Lewis Hind's "Days with Velázquez" from 1906.

Written in the fluid prose that characterised her first book, on self-portraits, "A Face to the World", it is a labour of love even if her enthusiasm can be overwhelming; repetitions and occasional hyperbole temper the enjoyment. The densely researched web of pictures and catalogues, receipts, translations and letters, court proceedings and handbills, painters, courtiers and players is at times confusing.

Ms Cumming, nonetheless, paints a beguiling picture of lives lived for art. When Sir Lawrence Gowing, a British artist and writer, reviewed Jonathan Brown's seminal biography, "Velázquez: Painter and Courtier", for the New York Times in 1986, he reflected that "No painting is harder to write about than that of Velázquez, and we must still, I think, await the words that will convey the compassionate integration of vision and paint with human subject that makes [his painting] so noble." In "The Vanishing Man", Laura Cumming succeeds in coming close.

The refugees of Dadaab

Cheek by jowl

City of Thorns: Nine Lives in the World's Largest Refugee Camp. By Ben Rawlence. *Picador; 384 pages; \$26. Portobello; £14.99*

 ${
m P}^{
m OLICEMEN}$ clutching battered AK-47s stifle yawns in the hot sun outside the Westgate shopping mall in Nairobi. On the road leading up to the entrance cameras flash every few seconds, recording the number plate of each passing car. A city that once was fairly relaxed now feels as if it is under siege, its slumber ended by an attack on the mall in 2013 that left 67 people dead and as many as 175 wounded. The Shabaab, a Somali jihadist group, claimed responsibility. Kenyan politicians quickly blamed Dadaab, the world's biggest refugee camp, demanding that it should be closed. No connection was found between the attackers and the camp, yet the same demand is made every time Kenya suffers another outrage.

The sprawling camp was set up in 1992 to provide short-term shelter for refugees fleeing Somalia's civil war and famine. It kept growing. Today Dadaab is home to about 500,000 people, dwarfing the main towns in the north-east of Kenya. Its economy, including its role as a way-station for a vast sugar-smuggling operation that is worth as much as \$400m a year, powers that of the immediate region. Yet Dadaab is a refugee camp that has been largely forgotten by the world.

A generation of young people have been born and educated in it; now they scrabble to earn a living there. Many are starting families in its confines. Trapped in limbo, they wait for resettlement abroad, too afraid to return to Somalia. Their lives, chronicled in detail by Ben Rawlence in "City of Thorns", are a constant struggle for dignity and agency in a place that seems determined to deny them both.

The stories he tells are gripping. A Somali mother takes her five children, a pot, a kettle, a cup and a plate and sets out to walk for more than two weeks to the camp across the Kenyan border. She chivvies the youngest by telling him that a lion is pacing right behind. These tales do not come together in a neat ending, as they might in a novel. Instead the reader is left with a sense of loss and limbo-and the scent of dry wind, brush and sand. Lingering over it all is a strong feeling of lives being wasted by a world compassionate enough only to prevent people starving or being slaughtered in civil war, but not caring enough to resettle its many children and young adults-and make their lives worth living.

Courses 79





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Tenders



International Restricted Service Tender

The Anna Lindh Euro-Mediterranean Foundation for the Dialogue between Cultures (ALF) - an inter-governmental organization co-funded by the EU and by the 42 governments of the Union for the Mediterranean (UfM) - launches the Contract Notice for the International Restricted Service Tender for the selection of an Event Organiser for the implementation of the third Edition of the Anna Lindh Euro-Mediterranean Forum which will gather around 500 participants on 24-25 October 2016 in Valetta, Malta.

For further details, and to download the Contract Notice, please go to www.annalindhfoundation.org/tenders



Economic and financial indicators

Economic data

% change on	vear ago

	Gross don	nestic n	roduct	Industrial production	Consume	r nrices	Unemployment	ment Current-account balance latest 12 % of GDP		Budget balance % of GDP	Interest rates, % 10-year gov't	Currency	ınits, per \$
	latest	qtr*	2015†	latest	latest	2015	rate, %	months, \$bn	2015 [†]	2015†	bonds, latest	Jan 20th	year ago
United States	+2.1 Q3	+2.0	+2.5	-1.8 Dec	+0.7 Dec	+0.2	5.0 Dec	-456.6 Q3	-2.5	-2.6	2.04	-	-
China	+6.8 Q4	+6.6	+6.9	+5.9 Dec	+1.6 Dec	+1.5	4.1 Q3§	+275.9 Q3	+3.0	-2.7	2.68§§	6.58	6.21
Japan	+1.6 Q3	+1.0	+0.6	+1.7 Nov	+0.3 Nov	+0.7	3.3 Nov	+131.5 Nov	+3.3	-6.8	0.22	116	118
Britain	+2.1 Q3	+1.8	+2.4	+1.0 Nov	+0.2 Dec	+0.1	5.1 0ct ^{††}	-134.2 Q3	-4.4	-4.4	1.80	0.70	0.66
Canada	+1.2 Q3	+2.3	+1.1	-4.0 Oct	+1.4 Nov	+1.2	7.1 Dec	-54.1 Q3	-3.3	-1.8	1.16	1.46	1.21
Euro area	+1.6 Q3	+1.2	+1.5	+1.1 Nov	+0.2 Dec	+0.1	10.5 Nov	+346.9 Nov	+3.0	-2.1	0.49	0.92	0.86
Austria	+1.0 Q3	+1.9	+0.8	+1.5 0ct	+1.0 Dec	+0.9	5.8 Nov	+10.7 03	+2.0	-2.1	0.79	0.92	0.86
Belgium	+1.3 Q3	+0.9	+1.3	+0.7 Oct	+1.5 Dec	+0.6	7.8 Nov	+1.1 Sep	+0.4	-2.6	0.92	0.92	0.86
France	+1.1 Q3	+1.0	+1.1	+2.8 Nov	+0.2 Dec	+0.1	10.1 Nov	+3.5 Nov [‡]	-0.3	-4.1	0.87	0.92	0.86
Germany	+1.7 Q3	+1.3	+1.5	nil Nov	+0.3 Dec	+0.2	6.3 Dec	+279.0 Nov	+8.1	+0.7	0.49	0.92	0.86
Greece	-0.9 Q3	-3.5	+0.5	+1.9 Nov	-0.2 Dec	-1.1	24.5 Oct	-1.1 Nov	+2.5	-4.1	10.16	0.92	0.86
Italy	+0.8 Q3	+0.8	+0.7	+0.9 Nov	+0.1 Dec	+0.1	11.3 Nov	+39.3 Nov	+1.9	-2.9	1.65	0.92	0.86
Netherlands	+1.9 Q3	+0.6	+2.0	+2.2 Nov	+0.7 Dec	+0.4	8.3 Nov	+74.8 Q3	+10.6	-1.8	0.67	0.92	0.86
Spain	+3.4 Q3	+3.2	+3.1	+5.8 Nov	nil Dec	-0.6	21.4 Nov	+19.7 Oct	+1.0	-4.4	1.80	0.92	0.86
Czech Republic	+4.1 Q3	+3.0	+3.4	+5.7 Nov	+0.1 Dec	+0.3	6.2 Dec§	+2.0 Q3	-0.1	-1.8	0.68	24.8	24.2
Denmark .	+0.6 Q3	-1.8	+1.5	+0.2 Nov	+0.5 Dec	+0.5	4.5 Nov	+21.3 Nov	+7.1	-2.9	0.77	6.85	6.42
Norway	+3.0 Q3	+7.3	+0.7	-0.3 Nov	+2.3 Dec	+1.7	4.6 0ct ^{‡‡}	+37.3 Q3	+9.3	+5.9	1.49	8.92	7.67
Poland	+3.5 Q3	+3.6	+3.4	+7.8 Nov	-0.5 Dec	nil	9.6 Nov§	-1.6 Nov	-1.4	-1.5	3.17	4.13	3.74
Russia	-4.1 Q3	na	-3.8	-3.5 Nov	+12.9 Dec	+15.3	5.8 Nov§	+65.8 Q4	+5.2	-2.8	10.80	81.8	65.5
Sweden	+3.9 Q3	+3.4	+3.2	+6.2 Nov	+0.1 Dec	nil	6.2 Nov§	+31.8 Q3	+6.3	-1.2	0.80	8.60	8.18
Switzerland	+0.8 Q3	-0.1	+0.9	-2.8 Q3	-1.3 Dec	-1.0	3.4 Dec	+84.1 03	+8.6	+0.2	-0.23	1.00	0.88
Turkey	+4.0 Q3	na	+3.3	+3.6 Nov	+8.8 Dec	+7.6	10.5 Oct§	-34.7 Nov	-4.9	-1.6	11.19	3.06	2.36
Australia	+2.5 Q3	+3.8	+2.3	+1.9 Q3	+1.5 Q3	+1.6	5.8 Dec	-49.5 Q3	-4.3	-2.4	2.66	1.46	1.22
Hong Kong	+2.3 Q3	+3.5	+2.4	-1.9 Q3	+2.4 Nov	+3.1	3.3 Dec ^{‡‡}	+9.3 Q3	+2.8	nil	1.74	7.83	7.75
India	+7.4 Q3	+11.9	+7.2	-3.2 Nov	+5.6 Dec	+5.0	4.9 2013	-22.7 Q3	-1.1	-3.8	7.76	68.0	61.7
Indonesia	+4.7 Q3	na	+4.7	+6.5 Nov	+3.4 Dec	+6.2	6.2 Q3§	-18.4 Q3	-2.0	-2.0	8.59	13,960	12,584
Malaysia	+4.7 Q3	na	+5.4	+1.9 Nov	+2.7 Dec	+2.5	3.1 Oct§	+7.8 03	+2.5	-4.0	4.05	4.40	3.61
Pakistan	+5.5 2015*		+5.7	+4.7 Nov	+3.2 Dec	+3.9	5.9 2015	-1.4 04	-0.7	-5.1	9.56†††	105	101
Philippines	+6.0 Q3	+4.5	+6.4	+7.5 Nov	+1.5 Dec	+2.4	5.6 Q4§	+9.6 Sep	+4.1	-1.9	4.39	47.9	44.6
Singapore	+2.0 Q4	+5.7	+2.9	-5.5 Nov	-0.8 Nov	+0.2	2.0 Q3	+68.6 Q3	+21.2	-0.7	2.38	1.44	1.34
South Korea	+2.7 Q3	+5.3	+2.6	-0.3 Nov	+1.3 Dec	+0.7	3.2 Dec§	+104.9 Nov	+8.0	+0.3	2.01	1,214	1,088
Taiwan	-0.6 Q3	-1.2	+3.2	-4.9 Nov	+0.1 Dec	+0.1	3.8 Nov	+77.2 Q3	+12.8	-1.0	0.96	33.7	31.6
Thailand	+2.9 Q3	+4.0	+3.4	+0.1 Nov	-0.9 Dec	+0.8	0.9 Nov§	+32.1 03	+2.4	-2.0	2.32	36.3	32.7
Argentina	+2.3 Q2	+2.0	+1.3	-2.5 Oct			5.9 Q3§	-8.3 Q2	-1.8	-3.6	na	13.4	8.61
Brazil	-4.5 Q3	-6.7	-3.4	-12.4 Nov	+10.7 Dec	+9.6	7.5 Nov§	-68.0 Nov	-3.7	-6.0	16.63	4.11	2.63
Chile	+2.2 Q3	+1.8	+2.8	+0.5 Nov	+4.4 Dec	+3.9	6.1 Nov§‡‡	-2.7 Q3	-1.2	-2.2	4.55	731	630
Colombia	+3.2 03	+5.1	+3.3	+4.8 Nov	+6.8 Dec	+4.2	7.3 Nov§	-20.8 Q3	-6.7	-2.1	8.74	3,374	2,379
Mexico	+2.6 Q3	+3.0	+2.5	+0.1 Nov	+2.1 Dec	+2.7	4.1 Nov	-29.9 Q3	-2.6	-3.4	6.26	18.6	14.6
Venezuela	-7.1 Q3~	-4.9	-4.5	na	na	+84.1	6.1 Nov§	-17.8 Q3~	-1.8	-16.5	10.98	6.31	6.29
Egypt	+4.5 Q2	na	+4.2	-10.2 Nov	+11.1 Dec	+10.0	12.8 Q3§	-14.7 Q3	-1.4	-10.5 -11.0	na	$-\frac{0.31}{7.83}$	$-\frac{0.29}{7.30}$
Israel	+2.4 Q3	+2.1	+3.3	-5.3 Oct	-1.0 Dec	-0.2	5.4 Nov	+12.5 Q3	+4.9	-2.8	1.91	3.97	3.93
Saudi Arabia	+3.4 2015	na	+2.7	na	+2.3 Dec	+2.7	5.7 2014	-32.6 Q3	-2.7	-12.7	na	3.75	3.76
South Africa	+1.0 Q3	+0.7	+1.4	-1.8 Nov	+5.2 Dec	+4.7	25.5 Q3§	-14.0 Q3	-4.1	-3.8	9.71	16.9	11.6
Joulii Aii ild	+1.0 Q3						conomist Intelligence						

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Markets

		% change on		
		Dec 31st 2014		
	Index Jan 20th	one week	in local currency	in \$
United States (DJIA)	15,766.7	-2.4	-11.5	-11.5
China (SSEA)	3,115.3	+0.9	-8.1	-13.3
Japan (Nikkei 225)	16,416.2	-7.3	-5.9	-3.0
Britain (FTSE 100)	5,673.6	-4.8	-13.6	-21.4
Canada (S&PTSX)	11,843.1	-2.7	-19.1	-36.0
Euro area (FTSE Euro 100	967.7	-6.2	-6.7	-16.0
Euro area (EURO STOXX 5	0) 2,882.6	-6.2	-8.4	-17.5
Austria (ATX)	2,043.4	-7.3	-5.4	-14.8
Belgium (Bel 20)	3,285.2	-6.9	nil	-9.9
France (CAC 40)	4,125.0	-6.1	-3.5	-13.1
Germany (DAX)*	9,391.6	-5.7	-4.2	-13.7
Greece (Athex Comp)	526.4	-10.7	-36.3	-42.6
Italy (FTSE/MIB)	17,967.9	-10.8	-5.5	-14.9
Netherlands (AEX)	395.7	-5.3	-6.8	-16.0
Spain (Madrid SE)	837.1	-7.4	-19.7	-27.7
Czech Republic (PX)	855.9	-6.4	-9.6	-16.5
Denmark (OMXCB)	805.3	-6.8	+19.2	+7.1
Hungary (BUX)	22,753.2	-6.5	+36.8	+23.2
Norway (OSEAX)	552.3	-6.7	-10.9	-25.1
Poland (WIG)	42,152.7	-5.7	-18.0	-29.5
Russia (RTS, \$ terms)	628.4	-9.4	+8.4	-20.5
Sweden (OMXS30)	1,291.0	-5.1	-11.9	-19.8
Switzerland (SMI)	7,966.3	-5.3	-11.3	-12.2
Turkey (BIST)	69,603.9	-4.0	-18.8	-37.9
Australia (All Ord.)	4,896.9	-2.9	-9.1	-23.2
Hong Kong (Hang Seng)	18,886.3	-5.3	-20.0	-20.7
India (BSE)	24,062.0	-3.2	-12.5	-18.8
Indonesia (JSX)	4,428.0	-2.4	-15.3	-24.8
Malaysia (KLSE)	1,618.8	-1.4	8.1	-26.9
Pakistan (KSE)	30,766.0	-4.3	-4.2	-8.2
Singapore (STI)	2,559.8	-5.1	-23.9	-30.0
South Korea (KOSPI)	1,845.5	-3.7	-3.7	-12.8
Taiwan (TWI)	7,699.1	-1.6	-17.3	-22.4
Thailand (SET)	1,249.0	-2.3	-16.6	-24.4
Argentina (MERV)	9,401.1	-8.8	+9.6	-30.9
Brazil (BVSP)	37,645.5	-3.3	-24.7	-51.3
Chile (IGPA)	17,160.3	-1.9	-9.1	-24.5
Colombia (IGBC)	8,082.8	+0.4	-30.5	-51.1
Mexico (IPC)	40,844.4	-0.4	-5.3	-25.1
Venezuela (IBC)	14,473.1	0.9	+275	na
Egypt (Case 30)	5,776.6	-6.9	-35.3	-40.9
Israel (TA-100)	1,230.3	-4.4	-4.5	-6.5
Saudi Arabia (Tadawul)	5,459.8	-9.6	-34.5	-34.4
South Africa (JSE AS)	46,329.8	-4.3	-6.9	-36.4

New passenger-car registrations

Growth in the global car market was solid, if not spectacular, during 2015. There was strong demand in both Britain and America, in part because of low interest rates and improving consumer confidence. Although volumes are still below their pre-crisis levels, the EU had its best year for new car registrations since 2009, spurred on by good results in Italy and Spain. China, however, is experiencing a slowdown: the world's biggest car market grew at its slowest pace in three years with luxury cars hit particularly hard due to a corruption crackdown and worries about growth. The falling number of new registrations in Brazil and Russia is no surprise given the abysmal state of their economies.



Other markets

		%	% change on				
			Dec 31st 2				
	Index Jan 20th	one week	in loca currenc				
United States (S&P 500)	1,859.3	-1.6	-9.7	-9.7			
United States (NAScomp)	4,471.7	-1.2	-5.6	-5.6			
China (SSEB, \$ terms)	364.8	+2.6	+33.1	+25.5			
Japan (Topix)	1,339.0	-7.2	-4.9	-1.9			
Europe (FTSEurofirst 300)	1,267.6	-6.4	7.4	16.6			
World, dev'd (MSCI)	1,491.7	-3.4	-12.7	-12.7			
Emerging markets (MSCI)	692.8	-5.0	-27.6	-27.6			
World, all (MSCI)	357.3	-3.6	-14.3	-14.3			
World bonds (Citigroup)	879.3	+0.1	-2.5	-2.5			
EMBI+ (JPMorgan)	692.3	-0.9	+0.1	+0.1			
Hedge funds (HFRX)	1,140.0§	-0.9	-6.4	-6.4			
Volatility, US (VIX)	27.6	+25.2	+19.2	(levels)			
CDSs, Eur (iTRAXX)†	98.8	+14.2	+56.9	+41.3			
CDSs, N Am (CDX)†	111.0	+6.4	+67.9	+67.9			
Carbon trading (EU ETS) €	6.4	-10.8	-14.6	-23.1			
Sources Markit Thomson De	utors *Tot	al roturn	indov				

Sources: Markit; Thomson Reuters. *Total return index. †Credit-default-swap spreads, basis points. §Jan 19th.

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The Economist commodity-price index

2005=100

2005=100			% char	nge on
	Jan 12th	Jan 19th*	one month	one year
Dollar Index				
All Items	122.3	123.7	-2.2	16.0
Food	144.4	145.5	-1.3	-13.2
Industrials				
All	99.2	100.9	-3.5	-19.9
Nfa†	106.2	106.3	-3.8	-10.6
Metals	96.2	98.6	-3.4	-23.5
Sterling Index	(
All items	154.8	159.0	+2.5	-9.8
Euro Index				
All items	140.4	141.1	-1.6	-10.8
Gold				
\$ per oz	1,089.9	1,086.2	+0.9	-15.9
West Texas In	termediate			
\$ per barrel	30.6	28.4	-20.1	-38.7

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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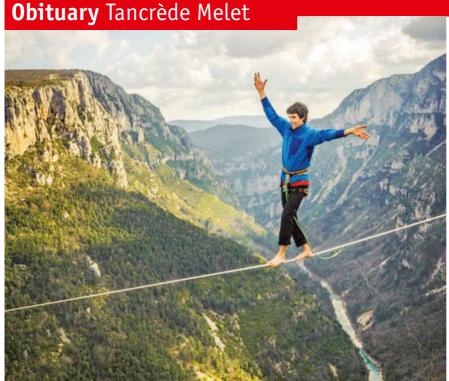
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The artist of the void

Tancrède Melet, highliner, rock-climber and circus performer, died on January 5th, aged 32

THE slightly leaning point of the Aiguille L de la République, in the Mont Blanc range, is just large enough for a nerveless climber to sit and admire the view: 2,300 metres of empty air between his perch and the glacier below. But on September 4th 2014 Tancrède Melet was not sitting on it. He was pirouetting in his wingsuit to display the underarm webbing that would make him swoop down like a bird, and blowing kisses to the camera with which he was filming himself. A moment later, he jumped. It made sense. To go back to his partner and supper in Chamonix the way he had come, by train, hike, 650 metres of rock-climbing and a brief bivouac in the snow, would consume ten hours. It would take three minutes, if he flew.

Every void and drop seemed to beckon him to throw himself into it, with only a parachute to save him. He couldn't see a cliff or a building without wanting to jump off: sometimes in his wingsuit, sometimes half-naked, somersaulting or cartwheeling over the edge. Once he was fired from a giant catapult, howling with joy at the speed with which the mountain walls shot past. If clouds or rainbows filled the void, so much the better, because he or others would usually be filming his performance, and the beauty of it—l'esthétique of his body curving and cavorting in space—was

almost the most important thing. Foremost, though, was the extraordinary clearing and freeing of his mind. He could seldom hide his slight vexation when the parachute checked his fall.

Jumping was one route into emptiness. The other was to walk out into it along a thin nylon slackwire, to see if he could get across from safety to safety and what might happen if he failed. He walked across the gorges of the Dourbie in southern France, and between the Tours Mercuriales in Paris: in Kierag in Norway, in winter, he crossed on a wire between ice-walls 450 metres above a fjord. He walked the line, almost invisibly high, that joined two hot-air balloons. On many highlines he had a leash to save him. On some, he did not. He would step slowly, often barefoot for better grip, arms out, as the wire swayed. If he slipped—and he did slip—he had to grab the wire, with hands or curling feet, and hang limply over the far blue view until he could lever himself back. Sometimes he crossed with an open, but quite useless, umbrella in one hand.

Wasn't he scared? Occasionally. Yet he was no closer to death, he thought, than a man who drove too fast on the motorway—or anyone else in this "community of mortals". With base-jumping, he was mostly just curious to find out what sur-

prises lay in store for his body or his mind if he flew through limits unbreached before; or through the life/death limit everyone crossed, if it came to that. "Who", his publicity ran, "will be the first to venture into the unknown and reach for the stars?"

With highlining, he felt more cautious. A slackwire between two trees was a doddle; on a somewhat higher wire, it was still possible to centre himself and focus calmly across the distance. But great heights, with their choppy winds and the loss of visual landmarks, racked both his nerves and his balance. He had to "beat himself up" to do the walk at all—or remember how on his first highline, too scared to go more than three steps, he had felt such an "explosion of sensations" that he was hooked for life.

The devil's whisper

Thin, dark and shy, he did not look like an extreme sportsman and disliked being called one. Nor was he a daredevil; he was more thoughtful than that. There was a dash of the devilish, though: a whisper in his ear that said, "Why don't you just try...?", to which, after communing with his laptop and maps for a while, he would grin back, "That should work!" His summer climbing gear was Bermuda shorts, a white straw hat and a "Think Different" T-shirt. Point made: he seemed to think like no one else.

Essentially he saw himself as an artist of the void, weaving together base-jumping, acrobatics and highlining to make hair-raising theatre among the peaks. Love of wild *mélanges* had been encouraged by his parents, who took him out of school when he was bullied for a stammer and, instead, let him range over drawing, music, gymnastics and the circus. Though for four years he slaved as a software engineer, he dreamed of recovering that freedom.

"One beautiful day" he threw up the job, bought a van, and took to the roads of France to climb and walk the slackwire. In the Verdon gorges of the Basses-Alpes he fell in with a fellow enthusiast, Julien Millot, an engineer of the sort who could fix firm anchors among snow-covered rocks for lines that spanned crevasses; with him he formed a 20-strong team, the Flying Frenchies, composed of climbers, cooks, musicians, technicians and clowns. These kindred spirits gave him confidence to push ever farther out into empty space.

Many thought him crazy. That was unfair. He respected the rules of physics, and made sure his gear was safe. When he died, by holding on too long to the rope of a hotair balloon that shot up too fast, he had been on the firm, dull ground, getting ready. It looked like another devil-prompted connerie to push the limits of free flight, but this time there was no design in it. He was just taken completely by surprise, as he had hoped he might be all along.



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