The Economist

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Britain: a one-party state

Al-Qaeda's comeback in Syria

The battle against Zika

Twitter in retweet

In the shadow of giants

A special report on the world's most powerful companies


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Contents

On the cover
The rise of the corporate colossus threatens both competition and the legitimacy of business: leader, page 9. A small group of giant companies are once again dominating the global economy. Our special report examines the consequences, after page 42. Passive investment funds create headaches for antitrust authorities: Free exchange, page 67

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Rise of the Alt-Right How Donald Trump ushered a hateful fringe movement into the mainstream, page 30. It is hard to criticise Mr Trump without insulting his voters: Lexington, page 35

One-state Britain Labour's implosion leaves Britain without a functioning opposition. That is more dangerous than many realise: leader, page 10. How Britain's left got into its crisis—and how it can get out, pages 19-22. Plans to let more schools select pupils on ability divide parents and politicians, page 50

Al-Qaeda in Syria Anything that stops the bombs falling is welcome, but don't expect the ceasefire to last: leader, page 12. Eclipsed by Islamic State, al-Qaeda may be making a comeback in a more pragmatic, and dangerous, form, page 51

Contents continues overleaf

The danger of Duterte The new president may undo the economic gains of recent years, page 23

Twitter's future It is too late for the social-media company to become the giant that people once expected, page 53. A co-founder of Twitter is betting he can revolutionise digital publishing once again, page 54

Investment in China Private investors keep their hands in their pockets, page 61

Battling Zika The promise and peril of "gene drives": leader, page 12. Scientists have learned a great deal about Zika since the outbreak began. Now for the task of stopping it, page 69

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The world this week

Politics

A ceasefire went into effect across most of **Syria**, following an agreement between John Kerry, the American secretary of state, and his Russian counterpart, Sergei Lavrov. However, aid destined for the besieged city of Aleppo was still being held up at the Turkish border by arguments between the warring parties. Strikes against Islamic State and an al-Qaeda-linked group are not covered by the ceasefire.

Israel and **America** agreed on a new military-aid package, worth $38 billion over the next ten years.

South Africa refused to grant an entry visa to Steven Anderson, an American preacher, saying that his comments criticising homosexuality amount to hate-speech.

The president of **South Sudan**, Salva Kiir, and leader of the opposition, Riek Machar, were accused of enriching themselves during a civil war that broke out in December 2013. The Sentry, an American NGO, alleges the men accumulated foreign homes and extensive commercial holdings.

They deny doing wrong

Brazilian prosecutors investigating graft linked to Petrobras, the state-controlled oil giant, filed charges against Luiz Inácio Lula da Silva, a former president. The lower house of congress stripped Eduardo Cunha, its former speaker, of his mandate over his role in the affair. He was already facing corruption charges but enjoyed parliamentary immunity.

Mercosur, a South American trading bloc, said it might suspend **Venezuela** if it fails to meet a set of conditions over trade and human rights by December 1st. The regional challenge to Venezuela's authoritarian regime came as it hosted a meeting of the non-aligned countries and prepared to take over the movement's rotating presidency.

A village under siege

Police fired tear gas and rubber bullets during protests in the southern Chinese village of **Wukan**, a place long celebrated in China for its residents' struggle for local democracy. The protests were triggered by the jailing of their elected leader on corruption charges.

The acting Communist Party chief of **Tianjin**, a port in northern China, was dismissed for "serious violation of party discipline", which is often a euphemism for corruption. The position is an important regional one in China. The new chief, Li Hongzhong, will be a strong contender for elevation to the ruling Politburo in a reshuffle due next year.

North Korea conducted its fifth nuclear test, and the second this year. The force of the underground explosion was 10-12 kilotons, roughly twice the previous one. The UN Security Council is now debating whether to tighten sanctions on the rogue nation.

America said it would soon lift decades-old sanctions on **Myanmar**, ahead of a visit by Aung San Suu Kyi, the country's de facto leader, to the White House. But human-rights groups want sanctions to be maintained on officials in Myanmar's armed forces until it is crystal clear that the new democratic system cannot be overturned.

Rodrigo Duterte, the controversial president of the **Philippines**, said he wanted American forces to withdraw from the island of Mindanao, where they have been training Filipino troops.

The **Australian** government introduced a bill to hold a non-binding plebiscite on whether same-sex marriage should be legalised. Gay-rights activists denounced the step as a cop-out.

Critical philosophy

Jean-Claude Juncker, the president of the European Commission, fretted in his state-of-the-union speech that the **European Union** is suffering from an "existential crisis". Mr Juncker pledged more investment and better security co-operation; defended an unpopular trade deal with Canada; and said that the departure of Britain, a rather difficult member of the EU, could present an opportunity for the remaining 27 states.

Turkey's justice ministry submitted an arrest warrant to the Americans for Fethullah Gulen, an Islamic cleric living in self-imposed exile in Pennsylvania. The Turkish government accuses Mr Gulen and his followers of being behind the attempted coup in July (Mr Gulen denies this). The American government has so far refused to extradite him.

The **Dutch** house of representatives voted to change the organ-donor system to one of "active registration". If passed by the senate, people will be presumed to be a donor by default, unless they register to opt out. Belgium and Spain have similar systems, and higher organ-donation rates.

The new British government gave the go-ahead to build a new nuclear plant at **Hinkley Point**, after unexpectedly ordering a review in part because of security concerns over Chinese involvement in its construction. That did not please China. The British government says that in future, it will take a "special share" in nuclear projects that cannot be sold without its consent.

David Cameron announced that he was stepping down from Parliament, because he could not be a "proper backbench MP as a former prime minister" and would become a distraction for his successor, Theresa May. Her most pressing task is cleaning up the mess left behind by Mr Cameron over Brexit. Parliament's foreign-affairs committee this week strongly criticised Mr Cameron for not having a coherent strategy when intervening in Libya in 2011.

Faint recognition

Hillary Clinton was taken ill at an event in New York to commemorate 9/11. After initially saying she was suffering from overheating, her aides revealed that Mrs Clinton had been diagnosed with pneumonia, prompting more criticisms that her campaign has a problem with the truth. Questions have been raised about the health of the 68-year-old Democrat, and of her 70-year-old Republican opponent, Donald Trump.

The National Collegiate Athletic Association said it would not hold any tournaments in **North Carolina** in the current academic year because of the state's decision to overturn local laws that protect gay people against discrimination. The NCAA has been a leading proponent of using sport's muscle to press states and cities into promoting an "inclusive atmosphere".

Business

Real median **household income** in the United States grew last year for the first time since 2007, to $56,500. That is up by 5.2% compared with 2014, the biggest percentage-point increase since the measure was introduced in 1967 (though, adjusted for inflation, household income was still 2.4% below its peak in the 1990s). The proportion of people below the poverty line fell by the most since 1999, to 13.5% of the population. The good news came eight weeks before America's election.

Increasing interest

Uncertainty about whether the Federal Reserve will raise interest rates on September 21st caused jitters on global **stockmarkets**, some of which recorded their biggest daily falls since Britain's vote in June to leave the EU. Janet Yellen, the central bank's chairman, has suggested that the economic evidence for lifting rates is strong, but Lael Brainard, a senior Fed official, warned that tightening monetary policy now would be risky.

Britain's Council of Mortgage Lenders reported that the number of **home loans** fell sharply in July compared with the same month last year, but it could not determine if this was a reaction to Brexit or an indication of a market that was already cooling. Buy-to-let mortgages were down by 26%.

Wells Fargo said it would ditch employee sales targets after it emerged that customers had been issued credit cards and bank accounts without their knowledge in order to meet branch goals. It is an embarrassing episode for Wells Fargo, which mostly avoided the allegations of impropriety that have tarnished the industry. Federal prosecutors are reportedly looking into the case.

Postal Savings Bank of China launched an IPO in Hong Kong to raise up to $8.1 billion, making it the world's biggest flotation since Alibaba in 2014. Most of the shares are being sold to other Chinese state-owned enterprises, which cannot sell them for six months, a recurring feature of IPOs in Hong Kong that lessens the risk of a flop but also reduces market liquidity.

Hailing a taxi

Uber wheeled out a pilot programme in Pittsburgh in which some of its vehicles are self-driving. Although a driver still sits behind the wheel and takes control in some circumstances, such as in unusual traffic situations, Uber proclaimed it the most extensive public use yet of autonomous cars. Elsewhere, the mayor of London, Sadiq Khan, unveiled plans to protect the city's traditional black-cab industry, a bitter foe of Uber, including grants for drivers to buy greener vehicles and promoting taxis as public transport.

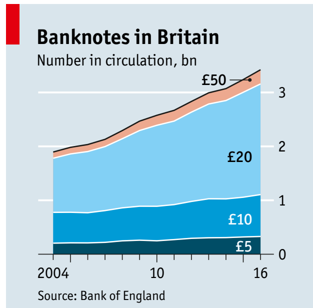
A long-awaited report from the UN recommended that developing countries should be allowed to override patents on life-saving drugs and license generic versions. The **pharmaceutical industry** had fought hard to keep the recommendation out of the study, which they wanted to focus on issues such as inadequate storage facilities for medicine. The only industry representative on the report's panel warned that compulsory licensing of generic drugs would cause uncertainty among investors.

In the biggest foreign takeover to date by a German company, **Bayer** agreed to buy **Monsanto** for $66 billion, after four months of courting its American rival. The deal will create the world's biggest supplier of agricultural seed and crop spray, but it faces antitrust obstacles. The rapid pace of consolidation in the agribusiness industry means just three big players could soon dominate the sector.

Jim Yong Kim will serve a second term as president of the **World Bank**, as the nomination process for candidates ended with no challengers. Mr Kim has been sharply criticised for his ham-fisted reforms of the institution, prompting an unprecedented rebuke from its staff association. In an outdated convention, America has the final say on who leads the bank.

José Manuel Barroso hit back at the European Commission's decision to treat him as a lobbyist for Goldman Sachs in future meetings. Mr Barroso is a former president of the commission but now advises the investment bank. He says the commission's decision is "discriminatory".

Polymore



Cash machines in England and Wales dispensed the Bank of England's new **polymer £5 note**, Britain's first plastic currency. Low interest rates are one reason why holding cash is still popular in an age of digital transactions. Polymer notes are much more durable than paper ones. One TV presenter spent a lot of time trying, without success, to damage or destroy the new fiver, dunking it in his coffee, chewing it and attempting to rip it. Mark Carney, the Bank of England's governor, dipped a note in a pan of curry to publicise its sturdiness.

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

A giant problem

The rise of the corporate colossus threatens both competition and the legitimacy of business

DISRUPTION may be the buzzword in boardrooms, but the most striking feature of business today is not the overturning of the established order. It is the entrenchment of a group of superstar companies at the heart of the global economy. Some of these are old firms, like GE, that have reinvented themselves. Some are emerging-market champions, like Samsung, which have seized the opportunities provided by globalisation. The elite of the elite are high-tech wizards—Google, Apple, Facebook and the rest—that have conjured up corporate empires from bits and bytes.

As our special report this week makes clear, the superstars are admirable in many ways. They churn out products that improve consumers' lives, from smarter smartphones to sharper televisions. They provide Americans and Europeans with an estimated $280 billion-worth of "free" services—such as search or directions—a year. But they have two big faults. They are squashing competition, and they are using the darker arts of management to stay ahead. Neither is easy to solve. But failing to do so risks a backlash which will be bad for everyone.

More concentration, less focus

Bulking up is a global trend. The annual number of mergers and acquisitions is more than twice what it was in the 1990s. But concentration is at its most worrying in America. The share of GDP generated by America's 100 biggest companies rose from about 33% in 1994 to 46% in 2013. The five largest banks account for 45% of banking assets, up from 25% in 2000. In the home of the entrepreneur, the number of startups is lower than it has been at any time since the 1970s. More firms are dying than being born. Founders dream of selling their firms to one of the giants rather than of building their own titans.

For many laissez-faire types this is only a temporary problem. Modern technology is lowering barriers to entry; flaccid incumbents will be destroyed by smaller, leaner ones. But the idea that market concentration is self-correcting is more questionable than it once was. Slower growth encourages companies to buy their rivals and squeeze out costs. High-tech companies grow more useful to customers when they attract more users and when they gather ever more data about those users.

The heft of the superstars also reflects their excellence at less productive activities. About 30% of global foreign direct investment (FDI) flows through tax havens; big companies routinely use "transfer pricing" to pretend that profits generated in one part of the world are in fact made in another. The giants also deploy huge armies of lobbyists, bringing the same techniques to Brussels, where 30,000 lobbyists now walk the corridors, that they perfected in Washington, DC. Laws such as Sarbanes-Oxley and Dodd-Frank, to say nothing of America's tax code, penalise small firms more than large ones.

None of this helps the image of big business. Paying tax seems to be unavoidable for individuals but optional for firms. Rules are unbending for citizens, and up for negotiation when it comes to companies. Nor do profits translate into jobs as once they did. In 1990 the top three carmakers in Detroit had a market capitalisation of $36 billion and 1.2m employees. In 2014 the top three firms in Silicon Valley, with a market capitalisation of over $1 trillion, had only 137,000 employees.

Anger at all this is understandable, but an inchoate desire to bash business leaves everyone worse off. Disenchantment with pro-business policies, particularly liberal immigration rules, helped the "outs" to win the Brexit referendum in Britain and Donald Trump to seize the Republican nomination. Protectionism and nativism will only lower living standards. Reining in the giants requires the scalpel, not the soapbox.

That means a tough-but-considered approach to issues such as tax avoidance. The OECD countries have already made progress in drawing up common rules to prevent companies from parking money in tax havens, for example. They have more to do, not least to address the convenient fiction that different units of multinationals are really separate companies. But better the grind of multilateral negotiation than moves such as the European Commission's recent attempt to impose retrospective taxes on Apple in Ireland.

Concentration is an even harder problem. America in particular has got into the habit of giving the benefit of the doubt to big business. This made some sense in the 1980s and 1990s when giant companies such as General Motors and IBM were being threatened by foreign rivals or domestic upstarts. It is less defensible now that superstar firms are gaining control of entire markets and finding new ways to entrench themselves.

Prudent policymakers must reinvent antitrust for the digital age. That means being more alert to the long-term consequences of large firms acquiring promising startups. It means making it easier for consumers to move their data from one company to another, and preventing tech firms from unfairly privileging their own services on platforms they control (an area where the commission, in its pursuit of Google, deserves credit). And it means making sure that people have a choice of ways of authenticating their identity online.

1917 and all that

The rise of the giants is a reversal of recent history. In the 1980s big companies were on the retreat, as Margaret Thatcher and Ronald Reagan took a wrecking ball to state-protected behemoths such as AT&T and British Leyland. But there are some worrying similarities to a much earlier era. In 1860-1917 the global economy was reshaped by the rise of giant new industries (steel and oil) and revolutionary new technologies (electricity and the combustion engine). These disruptions led to brief bursts of competition followed by prolonged periods of oligopoly. The business titans of that age reinforced their positions by driving their competitors out of business and cultivating close relations with politicians. The backlash that followed helped to destroy the liberal order in much of Europe.

So, by all means celebrate the astonishing achievements of today's superstar companies. But also watch them. The world needs a healthy dose of competition to keep today's giants on their toes and to give those in their shadow a chance to grow. ■

British politics

Britain's one-party state

Labour's implosion leaves Britain without a functioning opposition. That is more dangerous than many realise

CHEERING crowds flock to his rallies. Youngsters embrace him for selfies and hang on his every tweet. Jeremy Corbyn, improbable, crinkly rock-star of the far left, is on course to be re-elected Labour's leader on September 24th in a landslide vote among the party's members, hundreds of thousands of whom have joined up in the past year just to back him.

Yet Mr Corbyn's popularity among Labour's half-million members and affiliates is not replicated among Britain's 45m voters, most of whom do not share his desire to overthrow capitalism and unilaterally forsake the country's nuclear weapons, nor his soft spot for strongmen such as Vladimir Putin and the late Hugo Chávez. The party is polling at its lowest in opposition for 30 years. Among young people, his most sympathetic constituency, Mr Corbyn has an approval rating of -18%. Among the over-65s it is -68%. Labour is on course to lose scores of seats at the next election. And it will not end there. Parties often pick bad candidates—mainstream Republicans recoil at Donald Trump, for instance—but it usually costs them no more than one election. Mr Corbyn, by contrast, is packing Labour with allies and seems more concerned with building a long-term "movement" than winning power. The Conservative government can expect years without being seriously challenged in Westminster.

The story of how one of the most reliable vote-winning machines in the West drifted into irrelevance is a warning to parties everywhere (see pages 19-22). It is a tragedy for Labour, which under its recent centrist leaders was in power for 13 years, introducing reforms from a minimum wage to gay unions. And it is bad news for Britain. Experience, from Mexico to Japan, suggests the long-term absence of serious political opposition leads to bad government. Worse, Labour's meltdown comes as Britain begins complex and perilous Brexit negotiations, which need scrutiny. What opposition there is will come from the Tories' eccentric fringes and from the undemocratic House of Lords. And Scotland may wonder more than ever why it should remain attached to its Brexiteering big brother.

Left foot backward

Labour's feebleness has already contributed to Britain's most calamitous decision in a generation, that of leaving the EU. Although the party is pro-Europe, Mr Corbyn's half-hearted campaign to Remain (he is a lifelong Eurosceptic who voted against joining in 1975) was one reason that the referendum slid in favour of Brexit. Since then, Labour's leader has yet to ask a question about Brexit at his weekly grilling of the prime minister in Parliament. The shadow cabinet is so thin—three-quarters of Labour MPs have publicly called on their leader to quit—that the job of shadow Brexit secretary is being done part-time by the shadow foreign secretary. If the opposition did its job properly the government might be forced to come up with a Brexit plan that was halfway acceptable to the 48% who voted to stay. Instead it faces a louder and more serious threat from the more extreme Tory Brexiteers, who are urging an economically disastrous "hard Brexit": leaving the single market entirely in order to impose controls on immigration.

The absence of an opposition will have an equally damaging effect on domestic policies. Theresa May, who became prime minister via a Tory leadership contest rather than a general election, is launching a prospectus unapproved by the electorate. She has set out a bold pitch to working-class voters who feel abandoned by Labour. This is welcome. Yet her proposals will suffer from lack of serious scrutiny. This week she announced plans to allow more state schools to select children based on ability, a laudable effort to help poor children but which could actually do the opposite (see page 50). For once, Mr Corbyn landed a few blows on her in Parliament. But the biggest push-back will come from backbench Tories; Labour is on its third shadow education secretary of the summer.

Perhaps the strongest brake on the government will be the House of Lords. The Conservatives have less than one-third of its members; contentious policies like the schools proposal are likely to run aground there even if they do not in the Commons. Yet the Lords—who are unelected, unrepresentative and include a bench of Church of England bishops—would provoke crisis if they went beyond their historical role of fine-tuning legislation to become a serious check on the government.

The zombie opposition

Labour's malaise could even loosen the fraying union. Long allergic to the Tories and more recently out of love with Labour, Scotland has itself become something of a one-party state under the Scottish National Party (SNP). Mr Corbyn promised to win back Scotland by moving Labour leftward. Yet the Islington socialist is as unpopular there as he is in England. Scots now have little time for either of the parties that would rule them from Westminster. That may make independence (already back on the agenda following the vote for Brexit, which Scots opposed) more appealing. Brexit is also complicating relations with Northern Ireland, another place where Mr Corbyn—whose shadow chancellor, John McDonnell, praised the "bombs and bullets and sacrifice" of the Irish Republican Army in 2003—is not taken seriously.

In many democracies, parties come and go; there would be little to mourn if Labour were to wither and be replaced by others more in tune with voters. Under a proportional electoral system, Labour might shed seats to the leftish Liberal Democrats and the populist UK Independence Party. Moderate Labour MPs might even break away to form a rival outfit. Yet Britain's first-past-the-post system makes it fiendishly hard for small parties to make headway. Labour's crisis will therefore probably translate not into the birth of a bold new opposition movement but simply a Conservative landslide. Until Labour comes to its senses, those who oppose the government—particularly centrists and the 48% who voted to stay in the EU—will be poorly represented. Disaffection with the political process will fester. The witless Mr Corbyn was at least right when he promised his followers a "new kind of politics". But a one-party state was probably not what they had in mind. ■

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*Source : Asia Risk Awards 2015. "Hamburger" is a sculpture by Chinese artist Song Wei. Its adaptation is designed with approval of the Artist.

Syria's ceasefire

A risky bargain

A pause to the fighting is welcome. But America may be playing into the hands of Russia and the jihadists

AS *The Economist* went to press a big consignment of aid was poised to arrive in eastern Aleppo, a Syrian city that has been under siege, off and on, for four years. It contained food, medicines, clothes—even toys for toddlers who have lived their whole lives under the shadow of a war that is estimated to have killed more than 400,000 people. This respite is the fruit of a deal between Russia and America on September 10th that imposed a ceasefire across much of the country.

It appears to be holding, for now. But as with the previous cessation of hostilities in February, this agreement may be short-lived. And by appearing to tie America to Russia's game plan, it may even make things worse.

Agreement in a vacuum

After months of negotiation, John Kerry, the American secretary of state, and his Russian counterpart, Sergei Lavrov, have put together a deal that is remarkable for what is not in it. None of the combatants on the ground signed the pact. It falls instead to Russia to try to restrain its ally, Bashar al-Assad, Syria's brutal ruler, and to America to corral a multitude of rebel groups into acquiescence. Nor, crucially, does the agreement say anything about the next steps.

All attempts to bring peace to Syria have foundered on the question of what will happen to Mr Assad. Russia, Iran and Mr Assad himself view it as non-negotiable that he will remain in office throughout any transitional period leading to an election, in which he intends to be a candidate. For America, Sunni Arab states and the rebels, Mr Assad's departure is an essential precondition for peace. They cannot abide the prospect of a man who gases civilians and deliberately bombs hospitals clinging to power. Stuck, Mr Kerry has fallen back on counter-terrorism: if the ceasefire holds for a week, then America and Russia will jointly fight the jihadists of Islamic State (IS).

Anything that will hasten the end of the jihadists' vile "caliphate" is welcome. IS is well on the way to defeat in Syria: it has lost most of the territory it once controlled there, and its last big stronghold, Raqqa, could fall in the next few months. In Iraq, Kurdish forces and the Iraqi army are closing on IS's other "capital", Mosul. The sooner the caliphate is destroyed, the easier it will be to deal with Islamic radicalism across the world.

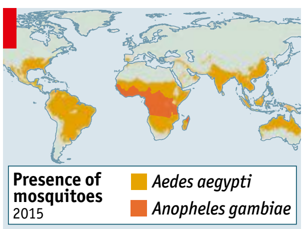
A second part of the deal is riskier, however. America and Russia are also to join forces to destroy the jihadist group that until recently called itself Jabhat al-Nusra, an offshoot of al-Qaeda. Quite right, American voters will doubtless say: al-Qaeda was the group that felled the twin towers. But labels can mislead. In Syria Jabhat al-Nusra has shown striking pragmatism, as well as prowess in fighting Mr Assad (see page 51). In July it renamed itself "Jabhat Fatah al-Sham" (JFS) and said it was severing its "external" links with al-Qaeda. It now hopes to merge with other, more nationalist Syrian rebel groups. It says it has no intention of attacking the West. Indeed, some think the West should put out feelers to JFS.

Yet al-Qaeda poses a real danger. Some of its most senior figures are gathering in Syria, and counter-terrorism officials rightly worry that they are creating another base for jihadist attacks on the West. But dealing with that threat requires more than just bombing JFS. The West should give more support to moderate rebels and help establish safe zones. It needs a credible plan to get rid of Mr Assad. Without one, it will be playing into Vladimir Putin's skilful hands. JFS fighters are hard to separate from other rebel groups, who will stick with the jihadists as long as they fear Mr Assad may come back. Attacking JFS would thus be seen as defending Syria's dictatorship. And that would surely inspire yet more jihadism around the world. ■

Extinctions to order

Gene-ocide

The promise and peril of "gene drives"



IN A competition to find the world's least-loved animal, the mosquito would be hard to beat. Only a few species of the insect carry the parasites that cause human diseases such as West Nile virus, dengue and yellow fever, but the harm they cause is enormous. Malaria kills more than 400,000 people, mostly children, every year. Zika has spread to dozens of countries (see page 69). If species such as *Anopheles gambiae* and *Aedes aegypti* could be eradicated, the world would surely be a better place.

Genetic engineers have already taken some steps in that direction: male *A. aegypti* mosquitoes that have been modified to become sterile have been released in Brazil, for example. Such approaches, controversial though they are among some greens, are limited in their impact and geographical range. A nascent technique called a "gene drive", which could make it far easier to wipe out species, raises harder questions.

The term refers to the engineering of genes so that they are almost guaranteed to be inherited by offspring (the conventional laws of inheritance predict that offspring have only a 50% chance of inheriting a specific gene). You might, say, be able to engineer *A. gambiae* to produce only male offspring, release the modified bug into the wild and extirpate the entire ▸▸

species.

The use of gene drives in the wild is not imminent. But the research is proceeding rapidly, thanks to new gene-editing technology and to some lavish funding: this month the Bill and Melinda Gates Foundation said it would increase its investment in gene drives to $75m. Mosquito species are the main targets, but need not be the only ones. Some wonder if gene drives could be used on the ticks that carry Lyme disease, or to change the genetic makeup of bats, a reservoir of infectious diseases. As interest grows, however, so do the concerns.

Dodos and don'ts

Some take an absolutist stance: it is morally wrong to take a deliberate decision to eliminate any species, however unpleasant. Try explaining that piece of armchair ethics to the people who still suffer from horrors such as bilharzia and Guinea worm. The eradication of smallpox in 1980 was a monumental advance in public health. The removal of the malaria parasite would be bigger. If *A. gambiae* has to go with it, then tough.

There are other, more powerful causes for concern. One is that the impact of getting rid of a species is hard to predict. The mosquito that just fed on a person's arm may go on to feed a swallow. The absence of one bug might lead another to thrive. However carefully scientists model the impact of gene drives, the risk of unintended consequences looms large in complex ecological systems. Another worry is that gene drives could be used for evil: a mosquito could just as well be engineered to be more suited to carrying deadly diseases, for example.

That argues for two guiding principles in the use of the technology: reversibility and consent. Reversibility means that no species should be driven extinct in the wild without the means to reconstitute it. Colonies of unaltered organisms must always be retained, so that they can be reintroduced.

The second principle concerns consent. The presumption behind the regulation of genetically modified organisms is that their spread can be contained. The Cartagena Protocol on Biosafety allows a country to refuse entry to a GM crop, for example. Such rules will not contain gene drives, which will spread across borders without permits. A decision by one nation, or one group, to release them might eventually affect every country where the species exists. Governance arrangements must be international from the start.

The power of gene drives demands proper debate. Ensuring that the technology can be thrown into reverse, and that its use is subject to international monitoring and co-ordination, would make it easier to unlock its vast potential for good. ■

The World Bank

Lucky Jim

The extension of Jim Yong Kim's term as president of the World Bank is a short-sighted stitch-up

BACK in 2011 the World Bank's governors committed themselves to an "open, merit-based and transparent" process to select its president. This week the American incumbent, Jim Yong Kim, was confirmed as the sole candidate for the next five-year term in another closed, patronage-based and opaque process. That falls short of the standards the bank seeks of its borrowers, let alone itself. It also hastens the rise of rival institutions.

Mr Kim's appointment stems from an archaic and now obsolete tradition dating back to the Bretton Woods conference of 1944, by which America chooses the boss of the World Bank and the head of the IMF is a European. That may have reflected the global pecking order as the second world war came to an end. But it does not suit the world today.

The failure—due, largely, to America's Congress—to reform the Bretton Woods institutions has spread cynicism about them. Countries such as India and, especially, China see such recalcitrance as part of a broader reluctance by the West to cede influence. They have set up multilateral banks where they can call the shots: the New Development Bank, owned by the "BRICS" (Brazil, China, India, Russia and South Africa), and the China-led Asian Infrastructure Investment Bank (AIIB).

Facing new competitors in its core business (the financing of large development projects), the World Bank needs a clear sense of purpose under a leader who enjoys the respect of its staff—and its borrowers. Sadly, Mr Kim is not that leader. His previous career, distinguished though it was, as a medical doctor, co-founder of a public-health NGO and president of a liberal-arts college always seemed inadequate preparation for his current job. And he has failed to win the trust of the bank's employees. The mood is disgruntled and rebellious. Last month the association representing the World Bank's 15,000 staff, citing surveys showing their dismal morale, wrote in an open letter about a "crisis of leadership".

Some grumbling is inevitable. In any lumbering bureaucracy that is being forced to endure radical change, even loyal and idealistic staff will resist and complain—just ask a BBC journalist. Some of Mr Kim's reforms, such as the shift from an organisation run on geographical lines to teams based on areas of expertise, are well-regarded by outsiders. It is hard to find anyone, however, who believes that the reform process, with its heavy reliance on external consultants, has been anything but an agonising, drawn-out shambles. Nor, claim NGOs, have the results made a big difference to the bank's impact.

Hang on to Mr Kim, for fear of someone worse than him

It is puzzling, therefore, that Mr Kim is being so breezily awarded a second term nearly a year before the first expires. That is far from the norm. One possible explanation is panic that Donald Trump might win the American election and install one of his cronies. Another is that many members would rather see an American placeman hold the job than a candidate from a developing country. Even China is apparently backing Mr Kim, perhaps calculating he is preferable to a South Asian or African (or, worse, reckoning that the bank's dysfunction might help the AIIB find its feet). This is no way to run a global institution. There is still just time for the bank's board—and for the sake of his own credibility, Mr Kim himself—to recall that 2011 pledge and insist on a proper contest. ■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What is a "burkini"?

A "burkini" is not "a cross between a burqa and a swimsuit" ("Ill-suited", September 3rd). Although the word is a portmanteau of "burqa" and "bikini", the item itself is not. It is simply a swimsuit, albeit a modest one, and has nothing to do with a burqa. Rather, it is associated with the hijab. A woman who wears the hijab covers her hair and body in public, and so would not show her arms, legs and chest on the beach. Obviously, a substantial portion of Muslim women wear the hijab, whereas only a tiny minority wear a burqa or cover their faces.

"Burkini" is English and does not come from Arabic. This kind of clothing is referred to natively as *maayo muhtashim* (modest swimsuit) or *malaabis al-bahr al-muhtashim* (modest beach clothes). The term "burkini" has started to appear also in Arabic news sources, but the spelling and the fact that it is often written in quotes mark it clearly as a borrowing from English.

KAREN MCNEIL
Revising editor
Oxford Arabic Dictionary
Providence, Rhode Island

Citadel

We certainly won't argue with your assessment that Citadel has done "spectacularly well" of late ("Law of averages", August 27th). The analysis by Novus, an analytics firm, of figures from Hedge Fund Research, a data provider, is thought-provoking. The chart you used in the story shows the reversal of fortunes (both positive and negative) for over 900 hedge funds relative to their performance during the 2008 financial crisis. However, the analysis suffers from a material survivorship bias because it does not reflect the performance of the roughly 5,000 hedge funds estimated to have been shuttered (or closed) since 2008.

Citadel's record in different market environments over the past 25 years speaks for itself. We will continue to focus on delivering investment results that help the sovereign-wealth funds, pension plans, endowments and others who have entrusted us with their capital meet their investment objectives.

ZIA AHMED
Head of media relations
Citadel
Chicago

Game theory applications

Your article on John Nash and the prisoner's dilemma undersold his contribution to understanding social behaviour ("Prison breakthrough", August 20th). The Nash equilibrium not only describes optimal behaviour in settings such as markets and auctions, but also defines which traits will emerge stably from an evolutionary process.

Nash equilibriums have been used to explain animal behaviours that evolve without any conscious strategy, such as the tendency for many animals to defend territory when they arrive first, or for male peacocks to grow long tails. Humans can arrive at similar behaviours via biological evolution, and also through reinforcement learning or by imitating success, processes that are mathematically similar to biological evolution and lead to similar outcomes.

For example, co-operating in a repeated prisoner's dilemma can be a Nash equilibrium if players condition their co-operation on others' past co-operation. People could arrive at this behaviour through conscious deliberation, but also by evolving emotions such as gratitude, or adopting strong norms of reciprocity, precisely what we see in human psychology.

You claimed that when people don't play in line with a Nash equilibrium in the lab, Nash is not relevant. But when equilibrium behaviour evolves it may not adjust immediately to new circumstances. Peacocks grow long tails even when their mating is determined by zookeepers, and people co-operate in a one-shot prisoner's dilemma. We would never conclude from captive peacocks that their tails did not evolve as a costly signal to attract mates. We shouldn't draw the analogous conclusion for human behaviour in unusual contexts.

BETHANY BURUM
MOSHE HOFFMAN
Programme for Evolutionary Dynamics
Harvard University
Cambridge, Massachusetts

You mentioned the role of Nash equilibrium in redesigning the system of matching job offers at hospitals with medical students. Although a common story, the actual history does not line up as the triumph for non-co-operative game theory you think it is. The "deferred acceptance" algorithm now in use in the system was discovered by medical staff before its rediscovery by David Gale and Lloyd Shapley in the 1960s. In any case, it relies on a co-operative game theory of stability, which is an alternative to Nash's non-co-operative equilibrium, not an application of it.

Nash equilibrium has transformed the way economists think about their field, but clear practical applications of the concept are harder to pinpoint than they might at first appear. The same might be said of Newton's theory of gravitation and many other great scientific achievements.

E. GLEN WEYL
Senior researcher
Microsoft Research
New York

What a trilemma!

Regarding the origins of the Mundell-Fleming trilemma in international economics ("Two out of three ain't bad", August 27th), John Maynard Keynes referred to the dilemma of choosing between internal price stability and external exchange-rate stability in his "A Tract on Monetary Reform", published in 1923. In a 1950 draft of his famous essay "The Case for Flexible Exchange Rates", Milton Friedman said that, with the introduction of exchange controls in the 1930s, Keynes's dilemma "has become a trilemma: fixed exchange-rates, stable internal prices, unrestricted multilateral trade; of this trio, any pair is attainable; all three are not simultaneously attainable."

As early as 1948, Friedman had been discussing this point in his lectures at the University of Chicago. In a letter to *The Economist* (January 3rd 1953), he took you to task for ruling out flexible exchange rates as a cure for the dollar shortage, accusing you of perpetuating "mercantilist fallacies" dressed up in "egalitarian jargon". Apparently *The Economist* of the day preferred to resolve the trilemma by maintaining exchange controls and fixed exchange-rates rather than choosing free trade and monetary-policy autonomy. Who do you now think had the better of that argument?

DOUGLAS IRWIN
Dartmouth College
Hanover, New Hampshire

Editor's note: The letter from Milton Friedman can be found at: www.economist.com/friedmanletter

They boldly went

A leader and lengthy article on the exciting discovery of a new planet, and all that entails for space travel ("Brave new worlds", "Proximate goals", August 27th). But no reference to the 50th anniversary of the first episode of "Star Trek"?

For shame.

RICHARD ROBINSON
Los Alamos, New Mexico ■

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Salvaging Jerusalem

NUNEATON

How Britain's left got into its crisis—and how it can get out

NESTLED between Birmingham and Leicester, Nuneaton is the humdrum English suburb from central casting. Neat flower beds full of petunias punctuate the lawn outside the bus station. On benches between the chain stores in the pedestrian precinct, old folk throw the crusts of their sandwiches to the pigeons. On the outskirts new, faux-bucolic housing estates sprawl between their pre-war forerunners.

Since 1983 this town has voted for the winning party in every general election but one. It was among the target seats the Labour Party recognised that it needed to win last year. The announcement, early on election night, that its Conservative MP had been re-elected with an increased majority was the point at which the party realised it had been trounced.

Nuneaton rejected Labour. Labour subsequently rejected Nuneaton and all that it represents. In September 2015 the party elevated Jeremy Corbyn, a stalwart of its far left, to its leadership. Voters in Middle England, doubtful about the party's competence and credibility even before its new leader took the reins, have been unimpressed by his tenure—as the burghers of Nuneaton willingly attest. Shoppers express cautious support for Theresa May, the new prime minister. They speak as one when it comes to the leader of the opposition: "A bit of joke"; "I don't think he knows what the world is actually like"; "Nah".

In opinion polls the Tories now consistently post double-digit leads over Labour. This, along with massive internal dissent and the effect of changes to constituency boundaries that were announced this week, leads pessimistic MPs to suggest the party could lose up to 100 of its 230 parliamentary seats at the next election.

The sound of someone losing the plot

Mr Corbyn enjoyed little support in the parliamentary party even before he had proved such a threat to its members' jobs. He only got the 36 nominations from fellow MPs that allowed him to stand in last year's leadership election because some of them thought that his voice would serve to broaden the party's internal debate. After the Brexit referendum campaign, during which many thought that Mr Corbyn, for a long time a Eurosceptic, put the party's pro-EU case with insufficient vigour, most of his shadow cabinet resigned. In a subsequent confidence vote 40 Labour MPs voted for him and 172 against. It is hard to imagine any previous party leader so lacking in support choosing to continue; but Mr Corbyn never wavered. Angela Eagle, one of the resigning shadow ministers, put herself forward for the leadership, thus triggering an election for the top job, before withdrawing from the race in favour on another colleague, Owen Smith.

On September 24th Mr Corbyn will almost certainly be announced the winner of this contest. Victory will give him a number of opportunities to consolidate his power, to force out some internal opponents (possibly including his deputy, Tom Watson), to use those changes to parliamentary boundaries to threaten pesky MPs, to further weaken the parliamentary party's role in leadership elections and to give the membership at large and online activists more say over policy.

Corbynistas insist, against all precedent, that the party can change the terms of British politics, and win power, by becoming a "movement". They point to leftist politicians in southern Europe (especially Syriza, now governing Greece) as a model. Most MPs, and most commentators, believe that in trying to do so they will transform the party's prospects of winning places like Nuneaton from remote to non-existent and make it electorally irrelevant.

This is remarkable for a party which 20 years ago was about to kick off its best-ever streak of electoral results (see chart 1 on next page). But under Tony Blair nearly everything the party did was calibrated to fit the interests and outlooks of voters in decisive Middle England seats; the former prime minister recalls his connection to such voters as a sort of love affair. In 1997 ▸▸

and 2001, this passion swept the party to power in landslides (56% and then 52% of the vote in Nuneaton). Even in 2005, after the Iraq war, Labour secured a solid win over the Tories (and 44% in Nuneaton).

After that third election, when David Cameron became their leader, the Conservatives began to push back against Mr Blair's domination of the centre ground. When Gordon Brown, his pushy chancellor of the exchequer, elbowed Mr Blair aside in 2007, he did so in part by flashing a little collectivist ankle to the grassroots, as well as by nobbling more centrist alternatives, allowing a shift to the left. The financial crisis persuaded many in the party that capitalism had failed sufficiently egregiously that such a shift could work. At the same time control of some of the largest of the trade unions that are affiliated to the party moved somewhat to the left.

After Labour's defeat in the 2010 general election showed that the crisis of capitalism had not been quite the conflagration the left had counted on, those union leaders supported Ed Miliband, one of Mr Brown's protégés, in his bid to become leader. During his tenure Mr Miliband nudged the party further leftward while failing to dislodge the Conservative narrative that the country's economic difficulties were all the fault of Mr Brown, a failure that doomed the party at the 2015 elections. He also changed the way future leaders would be chosen. In what initially seemed like a sensible response to union stitch-ups and declining membership his new rules obliged members of affiliated unions to opt in if they wanted to vote and extended the franchise to any member of the public willing to pay £3 ($3.90).

In last year's post-Miliband leadership election none of the three mainstream candidates saw the potential for reshaping the party's electorate implicit in these rules. Mr Corbyn did. With the help of allies in the unions he encouraged supporters to sign up to vote, bringing in idealistic middle-class youngsters and the sort of socialist old-timers who had quit under Mr Blair. Over the course of the campaign the party's electorate more than doubled to some 550,000, much to his advantage.

For many party members, their second general-election defeat proved that Mr Miliband had not moved the party far enough to the left. The animosity many felt towards Mr Blair and all he stood for—which, in the 1990s and 2000s, had been assuaged, a bit, by his habit of winning—went unbridled in defeat. Swathes of the parliamentary party, particularly those who supported, or might have supported, the Iraq war that Mr Corbyn implacably opposed, were held in scorn. Coupled with the influx of support from outside, these feelings gave the campaign an unstoppable momentum (a term later taken as its name by a grassroots movement that grew out of Mr Corbyn's leadership campaign and now has local chapters in many constituencies). Mr Corbyn's inexperience—never a minister or a shadow minister—was perceived as innocence, his constant rebellion—487 votes against the governments of Mr Blair and Mr Brown—as righteousness. A large plurality of full members (49.6%) backed him; his majorities among union affiliates (57.6%) and the £3 "registered supporters" (83.8%) propelled him to overwhelming victory.

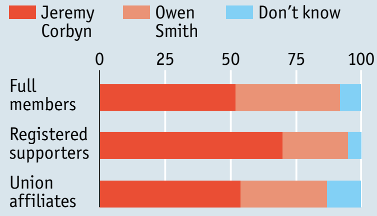
Tell me when the spaceship lands

Not all Mr Corbyn's policies and stances are unpalatable to the electorate: a majority supports his wish to take the railway system back into public ownership. But so much of what he does and stands for is unpopular both with the right wing of his own party and the centrists that Mr Blair wooed that he will never become prime minister. He did not join in the national anthem at a first-world-war commemoration; he opposes the renewal of Britain's nuclear weapons capability; he supports the restoration of many lost powers to trade unions, including secondary picketing, and the nationalisation of the energy industry. In a YouGov poll published on September 8th 61% of the public said he was doing badly as leader of the opposition; only 21% said he was doing well.

Yet so completely has the make-up of the Labour Party changed that none of these facts about the electorate matter as far as its internal politics are concerned. Some 200,000 people—mostly Corbynistas—have joined as full members over the past year. A poll published by YouGov on August 31st gave Mr Corbyn a 62%-38% lead over Mr Smith among the party's electorate (see chart 2). He has been nominated by 285 Labour constituency parties, compared with 53 for Mr Smith.

A strong lead 2

Britain, *"Who will you vote for in the Labour leadership election?"**, %



Source: YouGov

*1,248 Members of the Labour selectorate, August 25th-29th 2016

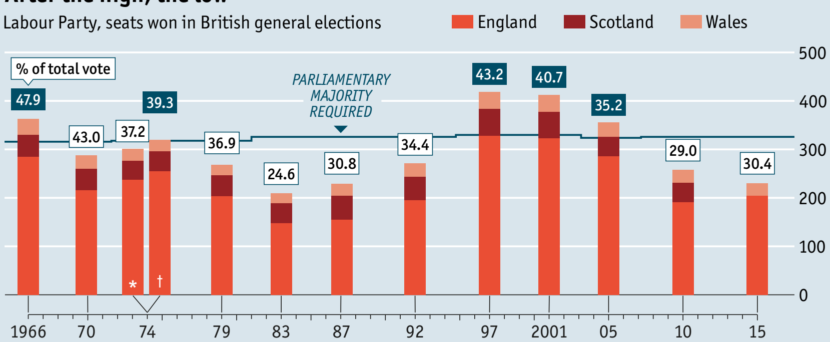
Even if, completely against the run of play, Mr Smith were to stage an upset, rather little might change. His leadership campaign has been based on the idea that the party's electorate will not vote for a candidate who differs much from Mr Corbyn on policy: the party's new left-wing make-up, his aides argue, militates against a more centrist challenge. So his criticisms have focused more on his opponent's abilities as a media performer and team leader: process, rather than substance. If Mr Smith wins, he will have little mandate to reconcile the party to the sort of agenda and strategy that would win it Nuneaton. As one party insider supporting him observes: "As long as the left have the whip hand, they will crack the whip."

If Mr Corbyn wins he will surely face further leadership challenges: some MPs talk of a "war of attrition". It could be a war that both sides lose. There is no cast-iron law saying Labour has to survive. Social democrats across Europe are struggling to combine distinctiveness and credibility in straitened times and to reconcile small-c conservative working-class voters whose economic interests they have championed with the agendas of their more liberal, middle-class supporters. As they do so they also have to compete with populists of left and right and fend off centre-right parties which have become increasingly deft at pilfering popular policies, such as minimum wages, that the left used to own. The struggle is not going well. Since the late 1990s support for social-democratic parties has fallen by about half in Germany, two-thirds in the Netherlands and over three-quarters in Poland.

British parties have disappeared before. The Liberal Party spent much of the 19th century switching in and out of power with the Tories; then in the first third of the

After the high, the low 1

Labour Party, seats won in British general elections



Sources: House of Commons; Electoral Commission

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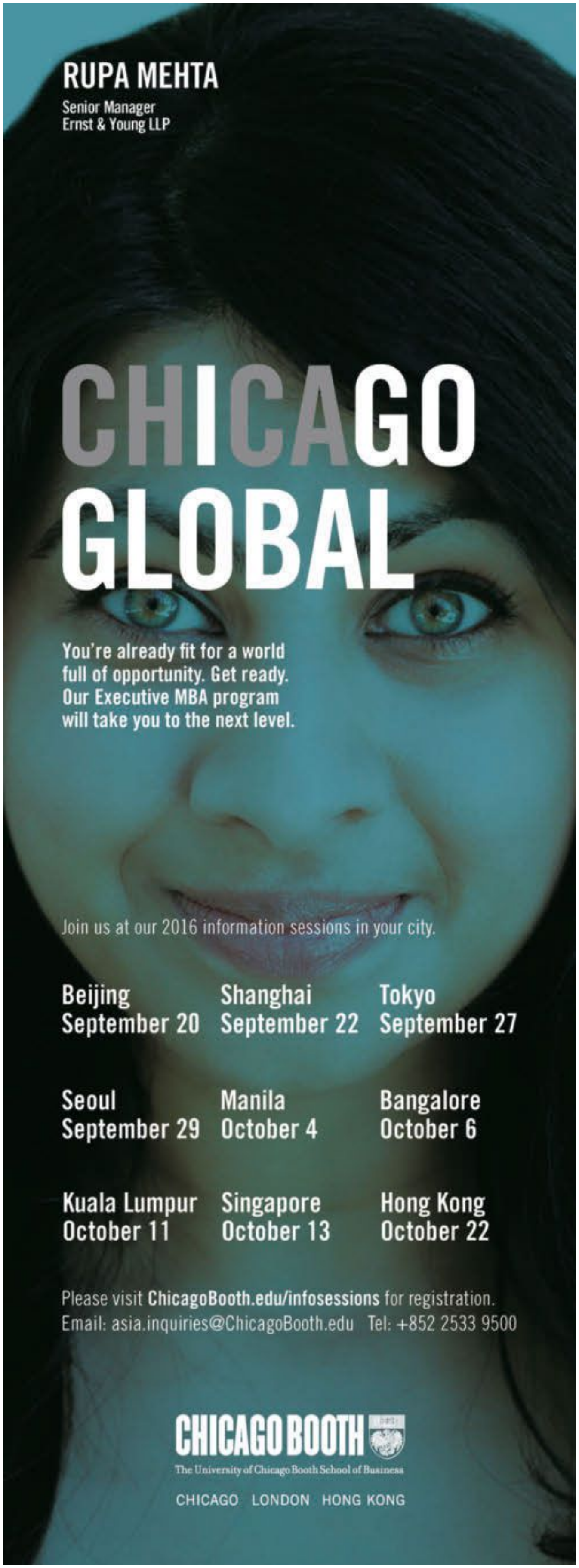
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20th century an inability to adapt to political and economic shifts brought what a contemporary writer, George Dangerfield, memorably called the "strange death of Liberal England". Perhaps the "strange death of Labour Britain" has arrived. The Scottish National Party has all-but wiped it out north of the border. In the north of England the right-populist, anti-EU UK Independence Party (UKIP) threatens to nab some of its working-class strongholds (though whether it can get its own act together enough to do so is an open question). In big cities and university towns the humbled pro-EU Liberal Democrats want to pinch Labour voters fed up with the party's lacklustre pro-EU campaigning. And in the first two months of her premiership Mrs May has emphasised her commitment to things like vocational training, social mobility and industrial policy that once-Labour centrists tend to like.

Such tactics could give the country years of Conservative dominance, with major arguments about the future taking place inside the sprawling governing party, much as they do in Japan, rather than between government and opposition. If Labour declines far enough, another principal opposition will rise to replace it: a first-past-the-post system like Britain's does not easily allow for one big party and a bunch of small fry. The new number two could be UKIP, especially if arguments about what Brexit should look like come to dominate the country's politics. Britain might thus be dominated by a right-populist party and a Christian Democrat one, rather as Poland is today. Alternatively some new grouping might rise from Labour's moderate wing and/or the currently tiny and unloved Liberal Democrats to appeal to liberal, pro-EU voters. Then the country would look more like Canada.

You'll never get it right

What can Mr Corbyn's internal opponents do to avoid these outcomes? Their strategy so far has been to hope either that Mr Corbyn's supporters will tire of him, or that he can be worn down by their war of attrition. Now, eyeing Mr Smith's undistinguished campaign and likely failure, some concede that a new approach is needed. Two big, bold ideas are in the ether.

The first and worse is a split. If Mr Corbyn wins, MPs could form a separate caucus in Parliament, create their own alternative shadow cabinet and perhaps eventually form a new, Nuneaton-friendly party. If this group is larger than the parliamentary rump loyal to Mr Corbyn it should, with the speaker's blessing, become the official opposition.

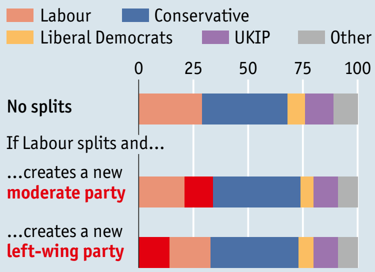
This option is endlessly discussed by Westminster conspiracy-mongers but also widely seen as a non-starter. The experience of the 28 MPs who left Labour in 1981 to form the Social Democratic Party provides a cautionary tale; never successful enough to break through under first-past-the-post they ended up merging with the Liberals to form the Liberal Democrats, who currently have just eight MPs. In any case, moderate MPs add indignantly, why should social democrats be forced out of their own political family? "I have no intention of walking away from our party which, like no other, was founded to deliver progressive values in government under our albeit flawed first-past-the-post electoral system" asserts Chuka Umunna, Labour's former shadow business secretary. Despite Mr Corbyn's best efforts plenty of voters remain tribally loyal to Labour: polling published by YouGov on August 2nd showed that if Labour's right (or left) split from the party, only a minority of its voters would follow them (see chart 3).

A victor's legacy

That leaves the second option: beating Mr Corbyn at his own game. Shortly before the current contest began many on the right of the party threw their efforts into creating mechanisms for recruiting new, moderate members to rival the Corbynite surge. The result was Saving Labour, an initiative begun by, among others, Reg Race, once a left-wing MP and later a successful entrepreneur. It has been endorsed by plenty of Labour MPs and Labour-supporting public figures (the novelist Robert Harris among them). Yet as one major supporter concedes: "it was too little too late". The group claims it has signed up 120,000 people; even if this is true, Mr Corbyn's commanding poll lead suggests that it is not nearly enough.

Winging it 3

Britain, *"If the Labour Party split and those who support/oppose Jeremy Corbyn set up their own party, who would you vote for?"**, %



Source: YouGov

*4,927 British adults July 27th-August 1st 2016

But proponents of this strikingly top-down bottom-up strategy think they can get a second bite at the cherry, and that a couple of things can be done to assure success next time. One is to put in place a much larger, more established recruitment network. That means setting up local and workplace branches to connect with the sort of centrist and centre-left folk who, as members, union affiliates or registered supporters, might re-anchor the party in election-winning ground. As Luke Akehurst, leader of the anti-Corbyn group Labour First, puts it: "We need to...play Momentum at its own game."

The second is to come up with a better candidate. Campaigns like that of Barack Obama against Hillary Clinton in 2008, Matteo Renzi's lightning rise to Italy's premiership in 2013 (supported by 1.9m in an open primary) and Donald Trump's victory in this year's Republican primaries show that a charismatic and dynamic figurehead can draw a lot of "ordinary" voters into an internal party contest. Mr Smith—decent but untested, gaffe-prone and rather unremarkable—is not that sort of candidate. Mr Umunna, Rachel Reeves, a former Bank of England economist, Dan Jarvis, a former soldier, Yvette Cooper, one of the candidates who stood against Mr Corbyn last time, and Sir Keir Starmer, once Britain's director for public prosecutions, are among those often mentioned as at least slightly more stirring possible leaders for the next push. Their challenge will be not to gather support in Westminster tea rooms, but to show that they can recruit members *en masse*; only after that has been demonstrated will it be worth choosing the one or two who excel to stand in another leadership battle.

Mr Corbyn and his surrogates will cry betrayal and disloyalty at such open manoeuvring. So be it. Labour's MPs have little to lose. Some face deselection, others are near-guaranteed defeat at the next election (which is not due until 2020—but Mrs May can read polls). Plenty are already routinely and roundly abused by their leader's online supporters and local cheerleaders. They should find liberation in all this, feeling free to organise, agitate and throw whatever reserves of piss and vinegar they have left into saving their party from its spiral of decline. They are tribal, defensive and desperate. But that, too, can be a form of strength. ■

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The Philippines under Rodrigo Duterte

Sceptred bile

MANILA

The new president may undo the economic gains of recent years

UNDER Rodrigo Duterte, the president of the Philippines since late June, things have a habit of spiralling out of control. First came his campaign against the drug trade, which has led to the killing of almost 3,000 suspected dealers by police and unknown assailants, without even a nod at due process. In less than three months, he has presided over three-quarters as many extrajudicial killings as there were lynchings of black people in America between 1877 and 1950.

When Barack Obama expressed concern about the killings, Mr Duterte called him a "son of a whore". America's president tried to shrug off the insult. But Mr Duterte took the row to a new level this week, calling for American special forces to leave the southern island of Mindanao, where they have been training Filipino troops fighting several long insurgencies. "For as long as we stay with America," he said, brandishing a picture of an atrocity committed by American soldiers more than a century ago, "we will never have peace".

On September 13th he told his defence secretary to buy weapons from Russia and China rather than America, hitherto the Philippines' closest ally, and the source of hundreds of millions of dollars in military aid each year. He also said the navy would no longer patrol the South China Sea alongside American vessels. This reversal is all the more surprising given America's huge popularity in the Philippines.

In other words, Mr Duterte is not just crass and brutal; he is alarmingly volatile. He has little experience of national politics, let alone international affairs, having been mayor of Davao, a city of 1.5m or so, since 1988 (apart from a brief stint as vice-mayor to his daughter and three years as a congressman). Since becoming president, he has threatened to withdraw from the United Nations and to declare martial law. He idolises Ferdinand Marcos, a former dictator who did impose martial law. He says he wants to give Marcos a hero's burial in Manila. All this, naturally, frightens both local and foreign investors and threatens to undermine the Philippines' newly acquired status as South-East Asia's economic star.

On a roll

The Philippines

Source: National statistics   *Three-month moving average

The Philippine economy grew by 7% in the second quarter, year-on-year, roughly double the long-run rate, and faster than China, let alone most other countries in the region. Unemployment, at 5.4%, has been falling steadily. The population is young and English-speaking, and a booming service sector is keeping more educated Filipinos from seeking their fortunes abroad. This burgeoning middle class—along with growing remittances from Filipinos abroad—anchors strong domestic consumption. During the six-year term of Mr Duterte's predecessor, Benigno Aquino, the Philippine stock market boomed. Foreign direct investment tripled between 2009, the year before Mr Aquino took office, and 2015 (see chart).

Mr Duterte thus took over a country that was doing very well economically. His campaign focused not on abstractions such as foreign investment and the proper strategic balance between China and America, but on quotidian concerns: crime, traffic, corruption. After admitting that economic policy was not his strong suit, he promised to "employ the economic minds of the country" and leave it to them. His advisers duly released a sensible ten-point plan for the economy: it emphasised macroeconomic stability, improved infrastructure, reduced red tape and a more straightforward and predictable system of land ownership. Mr Duterte has also promised to focus on rural development and tourism. Workers' advocates are pleased with his promise to crack down on "contractualisation", whereby employers hire labour from third-party suppliers on short-term contracts to avoid paying benefits. Internet in the Philippines is slow and expensive; Mr Duterte has warned the incumbent telecoms firms to improve service or face foreign competition.

Unfortunately, Mr Duterte's love of

lynching and his propensity to slander the mothers of foreign dignitaries are making investors nervous. This month the American Chamber of Commerce warned that the anti-drug campaign was calling into question the government's commitment to the rule of law. One financial adviser says that since Mr Duterte took over, investors are demanding a higher risk premium to hold Philippine assets. As Guenter Taus, who heads the European Chamber of Commerce in the Philippines, puts it, "A lot of people are hesitant to put their money into the Philippines at this point."

Mr Duterte's critics fear that the drug trade will only subside temporarily, but the damage done to democratic institutions will linger. The police freely admit that drug syndicates have taken advantage of Mr Duterte's green light to kill rivals or potential informants. Police impunity makes many nervous: one longtime foreign resident of Manila says he has started to hear fellow expats talk about leaving. He worries that an off-duty policeman could take issue with something he did, shoot him and get away scot-free. "This didn't happen under Aquino," he says. "You didn't feel there was a group of people who could kill someone and not go to jail."

Local businessmen worry that the president might simply denounce their firms as transgressors in some respect, without producing any evidence. Mr Duterte, after all, did something similar when he published a list of officials he accused of being drug dealers. By the same token, Mr Duterte singled out Roberto Ongpin, the chairman of an online-gambling company, as an example of a businessman with undue political influence. Shares in Mr Ongpin's company promptly plunged more than 50%; Mr Ongpin resigned a day later, and promised to sell his stake in the firm. "Everyone is scared," says one corporate bigwig. "None of the big business groups will stand up to him. They're all afraid their businesses will be taken away."

A similar uncertainty hangs over Mr Duterte's foreign policy. He seems to be inclined to strengthen the Philippines' ties with China, at the expense of its alliance with America. During the campaign he criticised his predecessor's frosty relations with China. The two governments are said to be preparing for bilateral talks—something that has not happened since 2013, when Mr Aquino's government took a territorial dispute with China to an international tribunal. Shortly after Mr Duterte took office, the tribunal ruled in the Philippines' favour, but he seems reluctant to press the point.

During the campaign Mr Duterte mused about the dispute with China over Scarborough Shoal, a rich fishing ground in the South China Sea, "Build me a train around Mindanao, build me a train from Manila to Bicol…I'll shut up." He also admitted that an anonymous Chinese donor had paid for some of his political ads. His reticence with China is all the more striking given his otherwise belligerent rhetoric and swaggering persona.

Of course, it is not clear that Mr Duterte will be able to strike a deal with China, or even that he will continue to pursue the diplomatic volte-face he seems to be contemplating. The optimistic view sees Mr Duterte as more bluster than substance. His chief of police claimed this week that the anti-drug campaign had reduced the supply of illegal drugs by 90%. That claim may allow him to declare victory and stir up some new furore, even as his advisers soldier on with the mundane business of government. Optimists speculate that if he follows through on his pledges to improve infrastructure and boost rural development, he might even leave the Philippines in a better condition than he found it.

The pessimistic view sees Mr Duterte continuing to lose friends and alienate people. He picks fights with America, with business, with the other branches of government. China exploits his weakness, increasing its military presence around Scarborough Shoal without building any railway lines in Mindanao. Investors stay away, and growth declines. The strongman ends up weakening his country. In the Philippines, sadly, that is a familiar story. ■

Correction: In a story on Chinese ties with Australia ("You can't buy trust", September 10th), we said that two firms, State Grid and Cheung Kong, had made a joint bid for a stake in Ausgrid, a power-distribution firm. In fact, the two firms made separate bids. Sorry.

North Korea's nuclear programme

Bangs and bucks

SEOUL

America is looking for new ways to curb the North's nuclear ambitions

EVER since North Korea first tested a nuclear bomb, in 2006, it has repeatedly thumbed its nose at those seeking to halt its nuclear programme. Three more tests followed, in 2009, 2013 and January this year. Sooner or later, North Korea was expected to conduct a fifth test.

It came sooner than expected: on September 9th, a mere eight months after the previous test. It was also much bigger, with an explosive yield roughly twice the previous one, at 10-12 kilotons. Both these facts are alarming. Three of the North's five tests have occurred under the leadership of Kim Jong Un (pictured), who came to power in 2011 on the death of his father, Kim Jong Il. Mr Kim has also conducted ballistic-missile tests at a frenzied pace: 22 so far this year. That is more than in the entire 18 years of his father's rule.

Another rib-tickler from the God-king

Mr Kim's boast in January that he had tested a hydrogen bomb is seen as bluster. Many of the missiles have fizzled after take-off. Still, one was successfully launched in August from a submarine, and three, fired simultaneously this month into the Sea of Japan (East Sea), all landed close together. And the latest test may well have been of a device small enough to be fitted onto a variety of missiles, as the regime proudly claimed.

North Korea, in short, is making much faster progress than many had hoped. Siegfried Hecker, an American nuclear scientist who has visited nuclear facilities in the North, says that, at the current rate, it may have the capacity to send a nuclear-tipped missile to the American mainland in as few as five years.

The UN Security Council swiftly denounced the latest test and began discussing new sanctions, six months after it imposed the "toughest ever" penalties on North Korea. Yet North Korea is not alone in thinking efforts to tighten sanctions are "laughable". It has proven adept at skirting them, thanks largely to China, its ally and biggest trading partner, which has enforced them only laxly. China opposes its neighbour's bomb-building, yet is reluctant to punish it seriously. Though China agreed to a ban on North Korea's exports of coal (which earned it $1 billion last year, a third of its total export revenue), anecdotal evidence suggests cargo inspections at its border have been patchy. The prices of imported goods in North Korea have remained stable, says Stephan Haggard of the Peterson Institute for International Economics, an American think-tank, suggesting that the latest round of sanctions has not led to a shortage of foreign currency.

A senior American official says that

North Korea's fifth test is a "game-changer": whereas past negotiations with China had focused on improving enforcement, there is now talk of "new measures altogether". Yet it is hard to imagine what more China would sign up to. It was China that insisted on the biggest loophole in the current regime, which allows exports of coal for "livelihood purposes". Moreover, China is cross about America's installation of a missile-defence system known as THAAD in South Korea. The system is intended to stop a nuclear attack from the North, but China sees it as a threat to its own nuclear weapons. Evan Medeiros, formerly a member of Barack Obama's National Security Council, says the battery's deployment is an indication of a "hardening of views" about the North. America, he says, is likely to start meting out stiffer punishments, even if that risks friction with China. Already Hillary Clinton, the Democratic candidate for president, has called for a "rethinking" of strategy on the North.

One step could be to expand unilateral sanctions that America adopted earlier this year, despite Chinese protests, that compel banks to freeze the assets of anyone doing business with North Korea in certain sectors. Remittances from North Koreans working abroad could be seized; by some estimates Pyongyang grabs as much as $2 billion of these a year. A former American official with long experience of North Korea suggests that even riskier options may be considered, such as cyber-attacks and information warfare. Hackers might push subversive messages onto North Korea's 3m-odd mobile phones. More vigorous efforts might also be made to recruit North Korean defectors.

Yet odious as Mr Kim's regime is, China is not alone in fearing the consequences of squeezing it. Sanctions, an American official said recently, are "designed to bring the North to its senses, not to its knees". ■

Mahathir Mohamad

Can a leopard change its spots?

KUALA LUMPUR

A former prime minister seeks to topple the party that brought him to power

FROM a cavernous office in a posh part of Kuala Lumpur, Malaysia's capital, Mahathir Mohamad is sowing dissent. "This government is really destroying the country," complains the cantankerous former prime minister, now 91 and still sporting his trademark safari suit. His 22 years in power came courtesy of UMNO, the party that has led Malaysia's ruling coalitions since independence in the 1950s. But Dr Mahathir has lost all faith in UMNO: it is time, he says, to overthrow it.

On September 8th Dr Mahathir became the founding chairman of a new political party which aims to do just that. The registration of Bersatu, which means "United" in Malay, is the latest step in a long campaign that Dr Mahathir has been waging against Najib Razak, Malaysia's scandal-hit prime minister. Even more strikingly, Dr Mahathir is seeking help from Anwar Ibrahim, his former deputy and now Malaysia's opposition leader, with whom he fell out in dramatic fashion in 1998. The two men met for the first time since then earlier this month.

Dr Mahathir resigned Malaysia's premiership in 2003, but has found it impossible to resist bashing his successors. In 2009 his carping helped to bring down the prime minister of the day, Abdullah Badawi, and usher Mr Najib into power. Since Mr Najib fumbled a general election three years ago, Dr Mahathir has campaigned for his removal too.

What looked like a personal vendetta became a national cause last year, when it emerged that billions had been looted from 1MDB, a state-owned investment firm. American investigators have indirectly accused Mr Najib of receiving hundreds of millions of dollars from the beleaguered company. Mr Najib admits to having banked whopping sums, but says the money was a gift from an unnamed Saudi royal, and that most of it has been returned.

A handshake that shook Malaysia

To widespread disgust, Mr Najib has managed to squelch dissent within UMNO, thereby hanging onto his job. Indeed, he appears more safely enthroned than ever. He has brushed aside official enquiries and replaced critics in the cabinet with flunkeys. Long fading in the cities, UMNO has whipped up support among rural voters who have only limited knowledge of the scandal—to whom it bleats that it is being picked on by foreigners and ethnic minorities. The next general election is not due until 2018, but some think Mr Najib may be feeling confident enough to call it next year.

Bersatu aims to field as many candidates as possible in the coming polls, and promises to target UMNO's seats in particular. At its heart are several former government officials whom Mr Najib has recently purged. They include Muhyiddin Yassin, a former deputy prime minister sacked last year after speaking out about the 1MDB affair, and Dr Mahathir's son, Mukhriz, who used to run Kedah, a small northern state. Dr Mahathir says he will not stand for parliament himself.

The former prime minister still has many fans in Malaysia, including among young ethnic Malays who have little memory of his time in power. But snagging more than a handful of seats will be tough. Malaysian elections heavily favour incumbent governments, which control most print media and can train vast resources on gerrymandered constituencies.

To stand any chance, Bersatu will need to cosy up to Malaysia's other opposition parties, which nearly toppled the government in 2013 but are now squabbling. That explains the courting of Mr Anwar, who was arrested shortly after Dr Mahathir sacked him, beaten by the chief of police and jailed for corruption and sodomy after a farcical trial, as Dr Mahathir stood by. Since last year Mr Anwar has been back in prison, convicted in a new sodomy case which looks just as suspect as the last. Dr Mahathir says he has "no problem with him now". On September 5th he made a surprise appearance at a court hearing which Mr Anwar had been allowed out of his cell to attend (pictured). The two men spoke privately for half an hour.

A pact of some sort seems likely, and is essential if Mr Najib's enemies are not to squander the next election through three- or four-cornered fights. But Malaysia's liberals would feel much happier if Dr Mahathir were more contrite about his part in the country's present predicament. He is probably right to insist that, on his watch, corruption was more limited than the lurid misdeeds of which the present leadership stands accused. But it was under his tenure that UMNO's leaders became so hard to dislodge, and Malaysia's courts so cowed.

One big worry for the opposition is how far Dr Mahathir's conversion goes. No one doubts his visceral disdain for Mr Najib. Less certain is whether, given a choice, he and his party would stop short of ousting UMNO altogether. Previous splinters from UMNO have eventually reattached themselves to the party. The government claims Dr Mahathir's real goal is to install his son as prime minister.

Dr Mahathir scoffs at all this. He admits he once thought that replacing the prime minister would be enough to put UMNO back on track. But he says Mr Najib has "totally corrupted" the party, which now "just functions to support him". He says there is no way Bersatu would consider a deal that leaves UMNO in government, even under a new leader. "The time for UMNO is over," he insists. ■

Water in India

A kink in the hose

DELHI

Shrinking supply and rising demand stir anger

THE toll was not shocking by Indian standards: two dead, nearly 100 vehicles torched and some 400 "miscreants" arrested. Nor did the violence that erupted on September 12th in Bangalore, capital of the southern state of Karnataka, last long. Within 48 hours police, their numbers boosted to 15,000 by reinforcements sped from across the country, had lifted a curfew. The prospering city of 8.5m, which happens to be India's high-tech Mecca, was soon back to its normal bustle.

But the issue that stoked the unrest is a perennial one: the division of the water of the Cauvery, an 800km- (500 mile-) long river that rises in Karnataka's western highlands and supplies rich farmland in the south of the state, as well as thirsty Bangalore itself, before tumbling east into the even thirstier state of Tamil Nadu. The two states have long tussled over rights to the Cauvery. The spark for the riots was a ruling by India's supreme court ordering Karnataka to open its reservoirs to relieve its downstream neighbour.

In a country as crowded, rural and dependent on fickle rains as India, troubles over water are to be expected. This dispute dates to 1892, when the British rulers of what is now Tamil Nadu extracted a promise from Mysore, a princely state that included most of what is now Karnataka, not to build dams on the Cauvery without their permission. A further treaty in 1924 underlined the principle of dividing the waters, with farmers downstream, where the river flows through densely populated regions and a highly fertile delta, getting the lion's share.

After independence, things got trickier. In 1974 Karnataka declared the 1924 treaty void. It had been imposed by imperialist Britain, the state argued, and farmers in Tamil Nadu had expanded land under irrigation at Karnataka's expense. In the four decades since, the two states have continued to wrangle even as their populations have grown, irrigation has extended further and cities such as Bangalore have swollen beyond recognition.

As politicians seeking rural votes in both states have fulminated, India's institutions have dithered. It took 17 years for a special tribunal to decide how to allocate the river's water and after it did, in 2007 (recognising the 1892 and 1924 treaties and again granting Tamil Nadu a bigger share), another six years followed before India's national government approved the deal. Even so, Karnataka has resisted applying the terms stipulated by the tribunal, including the creation of independent bodies to manage the river.

In times of good monsoon rains none of this has mattered much. But in years of shortage there has been trouble: in 1991 riots in Karnataka left 18 dead, most of them Tamil-speaking immigrants. In tit-for-tat moves, both states temporarily banned films in the "enemy" state's language.

This year the monsoon has been good nearly everywhere, with the glaring exception of the Cauvery basin. There, rainfall from June to mid-September was 23% below normal. Thanks to prior shortfalls, the amount of water in reservoirs is now 47% below the average level of the past decade. The biggest reservoir on the Cauvery stands at an alarming 31% of capacity. It is this dam that supplies Bangalore's drinking water, and it is this dwindling supply that Karnataka has been ordered to share.

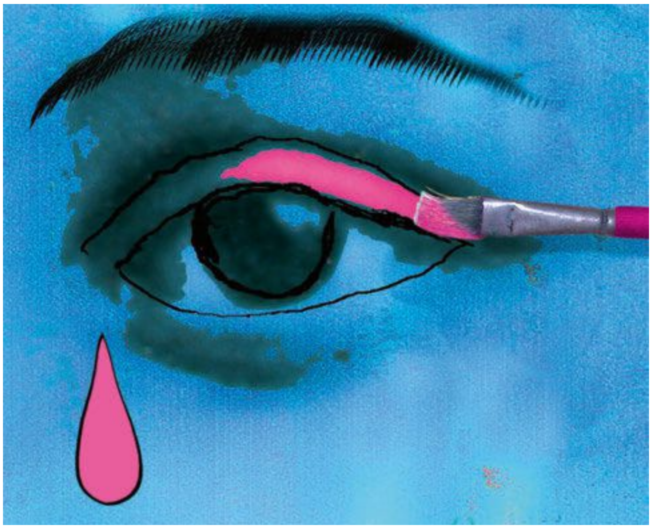
The supreme court's order does not just anger Karnataka's farmers, or the urban thugs who attacked Tamil Nadu-registered vehicles. It worries water experts, who note a convergence of alarming trends. One is a longer-term decline in rainfall in the region. Another is the failure of government institutions to monitor water supply or demand properly: the supreme court's ruling was based on guesswork, and even as the riot raged, a committee charged with delivering a more precise figure for how much water Karnataka owes its neighbour had to adjourn for lack of adequate data.

What statistics do show is that, with or without more water in the Cauvery, farmers in Tamil Nadu are sucking up too much of the stuff. Since the river-flow is unreliable, they have turned increasingly to pumps. Wells are growing steadily deeper as groundwater dries up, yet there has been no effort to persuade farmers to plant less thirsty crops. A third of the state's farmland is rice paddy. The reason is simple: obsessed with the farming vote and guided by fears of famine that are absurdly outdated for a country that is now a big net exporter of food, the government subsidises inputs such as power and fertiliser and guarantees farmers a plum price. In other words, while more rain would certainly be nice, what the Cauvery basin really needs is better government. ■

Fighting drought with fire

Banyan | Knife-edge lives

The effects of discrimination against transgender Asians are huge, if hidden



IT'S a matter of survival, one Indian transgender woman explains: never make eye contact with anyone potentially threatening. Yet in the warren of alleys, workshops and tenements that is Old Delhi, Mallika, with a defiant gleam, is having none of it. Until recently neighbours used to mock her and denounce her as a danger to their children. With police connivance, they pressured her to leave. But then SPACE, an NGO working with transgender people, took up her cause. It taught Mallika her rights, and engaged the whole area in discussions, warning neighbours as well as the police that discrimination against trans or "third gender" people was illegal, and that prosecutions and fines would follow. Now, Mallika says, her street has stopped mocking her, and she can go about "full of attitude". "It's them who don't dare look at me," she boasts.

There are 9m-9.5m transgender people in Asia and the Pacific, according to an estimate by Sam Winter of Curtin University in Australia, equivalent to 0.3% of the population. Others say the figure could be much higher. In some countries, in some respects, their life is getting better. Courts or governments in Bangladesh, India, Nepal and Pakistan have all recognised transgender people as a legal category and defended their rights to a certain extent. A group of Muslim clerics in Pakistan recently declared that it was *haram* to persecute them. Singapore has allowed hospitals to perform sex changes since the 1970s and formally legalised trans marriages (although not gay ones) in 1996.

Yet discrimination remains horrific. Transgender people are often the targets of violence, as a UNDP report highlighted last year. In China, the attackers are often relatives of the victim. One survey in Australia reported that three-fifths of trans men (ie, people who were deemed female at birth but now identify as male) suffer abuse from their partners. And in Fiji 40% of trans women have been raped.

School dropout rates are invariably high, with an 85% rate among trans girls at secondary school surveyed in Vietnam. There are problems of getting work even in relatively tolerant societies: in Hong Kong, trans people have an unemployment rate four times the territory's average. Trans people are often stressed and suffer high levels of mental ill-health, yet the stigma makes it hard for them to find help.

Some resort to selling sex, making them vulnerable to arrest, violence and disease. (Almost a quarter of trans sex workers surveyed in Port Moresby, the capital of Papua New Guinea, were HIV positive.) Trans people are often targeted for harassment by the authorities under public-nuisance and vagrancy laws, too. If jailed, they are often beaten up by fellow prisoners.

All this is despite long traditions of relative tolerance for transgender people in many Asian countries. In India, for instance, *hijras*, a category of men who dress as women, many of them castrated, have a certain standing. They are thought to derive spiritual power from their sexual status, and so can bestow blessings or curses. They sing and dance at weddings. Failure to pay for their (often unbidden) attendance risks misfortune.

Yet *hijras*, and their counterparts in other Asian societies, remain on society's margins. As Anjaann Joshii of SPACE puts it: "You can sing, dance, bless, curse—but that's it." The linguistic roots of the word *hijra* convey a sense of leaving one's tribe. Many *hijras* find life in a new community, usually called a *dera*, run by a guru-mother. Yet such protection comes at a cost. Three of the five *hijras* whom Banyan met in Old Delhi had been castrated. In modern practice, the surgical element of a sex change takes place at the very end of a careful process of counselling, hormone therapy and plastic surgery. But for many *hijras*, surgery would be too grand a term for the removal of the testicles and penis and the insertion of a silver pin into the urethra, with no anaesthetic but alcohol and marijuana.

Worse, many gurus are mafia bosses running rackets in defined territories. They pocket four-fifths of *hijras*' earnings. Any *hijra* setting up as a guru herself risks murder. And running away to another *dera*, even if to the far end of the country, will be reported back to the guru. It is, in effect, a system of bonded labour. And when you die, say the *hijras*, your guru won't even come to claim your corpse—unless there is gold to strip off it.

There is even less protection for those who sell sex or beg. Mehak, a trans beggar, faces violence in male shelters and is refused entry to female ones, so she sleeps in a park each night. Every few days, young thugs steal her paltry takings at knifepoint.

Justice delayed

Although the courts in some Asian countries are beginning to uphold transgender rights, laws are often confused and enforcement rare. In 2014 India's Supreme Court recognised a third gender, yet the British-era penal code still criminalises sexual activities against the "order of nature". The current draft of a bill working its way through Parliament enshrines transgender rights by mandating inclusive education for trans children, and special employment and health provisions. Yet it denies individuals the right to "self-identify"—ie, choose their own gender, a key desire. That would be left to "experts" instead. Trans activists are lobbying to have that changed.

Elsewhere in the region, the law is an ass. Several Pacific nations ban cross-dressing (another hand-me-down from prudish Victorians). Even in Thailand, supposedly tolerant of cross-dressing men, vagrancy laws are used to harass trans women. In Cambodia police conduct regular round-ups of trans women under public-safety laws and demand bribes to let them go. Many countries still define transsexualism as a mental illness. Trans people adopting children is illegal in most Asian countries. Activist groups like SPACE have made strides in a few short years. But they are baby steps for what needs to come. ■

Tibet

The plateau, unpacified

YUSHU

Tibetans' culture is changing, by their own will as well as by force

AN ELDERLY woman with long, grey plaits, wearing a traditional Tibetan apron of wool in colourful stripes, has spent her day weaving thread outside her home near the southern end of Qinghai Lake, high on the Tibetan plateau. She is among hundreds of thousands of Tibetan nomads who have been forced by the government in recent years to settle in newly built villages. She now lives in one of them with her extended family and two goats. Every few months one of her sons, a red-robed monk, visits from his monastery, a place so cut off from the world that he has never heard of Donald Trump. Her grandson, a 23-year-old with slick hair and a turquoise rain jacket, is more clued in. He is training to be a motorcycle mechanic in a nearby town. Theirs is a disorienting world of social transformation, sometimes resented, sometimes welcome.

Chinese and foreigners alike have long been fascinated by Tibet, romanticising its impoverished vastness as a haven of spirituality and tranquillity. Its brand of Buddhism is alluring to many Chinese—even, it is rumoured, to Peng Liyuan, the wife of China's president, Xi Jinping. Many Tibetans, however, see their world differently. It has been shattered by China's campaign to crush separatism and eradicate support for the Dalai Lama, their spiritual leader who fled to India after an uprising in 1959. The economic transformation of the rest of China and its cities' brash modernity are seductive, but frustratingly elusive.

The story of political repression in Tibet is a familiar one. The Dalai Lama accuses China's government of "cultural genocide", a fear echoed by a tour guide in Qinghai, one of five provinces across which most of the country's 6m Tibetans are scattered (the others are Gansu, Sichuan, Yunnan and the Tibet Autonomous Region, or TAR—see map). "We know what happened to the Jews," he says. "We are fighting for our existence." Less commonly told is the despair felt by many young Tibetans who feel shut out of China's boom. They are victims of Tibet's remote and forbidding topography as well as of racial prejudice and the party's anti-separatist zeal. They often cannot migrate to coastal factories, and few factories will come to them. Even fluent Mandarin speakers rarely find jobs outside their region.

Yet Tibetans are not cut off from the rapidly evolving culture of the rest of China, where more than 90% of the population is ethnic Han. Mayong Gasong Qiuding, a 26-year-old hotel worker in Yushu in southern Qinghai, listens to Mandarin, Tibetan and Western pop music in tandem. He can rattle off official slogans but can recite only short Tibetan prayers. His greatest wish, he says, is to go to the Maldives to see the sea. Tibetan women in Qinghai use skin-whitening products, following a widespread fashion among their Han counterparts; a teenager roller-skates anticlockwise around a Buddhist stupa, ignoring a cultural taboo. Young nomads frustrate their elders by forsaking locally-made black, yak-hair tents for cheaper, lighter canvas ones produced in far-off factories.

Han migration, encouraged by a splurge of spending on infrastructure, is hastening such change. Although Tibetans ▸▸

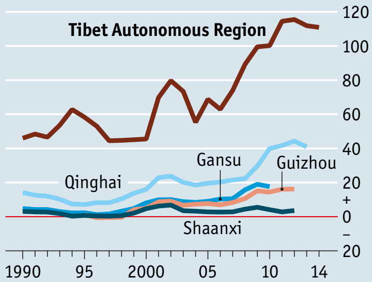
still make up 90% of the permanent population of the TAR, its capital Lhasa is now 22% Han, compared with 17% in 2000. Many Tibetans resent the influx. Yet they are far more likely to marry Han Chinese than are members of some of China's other ethnic groups. Around 10% of Tibetan households have at least one member who is non-Tibetan, according to a census in 2010. That compares with 1% of households among Uighurs, another ethnic minority whose members often chafe at rule by a Han-dominated government.

Core features of Tibetan culture are in flux. Monasteries, which long ago played a central role in Tibetan society, are losing whatever influence China has allowed them to retain. In recent years, some have been shut or ordered to reduce their populations (monks and nuns have often been at the forefront of separatist unrest). In July buildings at Larung Gar in Sichuan, a sprawling centre of Tibetan Buddhist learning, were destroyed and thousands of monks and nuns evicted. Three nuns have reportedly committed suicide since. Of the more than 140 Tibetans who have set fire to themselves since 2011 in protest against Chinese rule, many were spurred to do so by repressive measures at their own monastery or nunnery.

Cloistered life is threatened by social change, too. Families often used to send their second son to a monastery, a good source of schooling. Now all children receive nine years of free education. "The young think there are better things to do," says a monk at Rongwo monastery in Tongren, a town in Qinghai, who spends his days "praying, teaching [and] cleaning". New recruits often come from poorly educated rural families.

High handouts

Net subsidies, % of provincial GDP, China



Source: Andrew Fischer, International Institute of Social Studies, Erasmus University Rotterdam

Mind your language

In the TAR (which is closed to foreign journalists most of the time), the Tibetan language is under particular threat. Even nursery schools often teach entirely in Mandarin. A generation is now graduating from universities there who barely speak Tibetan. Some people have been arrested for continuing to teach in the language. In April last year Gonpo Tenzin, a singer, was sentenced to three-and-a-half years in prison for his album, "No New Year for Tibet", encouraging Tibetans to preserve their language and culture.

In some areas outside the TAR, however, the government is less hostile to Tibetan. Since the early 2000s, in much of Qinghai, the number of secondary schools that teach in Tibetan has risen, according to research there by Adrian Zenz of the European School of Culture and Theology at Korntal, Germany. The range of degrees taught in Tibetan has expanded too. Unlike elsewhere, someone who has studied mainly in Tibetan can still get a good job in Qinghai. A third of all government roles advertised there between 2011 and 2015 required the language. Despite this, many parents and students chose to be taught in Mandarin anyway, Mr Zenz found. They thought it would improve job prospects.

But work can be difficult to get, despite years of huge government aid that has helped to boost growth. Government subsidies for the TAR amounted to 111% of GDP in 2014 (see chart), according to Andrew Fischer of Erasmus University Rotterdam. Eleven airports serve Qinghai and the TAR—they will have three more by 2020. A 156-mile train line from Lhasa (population 560,000) to Shigatse (population 120,000), which was completed in 2014, cost 13.3 billion yuan ($2.16 billion). A second track to Lhasa is being laid from Sichuan, priced at 105 billion yuan.

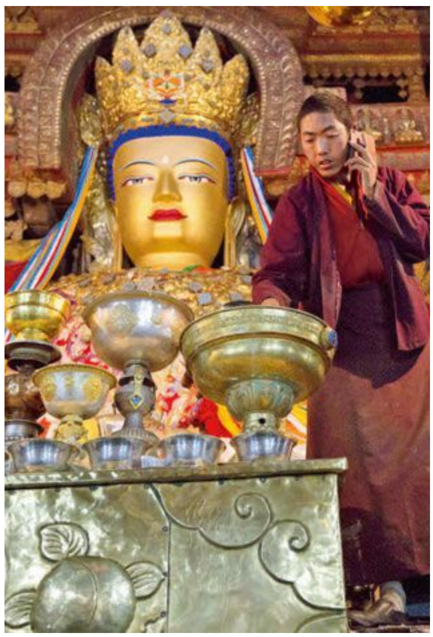
Better infrastructure has fuelled a tourism boom—domestic visitors to the TAR increased fivefold between 2007 and 2015—but most income flows to travel agents elsewhere. Tourists stay in Han-run hotels and largely eat in non-Tibetan restaurants (KFC opened its first Lhasa branch in March). Tibetan resentment at exclusion from tourism- and construction-related jobs was a big cause of rioting in Lhasa in 2008 that sparked plateau-wide protests. Other big money-spinners—hydropower and the extraction of minerals and timber—are controlled by state-owned firms that employ relatively few Tibetans. The Chinese name for Tibet, Xizang, means "western treasure house". But Tibetans have little share in its spoils. The rehousing of nomads has helped provide some with building jobs, but has also brought suffering: those relocated sometimes find it harder to make a living from herding.

In most other parts of China, villages have been rapidly emptying as people flock to work in cities. In the country as a whole, the agricultural population dropped from 65% to 48% as a share of the total between 2000 and 2010. On the plateau it fell only slightly, from 87% to 83%. It is hard for Tibetans to migrate to places where there are more opportunities. Police and employers treat them as potential troublemakers. In 2010 only about 1% of Tibetans had settled outside the plateau, says Ma Rong of Peking University. They cannot move abroad either. In 2012 Tibetans in the TAR had to surrender their passports (to prevent them joining the Dalai Lama); in parts of Qinghai officials went house-to-house confiscating them.

For university graduates, the prospects are somewhat better. There are few prospects for secure work in private firms on the plateau. But to help them, the government has been on a hiring spree since 2011. Almost all educated Tibetans now work for the state. A government job is a pretty good one: salaries have been rising fast. Few Tibetans see such work as traitorous to their cause or culture. But the government may not be able to keep providing enough jobs for graduates, especially if a slowdown in China's economy, which is crimping demand for commodities, has a knock-on effect on the plateau.

Many of the problems faced by Tibetans are common in traditional pastoral cultures as they modernise. But those of Tibetans are compounded by repression. They are only likely to increase when the Dalai Lama, now 81, dies. The central government will try to rig the selection of his successor, and no doubt persecute Tibetans who publicly object.

In private, officials say they are playing a waiting game: they expect the "Tibetan problem" to be more easily solved when he is gone. They are deluding themselves. They ignore his impact as a voice of moderation: he does not demand outright independence and he condemns violence. Tibetan culture may be under duress, but adoration of the Dalai Lama shows no sign of diminishing. Poverty, alienation and the loss of a beloved figurehead may prove an incendiary cocktail. ■



Karma chameleon

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Trump and the Alt-Right

Pepe and the stormtroopers

How Donald Trump ushered a hateful fringe movement into the mainstream

FIRST, an apology, or rather a regret: *The Economist* would prefer not to advertise the rantings of racists and cranks. Unfortunately, and somewhat astonishingly, the Alt-Right—the misleading name for a ragtag but consistently repulsive movement that hitherto has flourished only on the internet—has insinuated itself, unignorably, into American politics. That grim achievement points to the reverse sway now held by the margins, of both ideology and the media, over the mainstream. It also reflects the indiscriminate cynicism of Donald Trump's campaign.

Much of the Alt-Right's output will seem indecipherably weird to those unfamiliar with the darker penumbras of popular culture. It has its own iconography and vernacular, derived from message boards, video games and pornography. Its signature insult is "cuckservative", directed at Republicans supposedly emasculated by liberalism and money. Its favourite avatar is Pepe the frog, a cartoon-strip creature co-opted into offensive scenarios; one Pepe image was reposted this week by Donald Trump junior and Roger Stone, a leading Trumpista, the latest example of the candidate's supporters, and the man himself, circulating the Alt-Right's memes and hoax statistics. Its contribution to typography is the triple parentheses, placed around names to identify them as Jewish.

To most Americans, the purposes to which these gimmicks are put will seem as outlandish as the lexicon. One of the Alt-Right's pastimes is to intimidate adversaries with photoshopped pictures of concentration camps; a popular Alt-Right podcast is called "The Daily Shoah". To their defenders, such outrages are either justified by their shock value or valiantly transgressive pranks. Jokes about ovens, lampshades and gas chambers: what larks!

Jared Taylor of American Renaissance, an extremist website, dismisses these antics as "youthful rebellion". (Mr Taylor is also involved with the Council of Conservative Citizens, which Dylann Roof cited as an inspiration for his racist massacre in Charleston last year.) But the substance behind the sulphur can seem difficult to pin down. The term Alt-Right, reputedly coined in 2008 by Richard Spencer of the National Policy Institute, a bogus think-tank, encompasses views from libertarianism to paleoconservatism and onwards to the edges of pseudo-intellectual claptrap and the English language. Many Alt-Righters demonise Jews, but a few do not. Some, such as Brad Griffin of Occidental Dissent, another website, think "democracy can become a tool of oppression", and that monarchy or dictatorship might be better; others, such as Mr Taylor, disagree. Some are techno-futurists; others espouse a kind of agrarian nostalgia. Many mourn the Confederacy. Mr Griffin thinks that, even today, North and South should separate.

Editor's note: *The Economist* is conducting a survey of readers and subscribers. We are keen to find out more about your views of this newspaper. To take part please visit: **economist.com/survey16**

Yet from the quack ideologues to the out-and-proud neo-Nazis, some Alt-Right tenets are clear and constant. It repudiates feminism with misogynistic gusto. It embraces isolationism and protectionism. Above all, it champions white nationalism, or a neo-segregationist "race realism", giving apocalyptic warning of an impending "white genocide". Which, of course, is really just old-fashioned white supremacism in skimpy camouflage.

That is why the term Alt (short for "alternative") Right is misleading. Mr Taylor—whom Heidi Beirich of the Southern Poverty Law Centre, a watchdog, describes as the movement's "intellectual leader"—says it represents an alternative to "egalitarian orthodoxy and to neutered 'conservatives'." That characterisation elevates a racist fixation into a coherent platform. And, if the Alt-Right is not a viable political right, nor, in the scope of American history, is it really an alternative. Rather it is the latest iteration in an old, poisonous strain of American thought, albeit with new enemies, such as Muslims, enlisted alongside the old ones. "Fifty years ago these people were burning crosses," says Jonathan Greenblatt of the Anti-Defamation League, a venerable anti-racist group. "Today they're burning up Twitter."

Probably the best that can be said for the Alt-Right is that its mostly youngish adherents are naive: unaware that 21st-century America is not the worst society the world has ever conjured, and so prime exemplars of the pampered modernity they denounce. Their numbers are hard to gauge, since they mostly operate online and, as with most internet bullies, anonymously: like dissidents in the Soviet Union they must, Mr Taylor insists, for fear of punishment. As with pornographers, though, the web has let them forge like-minded communities and propagate their ideas, as well as harass critics and opponents (particularly those thought to be Jewish). Online, they have achieved sufficient density to warrant wider attention. There, too, they and Mr Trump found each other.

The association precedes Mr Trump's hiring as his campaign manager of Stephen Bannon, former boss of Breitbart News, a reactionary news website that Mr Bannon reportedly described as "the platform for the Alt-Right", and which has covered the movement favourably. Already Mr Trump had echoed the Alt-Right's views on Muslims, immigration, trade and, indeed, Vladimir Putin, whom Alt-Righters ludicrously admire for his supposed pursuit of Russia's national interest. Pressed about these shared prejudices (and tweets), Mr Trump has denied knowing what the Alt-Right is, even that it exists—unable, as usual, to disavow any support, however cretinous, or to apply a moral filter to his alliances or tactics.

This is not to say he created or leads it, much as Alt-Right activists lionise his strongman style. Mr Taylor says Mr Trump seems to have "nationalistic instincts that have led him to stumble onto an immigration policy that is congruent with Alt-Right ideas", but that "we are supporting him, not the reverse." Breitbart, Alt-Righters say, is merely Alt-Lite. The true relationship may be more a correlation than causal: Mr Trump's rise and the Alt-Right were both cultivated by the kamikaze anti-elitism of the Tea Party, rampant conspiracy theories and demographic shifts that disconcert some white Americans.

Unquestionably, however, Mr Trump has bestowed on this excrescence a scarcely dreamed-of prominence. As Hillary Clinton recently lamented, no previous major-party nominee has given America's paranoid fringe a "national megaphone". Many on the Alt-Right loved that speech: "it was great," says Mr Griffin. "She positioned us as the real opposition." Because of Mr Trump, the Alt-Right thinks it is on the verge of entering American politics as an equal-terms participant. "He is a bulldozer who is destroying our traditional enemy," says Mr Griffin. Mr Trump may not be Alt-Right himself, but "he doesn't have to be to advance our cause." ■

The campaigns

Heard on the trail

Blue-collar champion
"Hipster fries $16"
The Trump International Hotel in Washington, DC, opened this week.

Saving Private Ryan
"I'm not going to sit up here and do the tit-for-tat on what Donald said last night-...That is not my job. I'm not going to be the election year pundit."
Paul Ryan, House speaker, is done answering questions about Trump statements.

Friendship never ends
"We were friends long before this election. We will be friends long after this election."
Chelsea Clinton on Ivanka Trump. Politico

Sit, stay, roll over
"He's trainable."
Overheard at the Values Voter Summit discussing Donald Trump. Jonathan Martin of the New York Times via Twitter

Two-fingered salute
"When [the Iranians] circle our beautiful destroyers with their little boats, and they make gestures at our people that they shouldn't be allowed to make, they will be shot out of the water."
Donald Trump, campaigning in Pensacola, does not like rude gestures.

Hydrophobia
"You try telling Hillary Clinton she has to drink water."
A person in Mrs Clinton's "orbit" explains her dehydration. Politico

Secrets and lies
"Her vulnerability is not health, it's stealth."
David Axelrod, Barack Obama's chief campaign strategist, despairs. CNN

The nice guy
"I'm not in the name-calling business."
Republican Veep candidate, Mike Pence, won't admit that even David Duke, former grand wizard of the Ku Klux Klan, might be "deplorable". CNN

Special victims unit
"Deplorable lives matter."
Trump fan's sign at a rally in North Carolina at which a 69-year old female protester, with an oxygen tank, was punched. Washington Post

Man of style
"He had the taste not to go for the 10-foot version."
Barack Obama, campaigning in Philadelphia, commented on a Washington Post story that Donald Trump used funds from his charitable foundation to purchase a 6-foot portrait of himself.

Presidential health

Hillary-care

Mrs Clinton's pneumonia is serious, but candidates have endured far worse

FOR a candidate who may feel she is required to project strength in a way that male politicians are not, it is hard to imagine a worse time to swoon than at a memorial event for those killed on 9/11. Worse, Hillary Clinton kept news of her pneumonia from her own campaign and from voters for a couple of days. She has pledged to be more transparent in the future, a promise she has made before, and issued detailed medical records. Donald Trump, who is a master at feigning the kind of openness that he demands from others, submitted himself to a conversation with Dr Oz, a daytime TV host, who in turn promised not to ask Mr Trump anything "he doesn't want to have answered". Mr Trump's only medical note so far has come from a gastroenterologist, who later admitted it was scrawled in five minutes while a limousine waited downstairs.

Mrs Clinton's pneumonia may yet turn out to be trivial or serious for her campaign. What is clear is that it is barely a scratch compared with the maladies endured by previous candidates and presidents, beginning with George Washington's excruciating toothaches. Mr Trump and Mrs Clinton may have traded barbs about the extent to which the other is being open about their health, but these exchanges have been tame compared with the presidential election of 1800, when Jef- ▸▸

Blood pressure: 100/70

ferson's camp accused John Adams of having a "hideous hermaphroditical character" and Adams's lot spread a rumour that Jefferson was in fact dead.

For the combination of sheer agony and high secrecy, though, it is hard to beat the unfortunate Grover Cleveland. For four days at the beginning of his second term, notes Robert Dallek of Stanford University's outpost in Washington, DC, he disappeared to a yacht, where six surgeons cut out a portion of his cancerous upper jaw. The offending bits were removed through his mouth so as not to damage his moustache, which might alert the public.

During the 20th century, a ghastly illness was almost a presidential prerequisite. Woodrow Wilson suffered a stroke in his second term that his doctors concealed; Franklin Roosevelt's heart problems killed him while in office; John F. Kennedy's ailments could have filled an entire medical textbook, had they been disclosed. Richard Nixon's anguish during Watergate placed a large nuclear arsenal in the hands of a president who may temporarily have been of unsound mind. With a history like this, it is understandable that the president's health is subject to a formal bulletin, which is how we know that Barack Obama takes vitamin D supplements and chews nicotine gum (he also does aerobics and lifts weights), and why future historians will be able to pore over the results of George W. Bush's colonoscopies. Yet candidates are not required to do the same.

This seems like an easy thing to fix. But at what point ought such an examination to be carried out? If it were done after the party primaries, then a doctor might be obliged to disqualify a candidate who had already won a democratic mandate. If before, then should all 17 of the Republican contenders have been placed on the treadmill, turning the primary into a high-stakes version of *The Biggest Loser*? Better, perhaps, to accept that politicians—like humans—sometimes fall ill. ■

Income and poverty

Great again?

WASHINGTON, DC

Median incomes soared in 2015

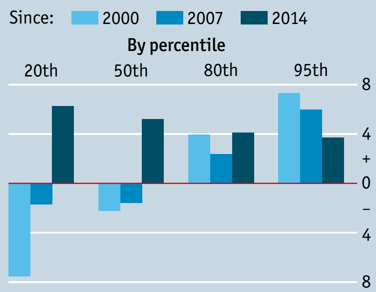
THE median real household income grew by a whacking 5.2%, or $2,800, in 2015, according to figures released on September 13th. A purring labour market accounts for the bulk of the rise: that year average weekly earnings in the private-sector grew by 2.4%, while the fraction of 25- to 54-year-olds employed rose by 0.7%. Low inflation also helped. Prices rose just 0.1% in 2015, down from 1.6% growth in 2014, primarily as a result of much cheaper petrol. Janet Yellen, chairman of the Federal Reserve, recently estimated that the average household saved $780 at the pump last year.

Bucking recent trends, the wallets of the poor and least-educated swelled the most. Income at the twentieth percentile (meaning the level at which exactly one-fifth of the population earns less) grew by over 6%. The average income of households headed by someone who left school before ninth grade—typically reached at age 14 or 15— grew a fulsome 12.5%, compared with just 3.2% growth in those headed by someone with a bachelor's degree or more. Just as the disadvantaged are usually the first to lose their jobs in a recession, they have been the last to benefit as the economy has recently closed in on full employment, argues Jared Bernstein, an economist at the Centre on Budget and Policy Priorities, a think-tank. That also helps to explain a fall in the poverty rate from 14.8% to 13.5%—the largest annual percentage-point drop in poverty since 1999.

Capital in the 21st century

United States household income, 2015

% change, real terms



Source: US Census Bureau

However, there is long way to go before recent rises in inequality are undone. Real incomes for low-and-middle earners are lower than before the financial crisis, and still further beneath where they were in 2000. For the richest, they are higher on both measures (see chart). Nonetheless, Americans' economic spirits are high. Since the start of 2015 consumer confidence has, on average, been higher than in any year since 2004. In the second quarter of 2016, real consumption per person grew at an annual pace of 3.6%. Brakes remain on economic growth: business investment is weak and productivity is falling. But workers and consumers are apparently yet to notice. ■

Playing at policing

Power of the county

MESA, ARIZONA

Riding along with Sheriff Joe Arpaio's posse of steely retirees

CONSERVATIVE voters have much at stake in this November's general elections, but few feel this as keenly as the members of the Maricopa County Sheriff's Posse. The posse is a 1,000-strong force of volunteers who buy their own police uniforms, guns and, in some cases, their own marked patrol cars. For more than 20 years members have served as unpaid auxiliaries for Sheriff Joe Arpaio, a law-and-order showman who styles himself "America's toughest sheriff".

Mr Arpaio, a gruff 84-year-old, won election as sheriff of Maricopa County—a sprawling, sun-baked tract of Arizona that includes the city of Phoenix and is home to nearly 4m people—in 1992, cruising to re-election five times. He is a frequent guest on conservative television and talk radio, earning fame for housing county prisoners in a "tent city" where temperatures have been known to reach 145F (63°C), for making inmates wear pink underwear and feeding them meals whose average cost is between 15 and 40 cents, and for establishing what he boasts are the "world's first-ever female and juvenile chain gangs".

Critics single him out for other reasons, notably federal court rulings finding that he ordered his deputies to conduct immigration sweeps and raids that unlawfully targeted people who appeared to be non-white or Hispanic. Mr Arpaio, a Republican, is running for re-election this November, and—unusually—has fallen behind his Democratic challenger in some opinion polls. His woes may not end on election day. A federal judge has recommended that the sheriff be prosecuted for criminal contempt for defying court orders to stop racially biased policing: charges that could conceivably end in jail time.

The ripples from this turbulence have reached the men and women of the sheriff's posse. These helpers are as much a part of Mr Arpaio's brand as his tents and chain gangs. Though the force dates back to Arizona's rural past, when locals would turn out to help the sheriff find lost travellers or hunt down scofflaws on horseback, Mr Arpaio is proud of expanding it into what he calls America's largest volunteer posse. In 2011 the sheriff assigned a five-member "cold-case posse", funded by donations from conservatives across the country, to investigate whether President Barack Obama faked evidence of his birth in America. Mr Arpaio announced his conclusion the following year: that a birth certificate released by the White House was a "computer-generated forgery". In early 2013, shortly after a mass shooting at Sandy Hook Elementary School, Connecticut, Mr Arpaio dispatched armed posse members to guard schools and invited Steven Seagal, an actor in action films, to help train them.

John Pawloski is the grandfatherly, silver-moustachoied commander of a nine-member posse in Dreamland Villa, a no-frills retirement community dating back to the 1950s, comprising some 3,100 bungalows built around a community club, swimming pools and shuffleboard courts, near the city of Mesa. Mr Pawloski moved to Arizona from Buffalo, New York, after 32 years as a fireman. The volunteer, who will turn 70 at his next birthday, spends about six or seven hours a week on patrol and another ten hours on "office work". He notes that people of his age "don't believe in a slap on the hand for beating someone up" nor do they believe that drug addiction means "you can do what you like."

Mr Pawloski's neighbours, who include retirees from the northeast, the Midwest and Canadian "snowbirds" who spend winters in Arizona, are not wealthy folk. But each year they dig deep for a fund-raising drive, whether buying new police radios at $6,000 a time, or a gleaming black and gold patrol car (the newest of the posse's three vehicles cost $40,000). Four of the posse's members live in Dreamland Villa, a quiet spot on a weekday afternoon, disturbed only by the thrum of a thousand air-conditioning units, and the purring of a lone golf cart carrying an old man in swimming trunks, still wet from the pool. Yet in his trim office, with its map of crime statistics on the wall, Mr Pawloski sees threats. Old people are trusting, he says and, to "the crooks", communities like his resemble "a nice, ripe apple" for the picking. The commander wears a beige uniform, identical to that of a sheriff's deputy except for his badge, a six-pointed badge bearing the sheriff's crest and the word "Posse".

Mr Pawloski is not a swaggering vigilante-type. A typical patrol might involve checking on empty houses whose owners are away, directing traffic after an accident, offering water or a lift to an old person walking in the sun (people with dementia often wander), consoling a crime-victim whose cash was nabbed from a purse left by an open door, or quizzing homeless people loitering on a local nature trail. Holidays can be busy: Mr Pawloski cites the Christmas-time theft of an inflatable camel from a bungalow porch. Citing his age and a bad hip, he does not carry a gun, and is at pains to note that he is not a sworn police officer but a civilian, who only has authority when a sheriff's deputy asks him to help.

Other commanders are more gung-ho. David Isho runs the Desert Foothills Sheriff's Posse, which has 16 members. He is a

More fun than golf

Qualified Armed Posseman (QAP), carrying a gun after special training topped up with an annual test at the sheriff's range, and drives his own marked patrol car (he bought it second-hand for $4,000). Mr Isho, 57, runs a company that makes gadgets for "preppers", as survivalists preparing for the possible collapse of Western civilisation are known, but still devotes 300 hours a month to the posse, mostly patrolling by night. Locals are very keen on Mr Arpaio, he says, and "see us as an extension of Joe."

The Carefree patrol

The Desert Foothills posse used to be twice as large, sighs Mr Isho, who moved to Arizona from Maryland. Several members left rather than undergo court-ordered training on making lawful stops and arrests—mandated for all sheriff's deputies and posse members after Mr Arpaio lost his racial-profiling case. The training was time-consuming, he says. Asked if some posse members simply disagreed with the court ruling, Mr Isho calls that possible, too, growling that the Obama government has pursued an "agenda" against Mr Arpaio. He expresses disbelief at claims of racial profiling by the sheriff's department during traffic patrols. In broiling-hot Arizona, Mr Isho scoffs, drivers favour such dark-tinted windows that "you can't tell who is in a car or not."

Mr Isho's patch includes such affluent towns as Carefree, which are, he says, "very safe". He works hard to make himself useful. His posse volunteers to transport prisoners to the county jail. It has helped deputies check ID cards at parties full of teenage drinkers. He recalls times when he has had to draw his gun, as when helping to check on an empty house by night, as a burglar alarm wailed. Still, there are limits. Not all professional deputies are "posse-friendly", he concedes. So-called "self-activating"—as when a posse member drives a patrol car with lights flashing and siren wailing, without direct orders to do so from a sheriff's deputy—is a serious no-no, which can see volunteers "booted" from the posse.

The looming elections worry Mr Isho. Though he believes the posse system would survive a change of sheriff, he fears that a new boss might reduce the volunteers' powers, "castrating the programme", as he puts it with some vehemence. The next sheriff might not feel that civilian volunteers should carry guns, and Mr Isho, for one, would not put on the uniform if he were not armed. A police uniform is a "magnet for trouble", he explains gravely.

Encountered at the headquarters of the Arizona Republican Party in Phoenix, Mr Arpaio agrees that he has built up the role of the posse. He is proud of sending members out on raids to help catch criminals. "I don't just send the posse out to rescue horses," he says. As it happens, Paul Penzone, a veteran Phoenix police detective trying to unseat Mr Arpaio as sheriff, and therefore running as a (rather shy) Democrat, says that he is a "huge fan" of the posse, which he would not disarm. "This is Arizona. This is a state with a lot of gun-owners," he notes tactfully.

Still, he would make changes. The posse does not reflect the diversity of the county, which is almost one-third Hispanic. He says he has too often seen the posse, in common with county chain gangs, deployed on high-visibility missions in the most affluent bits of the county, where Arpaio-voters are thickest on the ground. Mr Penzone would rather see extra patrols in public parks where children cannot play safely. Above all, he says: "I'm not going to send the posse to fly to Hawaii to investigate the president's birth certificate." ■

Election brief: The Supreme Court

About to tilt

NEW YORK

This election could determine the shape of the Court for a generation

"OUR country is going to be Venezuela," Donald Trump said over the summer, if Hillary Clinton gets to nominate Supreme Court justices. Her picks will be "so far left," Mr Trump said, that America will slide into socialism. For her part, Mrs Clinton says the Republican nominee's Supreme Court appointments would threaten the "future of our planet", among other things. Melodramatic campaigning is nothing new, and the Supreme Court is an issue every four years. But with Republicans in the Senate refusing to consider Barack Obama's choice of Merrick Garland to fill the late Antonin Scalia's seat—and the remaining eight justices divided and a bit flummoxed in the meantime—this go-round is different. Change is coming, in one direction or another.

Both camps say that the next president could appoint as many as four justices (Mr Trump once said five), including a replacement for the very conservative Mr Scalia. These predictions are a rather morbid nod to demographics: Ruth Bader Ginsburg, the longtime leader of the court's left wing, is 83. The slightly less liberal Stephen Breyer is 78, and Anthony Kennedy, sitting in the ideological middle of the bench, is 80. Each of the four most recent presidents has seated two justices, so having the chance to name four would give the next White House an outsize influence on the shape of American law for a generation. Yet even if these three jurists, along with their five younger colleagues, muster four more years in their robes and the number of vacancies stays at one, the next president will still help determine the shape of the Supreme Court for years.

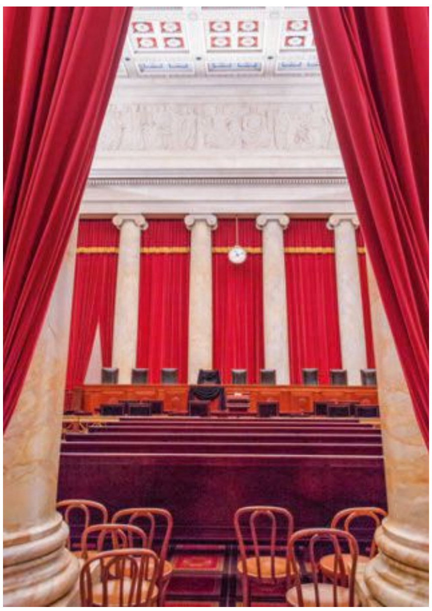
The octogenarians are showing few signs of slowing down. The cherubic Mr Kennedy is still prone to syrupy prose early in his ninth decade. Despite her bouts with cancer and an occasional nap during a State of the Union address, Mrs Ginsburg does 20 push-ups a day, pulls all-nighters and remains ruthless when peppering lawyers during oral arguments. If anything, she is gathering steam. Her fellow Bill Clinton appointee, Mr Breyer, spins impromptu hypotheticals that box advocates into their own illogic. His health scares? Just a few broken bones and a punctured lung suffered during bicycling accidents.

If they stay put for the next four years, the balance of the court will turn on the identity of the next appointee. There are three possibilities. The Senate may relent after November 8th and consider President Obama's nominee, Mr Garland. In 1996, when Mr Garland was nominated by Bill Clinton to sit on the District of Columbia Court of Appeals, he garnered praise from many Republicans. Senator Orrin Hatch called him "a fine nominee" whose "intelligence and…scholarship cannot be questioned". Charles Grassley, the judiciary committee chair who has stonewalled Mr Garland's high-court nomination for a record-breaking 184 days (Louis Brandeis, now in second place, had a 125-day wait in 1916), said two decades ago that the same man was "well-qualified". After a pledge of no hearings before the next president takes office, Mr Grassley is now hedging.

Filibust

But if Mr Garland continues to languish in no-man's-land, everything will hang on what happens in November. Mr Trump has released a list of deeply conservative judges whom he would consult when filling vacancies. If Mrs Clinton wins, her decision on whether to resubmit Mr Garland or tap her own nominee may depend on which party controls the Senate. If the Democrats retake the chamber, she may be emboldened to choose someone younger and more liberal.

Under current Senate rules, nobody too far to the left or the right will stand a chance. But since neither party seems likely to have the 60 votes necessary to stave off interminable filibusters, the days of that venerable (if diminished) Senate tradition may be numbered—at least with regard to Supreme Court appointments. Richard Primus, a law professor at the University of Michigan, notes that the filibuster "relies on a kind of comity and mutual regard" between Republicans and Democrats that "unfortunately…is just gone". The outgoing Senate minority leader, Harry Reid, agrees: "What choice would Democrats have? The country can't be run this way, where nothing gets done." Privately some Republican senators say that, whoever wins, the filibuster will go.



The big reveal

While they await a ninth colleague, some justices lament their existential bind. "Eight…is not a good number for a multi-member Court", Mrs Ginsburg said in May. That same month, Mr Breyer downplayed the worry, observing that the court is unanimous about half of the time and finds itself closely divided in only a handful of controversial cases. The chief justice, John Roberts, has doubled down on his penchant for narrow rulings that change as little as possible. Consensus, he says, is "not something I can do on my own".

On four occasions in the spring—including in controversial cases on union dues and deporting undocumented migrants—the justices' attempt to find common ground failed, resulting in a split of 4-to-4. A tie means that the ruling in the court below stands but has no value as a precedent and does not bind other courts. The justices also unanimously sent a case on religious freedom and contraception back to the lower courts with orders to encourage the parties to "resolve any outstanding issues". Like exasperated parents unwilling to adjudicate a settlement for warring children, the Supreme Court simply told the parties to work things out. This strategy of avoidance now passes for jurisprudence.

Aware of the Senate's inaction across the street, the justices seem stuck in standby mode. The docket for their upcoming term is looking wan, with fewer cases and less controversy than the court has seen in a long time. Contentious cases involving religious liberty and property rights have yet to be scheduled for oral argument, apparently in the hopes that a ninth justice might be seated in the spring.

The Supreme Court cannot fend off controversy for long, though. Fights over presidential power, administrative leeway, freedom of speech, abortion, race, religion and discrimination against gays and lesbians—to name a few—are sure to arrive at the justices' doorsteps. Mr Primus notes that with the court tottering on an ideological divide, it takes only one newcomer to push it left or right. "It's a hinge", he says, "on which the direction of constitutional law could turn for decades". ■

Lexington | Who's deplorable?

It is perilously hard to criticise Donald Trump without seeming to insult his voters

WHEN Hillary Clinton recently said that she puts half of Donald Trump's supporters in a "basket of deplorables", calling such folk "racist, sexist, homophobic, xenophobic, Islamophobic—you name it," her Republican rival gleefully dubbed this outburst "the single biggest mistake of the political season". Certainly, Mrs Clinton does seem to have broken a cardinal rule of politics: attack those running for office and their policies by all means, but never blame the voters. As Democrats scrambled to defend their nominee, they urged Americans to consider Mrs Clinton's remarks in context, and to study the kindlier thoughts that she shared next, about how she puts other Trump backers into a second "basket", unhappily filled with folk who feel the government and the economy has let them down, leaving them "just desperate for change" and deserving of understanding.

Alas, if Clinton allies think that sympathy will get them off the hook, they may be misjudging how much voters enjoy being called "desperate". Take a step back, and the whole Trump-bashing riff by Mrs Clinton, delivered on September 9th against the slightly unhelpful backdrop of a fund-raising gala in Manhattan, points to a dreadful dilemma that the Republican presidential nominee represents for the entire political establishment, meaning not just Mrs Clinton and the Democrats, but principled and thoughtful Republicans, and (at the risk of navel-gazing) journalists trying to report fairly on this election, too.

Put simply, Mr Trump's shtick should not be working. In part, that is because he has repeatedly made appeals to bigotry since entering the race more than a year ago. It is dismaying to see so many Americans either nod in agreement or pretend not to hear what he is really saying. To be still more blunt, to anyone with their critical faculties undimmed by partisan rage or calculation, he is obviously a con-man. He is a self-styled billionaire who will not reveal his tax returns and claims credit for acts of charity that others funded. He is a portly 70-year old who likes to insinuate that Mrs Clinton is in desperate health while declining to reveal his own medical records. Then there are his promises to restore American greatness if elected president, and to do this at head-spinning speed ("so fast", is a favourite Trump boast). In a country long used to fibbing candidates and policy platforms constructed out of flim-flam and magic money, Mr Trump breaks new ground. He is, arguably, the first major party nominee to realise that when working to please a crowd, there is no reason to offer policies that even try to make sense. Just start with the businessman's most famous promise, that he can make Mexico pay for a 2,000-mile border wall which will stop both illegal migration and drug smuggling: a nonsensical claim that reliably provokes roars of delight at Trump rallies, and chants of "Build That Wall".

Mrs Clinton has now revealed that two aspects of the Trump phenomenon appal her. She is disgusted by how many of her countrymen cheer his nastiest attacks on women and minorities—though she later expressed regret for saying that she thinks fully "half" his supporters are prejudiced. She also sorrows that so many are wretched enough to fall for his empty promises—though, during her riff in Manhattan about understanding Trump-fans, she correctly noted that those pinning their hopes on the Republican may not buy "everything that he says". Conventional wisdom holds that her disgust will hurt her more than her sorrow. The Trump campaign clearly agrees, rushing out TV ads for use in battleground states, replaying the "deplorables" line and accusing Mrs Clinton of "viciously demonising hard-working people like you." Conventional wisdom is wrong. Calling Trump-backers bigots is a gamble that could yet pay off. Greater peril lurks in telling them that they are marks for a con-man.

True, Mrs Clinton's analysis of Trumpian bigotry was horribly sweeping. At one point she called some Trump voters "irredeemable", which was inexcusable. She has further enraged conservatives: some Trump-backers struck defiant poses in hastily printed "Deplorables" T-shirts. But here is another truth, born of today's deep partisan divisions. Most Trump-backers were lost to Mrs Clinton long ago. If she is lucky, her words will help her, by firing up apathetic Democrats and by depressing the Trump vote among squeamish Republicans—among them moderate professionals and suburban women who do not want to back a bigot.

If the question from enraged Trump voters is: "Who are you calling racists?", Mrs Clinton may yet feel safe staring them down. The rest of the political establishment is more or less comfortable weighing that question, too: rival politicians, journalists and the fact-checkers employed by news outlets are all accustomed to assessing claims that a given policy will have an outsize impact on a particular race, ethnicity or religious group. Instead, it is another question from Trump-backers that makes political professionals squirm with discomfort, including many reporters and pundits. That question is: "Are you calling us stupid?" Social class makes that discomfort still sharper, as polls and campaign-trail interviews reveal how much of Mr Trump's support comes from blue-collar whites who hail him not just a candidate, but a champion who sees the world as they do and speaks for them, only with the authority of a fabulously successful businessman.

Fact-checking a peddler of dreams

In short, Mr Trump has brilliantly manoeuvred himself into a place in which fact-checking him sounds like snobbery. As his campaign manager, Kellyanne Conway, has bragged: "He's built a movement and people are proud to be a part of it. When you insult him, you insult them." That makes the presidential debates, set to start on September 26th, more important than ever: they are Mrs Clinton's best chance to challenge Mr Trump's nonsense directly, without seeming to scold his fans. The Republican is already trying to intimidate the moderators, growling that debates will be "rigged". Good. That means he knows what is at stake. ■

Also in this section

A Brazilian politician's fate

An end to power-broking

SÃO PAULO

The fall of the house of Cunha

EVEN by the eccentric standards of the Brazilian congress's lower house, it was an odd sight. On September 12th, shortly before midnight, Sílvio Costa of the Brazilian Labour Party clenched André Moura, a conservative deputy from the Christian Social Party, in a bear hug. By day, the two barely speak. Before Dilma Rousseff was suspended as president in May, pending impeachment over dodgy public accounts, Mr Costa led her government in the chamber. Mr Moura now does the same job for Michel Temer, Ms Rousseff's deputy-turned-foe who succeeded her last month. So what lay behind the warm embrace?

It was to celebrate fellow deputies' decision moments earlier, by 450 votes to ten, to expel a former speaker. Not long ago Eduardo Cunha (pictured), who belongs to Mr Temer's centrist Party of the Brazilian Democratic Movement (PMDB), seemed omnipotent. His is now the latest head to roll in a bribery scandal centred on Petrobras, a state-controlled oil giant. The affair has engulfed Ms Rousseff's Workers' Party (PT) and its allies, which once included the PMDB. On September 14th prosecutors denounced her predecessor and the PT's founder, Luiz Inácio Lula da Silva, as the linchpin of the scheme and charged him with bribe-taking (he denies wrongdoing). While less momentous than Ms Rousseff's fall, and less resonant than Lula's case, Mr Cunha's fate matters deeply for politics.

Unlike Ms Rousseff, who was never personally accused of graft, Mr Cunha already faces trial for corruption. In March the supreme court indicted the then-speaker, who enjoyed parliamentary immunity from prosecution in lower courts, on accusations of accepting $5m from a shipbuilder for a contract to sell oil rigs to Petrobras. He was also charged with keeping secret Swiss bank accounts to stash illicit gains. Then in May, the justices also suspended Mr Cunha from congress. But criminal proceedings in the supreme court take years. While that was grinding on, only fellow lawmakers could end his mandate.

On paper, it was lying about the Swiss accounts to a parliamentary inquiry into the Petrobras affair—one that Mr Cunha had set up at the urging of the centre-right opposition—that cost him his congressional seat. The political background was popular disgust at his endless pursuit of self-interest with no fear of consequences. Many think he accepted the impeachment motion against Ms Rousseff so as to deflect attention from his own legal woes.

To a lot of Brazilians, the speaker epitomised their country's flawed system. "Out with Cunha!" banners fluttered at anti-Rousseff rallies in the run-up to impeachment, and later at anti-Temer marches. As October's local elections loom, deputies once loyal to Mr Cunha—in particular the *centrão* (big centre) block of small parties and backbenchers which he nurtured—ignored this fury at their peril. In the end even his own PMDB ditched him.

In February 2015, when Mr Cunha trounced Ms Rousseff's candidate in the speakership contest, this outcome would have seemed fanciful. His crafty use of the rulebook prompted comparisons to Frank Underwood, the protagonist of "House of Cards", a political TV drama. There was talk of a presidential bid in 2018.

For a man who has lost his immunity along with his congressional seat, a more likely prospect is a spell behind bars. His two indictments, plus two related ongoing cases, should land with Sérgio Moro, the crusading federal judge who oversees the Petrobras probe. Mr Moro is already trying Mr Cunha's wife, Cláudia Cruz, for money-laundering. An arrest warrant for the couple, who deny wrongdoing, seems likely.

In practical terms, Mr Cunha's departure from congress is good news for Mr Temer, at least for now. With its patron gone, the *centrão* should cause fewer headaches for the new administration as it trims public spending, a necessary first step to reviving Brazil's economy and boosting Mr Temer's political ratings.

A mountain of dirt

But fear of jail could prompt Mr Cunha to work with Petrobras prosecutors in exchange for leniency. That could spell trouble for an unpopular government. Over a quarter-century, Mr Cunha is thought to have amassed dirt on politicians of all hues, maybe including Mr Temer's inner circle (though probably not the president himself, to whom he was never close.)

Mr Cunha denies rumours that his lawyers are probing such a deal. "Only criminals strike plea bargains," he told reporters, adding that he was no such thing. He pledged instead to publish a memoir telling how Ms Rousseff's impeachment was stitched up. Still, even a remote chance of a Cunha testimony will worry lawmakers. Mr Cunha may be gone but his shadow will haunt them. ■

Canada and peacekeeping

Helmets back on

OTTAWA

Something old and something blue

EVER since the country won global kudos for sending UN forces to calm the Suez crisis in 1957, Canadians have seen peacekeeping as a token of national virtue. Yet years have passed since more than a handful of them did that job. Before two fiascos in the mid-1990s, in Somalia and Rwanda, Canada took part in almost all UN missions. But today only 112 Canadian soldiers, police and military observers feature in a global total of 100,000 blue-helmets.

The Liberal government led by Justin Trudeau is vowing to improve on that and restore Canada's "compassionate and constructive role" in the world. But far from being universally welcomed at home, a decision to deploy up to 600 troops and 150 police and spend C$450m ($340m) over three years on international peace operations has proved divisive.

The Conservatives, who form the official opposition, say the Liberals are indulging in nostalgia: traditional peacekeeping no longer exists. They want a parliamentary vote if Canadians are put in harm's way. Others retort that peacekeeping was always perilous: more than 130 Canadians have died on UN missions. But doveish sorts fear a mere rebranding rather than a change from the more hawkish stance of the Conservatives, who when in power keenly backed NATO's combat mission in Afghanistan.

In both camps, some sense a political move to help Canada win a seat on the UN security council in 2021. The government has fuelled suspicion about its motives by refusing to say where the first peacekeepers will go: Mali seems likely. Mr Trudeau will probably name the destination when he addresses the UN later this month, but the response back home may still be less than irenic.

We've missed one another

Argentina's crime capital

A lethal location

ROSARIO

How an Argentine port became a gang war zone

IN AUGUST 2014 Enrique Bertini was arriving home in Echesortu, a middle-class neighbourhood of Rosario, Argentina's third-largest city. While he was preparing to park his pickup truck, Mariano, his 22-year-old son, came downstairs to open the garage from the inside. As soon as he opened the door two armed men drew up on a motorbike. One approached the car while the other forced his way into the garage. In the ensuing struggle Enrique was shot in the thigh and pelvis, and Mariano in the head, fatally. The older man still struggles to make sense of the attack: "This kind of tragedy robs you of your daily life. You lose your north and your south. You have to start all over again."

Rosario and its 1.3m residents have in recent years been notorious for a nasty reason: a crime rate that far exceeds that of other Argentine cities (see chart). The frequency of murders is nearly triple the national average; 137 people have been killed so far this year. On August 25th more than 20,000 Rosarinos marched through the streets demanding action. Half of residents surveyed in a recent poll said they or a family member had been a victim of crime in the past year.

Other parts of the country can be rough, too. Two-thirds of Argentines say they feel unsafe walking in their neighbourhoods or cities, according to Isonomía, a consultancy. Insecurity is top of the list of national worries, ahead of inflation, poverty and unemployment. But Rosario, located at one of the country's nodal points, stands out.

Santa Fe, the province which governs Rosario, is home to a network of 32 ports which export grain and soya around the world. That, of course, is an economic asset. But those commercial facilities make Rosario an ideal staging post for transporting drugs to Europe, typically via west Africa. Bolivian cocaine arrives in the city by road; Paraguayan marijuana by river. Most is shipped abroad, but some is distributed in Rosario's *villas*: poverty-stricken districts on the city's outskirts where local gangs fight an increasingly brutal turf war. "Problems used to be resolved through insults or a punchup—now it's with bullets," says Gerardo Bongiovanni, who runs Fundación Libertad, a think-tank.

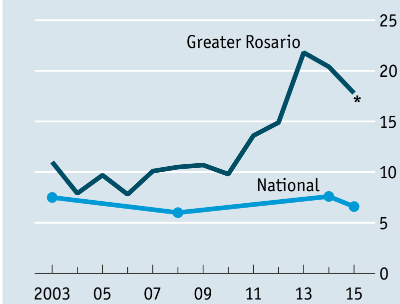
Rosario's poorest neighbourhoods are most affected, but the spread of violence to richer parts of the city has pushed the issue up the political agenda. Last year Sandro Procopio, a 48-year-old architect, was slain by a bullet outside a construction site. On August 15th Nahuel Ciarrocca, a 28-year-old athlete, was shot dead during a robbery. His murder proved to be a tipping point. "Nahuel awoke the collective conscience," says Diego Giuliano, president of Rosario council's security committee. After his death a protest named "Rosario Sangra" (Rosario bleeds) was organised through Facebook.

Santa Fe's provincial police force, tasked with protecting Rosario's residents, is clearly part of the problem rather than the solution. Many in its ranks are thought to have close links with the city's narco gangs. Around 200 are currently under federal investigation. The rot extends to the very top: last October the provincial chief of police was sentenced to six years in prison for involvement in drug trafficking. Miguel Lifschitz, Santa Fe's governor since December, has struggled to find a replacement: the current chief is the third to hold office so far this year.

The judiciary is in disarray. Provincial judges hand down lenient sentences and allow dangerous criminals out on proba- ▸▸

A dire distinction

Homicide rate per 100,000 population, Argentina



Sources: Ministry of Public Security; Santa Fe Public Ministry; press reports

*Estimate

tion. One reason for this is an overburdened prison system. A fifth of Santa Fe's 5,000 prisoners are held in police stations because prisons are too full to accept them. In the absence of state justice, some of Rosario's residents have taken the law into their own hands. After detaining a mugger in February, a group of vigilantes stripped him naked before calling the police. He was fortunate: an 18-year-old was lynched after robbing a pregnant woman in 2014.

Cristina Fernández de Kirchner's government did little to address the concerns over security. Since replacing her as president in December Mauricio Macri has tried to make up for lost time. In January he declared a national "security emergency" and authorised the air force to shoot down aircraft suspected of flying drugs across Argentina's borders. In April his government published the first crime statistics since 2008. The figures show that crime has increased by 10% since then. On August 30th Mr Macri announced a new national strategy to "defeat narcotrafficking". Although thin on detail, the plan aims to tackle both addiction and dealing.

Although likely to benefit from such measures, Santa Fe is recognised as requiring special treatment. On September 12th the national government agreed to post federal police officers to the province until the end of next year. This was last tried in 2014; it had some effect on the murder rate, as the chart shows, but the root problem was left unsolved. This time both federal and provincial forces will be co-ordinated by a "strategic committee" which will evaluate progress every three months. Some doubt whether the policy will work. Mr Bongiovanni reckons its ministers should seek foreign expertise. While Argentina's politicians scramble to find a lasting solution, Rosarinos will continue to watch their backs. ■

Bello | From comrade to caudillo

Daniel Ortega imposes a dictatorial dynasty in Nicaragua

IT MAY be small and poor, but Nicaragua claims a comparative advantage in poetry. Its people celebrated this year the centenary of the death of Rubén Darío, who is widely held to have brought Spanish-language verse into the modern age. "In Nicaragua everybody is considered to be a poet until he proves to the contrary," wrote Salman Rushdie, a British novelist. In a brief trip to the country during the Sandinista revolution, which toppled the dictatorship of the Somoza dynasty in 1979, he kept bumping into versifiers. They included one Daniel Ortega, whose most memorable ode was entitled "I never saw Managua when miniskirts were in fashion", written when he was in jail.

The Sandinista revolution inspired a generation of leftists around the world. Its Marxism was leavened by Christian liberation theology and an idealistic commitment to social justice. Never mind that it was backed with Fidel Castro's arms and know-how. To its fans, Sandinista Nicaragua was a saintly David which, having overthrown a brutal and corrupt regime, was then besieged by the Contras, armed by the United States Goliath. Thanks to the ebbing of the cold war and outside pressure, the revolution's most obvious legacy was to create a democracy—"although this was not its most passionate objective", as Sergio Ramírez, the Sandinista vice-president and an accomplished novelist, wrote in a memoir.

Mr Ortega, who had led the Sandinista government, lost an election in 1990. Back in the presidency since 2007, he has turned Nicaragua into an elected dictatorship and the Sandinista party into his personal fief. Only one among the six other surviving commanders of the revolution still supports him. Thanks to a pact with a corrupt Conservative leader, Mr Ortega took control of the supreme court and the electoral authority, and knocked down a ban on presidential re-election.

Now he has gone a step further. Earlier this year, the supreme court awarded control of the main opposition party, the Independent Liberals, to a surrogate of Mr Ortega. Because they rejected the change, last month 16 of the 26 opposition members in the 92-seat National Assembly were expelled, and Eduardo Montealegre, Mr Ortega's chief opponent, has been deprived of the Liberals' presidential candidacy.

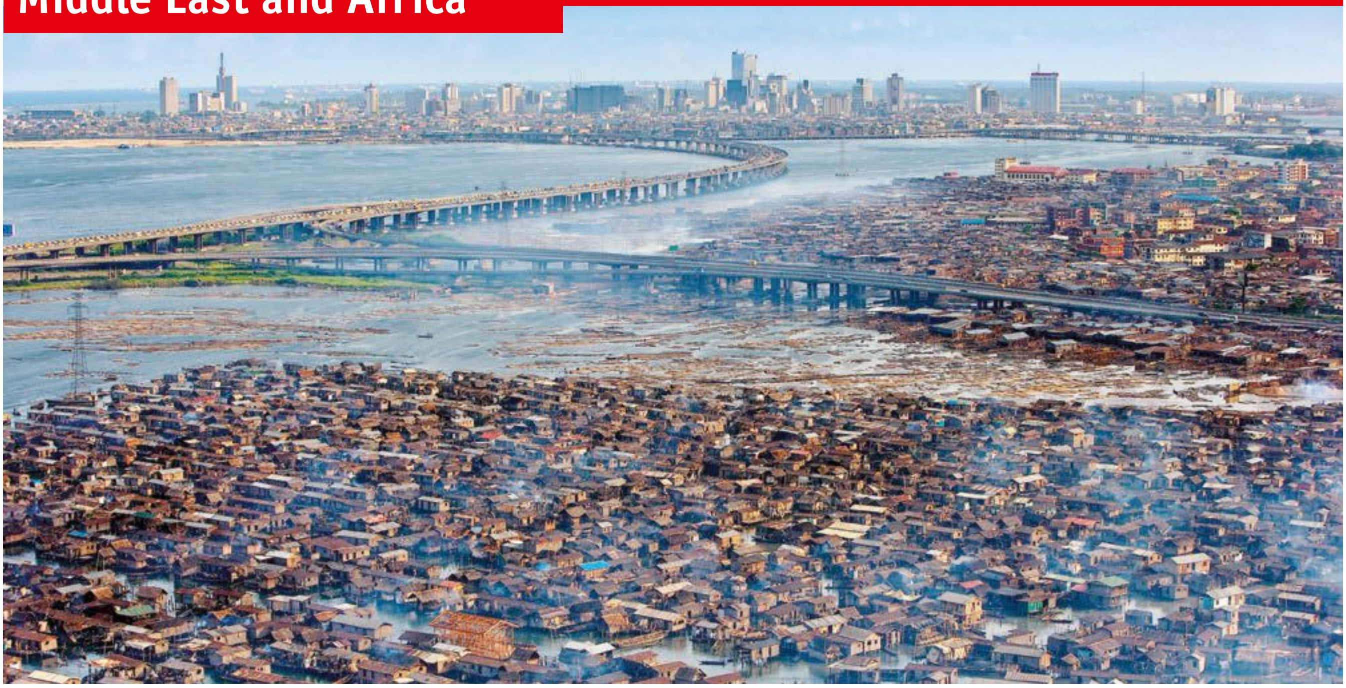
An election on November 6th, at which Mr Ortega will seek a third consecutive term, has thus become a charade. "We're moving to a single-party regime with ever fewer freedoms," Mr Ramírez told *Confidencial*, a website. Not even Nicolás Maduro, Venezuela's dictatorial president, has dared shut down his country's opposition in this manner.

Unlike Mr Maduro, Mr Ortega is popular. The former socialist's formula for success is based on crony capitalism. He set up social programmes financed at first with Venezuelan money and now with loans from multilateral banks. Nowadays he is friendly to the private sector and his economic policy is prudent. The revolution created an effective police force, so there is little violent crime. Though Mr Ortega still denounces American imperialism rhetorically, Nicaragua remains in the Central American Free-Trade Agreement with the United States, which has allowed it to create a large garment industry. For the past five years the economy has grown at an annual average rate of 5.2%.

Behind the scenes the government is run by Rosario Murillo, Mr Ortega's wife (who, inevitably, also claims to be a poet). They keep a tight hold on the country through Cuban-style Councils of Citizen Power, which have taken over some of the functions of elected municipal councils. By naming his wife as his running mate this year Mr Ortega, who is 70 and rumoured to be ill, signalled that he wants to keep power in the family. In this dynastic reflex, Mr Ortega resembles the Somozas. So, too, does the corruption surrounding a rather whimsical project for a transisthmian canal.

What is to be done about Mr Ortega's dictatorship? His coup against the opposition has received far less attention than Mr Maduro's disastrous authoritarianism in Venezuela. Ileana Ros-Lehtinen, a Republican congresswoman from Florida, has introduced a bill that would require the United States to vote against multilateral loans to Nicaragua. But even if this were implemented it would hurt Nicaraguans rather than the Ortegas—that is the lesson of the Cuban embargo.

Nicaragua is not Venezuela. It poses no threat to its neighbours, nor is it a humanitarian tragedy. The most useful thing outsiders can do is to denounce Mr Ortega's dictatorship publicly and succour, as best they can, its opponents. Nevertheless, November 6th will be a sad day for Latin American democracy.



African cities

Left behind

Also in this section

LAGOS

All over the world, people escape poverty by moving to cities. Why does this not work so well in Africa?

IT HAS been a week since Mohammed Sani moved to Lagos, Nigeria's commercial capital. A scrawny 22-year old from Kebbi State in the north-west, he came looking for work. He has certainly found it. At 5am each morning he fills ten 25-litre plastic jugs with water from a borehole, paying 20 naira for each one (about $0.05). He then pulls them around Yaba, his new neighbourhood, on a cart, selling each one for 25 naira. By sunset at 7pm he has perhaps 700 naira of profit ($2) in his pocket—not much in Lagos. "If I find a better business, I will try it," he says. But for the moment, this is as good at it gets.

Young people migrate to cities the world over looking for opportunity. Lagos, a sprawling lagoon city of some 21m people (pictured), is no exception. In dense traffic jams, young men weave through the cars selling plastic pouches of drinking water and tissues. On street corners they run generators and will charge your phone or photocopy a document. But most people never get much further than where they start: working extraordinarily hard for very little. Migrants to African cities are not worse off than they were in the countryside. If that were the case, they would move back. But urbanisation in Africa does not provide nearly as good a ladder out of poverty as it does elsewhere.

Africa is the world's fastest urbanising continent. In 1950, sub-Saharan Africa had no cities with populations of more than 1m. Today, it has around 50. By 2030, over half of the continent's population will live in cities, up from around a third now. The fastest growing metropolises, such as Nairobi, Kenya's capital, are expanding at rates of more than 4% per year. That is almost twice as fast as Houston, America's fastest-growing metropolis.

In most parts of the world, crowding people together allows businesses that wouldn't otherwise exist to thrive. In Africa this process seems not to work as well. According to one 2007 study of 90 developing countries, Africa is the only region where urbanisation is not correlated with poverty reduction. The World Bank says that African cities "cannot be characterised as economically dense, connected, and liveable. Instead, they are crowded, disconnected, and costly."

Not all African cities are the same, of course. Kigali, Rwanda's capital, is amazingly clean—the result of having a stern disciplinarian as a president. South Africa's big cities somewhat resemble American ones, only with shanty towns at the edges. What ties them together, and sets them apart from cities elsewhere in the world, according to the Brookings Institution, an American think-tank, is that urbanisation has not been driven by increasing agricultural productivity or by industrialisation. Instead, African cities are centres of consumption, where the rents extracted from natural resources are spent by the rich. This means that they have grown while failing to install the infrastructure that makes cities elsewhere work.

In Lagos, the island of Ikoyi, which was once a garden suburb for British colonial officers, is now a wealthy residential area lived in by oil executives and politicians, with a golf course. But if you want to live here, you must "bring your own infrastructure", jokes Giles Omezi, a Nigerian architect. Every private home or apartment block has not only its own security guards and generator, but its own borehole and water treatment system too. Even street lighting and roads can be privately provided: a thriving business in Lagos is reclaiming land on which to build fancy gated communities. The biggest of them, Eko Atlantic, is being built by a Lebanese family business, and stretches way out into the Atlantic Ocean.

The poor new arrivals, meanwhile, get by with almost nothing. Underneath a bridge that connects the Nigerian mainland to Lagos's islands, the slum of Makoko sprawls out into the lagoon—the houses at the edge are built on stilts in the water on foundations of rubbish. Once a fishing village, it is now home to anywhere ▸▸

between 80,000 and 300,000 people from all over west Africa. Water has to be brought in by cart. Sewage runs in the narrow streets. The police, when they come in at all, do so mostly to demand bribes. "The government doesn't want us to be here," says Isaac Dosugam, a resident who works as a driver. In 2012 part of the slum was indeed demolished by the authorities. But it has grown back since.

In Dar es Salaam, Tanzania's commercial capital, 28% of residents live at least three to a room; in Abidjan, Ivory Coast's economic hub, the figure is 50%. In Nairobi, around two-thirds of the population occupy 6% of the land. Slums bring with them filth and disease. Across sub-Saharan Africa, only 40% of urban residents have access to proper toilets—a figure that has not changed since 1990.

Formal jobs are rare. Most slum dwellers scrape by on informal work in their neighbourhoods. Those who can find jobs with salaries usually have long commutes to distant city centres. In Nairobi, the primary means of transport is on foot. In South Africa the average commute by bus is 74 minutes each way.

The unequal distribution of land doesn't just create slums: it also raises costs for businesses. In Lagos, expat tenants of new apartment blocks are typically expected to pay an entire year's rent in advance. For a modest three-bedroom apartment on Ikoyi, this might come to $65,000. And yet the city is littered with empty and half-finished buildings, even in the most fashionable districts. Much of it is government-owned: office blocks abandoned since Nigeria moved the capital from Lagos to Abuja in 1991. But privately owned land is often underdeveloped too, partly thanks to a law which requires any sale to have the governor's consent.

There is some progress. Traffic in Lagos is no longer as punishing as it once was, largely thanks to new roads built by Babatunde Fashola, the city's previous governor. A light-rail system—expensive, long delayed and badly planned—is almost complete. When it opens, Lagos will join Addis Ababa, Ethiopia's capital, which opened the first sub-Saharan metro system outside of South Africa last year. In cities such as Abidjan and Kampala expressways funded by tolls are easing bottlenecks and opening up agricultural land to developers, fuelling suburban construction booms.

But the trouble is that changes often seem to benefit the relatively rich most. Better roads typically do not reach into slums; new apartments are never targeted at people earning a few dollars a day. Politicians across Africa often seem to see the poor as a problem to be swept away, rather than people whose lives need improving. In Lagos, the state government frequently bulldozes slums, but almost never provides alternative housing. In Kigali, according to Human Rights Watch, a lobby group, unsightly street traders are often beaten up and imprisoned without trial.

Real change is possible, but politically hard. If Africa's wealthy paid more taxes, the extra cash could pay for infrastructure that would eventually benefit everybody. Clearer land registration would lower the cost and risk of building new homes. Devolution that made city leaders more accountable might produce planning policies that help the poor. Some of these reforms are being tried in a few African cities, but rarely all at once.

So most African city dwellers have to rely on their own hard work and enterprise. In his tiny shop on the Lagos mainland, Colin Alli is one of the luckier ones. He explains how he built up his bedsheets business from a single market stall. Now he employs four men. "Tomorrow I can be governor," he jokes. ■

Industry in Africa

In or out?

Should Africa concentrate on serving local or global markets?

DRIVE north-east from Lagos along a potholed highway lined by the shells of burned-out trucks and, as you approach Ibadan, you can see a few modern factories sprouting amid the rusted tin roofs. Most produce basic goods for local markets such as cigarettes or cardboard packaging, rather than the mobile phones, cars and computers that the government would like Nigeria to export. Yet a new report from the McKinsey Global Institute (MGI), a think-tank run by a consulting firm, suggests that these sorts of low-tech and local products represent a huge opportunity for industrialisation in Africa.

McKinsey reckons that Africa's manufacturing output could double over the coming decade—a remarkably ambitious forecast, since it would imply a trebling of the growth rate since 2000. Most of the gain is supposed to come from making things that would be sold in the region; many would replace imports. That there is scope for import-substitution is clear. Africa imports about a third of its processed food and drink, a far higher share than developing Asia or Latin America; much more of that could be made locally. It also buys in goods that do not travel well, such as cement (about 15% of local consumption comes in on ships), milk and cornflakes.

Yet the report also puts its finger on a reason why many African countries make so little: the paucity of big firms. The authors, who have constructed a new database of Africa's big companies, think that the continent has about 400 companies with annual revenues of more than $1 billion each and 700 with revenues of more than $500m. Those numbers may seem surprisingly high, even to seasoned investors on the continent—a reflection of how few African firms have graduated to international capital markets. But once one excludes South Africa, the biggest and most industrialised economy, the rest of the continent has some 60% fewer large firms relative to its economic output than places such as India and Brazil. This meshes with data gathered by others such as the International Growth Centre (IGC) at the London School of Economics. It found that Tanzania, for instance, had only 80 manufacturing firms employing more than 100 people and 695 employing 10-99 people.

Acha Leke, of McKinsey, says there is a case for African governments to adopt industrial policies such as supporting exporters and imposing tariffs on imports to pro-

Too many bottlenecks

mote local champions. He cites Nigeria's Dangote Cement, which prospered thanks to draconian restrictions on imports. It is doubtful, however, that ordinary Nigerians have benefited from Dangote's near-monopoly of their cement market (it at one point charged double the international price and still has a 68% market share). The IGC finds that few if any big African industrial exporters were built on such policies. Rather they emerged from a range of sources including foreign investments or local trading companies.

The MGI report will be widely read by African politicians and civil servants. They will no doubt start drafting new industrial policies aimed at picking winners and protecting them. That would be a shame. The main impediments to Africans making and selling more things are rapacious governments, potholed roads, inefficient ports and power lines without electricity. How about fixing those things instead? ■

Health care in Rwanda

An African trailblazer

MUSHISHIRO

How a poor country brought health insurance to 91% of the population

STANDING outside her home in central Rwanda, 19-year-old Ernestine Ituze describes falling ill last year. She was coughing violently and had lost her appetite. A community health worker diagnosed tuberculosis and Ituze was treated at the nearby government hospital, a few kilometres down a red dirt road lined with banana and mango trees. A few months later, she is healthy and continuing her studies to be an accountant.

Ituze's treatment cost her almost nothing under Rwanda's national health insurance programme, Mutuelles de Santé, which covers 81% of the population of 11m. Another 10% are covered by government insurance for soldiers and civil servants. At 91%, the proportion of Rwandans who have health insurance is by far the highest in Africa. Those lacking it are mostly hard-to-reach rural poor.

From the ashes of the 1994 genocide Rwanda has emerged as an unlikely public-health exemplar (see chart). In 1990 some 1,400 women died for every 100,000 live births. By 2015 that figure had dropped to 290, making the country one of just a few in Africa to meet the Millennium Development Goal of cutting it by three-quarters. Rwanda has made similar strides in curbing infectious diseases and infant mortality. Between 2000 and 2011, the mortality rate for tuberculosis fell from 48 per 100,000 cases to 12. The health-insurance programme was a big part of the reason for all these successes.

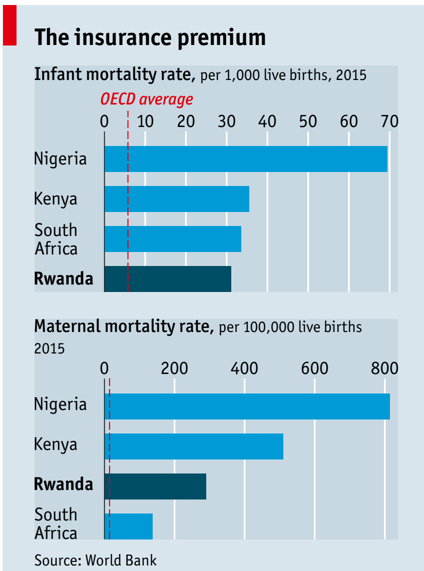
How did a poor, rural country (income per head is $690 a year) manage to create a reasonably effective national health system? Aid helped: half of Rwanda's health budget still comes from foreign donors. But similar volumes of aid have yielded scant results in other countries, so that cannot be the whole story.

Well-trained gatekeepers have made a big difference in Rwanda. Health workers from villages were trained to give primary care and refer people like Ituze to clinics for serious illness. Today there are 45,000 of these community health workers. They also encouraged people to join Mutuelles de Santé after a pilot plan was launched in 1999.

Jean-Olivier Schmidt of GIZ, the German government aid agency, helped advise Rwanda on setting up Mutuelles de Santé. At first, people asked if they would get their money back if they didn't get sick, he recalls. The programme eventually gained momentum; but then membership plateaued. To expand it further, Mutuelles de Santé started giving discounts to the poor. The most hard-up pay nothing for membership of the programme; wealthier folk pay about $8 a year. Visits to doctors then cost just 30 cents or so.

Foreign aid still covers 30-40% of Rwanda's overall budget. If donors were to become disillusioned with the country, its health services would struggle. But despite the government's autocratic record, there is not much sign of that; it's tough attitude towards corruption is one reason why the scheme is managed so well.

Rwanda shows how quickly a nation can improve its health by tackling the diseases of poverty, such as diarrhoea and pneumonia, that are widespread and deadly but cheap to treat. (A dose of oral rehydration salts for diarrhoea, for example, costs only a few cents.) The next challenge will be to treat chronic diseases such as cancer and heart disease, which grow more common as more people survive to old age. These will be much harder and costlier to deal with. However, their prevalence will be a sign that Rwanda has got the basics right.



Other African countries should take note, though few have. About one-third of Ghanaians are covered by a National Health Insurance Agency and community funds. Tanzania is trying to boost enrolment in its community health programme, with help from GiZ and the American and Swedish aid agencies. Coverage in rural areas is only about 20% of the population. Other countries including Mali and Senegal have introduced small health insurance programmes in the past 20 years. But they have failed to take off—probably because of a lack of government engagement, says Mr Schmidt. ■

Egypt's Nubians

Let them go home

ASWAN

The Nubians have given much to Egypt. Time for the country to give back

FROM a boat on the reservoir between Egypt's high and low dams in Aswan, a local Nubian man called Haj Omar points to where the ancient temple of Philae used to be. After the low dam was completed in 1902, the site was often flooded, so in the 1960s the temple was moved, piece by piece, to higher ground some 500 metres downriver. Mr Omar then points down, towards his grandfather's house—it was not moved and is now underwater.

The Nubian people are descended from an ancient African civilisation that once ruled a large empire, including all of Egypt for a brief period. For thousands of years they have lived on the banks of the Nile river, from southern Egypt to northern Sudan. Christianity penetrated the region in the 4th century, but most Nubians converted to Islam in the 15th and 16th centuries, as they came under the sway of Arab powers. When Sudan seceded from Egypt in 1956, the Nubian community was split between the two countries.

Despite efforts to save Nubian monuments, much of this rich history was washed away by the construction of a series of dams, culminating with the Aswan high dam in 1970. Most of the Nubian homeland now sits under the reservoir called Lake Nasser. Tens of thousands of Nubians were forcibly resettled. Ever since then they have been marginalised politically, socially and economically, says Maja

Janmyr of the University of Bergen.

The "Nubian issue", as it has come to be known in Egypt, simmered for decades without much pushback—in part, out of fear that dissent would lead to more repression. But a new generation of Nubians, emboldened by the Egyptian revolution of 2011, has become more assertive in pressing the group's demands, most notably their right to return to the area around their ancestral homeland.

In the mid-1960s some 50,000 Nubians were resettled around Kom Ombo, about 50km (30 miles) north of Aswan and some 25km away from the Nile. Their number has now swelled to almost 90,000, by one estimate. Few are satisfied with their new home. Villagers complain that the government-built houses are crumbling and that their compensation was inadequate. But their primary objection is over the location. "Take a Nubian away from the Nile and he cannot live," says Mr Omar.

A turning point appeared to come in 2014, when Egypt's post-revolution constitution was rewritten with the help of Haggag Oddoul, a respected Nubian novelist. The document represents the first official recognition of the Nubian homeland and establishes the goal of developing the area, with local input, within ten years. It also outlaws discrimination. Most importantly, article 236 sets out a Nubian right of return.

Yet little has changed. "Since the constitution was ratified, the state has been stalling," says Muhammad Azmy, head of the Public Nubian Union, a pressure group. A draft law on resettlement has "disappeared", he says. Meanwhile, a decree issued by Abdel-Fattah al-Sisi, the president, and approved by parliament in January, designates many of the villages to which Nubians hope to return as off-limits and under military control.

Officials fear that Nubians might one day demand independence. There is little sign of that, but the government is breeding resentment. Many Nubians now suspect article 236 was simply a way to gain their support for the constitution. Even Mr Oddoul is sceptical. "Egypt's corrupt institutions are working on preventing Nubians from returning so they can take over the Nubian land and use it [for] their benefit," he says.

Some believe there is an official effort, beginning with the displacements, to wipe out Nubian culture. The state has long cultivated a single, Arab identity. (The census, for example, does not record ethnic data.) As Nubians were uprooted and spread out, many lost touch with their heritage. Few who were born in cities such as Cairo, Alexandria and Suez speak the Nubian language. "If we don't return soon to our home, we will only be Nubians by colour," says Mr Oddoul, referring to Nubians' generally darker skin.

With the help of the internet, and through art and music, younger Nubians have tried to reinvigorate their culture. They have also organised protests and lawsuits against Mr Sisi's decree. This has led to tension between Nubians. "The older generation is more accommodating of the state," says Mr Azmy. They are also more patriotic: many supported the dam because they thought it would benefit Egypt. Yet they have little to show for their patriotism. The least the government could do is let Nubians go home. ■

Divorce in Iraq

Breaking up in Baghdad

A rise in divorces is blamed on Islamism, poverty and Turkish soap operas

BETWEEN 2004 and 2014 there was one divorce for every five Iraqi marriages. This is low by Western standards, but many Iraqis call it a crisis. Cases have been growing steadily since the compilation of proper statistics began in the year after the country's invasion by American-led forces and the overthrow of Saddam Hussein. The number of divorces exceeded 4,000 in both June and July this year—almost double the monthly average in 2004, according to the government. "The judiciary is working hard in order to prevent the occurrence of divorce cases because of its negative effects on society," said Saad al-Ibrahimi, a judge.

Some blame the spread of a stricter Islam over the past decade. Sex outside marriage has become even more taboo than it was. So more people are getting married simply in order to have sex. Under Muslim law, such quickie marriages can easily be dissolved. (Though many will not have been recorded in the first place, muddying the data.) More recently, the rise of Islamic State has deepened sectarian divisions, which may have led to the break-up of some of the country's many Sunni-Shia marriages. Poverty, too, plays a role. "A large number of divorces these days are men dropping their wives because they are not in a financial position to bear the burden of looking after a family," Bassam al Darraji, a Baghdad-based sociologist, told a Gulf newspaper. The official poverty rate in Iraq this year is more than 30%, up from 19% at the end of 2013.

Another factor, some sociologists argue, is Turkish soap operas, which are very popular and often depict men treating their wives romantically. They also portray women who dump bad husbands positively, not as wicked harlots. All this may be giving Iraqi women ideas. Two-thirds of divorces are initiated by women.

Some historical perspective is in order. Divorce was more common in Saddam Hussein's day, though the data are murky and often interrupted by wars. Under his mass-murdering regime, Iraqi family law was more secular and allowed women more freedom within the home. Many, it seems, would like that back again.

The Economist

SPECIAL REPORT

COMPANIES

September 17th 2016

The rise of the superstars

The rise of the superstars

A small group of giant companies—some old, some new—are once again dominating the global economy, says Adrian Wooldridge. Is that a good or a bad thing?

ON AUGUST 31ST 1910 Theodore Roosevelt delivered a fiery speech in Osawatomie, Kansas. The former president celebrated America's extraordinary new commercial power but also gave warning that America's industrial economy had been taken over by a handful of corporate giants that were generating unparalleled wealth for a small number of people and exercising growing control over American politics. Roosevelt cautioned that a country founded on the principle of equality of opportunity was in danger of becoming a land of corporate privilege, and pledged to do whatever he could to bring the new giants under control.

Roosevelt's speech sounds as fresh today as on the day he made it. A small number of giant companies are once again on the march, tightening their grip on global markets, merging with each other to get even bigger, and enjoying vast profits. As a proportion of GDP, American corporate profits are higher than they have been at any time since 1929. Apple, Google, Amazon and their peers dominate today's economy just as surely as US Steel, Standard Oil and Sears, Roebuck and Company dominated the economy of Roosevelt's day. Some of these modern giants are long-established stars that have reinvented themselves many times over. Some are brash newcomers from the emerging world. Some are high-tech wizards that are conjuring business empires out of noughts and ones. But all of them have learned how to combine the advantages of size with the virtues of entrepreneurialism. They are pulling ahead of their rivals in one area after another and building up powerful defences against competition, including enormous cash piles equivalent to 10% of GDP in America and as much as 47% in Japan.

In the 1980s and 1990s management gurus pointed to the "demise of size" as big companies seemed to be giving way to a much more entrepreneurial economy. Giants such as AT&T were broken up and state-owned firms were privatised. High-tech companies emerged from nowhere. Peter Drucker, a veteran management thinker, announced that "the *Fortune* 500 [list of the biggest American companies] is over." That chimed with the ideas of Ronald Coase, an academic who had argued in "The Nature of the Firm" (1937) that companies make sense only when they can pro-

CONTENTS

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vide the services concerned more cheaply than the market can.

But now size seems to matter again. The McKinsey Global Institute, the consultancy's research arm, calculates that 10% of the world's public companies generate 80% of all profits. Firms with more than $1 billion in annual revenue account for nearly 60% of total global revenues and 65% of market capitalisation.

The quest for size is producing a global bull market in mergers and acquisitions. In 1990 there were 11,500 M&A deals with a combined value equivalent to 2% of global GDP. In the years since 2008 the number has risen to 30,000 a year, worth about 3% of global GDP. America's antitrust authorities have recently given Anheuser-Busch InBev, one of the world's biggest drinks companies, the all-clear to buy SABMiller, another global drinks firm, for $107 billion.

The superstar effect is most visible in America, the world's most advanced economy. The share of nominal GDP generated by the *Fortune* 100 biggest American companies rose from about 33% of GDP in 1994 to 46% in 2013, and the *Fortune* 100's share of the revenues generated by the *Fortune* 500 went up from 57% to 63% over the same period. The number of listed companies in America nearly halved between 1997 and 2013, from 6,797 to 3,485, according to Gustavo Grullon of Rice University and two colleagues, reflecting the trend towards consolidation and growing size. Sales by the median listed public company are almost three times as big as they were 20 years ago. Profit margins have increased in direct proportion to the concentration of the market.

Startups, meanwhile, have found it harder to get off the ground. Robert Litan, of the Council on Foreign Relations, and

What goes around

America's corporate world alternates between competition and consolidation

ALFRED CHANDLER, AMERICA'S leading business historian, once summed up the history of American business after the civil war as "ten years of competition and 90 years of oligopoly". American business history has been defined by periods of intense competition followed by long periods of consolidation. The digital revolution is likely to repeat that pattern, but on a global scale.

The decades after the civil war saw bursts of intense competition in America's two leading industries, oil refining and steelmaking, in which the robber barons quickly built up giant companies. Economies of scale and technological innovation caused productivity to rise and prices to fall, allowing the robber barons to present consolidation as the friend of the common man.

The same thing happened in retailing and consumer products as a handful of companies established a lead over less agile competitors. Sears, Roebuck and Company set up a giant mail-order operation in Chicago that crushed smaller rivals, as did Procter & Gamble, Heinz, Philip Morris, Ford and General Motors as they worked to become national brands. The first Dow Jones Industrial Average index in 1896 included 12 leaders of the emerging industrial economy. Ten years later two-thirds of the names had changed. Another 20 years on, the list had begun to settle down and the same names appeared again and again.

J.P. Morgan, America's most powerful banker, increased the pace of consolidation by buying Carnegie Steel from Andrew Carnegie, combining it with dozens of smaller steel firms he already owned and selling the resulting company to the public at a valuation of $1.4 billion, a vast sum at the time. Naomi Lamoreaux, of Yale University, studied 93 such consolidations between 1895 and 1904 in detail and found that 72 of them created companies that controlled at least 40% of their industries, with 42 controlling at least 70%. These 42 included General Electric and American Tobacco, each of which dominated 90% of its respective market. The people who controlled these giant companies accumulated money and power on an unprecedented scale. The Senate was so full of them and their placemen that it was known as "the millionaires' club".

Americans grew uneasy as their faith in business clashed with their faith in equality of opportunity. The Sherman Act of 1890 tried to tackle monopolies. The 16th amendment to the American constitution introduced an income tax and the 17th decreed that US senators should be elected by popular vote, not by local legislatures.

But the backlash remained relatively mild. Periods of anti-corporate sentiment such as the 1910s and 1930s were invariably followed by periods of pro-corporate policies such as the 1920s and 1950s. And whichever way the wind blew, big companies showed a genius for turning federal regulations into barriers to entry. By 1930 most big companies were run by professional managers and owned by small shareholders. In the 1950s the giant corporations formed half a century earlier consolidated their position. Every industry was dominated by a small group of companies, such as Ford, General Motors and Chrysler in cars and General Electric and Westinghouse in electrical goods, all of which had a close relationship with government. In the 1980s deregulation and globalisation helped unpick corporate America. But the digital revolution seems likely to bring another about-turn.

Like the robber barons, the captains of new technology are replacing a freewheeling culture with the rule of a handful of corporations. They dominate a growing share of their respective industries. Google controls 69% of the world's search activity; Google and Apple between them provide the operating systems of 90% of smartphones. They both grab market share by cutting prices and eliminating competitors, often buying them.

Tech titans such as Mark Zuckerberg, Sergey Brin and Larry Page are expanding into more and more industries as technology transforms everything that it touches. Just as General Electric diversified into everything electrical, so Google is diversifying into everything to do with information.

Yet there are also striking differences between the big companies of yesterday and today. Today's giants have fewer assets and fewer roots in local society. They are also much more global. In the second Industrial Revolution politicians used the power of national governments to tame their corporations. Taming highly agile global corporations is much more difficult.

Ian Hathaway, of the Brookings Institution, note that the number of startups is lower than at any time since the late 1970s, and that more companies die than are born, pushing up their average age. American workers are also changing jobs and moving across state borders less often than at any time since the 1970s.

Competition is for losers

The superstar effect is particularly marked in the knowledge economy. In Silicon Valley a handful of giants are enjoying market shares and profit margins not seen since the robber barons in the late 19th century. "Competition is for losers," says Peter Thiel, a co-founder of PayPal, a payments system, and the first outside investor in Facebook. On Wall Street the five largest banks have increased their share of America's banking assets from 25% in 2000 to 45% today.

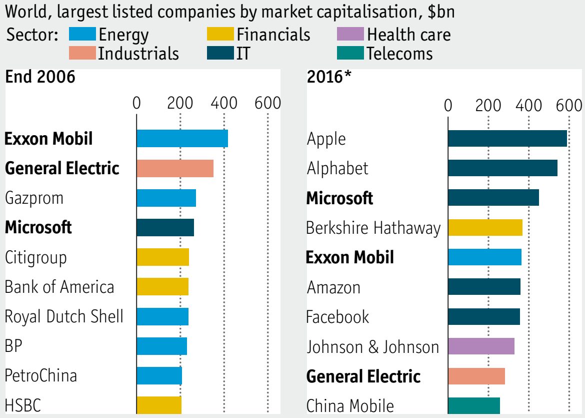
The picture in other rich countries is more varied. Whereas in Britain and South Korea the scale of consolidation has been similar to that in America, in continental Europe it has been much less pronounced. In a list of the world's top 100 companies by market capitalisation compiled by PWC, an accountancy firm, the number of continental European firms has declined from 19 in 2009 to 17 now. Still, in most of the world some consolidation is the rule. The OECD, a club of mostly rich countries, notes that firms with more than 250 employees account for the biggest share of value added in every country it monitors.

There are good reasons for thinking that the superstar effect will gather strength. Big and powerful companies force their rivals to bulk up in order to compete with them. They also oblige large numbers of lawyers, consultancies and other professional-services firms to become global to supply their needs. Digitisation reinforces the trend because digital companies can exploit network effects and operate across borders.

James Manyika, of the McKinsey Global Institute, points out that today's superstar companies are big in different ways from their predecessors. In the old days companies with large revenues and global footprints almost always had lots of assets and employees. Some superstar companies, such as Walmart and Exxon, still do. But digital companies with huge market valuations and market shares typically have few assets. In 1990 the top three carmakers in Detroit between them had nominal revenues of $250 billion, a market capitalisation of $36 billion and 1.2m employees. In 2014 the top three companies in Silicon Valley had revenues of $247 billion and a market capitalisation of over $1 trillion but just 137,000 employees.

A virtually new world

World, largest listed companies by market capitalisation, $bn



Source: Bloomberg

*At August 24th 2016

Yet even "old" big companies employ far fewer people than they used to. Exxon, the world's most successful oil company, has cut back its workforce from 150,000 in the 1960s to less than half that today, despite having merged with a giant rival, Mobil. At the same time "new" big companies are becoming more like the corporations of yore. High-tech companies often give senior jobs to former Washington insiders and employ armies of lobbyists. Many modern superstar companies park their money in offshore hideaways and devote considerable efforts to keeping down their tax bills. Superstar companies tend to excel at everything they do—including squeezing as much as they can out of government while paying the lowest possible taxes.

This special report will explain why the age of entrepreneurialism, ushered in by Britain's Margaret Thatcher and America's Ronald Reagan, is giving way to an age of corporate consolidation even as most companies are becoming more virtual. It will examine the forces behind the rise of the superstars and reveal their managerial secrets. And it will attempt to answer the question that Roosevelt raised in Osawatomie: are such corporate giants a cause for concern or for celebration? ■

Driving forces

Why giants thrive

The power of technology, globalisation and regulation

ACROSS NORTHERN CALIFORNIA the world's best-known tech companies are engaged in a construction contest. Facebook got off to an early start with a building of 430,000 square feet (40,000 square metres) that looks like a giant warehouse. It is said to be the largest open-plan office building in the world. Google is hard at work on a new headquarters to replace its Googleplex: a collection of movable glass buildings that can expand or contract as business requires. Samsung and Uber, too, are in construction mode. But the most ambitious builder is Apple, which is spending $5 billion on something that looks like a giant spaceship.

Silicon Valley is a very different place from what it was in the 1990s. Back then it was seen as the breeding ground of a new kind of capitalism—open-ended and freewheeling—and a new kind of business organisation—small, nimble and fluid. Companies popped up to solve specific problems and then disappeared. Nomadic professionals hopped from one company to another, knowing that their value lay in their skills rather than their willingness to wear the company collar. Today the valley has been thoroughly corporatised: a handful of winner-takes-most companies have taken over the world's most vibrant innovation centre, while the region's (admittedly numerous) startups compete to provide the big league with services or, if they are lucky, with their next acquisition.

Tech aristocracy

The most successful tech companies have achieved massive scale in just a couple of decades. Google processes 4 billion searches a day. The number of people who go on Facebook every month is much larger than the population of China. These companies have translated vast scale into market dominance and soaring revenues. The infrastructure of the information economy is increasingly controlled by a handful of companies: Amazon has almost one-third of the market for cloud computing, and its cloud-services division has grown by more than half over the past year. The world's three most valuable companies at present are all tech companies, and Amazon and Facebook come in at number six and seven (see chart, previous page).

In the industrial era companies used economies of scale to become giants: the more a steel company could produce, the more it could cut its unit costs, driving its smaller competitors to the wall, and the more money it had to invest in research, marketing and distribution. The same applied to any other physical product. Tech companies have reinvented this principle for the virtual age by shifting their attention from the supply side (production efficiencies) to the demand side (network effects). Just as the old industrial giants used technological innovations to reduce their costs, the new tech giants use technological innovations to expand their networks.

Powerful connections

Network effects have always been powerful engines of growth: not only is success self-reinforcing but it follows the law of increasing returns. Some network companies even pay people to become customers in order to achieve scale. And those effects become even more powerful if networks connect with each other to produce multi-sided versions. Most of the new tech firms are "platforms" that connect different groups of people and allow them to engage in mutually beneficial exchanges. Older tech companies too are putting increasing emphasis on the platform side of their business. Everyone wants to sit at the heart of a web of connected users and devices that are constantly opening up further opportunities for growth.

In some ways these tech giants look not so much like overgrown startups but more like traditional corporations. The open-plan offices and informal dress codes are still there, but their spirit is changing. They are investing more in traditional corporate functions such as sales and branding. This corporatisation is one reason for the companies' success. Startups are increasingly willing to sell themselves to established companies, which can provide everything from legal services to quality control. Whereas most startups are happy to get things right 90% of the time, customers demand perfect products.

The most powerful force behind the rise of the new giants is technology. But two other forces are pushing in the same direction: globalisation and regulation.

The biggest beneficiaries from the liberalisation of the global economy from 1980 onwards have been large multinational companies. An annual list of the world's top multinationals produced by the United Nations Conference on Trade and Development (UNCTAD) shows that, judged by measures such as sales and employment, such companies have all become substantially bigger since the mid-1990s. They have also become more and more complex. UNCTAD points out that the top 100 multinationals have an average of 20 holding companies each, often domiciled in low-tax jurisdictions, and more than 500 affiliates, operating in more than 50 countries.

Big companies have reaped enormous efficiencies by creating supply chains that stretch around the world and involve hundreds of partners, ranging from wholly owned subsidiaries to outside contractors. Companies are chopping their businesses into ever smaller chunks and placing those chunks in the most cost-effective locations. They are also forming ever more complicated alliances. Pankaj Ghemawat, of the Stern School of Business at New York University and the IESE Business School at Navarra, Spain, calculates that America's top 1,000 public companies now derive 40% of their revenue from alliances, compared with just 1% in 1980.

Multinationals are increasingly focusing on building up knowledge networks as well as production networks. Strategy&, the consulting arm of PWC, an accountancy giant, produces an annual survey of the world's 1,000 most innovative companies. It found that last year those that deployed 60% or more of their R&D spending abroad enjoyed significantly higher operating margins and return on assets, as well as faster growth in operating income, than their more domestically oriented competitors. Global companies can buy more innovation for their money by doing their R&D in cheaper places. They can also tap into local innovation resources. General Electric develops more than a quarter of its new health-care products in India to take advantage of the country's frugal innovation. Its revenues outside America have risen from $4.8 billion in 1980 to $65 billion in 2015.

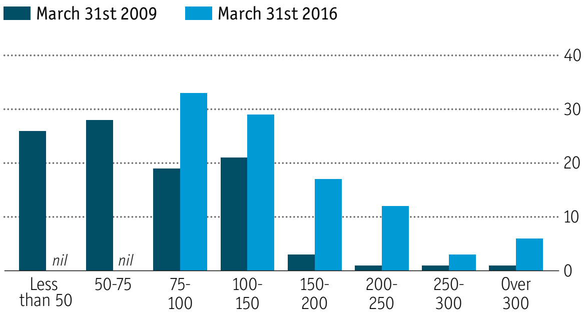
Such companies are starting to be challenged by non-Western competitors. *Fortune* magazine's annual list of the world's 500 biggest companies now features 156 emerging-market firms, compared with 18 in 1995. McKinsey predicts that by 2025 some 45% of the *Fortune* Global 500 will be based in emerging economies, which are now producing world-class companies with huge domestic markets and a determination to invest in innovation. China's Tencent rolled out its mobile text and messaging service, WeChat, to 700m customers in just a few years. At China's Huawei, which makes networking and telecommunications equipment, half the staff of 150,000 works in the research department. If Western companies are to survive against such competition, they have to become even bigger and more innovative.

Most of the new tech firms are "platforms" that connect different groups of people

The growth in regulation has also played into the hands of powerful incumbents. The collapse of Enron in 2001 arguably marked the end of the age of deregulation, which began in the late 1970s, and the beginning of re-regulation. The financial crisis of 2008 served to reinforce that trend. The 2002 Sarbanes-Oxley legislation that followed Enron's demise the previous year reshaped general corporate governance; the 2010 Affordable Care act re-engineered the health-care industry,

Shifting weight

Distribution of top 100 companies worldwide by market capitalisation, $bn



Source: PwC

which accounts for nearly a fifth of the American economy; and in the same year the Dodd-Frank act rejigged the financial-services industry.

Regulatory bodies have got bigger. Between 1995 and 2016 the budget of America's Securities and Exchange Commission increased from $300m to $1.6 billion. They have also become much more active. America's Department of Justice has used the Foreign Corrupt Practices act of 1977 to challenge companies that have engaged in questionable behaviour abroad. The average cost of a resolution under this act rose from $7.2m in 2005 to $157m in 2014.

Regulation inevitably imposes a disproportionate burden on smaller companies because compliance has a high fixed cost. Nicole and Mark Crain, of Lafayette College, calculate that the cost per employee of federal regulatory compliance is $10,585 for businesses with 19 or fewer employees but only $7,755 for companies with 500 or more. Younger companies also suffer more from regulation because they have less experience of dealing with it. Sarbanes-Oxley imposed a particularly heavy burden on smaller public companies. The share of non-executive directors' pay at smaller firms increased from $5.91 out of every $1,000 in sales before the legislation to $9.76 afterwards. The JOBS act of 2012 exempted small businesses from some of the more onerous requirements of the legislation, but the number of startups and IPOs in America remains at disappointingly low levels.

Too much to read

The complexity of the American system also serves to penalise small firms. The country's tax code runs to more than 3.4m words. The Dodd-Frank bill was 2,319 pages long. Big organisations can afford to employ experts who can work their way through these mountains of legislation; indeed, Dodd-Frank was quickly dubbed the "Lawyers' and Consultants' Full-Employment act". General Electric has 900 people working in its tax division. In 2010 it paid hardly any tax. Smaller companies have to spend money on outside lawyers and constantly worry about falling foul of one of the Inland Revenue Service's often contradictory rules.

Both Sarbanes-Oxley and Dodd-Frank set the tone for legislation in Britain and mainland Europe. China has also become more zealous about regulation, partly in order to pursue nationalist and political goals and partly because of worries about conflicts of interest. But different regions have adopted different approaches to regulation, exacerbating the problem of complexity. As a result, in many markets all but the most sophisticated companies can find it impossible to do business.

An additional problem that companies have to face today is disappointing economic growth, particularly in the West, at a time of widespread technological disruption. This paradox is easier for big companies to deal with. Martin Reeves, of BCG, a consultancy, argues that such companies are good at "buffering". They have enough spare resources to absorb external shocks or ride out temporary downturns, and they can move operations from one part of the world to another if the political climate turns against them. Mr Reeves points out that the mortality rate for all American listed companies over a five-year period is as high as 36%, but for companies worth more than $1 billion it is only half that.

Slow growth also plays into the hands of incumbents. Joseph Gruber and Steven Kamin, two economists at the Federal Reserve, find that big companies are increasingly saving more than they spend. Apple, for instance, holds about a quarter of its market capitalisation in cash. These huge cash piles allow leading companies to consolidate their position by buying startups and hoovering up the most talented employees.

The superstar companies, then, seem to have all the advantages. But two arguments are being advanced to suggest that their success may not last. One is that the forces speeding up creation, which currently work in their favour, could also speed up destruction. The other, more fundamental one is that these companies are merely holdouts against a general trend towards a more fluid economy. The next article will consider these objections. ■

Misconceptions

The new Methuselahs

Superstar companies are far more resilient than critics give them credit for

IN SEPTEMBER 2009 *Fast Company* magazine published a long article entitled "Nokia rocks the world". The Finnish company was the world's biggest mobile-phone maker, accounting for 40% of the global market and serving 1.1 billion users in 150 countries, the article pointed out. It had big plans to expand into other areas such as digital transactions, music and entertainment. "We will quickly become the world's biggest entertainment media network," a Nokia vice-president told the magazine.

It did not quite work out that way. Apple was already beginning to eat into Nokia's market with its smartphones. Nokia's digital dreams came to nothing. The company has become a shadow of its former self. Having sold its mobile-phone business to Microsoft, it now makes telecoms network equipment.

There are plenty of examples of corporate heroes becoming zeros: think of BlackBerry, Blockbuster, Borders and Barings, to name just four that begin with a "b". McKinsey notes that the average company's tenure on the S&P 500 list has fallen from 61 years in the 1958 to just 18 in 2011, and predicts that 75% of current S&P 500 companies will have disappeared by 2027. Ram Charan, a consultant, argues that the balance of power has shifted from defenders to attackers.

Incumbents have always had a tendency to grow fat and complacent. In an era of technological disruption, that can be lethal. New technology allows companies to come from nowhere (as Nokia once did) and turn entire markets upside down. Challengers can achieve scale faster than ever before. According to Bain, a consultancy, successful new companies reach *Fortune* 500 scale more than twice as fast as they did two decades ago.

They can also take on incumbents in completely new ways: Airbnb is competing with the big hotel chains without buying a single hotel.

Next in line for disruption, some say, are financial services and the car industry. Anthony Jenkins, a former chief executive of Barclays, a bank, worries that banking is about to experience an "Uber moment". Elon Musk, a founder of Tesla Motors, hopes to dismember the car industry (as well as colonise Mars).

It is perfectly possible that the consolidation described so far in this special report will prove temporary. But two things argue against it. First, a high degree of churn is compatible with winner-takes-most markets. Nokia and Motorola have been replaced by even bigger companies, not dozens of small ones. Venture capitalists are betting on continued consolidation, increasingly focusing on a handful of big companies such as Tesla. Sand Hill Road, the home of Silicon Valley's venture capitalists, echoes with talk of "decacorns" and "hyperscaling".

Second, today's tech giants have a good chance of making it into old age. They have built a formidable array of defences against their rivals. Most obviously, they are making products that complement each other. Apple's customers usually buy an entire suite of its gadgets because they are designed to work together. The tech giants are also continuously buying up smaller companies. In 2012 Facebook acquired Instagram for $1 billion, which works out at $30 for each of the service's 33m users. In 2014 Facebook bought WhatsApp for $22 billion, or $49 for each of the 450m users. This year Microsoft spent $26.2 billion on LinkedIn, or $60.5 for each of the 433m users. Companies that a decade ago might have gone public, such as Nest, a company that makes remote-control gadgets for the home, and Waze, a mapping service, are now being gobbled up by established giants.

Buying up smaller companies is usually part of a wider strategy: investing in their proprietary technologies. The tech giants climbed to the top of the pile because they were significantly better than their rivals at what they did. Amazon, for example, offered a choice of millions of books when local booksellers had just thousands. Their success provided them with piles of cash that they could invest in improving their own ideas and protecting them with armies of lawyers, and buying other people's ideas in the market. Google purchased Motorola Mobility for $12.5 billion in order to acquire the company's portfolio of patents. These tech giants relentlessly extend their businesses into adjacent areas: thus Amazon expanded from books and retailing generally into internet servers, and Google is expanding into everything to do with information.

In praise of asymmetries

Derek Kennedy, of BCG, a consultancy, says that one of the tech companies' most powerful defences in the long term will be their ability to combine "asymmetries of information" with "asymmetries of execution". These companies have unmatched stores of information, as well as an unmatched ability to use that information to reshape their existing businesses or create new ones. Not only do they know what you want before you know yourself but they can also deliver it to you. Companies can use these combined asymmetries to shift into new areas.

The rise of the internet of things (IOT) will give a powerful push to consolidation. Gartner, a research firm, predicts that the number of products connected to the internet will increase from 6.4 billion today to 21 billion by 2020 as companies discover the power of software. The process has already begun. Coca-Cola uses microchips to track the whereabouts of its bottles. Tesla improved its cars' uphill starts by transmitting a software update. General Electric thinks that the IOT will be the biggest revolution of the coming decades.

The increasing convergence of hardware and software lets companies establish much closer relations with their customers. They can gather up-to-the-minute information on the response to their products and use it to make improvements. They can tailor products to the needs of individual customers. Sonos, a maker of music systems, produces speakers that can tune themselves to the acoustic qualities of the room they are placed in. They can sort out problems before they arise. Diebold monitors its cash machines for signs of trouble, either fixing problems remotely by means of a software patch or sending a technician. They can also branch out into delivering services. John Deere, a maker of heavy machinery, is building sensors for tractors that can receive data on weather and soil conditions, enabling farmers to make more informed decisions on the use of their land.

Older companies such as GE and Caterpillar may well have a fight on their hands with born-digital companies such as Google and Amazon that try to extend their empires into the physical world. But the overall effect will be consolidation. Only companies that can afford to make substantial investments in both the physical and virtual worlds will prosper. And once companies have established strong relationships with their customers, they will have a good chance of keeping them regardless of price. The more that things are connected to each other and to the companies in charge of the networks that control them, the harder it will be for insurgents to get a foothold in the market.

A symbiotic relationship

Most management gurus have a Manichean view of the relationship between big companies and startups: the more you have of one, the less you have of the other. They also add an evolutionary twist: the more advanced a society becomes, the better small organisations will do in relation to big ones. Gerald Davis, of the University of Michigan's Ross School of Business, has just published a new book, "The Vanishing American Corporation", in which he points out that the classic argument for the existence of corporations—that the cost of doing things through them is lower than through the market—has lost its force because advances in technology (of the sort that Silicon Valley has pioneered) have slashed the cost of doing things through the market.

Likewise, he says, limited-liability companies replaced other corporate forms because firms in capital-intensive industries such as steel needed to raise a lot of capital, but software companies typically do not need to raise much money. Mr Davis argues that in future companies are likely to become much more fluid: entrepreneurs can raise money from Kickstarter, rent employees from Upwork, computer power from Amazon cloud and tools from TechShop, register their companies in Liberia and still reach a global audience thanks to cloud computing. There are also ever more ways of organising co-operation; Wikipedia has already produced the world's biggest encyclopaedia by using volunteers. "The Web and the smartphone allow pervasive markets and spontaneous collaborations at minimal cost. They make institutions like the modern corporation increasingly unsustainable," he explains.

RocketSpace, which makes its living by looking after startups, at first sight looks like an example of what Mr Davis had in mind. Its basic business is to sell space in its nine floors of offices in the heart of San Francisco, though it does a lot more than that. Starting a company can be lonely as well as gruelling, and working in RocketSpace provides you with an instant network and access to good advice. The company has been so successful that it turns away 90% of companies that apply for accommodation. As a result, being admitted provides instant cachet (former occupants include Uber and Spotify).

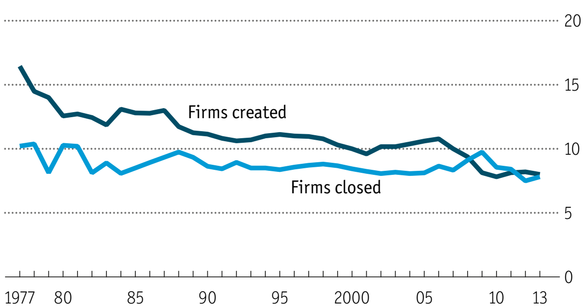
But look again, and a more complicated picture emerges. RocketSpace is increasingly acting as a middleman between startups and big companies. The IPO market has shrunk into insignificance; about 90% of today's successful startups "exit" by selling themselves to an established company. RocketSpace makes that easier by introducing them to the right partners. Big companies outside the tech industry, in turn, benefit from RocketSpace helping them understand the tech world.

The story of RocketSpace suggests that big and small organisations have a symbiotic relationship. Duncan Logan, RocketSpace's founder, argues that corporations are, in effect, outsourcing some of their tech R&D to the startup world. This is true not only of non-tech companies that do not understand the tech world but also of big tech companies that do some of their R&D in-house but leave some of it to the market to get the best of both worlds. Big companies have much to gain from contracting out their R&D to startups. They can make lots of different bets without involving their corporate bureaucracies. But startups also have a lot to gain by selling themselves to an established company that can provide stability, reliability and predictability, all of which can be hard to come by in the tech world. Big companies have phalanxes of lawyers to protect intellectual property, bureaucrats to make sure that the t's are crossed and the i's dotted, and slick marketing machines.

Mr Davis is right that it is getting easier to put together a company from a variety of components, but he is wrong to conclude that big companies are in retreat. The "virtualisation" of some sectors of the economy and the "corporatisation" of others are going hand in hand. Superstar companies try to keep their costs under control by contracting out any functions they regard as non-core. Startups try to reach global markets with the help of platforms such as eBay and Alibaba. The upshot is the development of a multi-tiered economy. The commanding heights of the global economy may be dominated by familiar companies: a premier league of superstars that constantly jostle to avoid relegation, and a first division of less stellar performers that struggle to be promoted. But the lower rungs are studded with large numbers of Mr Davis's pop-up companies.

If corporatisation and virtualisation can coexist, two of the basic tenets of modern management theory need to be rethought. The first is that corporate man (and woman) is a thing of the past, and that the only way to succeed in business is to turn yourself into an entrepreneur. The reality is more nuanced. Big companies are certainly cutting back on long-term employees. Dan Kaminsky, chief scientist and a co-founder of White Ops, one of RocketSpace's startups, recalls that, in a previous corporate job, he filled out a form in which a "mid-career worker" was defined as someone who had been in the same post for two

The wheels of corporate life
US firms created and closed, % of total



Source: CEA

or three years. And employment patterns are becoming much more varied. Lawrence Katz, of Harvard, and Alan Krueger, of Princeton, calculate that the proportion of American workers engaged in "alternative work arrangements" (working as freelancers, temporary contractors and the like) increased from 10.1% in 2005 to 15.8% in late 2015.

But big companies nevertheless preserve a core of employees who help maintain a long-term institutional memory and a distinctive culture. Strategy& has been collecting data on the chief executives of the world's top 2,500 public companies for more than 15 years. The consultancy's Per-Ola Karlsson notes that more than 80% of these companies' CEOs are internal appointments. Almost two-thirds of them have spent 12 years or more climbing up the corporate hierarchy. They are drawn from a large cadre of long-term employees who dominate the upper ranks of the organisation and usually outperform external recruits because they have far more company-specific knowledge.

Conversely, entrepreneurship is not necessarily a road to success. Reid Hoffman, the co-founder of LinkedIn, a social-networking company, and author of "The Start-Up of You", may have made $2.8 billion by selling his own startup to Microsoft, but the coffee shops of San Francisco are full of middle-aged hopefuls scratching a living without a pension.

The second idea that needs overhauling is the transaction-cost theory of the firm formulated by Ronald Coase 80 years ago: that firms are worth having only if they can do things more cheaply than the market can. Since firms continue to occupy a central place in the modern economy despite the enormous advances of the market in recent years, there must be other factors at work. Companies are not just a way of keeping transaction costs to a minimum. They are proof that when people are trying to solve common problems, they are wiser collectively than they are individually. Such collective wisdom can accumulate over time and be embodied in corporate traditions that cannot be bought in the market. ■

Key attributes

The alphabet of success

Superstars need a dazzling range of qualities

GENERAL ELECTRIC, THE product of an alliance between Thomas Edison, America's greatest inventor, and J.P. Morgan, its greatest banker, was the technology superstar of the early 20th century. Edison's patents have long since expired and electricity has become a commodity, but GE remains a commercial empire, the only intact survivor of the companies that made up the original Dow Jones index. GE employs 330,000 people in 180 countries, owns $493 billion-worth of assets and earned $117 billion in 2015. It has survived where other technology stocks have faded because it has fully mastered the art of management. Its slogan, "Imagination at work", could just as easily be "Management at work".

Every superstar company is a superstar in its own way. Great companies have distinctive cultures and traditions that are all their own and inhabit well-defined market niches. But they also share a set of common characteristics. The first is an obsession with talent. The only way to remain on top for any length of time is to hire the right people and turn them into loyal corporate warriors. GE spends a billion dollars a year on training. Its success has been such that between 2003 and 2011 about 40 GE vice-presidents have become CEOs of other major companies. Google, which is doing for information what GE once did for electricity, is similarly obsessed with training.

Superstar companies tend to be unashamedly elitist. GE fast-tracks its most promising employees. Hindustan Unilever compiles a list of people who show innate leadership qualities (and refers to them throughout their careers as "listers"). Laszlo Bock, Google's head of human resources, argues that a top-notch engineer "is worth 300 times more than an average engineer".

Such companies keep a watchful eye on their high-flyers throughout their careers. Jeff Immelt, GE's boss, prides himself on his detailed knowledge of the 600 people at the top of his company, including their family circumstances and personal ambitions. Hindustan Unilever's managers constantly test potential leaders by moving them from one division to another and subjecting them to "stretch assignments". Procter & Gamble talks about "accelerator experiences" and "crucible roles".

The second obsession superstar firms share is with investing in their core skills. Corning, the company that made the glass for Edison's first light bulb, started life producing the raw material for bottles and windows. It now manufactures the glass used in the majority of the world's electronic devices. Its fibre optics carry information around the world. Its "Gorilla" glass helps prevent your iPhone from shattering when you drop it, and is starting to be used in cars. Next will be huge glass screens that cover entire walls, flexible ones that can be rolled up like scrolls and windows that operate like giant sunglasses for the office. The company's R&D centre in upstate New York resembles a university campus. Its best scientists have the equivalent of academic tenure (some stay around into their 90s), publishing academic papers and notching up scientific breakthroughs.

The same obsession can be found in all successful tech companies. Amazon sacrificed dividends for years in order to establish its mastery of online shopping. Today it is taking an equally long-term view of the computer cloud by pouring money into servers. Google is putting the riches generated by its search engines into more adventurous technologies. BMW is investing in new materials such as carbon fibre and enhancements such as parking assistance.

Remaining focused on the long term is difficult in a world

Do you blitzscale?

How superstars are made

SUPERSTAR COMPANIES CAN create powerful barriers to entry. Their success allows them to generate huge piles of cash, and that cash allows them to attract talent and buy up competitors. So how do aspiring companies break into the magic circle? The answer depends very much on the industry.

High-tech companies rely on discovering niche markets and scaling up as fast as possible. Peter Thiel, the co-founder of PayPal, points out that almost all successful startups begin by dominating a niche market. Facebook dominated social networking at Harvard University before branching out to other universities and then to social networking in general. Reid Hoffman, who at one time was PayPal's COO, has coined the phrase "blitzscaling" to describe the road to success. The term refers to the Blitzkrieg (lightning war) that Germany pioneered in the second world war. Software allows companies to advance rapidly because the marginal costs of adding new customers is more or less zero. Globalisation has a similar effect because it lowers the barriers to entry across countries. Facebook's old motto, "Move fast and break things", captures the spirit of the Blitzkrieg perfectly.

Blitzscaling is necessary for both offensive and defensive reasons. Offensively, software businesses become valuable only once they have acquired lots of customers. Markets like eBay are not useful until they have both buyers and sellers. Defensively, businesses have to scale faster than their customers because the first to reach those customers often end up owning them.

Blitzscaling initially burns through a lot of cash quickly without producing much revenue. To attract people to a firm with an uncertain future, you have to generate a buzz in the tech world and offer your staff generous stock options. You also have to subordinate everything to immediate problem-solving. Mr Hoffman says that every blitzscaling organisation he has worked in seemed close to collapsing in chaos. "The thing that keeps these companies together—whether it's PayPal, Google, eBay, Facebook, LinkedIn or Twitter—is the sense of excitement about what's happening and the vision of a great future."

The dangers of blitzscaling will become much clearer as technology transforms wider areas of the economy. Theranos, a company that claimed to have invented a new way of testing blood, expanded at breakneck speed before the *Wall Street Journal* revealed that its tests were unreliable.

There are some echoes of this strategy in the emerging world. Emerging-market companies establish a fortress in their domestic markets before invading foreign markets. Grupo Bimbo, which started out as Mexico's biggest baked-goods company, has since become the biggest baker in the United States as well, through a combination of exporting its goods and buying bits of famous American brands such as Weston Foods and Sara Lee. Such emerging-market champions frequently advance at great speed, often buying in more sophisticated skills like branding and R&D by acquiring Western companies. For example, Lenovo, a Chinese computer company, bought Microsoft's ThinkPad division in order to break into foreign markets.

Some of the brightest rising stars are emerging-market tech companies. China's Alibaba, an e-commerce firm, raised $25 billion when it went public on the New York Stock Exchange in 2014, the largest IPO in history. Didi Chuxing, a Chinese taxi service, this summer merged with Uber, which took a 20% stake in the combined company, valued at $35 billion, after a prolonged battle.

Outside the tech industry and away from emerging markets, rising stars often sparkle by consolidating existing markets and squeezing out costs. A prime example is 3G Capital, a Brazilian-rooted company that specialises in taking over mature companies and bringing in its own managers to streamline them. It forces firms in its portfolio to justify their spending afresh every year, consolidate their product lines and trim excess brands. 3G is exceptionally stingy with its managers, making them share rooms on business trips, but also motivates them by giving them stock options. Having started off small in Brazil, it has taken over a succession of beer giants, including Anheuser Busch and SABMiller. Its acquisitions have given it control of a third of the world's beer market and several large food companies, including Heinz, Burger King and Kraft.

Some of the world's most successful family companies practise a gentler version of consolidation, buying up smaller family companies to add scale but allowing them to keep their names and identities. The luxury and drinks sectors excel at this. LVMH, a French luxury-goods company, has acquired a succession of other family companies such as Bulgari, Dior, Krug and Dom Perignon, as has Estée Lauder with Tommy Hilfiger, Bumble and Bumble and Jo Malone.

where public companies are answerable to the stockmarket every quarter, and it turns out that a remarkable number of superstar companies have dominant owners who can resist the pressure for short-term results. According to one study, more than one in ten of tech companies that went to the market between January 2010 and March 2012 had dual voting structures giving their founders extra rights. Both Facebook and Google explicitly justify such structures by the need to pursue long-term projects.

Family companies frequently punch above their weight because their dominant owners are free to think about the long term. Companies in emerging countries typically put more emphasis on long-term growth than on short-term results. The best widely held companies have developed formidable skills at managing the financial markets and making the case for long-term goals.

But investors cannot be expected to be patient for ever; they need a mechanism to tell them when they are pouring money down the drain. Striking the right balance between the long and the short term is the first on a long list of balancing acts that superstar companies have to perform in order to earn their laurels.

All of them set themselves extravagant goals. Coca-Cola does not just want to sell a lot of fizzy drinks, it wants to put a can of Coke within easy reach of everyone on the planet. And when they have achieved those goals, they move the goalposts. Google has expanded its vision from "just" wanting to organise the world's information to wanting to use that information to reinvent transport, beside a host of other things. Amazon, having become the world's biggest bookstore, now wants to be the world's biggest everything store.

At the same time they all pay endless attention to detail. When Steve Jobs was in charge of Apple, he agonised over every tiny detail, down to the exact shade of grey to be used for the signs in its stores' lavatories. Ingvar Kamprad, the founder of IKEA, a homeware giant, continually toured his stores until well into his 80s (he is now 90). Superstar companies are particularly good at establishing a link between their strategic vision and their everyday operations. Disney, for instance, is utterly committed to projecting wholesomeness.

Great companies combine a strong sense of identity with a fierce hostility to groupthink. Andy Grove, a CEO of Intel, advised CEOs to balance the sycophants they inevitably attract by cultivating "Cassandras" who are "quick to recognise impending change and cry out an early warning". These Cassandras are often middle managers who "usually know more about upcoming change than the senior management because they spend so much time 'outdoors' where the winds of the real world blow in their faces". GE insists that its high-flying executives, most of whom are engineers by training, take courses in painting in order to "loosen them up" a little.

Such companies also regularly reassess their investment decisions in the light of changing markets. McKinsey measured the agility of more than 1,600 companies by looking at how much of their capital they reallocated every year, and found a strong positive correlation between the companies' willingness to move their capital around and the total return to shareholders.

How to stay lithe

Superstars do everything they can to remain agile despite their size. They fight a constant war against bureaucratic bloat, unnecessary complexity and overlong meetings. They often locate themselves in the latest tech hotspot in order to absorb its ideas and energy. In 2014 Pfizer opened an R&D facility with 1,000 employees near MIT in Cambridge, Massachusetts. Apple and Intel have set up R&D labs in Carnegie Mellon's Collaborative Innovation Centre in Pittsburgh. Every car company worth its salt has opened an office in Silicon Valley. They also form close relationships with startups. In 2012 GE launched GE Garages, a lab incubator, to provide startups with access to its experts and to equipment such as 3D printers and laser cutters.

Successful big companies strike a balance between global scale and local roots to become "rooted cosmopolitans". LG, a South Korean conglomerate, can tailor its products for specific markets: microwave ovens destined for east India, for example, have an autocook option for Bengali fish curry. Kraft has re-engineered the Oreo biscuit for Chinese taste buds, using less sugar and more familiar flavours such as green tea.

Such companies also understand that they need to keep undergoing radical changes in order to survive, as companies such as Google and Facebook have done on several occasions. They are even willing to disrupt their own core businesses before someone else does. Netflix disrupted its video-delivery business by embracing streaming. China's Tencent disrupted its own social-media business by introducing WeChat, a platform that allows users to book taxis, order food and so on. Again, GE was a trailblazer. In the 1980s and 1990s its then boss, Jack Welch, decreed that it should be among the world's top three in all the businesses it was involved in, or get out. Now Mr Immelt is restructuring the company for the digital age, selling off GE appliances, buying France's Alstom, investing heavily in the internet of things and moving the company's headquarters to Boston to be closer to the heart of high-tech.

Thanks to all these changes, even the classic companies are becoming more asset- and employment-light. In 1962 Exxon, one of the world's most durable and financially successful corporations, had 150,000 employees; today it has half as many. As for the new breed of tech firms, they typically employ as few people as they possibly can.

But for all their virtues, superstar companies, both old and new, have their dark sides. ■

Downsides

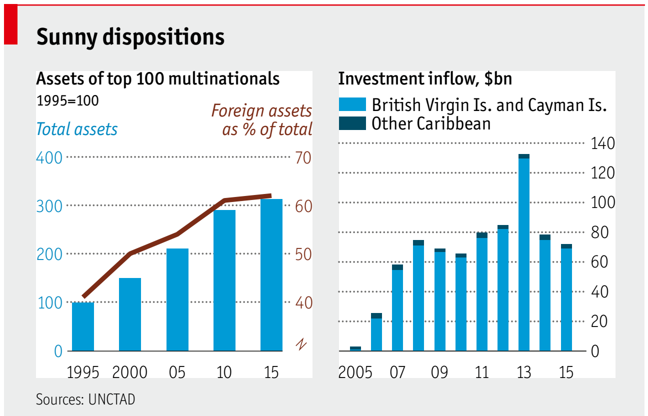
The dark arts

Superstar companies are good at everything, including pushing the boundaries

COMPANIES ARE BY nature competitive. That is mostly to be welcomed, but sometimes their competitive instincts play out in less welcome ways as they engage in some of the darker arts of management. The two most obvious ones are to pay as little tax as is legally possible, and to lobby governments and a variety of other bodies to gain an advantage over rivals. To a greater or lesser extent all companies do this. The big difference is that the superstar companies, being good at everything they do, are also much better than the rest at practising these dark arts and taking them mainstream.

This raises three worries. The first is that they will keep getting better at them, applying the same creative excellence to rule-bending as they do to running their business in general. Second, superstars might use the combination of these and other skills to build up impregnable advantages, giving them growing monopoly power. Third, as their businesses become more mature, they may come to rely increasingly on those dark arts.

Multinationals routinely use foreign direct investment (FDI) in order to reduce the amount of tax they have to pay. They create holding companies to keep their corporate assets in low-tax jurisdictions. These holding companies in turn put their subsidiaries in the most tax- and regulation-efficient jurisdictions, creating a constant cascade of ownership and control. The volume of money moving through such havens on the way to their final destination has risen sharply since 2000 and currently makes up about 30% of all FDI. In 2012 the British Virgin Islands were the world's fifth-largest recipient of FDI, with an inflow of



$72 billion. Britain, with an economy 3,000 times larger, had an inflow of only $46 billion. The Netherlands and Luxembourg also attracted big inflows, and there are many more such hubs.

Superstar companies are naturally better at tax and regulation shopping than the rest, partly because of their size and partly because they can afford to employ the best managers and professional advisers. According to UNCTAD, the world's 100 most globalised companies each have an average of 20 holding companies that in turn sit on top of a complicated chain of ownership, part-ownership and co-ownership. More than 40% of foreign affiliates have several national identities because they are co-owned by companies from different countries. The ownership structure of new high-tech multinationals is often particularly convoluted, often more so than that of low-tech companies that have been around for a century.

Such companies have pioneered two highly successful techniques for exploiting differences in tax codes. One is transfer pricing, or charging one affiliate for using intangible assets (such as brands, intellectual property or business services) said to originate in another part of the company. The more that companies rely on knowledge rather than physical assets to make their money, the greater their opportunities for shifting profits from one jurisdiction to another. Apple established a cosy deal with Ireland that allowed it to channel most of its non-American sales and profits through special corporate entities, saving itself €13 billion in taxes over ten years, the European Commission has recently claimed. Google achieved an effective tax rate of 2.4% on its non-American profits in 2007-09 by routing profits to Bermuda, via Ireland and the Netherlands (known as a double Irish).

Another technique is "inversion", or buying foreign companies and shifting nominal headquarters to the junior partner in the acquisition. Pfizer, one of America's leading pharmaceutical companies, contemplated engaging in a giant inversion by buying Allergan for $160 billion and moving its headquarters to Ireland, but retreated in the face of strong political pressure.

Superstars are also devoting increasing resources to lobbying, an industry that is at its most advanced in America. Companies and their associations are easily America's biggest lobbyists, accounting for over 70% of all expenditure on lobbying. And the biggest companies are pulling ever farther ahead of their smaller rivals in getting their voices heard. Lee Drutman, of New America, a think-tank, points to a paradox. The past 20 years have seen an enormous increase in lobbying, with more than 37,700 interest groups now saying they are active in the field, but a handful of organisations seem to dominate the conversation. They are having to spend ever more to retain their position. Back in 1998, the minimum an organisation had to shell out in order to be included among the top 100 spenders was $2.4m. By 2012 that sum had nearly doubled, to $4.4m.

Friends in Washington

Superstar firms will generally keep a dozen or more full-time registered lobbyists of their own on Capitol Hill, but also use a couple of dozen lobbying firms to be called upon as and when needed. This allows them to keep constant pressure on lawmakers to advance their cause, as well as to flood Congress with extra hired hands in the event of a crisis.

Tech giants have been particularly successful in getting their voices heard. They were originally reluctant to play the lobbying game, but soon realised that was a mistake: Microsoft's prolonged legal battle with the Department of Justice over whether its was abusing its dominant position in the software market, which was finally settled in 2001, persuaded the whole industry that it pays to have friends in Washington. Since then tech companies have turned into some of America's most assiduous lobbyists and most enthusiastic employers of Washington insiders. Barack Obama's former press secretary, Jay Carney, now works for Amazon and his former campaign manager, David Plouffe, has joined Uber.

Investment in lobbying is paying bigger dividends than in the past as the federal government extends its power over economically sensitive areas such as health care and financial services. Lobbyists can earn their keep by influencing the direction of the debate. For example, back in 2003 the pharmaceutical industry pushed successfully for a revision of America's Medicare health-insurance programme for older people. This included a new prescription-drug benefit but no measures to control the costs of that benefit through means-testing or bulk-buying. John Friedman, an economist at Brown University, estimated the resulting benefits to drugmakers at $242 billion over ten years, a healthy return on the $130m the industry spent on lobbying in the year the law was passed.

The American government has also got into the habit of producing open-ended pieces of legislation such as the Dodd-

Frank financial-reform bill, which ran to 2,319 pages. Again, lobbyists can earn their keep by writing bits of the legislation, as they clearly did with Dodd Frank, or by lobbying Congress over its interpretation.

Companies are also becoming more ambitious in what they are trying to achieve. In the past they put most of their effort into heading off tax increases or regulatory changes that might damage them; today they are trying to boost their profits and shape future markets. In his book, "The Business of America is Lobbying", New America's Mr Drutman shows that companies are increasingly using lobbyists to set the terms of the debate by funding Washington's innumerable talking-shops, then putting pressure on politicians and officials to ensure that the legislation works to their advantage.

Habit-forming products help companies squeeze even more money out of their customers

The same pattern is being repeated in the European Union. The Corporate Europe Observatory, an NGO, calculates that Brussels is home to at least 30,000 lobbyists, almost the same number as the staff employed by the European Commission. These official lobbyists are part of a large army of people who try to influence legislation and regulation for more than 500m European citizens.

The revolving door

Superstar companies are hiring the best lobbyists and employing the most prominent politicians. In July this year José Manuel Barroso, until recently president of the European Commission, joined Goldman Sachs, a bank, as the non-executive chairman of its international arm, replacing Peter Sutherland, a former EU trade commissioner. Mr Barroso's appointment has caused widespread protests. Such high-profile recruits not only give big companies access to information about past policy-making, they allow them to influence serving politicians who would like to join the board of a big company when they retire.

Superstar companies are also particularly good at getting inside their customers' skin and shaping their habits. Great companies have excelled at doing this since the birth of mass advertising in the 1890s, but today's superstars are using modern science to push advertising into areas that have not been tried before, raising difficult ethical questions about what "free choice" means in a capitalist economy.

Many of the new tech giants are at heart advertising companies: they persuade customers to give away personal details (for instance, by allowing them to Google something or Facebook a friend without charge) and then selling that information, duly anonymised, to their clients. These internet services are not really free. Users are paying for them indirectly by allowing the companies that provide them to gather information about their online behaviour through cookies (small pieces of code) lodged in their computers.

Professional data-miners use this information to build up detailed pictures of what people have bought in the past ("history-sniffing"), and how they have gone about it ("behaviour-sniffing"). They can use this information to draw people's attention to products they might want to buy in the future or to bargains that are on offer. They are getting increasingly sophisticated about predicting users' behaviour, working from hidden signals. For example, when people are depressed, they tend to post darker pictures online than when they are feeling cheerful.

Tech companies take advantage of the fact that a large number of tech products are habit-forming. A typical user reportedly checks his smartphone at least 150 times a day. This is mainly because many tech products are interactive. In his book, "Hooked: How to Build a Habit-Forming Product", Nir Eyal points out that services such as Facebook and Twitter are constantly being adjusted according to what users put into them and comments from their friends. Internet entrepreneurs devote a lot of thought to getting users hooked on their products, providing them with endless feedback (such as beeps and pings) in order to keep them coming back. Habit-forming products help companies weave their devices into their customers' daily routines and squeeze even more money and information out of them.

That pervasive influence is now being extended into new parts of the economy. Google is using its mastery of information to work on interactive "smart homes" that can be controlled from afar. It may not be long before the company starts suggesting what people need to put in their fridge and where they can get the best deal on their groceries. Amazon, meanwhile, is relentlessly extending its retail empire, drawing on its command of information and logistics. Apple and other companies are trying to anticipate what consumers might want before they know they want it, and then co-ordinate networks of app-makers to ensure that their devices arrive fully loaded with those apps.

This has produced an extraordinary situation. Tech companies have persuaded their customers to carry devices in their pockets that can constantly nudge them in some direction or other. Seventy years ago Vance Packard wrote a bestseller called "The Hidden Persuaders" which revealed some of the sophisticated psychological techniques advertisers then used to persuade consumers to buy their stuff. Today billions of people voluntarily carry around their own private "hidden persuaders" that allow global behemoths to monitor their behaviour and influence their choices. "We know where you are," says Eric Schmidt, the chairman of Alphabet, Google's holding company. "We know where you've been. We can more or less know what you're thinking about."

But increasing numbers of consumers are becoming disillusioned with big and powerful companies. That is generating a growing backlash. ■

Future policy

A delicate balance

How to keep the superstars on their toes without making them fall over

ARTHUR SCHLESINGER, A historian, claimed that American history moves in 30-year cycles, with each period responding to the excesses of the previous one. The laissez-faire Gilded Age that ended around 1900 led to the progressive era, when government stepped in to regulate business and create a social safety net. That was followed by the laissez-faire roaring 20s, which in turn led to the New Deal and then the pro-business Eisenhower era, followed by the progressive 1960s and the laissez-faire Reagan era. Schlesinger's theory of 30-year cycles doesn't quite work: the roaring 20s, when President Calvin Coolidge pronounced that "the business of America is business", interrupted a long cycle of pro-government progressivism. But his

point about each era reacting to the excesses of the previous one is surely right. The long pro-business era that began under Ronald Reagan in the 1980s and continued under Bill Clinton in the 1990s is giving way to a much more anti-business mood.

The Republican Party, the traditional party of business, now has a presidential candidate who fiercely rejects corporate America's two most cherished policies, free trade and liberal immigration. "I am not going to let companies move to other countries, firing their employees along the way, without consequences," Donald Trump warned in his acceptance speech for the presidential nomination in July.

His Democratic opponent, Hillary Clinton, bruised by a powerful challenge from Bernie Sanders, has chastised big companies for "using their power to raise prices, limit choices for consumers, lower wages for workers and hold back competition from startups and small businesses". The share of Americans who hold "very" or "mostly" favourable opinions of corporations has fallen from 73% in 1999 to 40% today, according to the Pew Research Centre. Surveys by Gallup of views on big business show less extreme swings, but point in the same direction (see chart). Over 70% of America's population believes that the economy is rigged in favour of vested interests.

Such growing hostility to business is in evidence across the rich world. Britain's decision in June to leave the European Union was driven in part by popular discontent with big business, which had lobbied heavily to remain. Many continental Europeans are becoming ever more vocal in expressing their long-standing doubts about "Anglo-Saxon capitalism".

This backlash against big business is already having an impact on policymakers. The antitrust division of America's Department of Justice says that under President Obama it has won 39 victories in merger cases—deals blocked by courts or abandoned in the face of government opposition—compared with 16 under George W. Bush. Those victories included a string of blockbuster deals such as Comcast's proposed bid for Time Warner Cable and Halliburton's planned takeover of Baker Hughes. The European Union has launched a succession of tough measures against Silicon Valley's tech giants, such as asking Apple to stump up billions of euros in allegedly underpaid taxes in Europe, and allowing European news publishers to charge international platforms such as Google that show snippets of their stories. Britain's new prime minister, Theresa May, has said that she may cap CEO pay and put workers on boards. Governments worldwide have started co-operating to curb the use of tax havens.

This special report has shown that there are good reasons to worry about corporate consolidation. The age of entrepreneurialism that started in the early 1980s is giving way to a new age of corporatism. This has been particularly true in the world's most advanced economy, America, and in the world's most knowledge-intensive industries. Big companies have been getting bigger and putting down deeper roots. In the technology industry a handful of companies have grown into giants in a couple of decades and are now making sure they stay on top, hoovering up talent, buying up patents and investing in research. At the same time the rate of small-business creation is at its lowest level since the 1970s.

The perils of consolidation

Such consolidation is worrying for lots of reasons. Overmighty companies exacerbate inequality because they reap abnormally high profits and allow senior managers to pocket an unseemly share of them. The proportion of corporate income going on the pay of the top five executives of large American public companies increased from an average of 5% in 1993 to more than 15% in 2013, even though research has shown that there is a negative relationship between CEO pay and performance (see chart on the next page).

Such companies also create political problems by concentrating power in the hands of fewer people. The more entrenched companies get, the more unhealthy their relations with government are likely to become as they employ large numbers of lobbyists and put former politicians on their boards. The tech companies have added a new concern by amassing unprecedented volumes of information on ordinary people.

But a great deal of anti-business sentiment is also being driven by xenophobia, protectionism and resentment. Utopian socialists such as the leader of Britain's Labour Party, Jeremy Corbyn, dislike business in any shape or form. Right-wing nationalists such as Donald Trump and France's Marine Le Pen dislike foreign business giants rather than business giants as such. The European Union's crusade against America's tech giants is partly based on protectionism.

Reputational damage

How much faith do you have in big business, % responding in US

Source: Gallup

As the backlash against big business mounts, three things need to be kept in mind. First, the superstar companies at the heart of the current consolidation of capitalism are for the most part forces for progress. Apple's iPhones and iPads have become people's constant companions because they are portable miracles. In disrupting many industries, tech giants are changing them for the better. Uber provides a service superior to that of established taxi companies, and is forcing them to improve. Airbnb offers a cheap and convenient alternative to hotels. Some high-tech companies, such as Amazon and Uber, exert downward pressure on prices. Others, such as Google and Twitter, provide services without charge. McKinsey calculates that consumers in America and Europe alone get about $280 billion-worth of "free" services—such as search or directions—from the web that would once have cost their users a significant amount of money or time.

Vijay Govindarajan, of the Tuck School of Business at Dartmouth College, points out that big companies can solve economic and social problems that are too big for small companies and too complicated for governments. They have the financial muscle to make long-term investments, the global scale to mobilise resources across borders and the management skills to deliver on their promises. They can use their expertise in supply-chain management to get resources to the poor or teach governments and NGOs how to do it. They can use their scale and management expertise to co-ordinate many different resources, spread best practice across the world and scale up clever ideas.

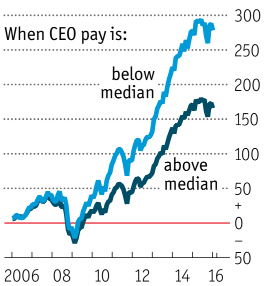
Don't overdo it

The second point is that government intervention can easily backfire. The European Union's hard line on American tech companies such as Apple or Google threatens to provoke a trade war between the world's two biggest trading blocks, partly because the EU's rhetoric is so fierce and partly because its methods, such as trying to force Apple to pay taxes retrospectively, are so questionable. Regulation that is supposed to promote competition can often have the opposite effect, killing off small companies and protecting big ones by raising barriers to entry. Regulation meant to prevent companies from getting too rich can sometimes discourage them from making long-term investments in research. Policymakers need to balance consumers' preference for lots of competition against businesses' legitimate desire to reap appropriate rewards from their investments.

In his book, "Capitalism, Socialism and Democracy" (1942), Joseph Schumpeter argued that concentration is both a cause and a consequence of success. Successful companies race ahead of their rivals in order to enjoy the advantages of temporary monopolies. They invest the super-profits that they gain from those temporary monopolies in more R&D in order to stay ahead in the race. Great firms "largely create what they exploit", as he put it. Rob them of the chance of exploiting what they create, and they will stop investing.

Perverse incentives

Cumulative total US shareholder returns, %



Source: MSCI ESG Research

The third point is that the decline in entrepreneurialism is more often the fault of bad government than of big business. In the European Union the proposed single market in services is being strangled by national regulation. Even in supposedly freewheeling America, regulation has quietly become more obtrusive. The share of jobs that require licences has increased from 5% of the total in the 1950s to more than 25% today, including occupations such as hair-braiding and interior design. Doctors who want to be reimbursed by medical insurers have to fill in a form with 140,000 coding categories, including 23 different codes for spacecraft-related injuries. Firing a worker who is not pulling his weight is an invitation to file a lawsuit.

The great policy challenge of the coming years is to deal with legitimate worries about business concentration without succumbing to anti-business sentiment that will punish success and reduce overall prosperity. Policymakers will need to become more vigilant about preventing business concentrations from developing in the first place. In the 1980s and 1990s, when many markets were opening up, antitrust authorities were probably right to give the benefit of the doubt to business, but now they will need to think again in the face of so much more concentration.

Above all, policymakers need to revamp antitrust policy for a world based on information and networks rather than on selling lumps of stuff. Up to now companies such as Uber have focused on running ahead of regulators, quickly building up a body of loyal customers and then daring the regulators to challenge them. Antitrust authorities need to start setting the agenda by examining the ways that digital companies are using network effects to crowd out potential competitors, or inventing new ways of extracting rents by repackaging other people's content. But the regulators must also beware of trying to load too much onto the rules: the point of antitrust policy is to promote competition and hence economic efficiency, not to solve problems such as inequality.

Policymakers also need to get much tougher on the dark arts of management such as tax-dodging. Superstar companies are already making impressive returns; there should be no need for fancy tax-avoidance schemes that undermine the legitimacy of the system in the eyes of the public. But any moves to discipline companies need to be made multilaterally in order to prevent potential trade wars. And excessive government is as problematic as excessive corporate power.

This special report started by quoting Theodore Roosevelt thundering about the evils of giant corporations before a crowd in Kansas. Once again, the world needs some thunder about the excesses of giant companies, which are beginning to produce a popular backlash that threatens the success of the global economy. But there is a need for subtlety too, so that consolidation is challenged without discouraging innovation, and excesses are curbed without overregulation. Policymakers must aim to promote vigorous competition so that the world keeps existing superstars on their toes but also continues to create new ones. ■

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Jihadism in French prisons

Caged fervour

PARIS

Should jails segregate jihadists?

AFTER nightfall one Saturday in January 2015, Bilal Taghi set off on a road trip with two friends, his wife and their infant child. They left their home town of Trappes, near Paris, bound for a wedding in Turkey, they said. About 400km (250 miles) from the border with Syria, where they hoped to join Islamic State (IS), their car overturned. Arrested in Turkey, they were expelled to France and convicted earlier this year of association with planned terrorist activities. Mr Taghi, a 24-year-old French citizen, was jailed in a special unit at a prison in Osny, near Paris, set up to isolate detainees linked to terrorism.

Earlier this month, Mr Taghi was taken from his cell at Osny for a routine exercise session. Hidden under a towel, he clutched a sharp metal rod, fashioned from his cell window. Summoned by a prison guard, the inmate turned on him, stabbing him nine times, and then slashed a second guard in the face and arm; both survived.

With all of the recent terrorist attacks in France—most recently a failed plot to blow up a car near Notre-Dame cathedral—the bloody attack in Osny barely made the news. Yet it exposed a fraught policy dilemma: how to manage the incarceration of Islamists so as to curb jihadist ideology inside prisons? This is not only a French problem. Britain announced recently that it would reverse its policy of dispersing such inmates, and instead build segregated units for those linked to terrorism. Concern mounted in August after the conviction of Anjem Choudary, a British-born Islamist preacher linked to IS, who has vowed to "radicalise everyone in prison".

Prison recruitment is worrying because inmates have access to an underworld of weapons and violence. Anxiety is especially acute in France, where several terrorists in recent attacks were groomed while serving jail terms—and where the Muslim incarceration rate is very high. Muslims make up an estimated 8-10% of France's population (the exact share is unknown because collecting religious statistics is banned). Yet they are perhaps 60% of prison inmates, according to a parliamentary report. Farhad Khosrokhavar, the author of a forthcoming book, "The Prisons of France", says a more realistic estimate is 40-50%, with 60-70% only in certain big prisons near Paris. Such skewed proportions are not unique: in England and Wales, 15% of the prison population is Muslim, compared with 5% of the population. But the French ratio appears to be particularly high.

The French experiment with segregation, launched in 2014, involves five units inside existing prisons, one in the northern city of Lille and the others at Fresnes, Osny and Fleury-Mérogis, near Paris. The latter also houses Salah Abdeslam, the sole survivor of the terrorist commando unit behind the Bataclan attacks in November 2015. The most dangerous prisoners, such as Mr Abdeslam, are held in solitary confinement. He exercises, eats and reads alone in a special cell, equipped with a rowing machine, under 24-hour video surveillance. The segregated units are for the other jihadist inmates. The idea is to keep them as far as possible from other prisoners, and to put them through programmes of "deradicalisation".

The justice ministry says it is too soon to evaluate the policy. In theory, the teams of educators and mentors in the units could help turn young minds away from jihadism. But the attempted assassination at Osny, the first such attack in the new units, is not a good sign. According to *Le Monde*, security footage shows Mr Taghi's fellow prisoners sharing big fragments of broken mirror shortly after the attack. Was there a wider plot that never took place?

Toying with the authorities

The main flaw, says Jean-François Forget, head of UFAP-UNSA, a prison-guards' union, is the "failure to make isolation watertight". The units are installed in prisons which are already shockingly overcrowded. Fleury-Mérogis has 4,400 inmates for 2,340 places. And the layout of some buildings makes it difficult to prevent contact with other prisoners. At Fresnes, a report in June by France's official prison watchdog noted a practice it calls *yoyotage*: inmates in the special unit share notes and items with ordinary prisoners on different floors via yoyos between cell windows.

Even when the units are properly isolated, inmates can meet. Those in segregation have the same rights to exercise or use the library as other prisoners. Osny's special unit keeps inmates in individual cells, but they take part in a daily two-hour exercise ▸▸

session in the prison yard. “They wander around, take part in social activities and sport,” says Mr Forget: “Many are using this contact time to proselytise.”

Not all detainees are former combatants with blood on their hands. Some have been jailed for, say, attempting to leave France for Syria. The risk is that the units turn into organised camps for jihadism, setting up networks and links, if not command structures. Countering this within prison walls is hard. Deradicalisation programmes are still experimental. Providing moderate forms of religious activity is difficult: France has only 178 Muslim prison chaplains, compared with 684 Catholic ones, for a total prison population of 68,000. Besides, piety plays only a small role in radicalisation. The inmates most vulnerable to “falling under the spell of jihadists”, says Mr Khosrokhavar, are the psychologically disturbed.

French policymakers, anxious over the lure of jihadism, are struggling to find the right response. The prison watchdog concluded that it was “not in favour” of segregated units. Jean-Jacques Urvoas, the justice minister, told a parliamentary commission in June that he was aware of possible “perverse effects”. Better mentoring, or exchanges with those who have renounced *jihad*, could help, as might psychiatric care. But there are no easy options for handling potentially violent prisoners susceptible to extremism. Segregated units may be the best of a bad bunch. ■

Russia’s elections

Duma-day machine

MOSCOW

Vladimir Putin has the country’s ballot under control

SINCE Russia’s last parliamentary election in 2011, when widespread fraud triggered mass protests, millions of Russians have fallen into penury. Wages have plunged, and labour protests are on the rise. Vladimir Putin’s forces are fighting openly in Syria and secretly in Ukraine. Polls show that 33% of Russians believe the country is heading in the wrong direction, though 82% approve of Mr Putin. With so much at stake, why are so many ignoring the parliamentary election due on September 18th? Golos, an election monitoring group, calls the campaign the “most sluggish and inactive” of the past decade.

This sterility is the Kremlin’s strategy. The election will be seen as a success if it is uneventful. The vote was moved forward from December to September, a move that critics contend was designed to keep turnout low, as summer holidays and the new

Post-communist chic

You must remember this

BRATISLAVA

In central and eastern Europe, socialist beer is hip again

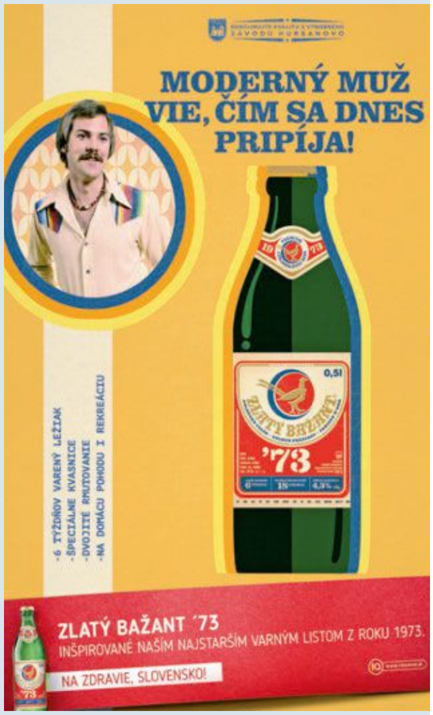
IN THE giddy capitalist dawn of the 1990s, many of the tawdry products that stocked Soviet-bloc stores (when you could find them) were driven out by better-made, better-packaged foreign ones. Milk in plastic bags, canned “luncheon meat” and Pitralon aftershave (which, as readers of old *samizdat* know, doubled as an aperitif among vodka-deprived prisoners) disappeared from the shelves.

Lately, these old products have been making a comeback. Polish hipsters are buying retro furniture in the pupil-dilating browns and oranges of the Jaruzelski era. Proletarian beer brands have been resurrected from Belgrade to Bratislava. In Germany the popular television series “Deutschland ‘83”, which follows an East German spy in the West, has been given the go-ahead for a second season.

Communist nostalgia is not new, but it does seem to be having a moment. This makes some sense in Russia, which ruled the empire. It is harder to understand among the central and eastern Europeans whom the Soviets ground under their boots. And in a twist that should set apparatchiks rolling in their graves, affection for the socialist era is mainly embodied in consumer products, some of them marketed by Western multinationals.

“It doesn’t necessarily mean a desire to return to the pre-1989 era,” says David Zappe, marketing director in Slovakia for Heineken, a Dutch brewing conglomerate. Most people in the region are simply discouraged about the future, he says, and “returning to the good old things brings a sense of security.” In May a Heineken-owned Slovak brewery, Zlaty Bazant, introduced a premium version of its beer based on a 1973 recipe, priced 20% higher than its standard suds. Retro brands have also been introduced by Heineken-owned labels in Serbia, Bulgaria and Croatia. All have been successful.

Such products are in tune with the region’s politics these days. Nationalism and populism are in, liberalism and globalisation out. Where earlier marketing emphasised Europeanness and modernity, Zlaty Bazant’s new slogan, *Na zdravie, Slovensko!* (“Cheers, Slovakia!”) vaunts its local roots. Just 30% of Slovaks now have a positive view of the European Union, according to the most recent Eurobarometer survey, while 26% see it negatively. Among Czechs, the numbers are 26% and 34%. Poland and Hungary are more pro-European, but have elected



Second time as farce

governments determined to check the power of Brussels.

Of course, the fact that a Serb enjoys quaffing a Tito-era brew does not mean he supports nationalising the auto industry. Maria Todorova, a Bulgarian historian, explains that the signals sent by reappropriating socialist culture are complicated, and do not imply rejecting capitalism. In Poland, Warsaw liberals may embrace ironic communist nostalgia as a rejection of the current nationalist government. Meanwhile, government supporters denounce liberals as somehow heirs to the communists, even as they pine for 1970s television reruns.

“Nobody is nostalgic for the communist era, but many people are nostalgic for their youth,” as Ivan Klima, a Czech novelist, put it. Yet the communist-culture buffs are not just ageing pensioners, either. Retro socialist chic often targets young urbanites with disposable income. In Prague, the best way to get kitted out in ersatz communist products is to watch for the “Retro Week” promotional sales at Lidl, a German supermarket chain. Nikita Khrushchev always believed that the consumerist West would end up buried in socialist products. He probably did not envision it happening like this.

school year keep people preoccupied. While some dissidents have been allowed to run, the strongest opposition leader, Alexei Navalny, has been convicted on trumped-up charges to keep him out of the race. As Mr Navalny points out, many of those running have been around since 1993. Russian voters are bored: 43% say they are not paying attention to the campaign, compared with 31% in 2011.

Nonetheless, the Kremlin needs the elections to retain a veneer of legitimacy. Keen to avoid accusations of vote-rigging, the government replaced the odious head of the Central Election Commission, Vladimir Churov (nicknamed "The Magician" for his ability to make results come out just right), with Ella Pamfilova, a respected former human-rights ombudsman. The ratings of United Russia, Mr Putin's ruling party, have been falling. Mr Putin calls this a sign of "an active election campaign".

It will not threaten his grip on the Duma. While half the seats will be elected by proportional representation, half will be head-to-head contests in individual districts, most of which will go to United Russia candidates. The nominal "opposition" parties that are gaining ground—the Communists, the Liberal Democratic Party and A Just Russia—are largely under the thumb of the Kremlin.

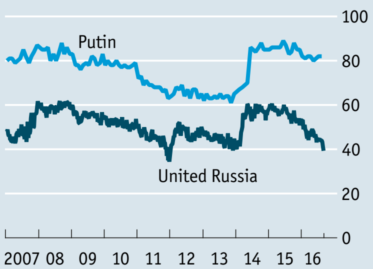
The real drama lies not in the election's results, but in the jockeying around it. The campaign has served as a testing ground for a more important vote: the presidential elections in 2018. Mr Putin has been shaking up his team following the dismissal of his powerful chief of staff last month. More changes are expected after the elections. Bigwigs are attempting to secure their roles in the new political season, argues Tatiana Stanovaya of the Centre for Political Technologies, a think-tank: the Duma contest is "turning into elections for the future elite of Putin's fourth term".

So far, the more conservative forces within the regime seem to have the advantage. In recent weeks, Mr Putin has replaced his education minister and children's rights ombudsman with figures close to the Russian Orthodox church. The Levada Centre, Russia's last independent polling agency, was declared a "foreign agent", a ploy the government uses to harass organisations it dislikes with red tape. Lev Gudkov, the centre's director, says the designation makes it "impossible to work". There have been 31 such rulings this year.

Despite mounting budgetary pressure, painful but necessary economic reforms are unlikely to be taken up before the presidential elections. Facing no pressure from the Potemkin electoral system, Mr Putin has little reason to rush. ■

Tsar v Cossacks

Support for Vladimir Putin and United Russia party, % polled



Sources: Levada; VTSIOM

Serbia's prime minister

The changeling

BELGRADE

Ex-ultranationalist Aleksandar Vucic is Europe's most surprising Europhile

ALEKSANDAR VUCIC is not a man afraid to change his mind. In 2005, when Serbs were still furious over Britain's participation in NATO's war in Kosovo, he co-edited a book entitled "English Gay Fart Tony Blair". Last year, he employed the former British prime minister as an advisor to the Serbian government. Times change, Mr Vucic explains. During the Kosovo war, he was serving as propaganda chief for Slobodan Milosevic, Serbia's leader in the days of war and ethnic cleansing. (Mr Milosevic died in 2006 while on trial for war crimes.) But since 2014, the 46-year-old Mr Vucic has been prime minister himself. His chief strategic goal now, he says, is to secure Serbian accession to the European Union—while maintaining good relations with Russia, of course.

Mr Vucic (pictured) concedes that some people consider him "a bad guy". Most of them are foreigners, but many are Serbs. His critics call him an authoritarian who surrounds himself with yes-men, and recall his days as a rabid ultranationalist. This, he says, is just resentment: "They are living in the 1990s."

Mr Vucic is certainly enjoying a moment in the sun. Early this year he called new elections, saying he wanted to confirm his mandate to pursue EU accession. His coalition won a modest majority. In August Joe Biden, America's vice president, visited Belgrade. Dmitri Medvedev, Russia's prime minister, is due to drop in later this year. Western leaders regard Mr Vucic, in the words of Sebastian Kurz, the Austrian foreign minister, as "an anchor of stability" in the region.

That assessment partly reflects Serbia's improving economy. Shortly after taking office Mr Vucic implemented tough austerity measures and negotiated a $1.2 billion stand-by facility with the IMF. After shrinking for years, GDP grew 0.5% in 2015 and is expected to grow 1.8% this year. But much of the credit comes from Serbia's pro-European diplomatic stance. In 2015, during the refugee crisis, Mr Vucic was one of the few leaders offering unreserved support for the policy of Germany's Angela Merkel, while criticising some of his own central European neighbours.

Mr Vucic's opponents find his good reputation abroad infuriating. They call him a petty autocrat who governs by text message and fills his cabinet with political pygmies to enhance his own authority. "It is like a one-man theatre performance," says a source who has worked with him. A foreign ministry official describes an influx of "friends, mistresses and cousins" to staff offices for which they have no qualifications: "It is nepotism big-time."

Others describe a yet darker sort of authoritarianism. Sasa Jankovic, Serbia's ombudsman, says the state is being reduced to a single person. The prime minister, he says, interferes with the police, the judiciary, the secret service and most of the country's other significant institutions. After he investigated a case of alleged malfeasance involving the prime minister's brother, Mr Jankovic says, police files concerning the 1993 suicide of a friend were released to a government minister. The files were leaked to the press; some stories suggested Mr Jankovic had murdered the man himself. Mr Jankovic says police told him they had been ordered to hand over the files by their superiors.

The ebullient Mr Vucic waves such accusations off as sour grapes. His concern is with regional stability and development, and with the risk of a new Bosnian conflict,

A less acerbic Serb?

he says. His overarching priority of EU membership, meanwhile, faces serious obstacles. In the post-Brexit environment, the union is in no mood for expansion. And Croatia threatens to block Serbian accession unless Belgrade renounces prosecuting its veterans for war crimes.

But Mr Vucic has demonstrated a remarkable talent for diplomatic pivots. In October he will stage a meeting in the central city of Nis with Edi Rama, prime minister of Albania, whose people Serbs traditionally view as an enemy. Officials from Kosovo, which declared independence from Serbia in 2008, will attend as well.

"Ninety-eight percent of Serbs hate that," Mr Vucic proclaims gleefully. Yet Serbs and Albanians are the biggest nations in the western Balkans, and they need to do business. "I think it is important." If Serbs don't like it, he says, they can toss him out. That seems unlikely. ■

Germans against trade

Fortress mentality

BERLIN

Protectionists and scaremongers are winning in Germany

A MOVEMENT is sweeping across Germany. Its followers say delightedly that it reminds them of the peace protests in the 1980s. At stake today, they claim, is nothing less than democracy itself: multinational companies—especially American ones—are trying to foist their wares on helpless European consumers. These behemoths, the protesters warn, could feed Europeans food that is genetically modified or even toxic, and sue into submission democratic European governments that pass laws the corporate honchos dislike.

Energised by this dystopian vision, more than 100,000 demonstrators are expected on September 17th at protests in Berlin, Hamburg, Leipzig, Munich, Cologne, Frankfurt and Stuttgart. Their slogan: "Stop CETA and TTIP!" CETA is a free-trade agreement with Canada which the European Union has been negotiating since 2009, slated to be signed next month. TTIP is its bigger sibling, a trade deal with America that has been in talks since 2013. Last month a truck delivered 125,000 signatures in 70 boxes to the supreme court in Karlsruhe to file a case against CETA, the largest such petition ever in Germany.

Behind this activism is a concerted effort by some 30 organisations on the left, from environmental lobbies to trade unions. According to the European Centre for International Political Economy in Brussels, no other country in the EU approaches this level of anti-trade mobilisation; only Austria comes close. A poll commissioned by the think-tank found that support for TTIP is lowest in Germany, at 49%, compared with 61% in the EU as a whole.

The rejectionist groundswell spells trouble for Germany's government. The EU has promised to submit the trade deals to all of its members for approval. Angela Merkel, the chancellor, officially supports both CETA and TTIP, but needs to save her political capital for the refugee crisis. Her junior partner in government, Sigmar Gabriel, is in even more of a bind. As boss of the centre-left Social Democrats, he is also the vice chancellor and economics minister. Knowing that the left wing of his party loathes both trade agreements, he proclaimed in August that the negotiations with America have "de facto failed". But he still wants to save the Canadian deal.

Mr Gabriel's political future—as the party's leader and its presumptive challenger to Mrs Merkel in next year's federal election—hinges on a party gathering scheduled for September 19th. Delegates there will vote on his proposal to refer the CETA deal to the next phase in parliamentary consultations. If the Social Democrats vote it down, Mr Gabriel's position as leader will become untenable, and neither CETA nor TTIP will have a plausible path to German ratification. This is why anti-trade groups chose the Saturday before the party gathering for their rallies.

The activists' biggest bugbear is the sort of arcane legal instrument that is hard to fit on a protest banner: the treaties' provision for "investor-state dispute settlement" (ISDS). This allows firms that invest abroad to sue governments that make decisions which damage their interests. The suits are usually heard by private arbitrators. Germany has already agreed to this in some 130 other bilateral trade agreements. Negotiators have moved to accommodate the protesters, partly at Mr Gabriel's urging: in CETA private arbitration has been replaced by public investment courts, and the EU wants to do the same in TTIP, though America has not agreed. But the courts are not good enough for anti-trade activists, who think the whole idea of ISDS gives foreign firms a veto over democracy.

The activists' other fear concerns environmental, product and labour standards. Most Germans assume that their standards are stricter than anything in North America. In 2013, the first year of the TTIP negotiations, the country was in a media-fuelled panic over chlorinated chicken, which America was allegedly planning to export en masse into German supermarkets. Lately, the anxiety has shifted to genetically modified foods. Opponents worry that the trade deals will replace the EU's "precautionary principle", under which products must be proved safe before they are sold, with North America's approach, which waits for proof that a product is harmful before banning it.

Missing from the German debate is any sense of the advantages of free trade. Trade would make consumers, including German ones, better off. It would help exporters and create jobs. Harmonising standards, it is hoped, would ensure that global norms are set in Europe and North America—rather than, say, China. And there would be geopolitical benefits from tying Western societies closer together at a time of threats from Russia and the Middle East.

The protesters on September 17th will brush these advantages aside and focus only on the risks. Some are motivated by anti-Americanism. But most oppose the trade talks as remnants of "a certain philosophy and era" that predates the 2008 financial crisis, says Ernst-Christoph Stolper of Friends of the Earth Germany, one of the organisers of the demonstrations. Convinced that this "neoliberal" worldview has since been debunked, he says, Germans will march because they distrust markets, firms and globalisation. ■

Athwart history, yelling "stop"

Charlemagne | State of disunion

Cheerleading for Europe has become an almost impossible job

NO ONE will stand up for Europe these days, sigh its dwindling band of supporters. National leaders stay mute about the bits of the European Union they like and rage against those they don't. Eurosceptics are given free rein to vent their populist outrage. The advantages of European integration—freedom to work and travel, trade and cross-border investment, grants for poor areas—are banked and forgotten. The challenges are magnified and manipulated.

That leaves only the leaders of the EU institutions to mount a defence of their troubled project. And so this week Charlemagne clambered aboard the gravy train to Strasbourg to watch Jean-Claude Juncker, president of the European Commission (the EU's executive arm) deliver his "state-of-the-union" address to the European Parliament. The annual speech, a wheeze cooked up a few years ago, features the closest thing the EU has to a president, grandstanding before the closest thing it has to a legislature. Well-meaning it may be, but this ersatz accountability is ill-suited to times of crisis. In their addresses to Congress, American presidents typically proclaim the strength of their union in rousing perorations met with hearty rounds of applause. That was not an option available to Mr Juncker. Brussels is on the back foot; Eurosceptics, many of them inside the chamber he addressed, seek not just its defeat but its destruction. Wary of inflaming Europe's divisions further, EU officials briefed journalists that the watchwords this year would be humility and unity, bolstering a relentless focus on matters of concern to "ordinary people".

Gone, therefore, were the divisive themes of last year's speech, such as the management of refugees. Brexit, a subject on which Mr Juncker's opinions have not always proved welcome, hardly warranted a mention. In their place came a clutch of moderately sized proposals, including funds for investment and for defence research, and the offer of free Wi-Fi for all population centres by 2020. A €44 billion ($50 billion) development fund for Africa was promised, a ploy to keep economic migrants away from European shores (though research suggests it could have the opposite effect). During a speech that at times tilted more towards Europeans' fears than their aspirations, Mr Juncker vowed endless forms of "protection": from terrorism, globalisation, corporations and competition. Euro-enthusiasts cheered the ambition. Sceptics claimed the lesson of Brexit had been ignored.

Mr Juncker's first problem lay in his surroundings. The charge against the European Parliament's second seat—the absurdity of dislodging MEPs and their entourages from Brussels to Strasbourg once a month, at an annual cost of €114m—is not dulled by familiarity. Meanwhile, the gossip in the bars and restaurants of Strasbourg was fixed on the obscure matter of whether Martin Schulz, the president of the parliament, should retain his post once his term expires in January, which would violate a parliamentary agreement over the distribution of top EU jobs among parties. Institutional arcana are frustrating for leaders seeking to defend the EU's relevance, but this is how it works.

Yet Mr Juncker's difficulties ran deeper than buildings and institutions. The authority of the commission has dwindled in recent years as governments have reasserted control over their treasuries and territories. What kind of inspiration can the commission's chief offer? Promise too much and face accusations of imperial overreach (and irritate governments). Say too little and be attacked for complacency. In America a strong presidential speech can concentrate minds in a crisis. In the EU, with its diffusion of power and uncertain lines of authority, the spotlight only exposes the highest officials' impotence. Mr Juncker's wizened features and sometimes halting delivery embodied the drain of power from the institution he represents.

Smart observers thus recommended ignoring Strasbourg and turning to Bratislava, where the leaders of EU governments (bar Theresa May, Britain's prime minister) will meet on September 16th to thrash out their post-Brexit future. It was once hoped that the 27 might stride boldly forth into uncharted territory of integration. These hopes have faded as their differences reassert themselves. The leaders may find common ground on matters like a single headquarters for EU military missions, a Franco-German proposal endorsed in Mr Juncker's speech. They will assert the importance of control over the EU's external borders. But on meatier matters like harmonising asylum rules or euro-zone integration, agreement looks more elusive than ever.

Hope over experience

No matter, say optimists: this is the beginning of a "period of reflection" that will culminate in a set of shiny new initiatives next March, when the EU will mark the 60th anniversary of the Treaty of Rome, its founding document. Charlemagne hopes his scepticism will be forgiven. The EU is in a bind. Its institutional leaders are too weak to battle its crises; its heads of government see little advantage in defending its achievements and are plagued by disagreements. Austrian, Dutch and French elections in the months ahead will further test the mood. It is telling that these days the EU's most robust defenders are found outside its borders, as a visit to Ukraine or Georgia will reveal. (Many in Brussels still swoon at the memory of a stirring defence of European integration delivered by Barack Obama at a German trade fair in April.)

In time, that could change. The benefits of the EU will start to feel all too real to refugee-phobic states in the east if their subsidies are threatened in the coming round of budget talks. Euro members may be roused from their slumbers when crisis next hits. But if the failed attempt to keep Britain inside the EU provides any lessons for others, it is that years of unchecked attrition warfare on Brussels may have nasty consequences. European leaders facing domestic insurgencies might do well to listen. No doubt Mr Juncker would approve. ■

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Economic geography

How the other three-quarters live

London and the south-east power Britain's economic growth. But the rest of the country is getting richer quicker

PLENTY of Londoners secretly suspect that beyond the M25 motorway that encircles the capital, nothing very much happens. Their city is the most economically important in Europe, perhaps anywhere, as well as the most fun according to the votes of reviewers on TripAdvisor. London and the south-east region have long been more prosperous than the rest of the country, where the remaining three-quarters of the population live. In July Theresa May, who likes to contrast herself with her posh, metropolitan predecessor, David Cameron, began her time as prime minister with a promise to help "every single" British city, an appeal to those who feel left behind by the country's London-led growth.

Certainly the Britain beyond London and the south-east that Mrs May wants to conquer—call it the Mayan Empire—is less economically advanced. If it were a country it would be about as rich as Spain, with a GDP per person one-tenth below the EU average. Some parts are a lot worse off. On the Isle of Anglesey, in Wales, income per person is 57% of the EU average, lower than most of Sicily. The gap between the richest and poorest parts of Britain is greater than in any other EU country; London's GDP per person is 186% of the European average.

By almost any measure, the Mayans' recent GDP growth has been unimpressive. Data from the OECD, a club of rich countries, suggest that if you ignore London and the south-east, Britain's GDP growth between 2008 and 2014 was slower than France's. Sluggish economic activity keeps property prices down. House prices have risen by over one-fifth in London and the south-east since 2008 but fallen by more than 5% elsewhere in England.

There is little to suggest that GDP growth will soon pep up. The number of Mayan firms annually registered has risen by 10% since 2010, half the rate of London and the south-east. Investment is low, too. Its share of overall R&D spending is much lower than its share of the population.

The familiar phenomenon of a "north-south divide" is thus alive and kicking. But dig into the data and a puzzle emerges. The Mayan Empire's GDP growth may be sluggish, but in recent years the lot of its people has been improving faster than that of people in London and the south-east.

However you measure pay—hourly, weekly or annual, mean or median—since 2009 that of the Mayans has grown faster in cash terms than the pay of those in the London region, in contrast to pre-crisis trends. After housing costs, Mayans' median real household incomes have held steady since 2008, compared with a 6% fall in London. Indeed, after housing costs the incomes of working-age folk are now higher in Scotland and the east of England than they are in London.

The disconnect between GDP growth and how workers actually fare is best captured by a measure called the "labour share", defined as wages and salaries as a proportion of GDP. Economists have recently noted that Britain's overall labour share is falling. But this is driven by London and the south-east; elsewhere labour's share is stable (see chart on next page).

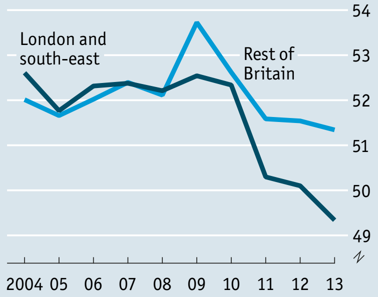
Not only that, but in recent years income inequality has grown in the capital, while falling elsewhere. Since 2009 the real annual pay of a Londoner at the tenth percentile (ie, near the poorest) has fallen by an astonishing 23%. The official figures may even understate the reality at the top. The richest folk, who disproportionately live in the capital, hide income. "There has been a huge rise since 2009 in people starting companies which have no employees. I can't help but think that a large part of this is to avoid tax," says Danny Dorling of Oxford University.

There are many reasons for Mayans' relatively strong wage growth. They may have experienced a lighter squeeze on pay because they tend to be older, and so have more experience and bargaining power than others, points out Stephen Clarke of the Resolution Foundation, a think-tank. About one-quarter of employees are unionised, compared with one-fifth in London and the south-east. And Mayans have been protected by their reliance on public-sector jobs. Since the crisis, public-sector pay has grown faster than private.

Others argue that the high number of immigrants who settle in London and its surroundings may push down on low-end wages. But this is less convincing: in recent ▸▸

The fruits of one's labour

Labour share of GDP, %



Source: Eurostat

years the immigrant population has grown quicker outside the capital. A more plausible explanation is that more Mayans are on the minimum wage, which in recent years has risen faster than average earnings.

The most intriguing explanation for relatively strong pay growth outside the capital concerns technology. In a recent speech Andrew Haldane of the Bank of England examined the effect of automation on wages. As machines have replaced men and women across a growing number of tasks, he suggested, the balance of bargaining power has swung against labour, especially low-skilled workers. Wage growth can thus be weak even as GDP rises.

That process may be most pronounced in London and the south-east. The region buzzes with innovation; investment in new technologies is high. And because of the south-east's monstrously expensive housing, it is hard to locate low-value-added activities there. (Secretarial and administrative jobs in the region are disappearing 50% faster than elsewhere.) Londoners are also more likely to work in the "gig economy", via platforms like Uber and PeoplePerHour, than Mayans, whose wages may thus suffer less from the disruption associated with rapid technological changes.

These trends may not continue for long. Public-sector jobs could be cut. Labour-saving technology may soon sweep across the country. Still, common misconceptions about the British economy outside London and the south-east need setting straight. Output is lower, and growing slower, beyond the capital. But the incomes of the three-quarters of Britons who live there are catching up with those of Londoners—and in a few places are already ahead. ■

Schools and social mobility

A new syllabus

Plans to let more schools select pupils on ability divide parents and politicians

THERESA MAY clearly wants to be remembered for more than overseeing Brexit. On September 9th the new prime minister set out plans to build a "truly meritocratic Britain" that stretched "the most academically able, regardless of their background." The details, presented in Parliament three days later, included some minor fiddles, such as opening more religious schools and getting universities and private schools more involved in state education. But the centrepiece was a big policy shift that delighted some within her Conservative Party and appalled others: away from comprehensive education and towards academic selection.

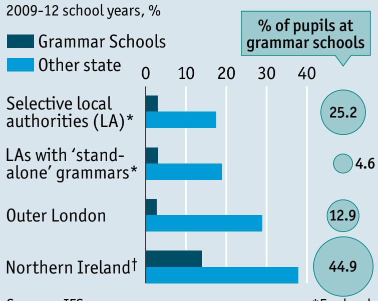
British governments since 1997 have sought to improve education without sorting children by ability. They can claim a big success in London, once home to some of the country's worst schools, where better teacher training and school management have raised attainment at all ability levels without academic selection. Around 15% of 16-year-old Londoners poor enough to receive free school meals get good enough grades to be on course for a prestigious university; across England the share is just 6%.

The new plan to increase academic selection has gone down badly with most educationalists (the chief inspector of schools, Sir Michael Wilshaw, called it a "retrograde step") and even many Tory MPs (who note that it did not feature in the manifesto on which they were elected last year). But others, like Mrs May, thank selection for their own success, and regard fans of comprehensives as hewing to an outdated egalitarianism.

Slim chance

Year 7 pupils eligible for free school meals, UK

2009-12 school years, %



Sources: IFS; NI Department of Education

*England †2015-16 school year

Mrs May has identified two real problems: poor social mobility and a failure to stretch able children. Compared with those in other rich countries, British state schools produce few very high achievers. Private-school alumni are over-represented in well-paid jobs. Many British schools are "complacent", says Andreas Schleicher of the OECD club of rich countries. "What is most striking is not that some schools in poor areas do remarkably well, but that some very privileged schools do so-so."

Proponents of academic selection point out that, in their 1960s heyday, selective state "grammar" schools sent pupils on to university and the professions in droves. Opponents attribute that to economic shifts that created vastly more white-collar jobs; there is no such expansion today. And they cite evidence that children who narrowly failed the 11-plus went on to get fewer qualifications and earn less than those who barely passed. Again, the relevance today is disputed: the "secondary modern" schools which took the children who did not get into grammars failed their brightest pupils in part by not teaching courses that prepared them for university. Nowadays all schools do.

In Northern Ireland, nearly half of children still go to grammar schools—and it has more high-attaining school-leavers than other parts of Britain. Moreover, an increase in grammar-school entry in 1989 was followed by one in exam results. Supporters conclude that more grammars means higher attainment; opponents, that if such a big share of children benefit from academic rigour, it should be a feature of all schools.

As for England's 163 remaining grammar schools, a review by the Sutton Trust, a charity, found that they improved the results of the children they taught, but not by much, since their able, well-off pupils would also have done well in comprehensives. For poor children the boost was more marked—but few of them get in (see chart). Other analyses suggest that, overall, a smaller share of poor children get high grades in areas with lots of grammar schools than elsewhere.

Mrs May's plan to increase academic selection would probably boost the number of high achievers. But it would not be "regardless of their background": most would be from well-off families and if many schools opted for entrance exams, poor children would be harmed. A less flashy policy brought in by her predecessor, David Cameron, might raise standards more widely. Schools will no longer be rated according to the share of pupils achieving five C grades in exams taken at age 16 (which encouraged them to focus on the middle of the ability range) but on the share who do as well as expected given their ability on entry. That will promote high achievement—in every school. ■

Al-Qaeda

The other jihadist state

BEIRUT

Eclipsed by Islamic State, al-Qaeda may be making a comeback in a more pragmatic, and dangerous, form

SOON after it attacked America on September 11th 2001, al-Qaeda issued a book by its co-founder, Ayman al-Zawahiri, setting out a grand strategy. "Knights under the Prophet's Banner" explained that striking America, not local regimes, would galvanise Muslims everywhere; jihadists had to cleave "to the masses" and needed a "base in the heart of the Muslim world" to achieve eventual success.

In the event, al-Qaeda was chased from Afghanistan and dispersed by American forces, which eventually killed its leader, Osama bin Laden. In Iraq, the jihadists were nearly wiped out as the masses turned against them, for a time. And with the subsequent collapse of Syria and Iraq, al-Qaeda was eclipsed by its rebellious progeny, Islamic State (IS), which declared a caliphate in 2014 and has inspired jihadists—and earned the enmity of everyone else—ever since.

Yet the threat from al-Qaeda never disappeared. Its central leadership remains committed to attacking the West; its regional branches are active; and Mr Zawahiri remains at large. The IS caliphate looks likely to be dismantled as American-backed forces close on its strongholds of Raqqa and Mosul. By contrast, Mr Zawahiri's dream of a secure base for al-Qaeda in the Arab world may be turning into reality. So, at least, fear Western governments.

Al-Qaeda's Syrian branch, Jabhat al-Nusra ("The Support Front"), has taken a central role in the fight against Bashar al-Assad's regime. Mr Zawahiri's deputy, Abu Khayr al-Masri, released by Iran in a prisoner swap last year, has moved to Syria with several other senior al-Qaeda figures, Western officials say. There is talk that al-Qaeda may soon declare an Islamic "emirate" (one notch down from a caliphate).

Such worries go some way to explaining the terms of the latest ceasefire in Syria negotiated by America and Russia. Its central bargain is this: if the Russians restrain Mr Assad and allow humanitarian supplies into besieged areas held by rebels, America will join Russia in targeting Jabhat al-Nusra (as well as IS). The first such joint operations since the end of the cold war will start if the ceasefire holds for a week after coming into force on September 12th.

John Kerry, the American secretary of state, and his Russian counterpart, Sergei Lavrov, did not agree on a future government for Syria, let alone a timetable for Mr Assad to step down. But Mr Kerry rejects the notion that America has, in effect, bowed to Russia and its intervention to prop up Mr Assad: "Going after Nusra is not a concession to anybody," he says. "It is profoundly in the interests of the United States to target al-Qaeda."

But America risks being seen as doing Mr Assad's bidding. "This is a conspiracy against the Syrian people to bring their revolution to an end," says Mostafa Mahamed, the Nusra front's English-language spokesman. "We are one of the strongest forces fighting the regime, and the world knows it."

On the eve of the Kerry-Lavrov deal, someone appears to have made a downpayment: an unknown aircraft struck a meeting of rebel commanders, killing Abu Omar Saraqib, a prominent Nusra figure. Whoever carried it out, rebels of all persuasions mourned his death. "Saraqib was the engineer of the military operations of one of the strongest rebel alliances in Syria. His death will weaken the revolution," says Zakaria Malahfeji of Fastaqim Kama Umirt, a rebel faction in Aleppo that receives military support from America. Such sentiments say much about the failures of American policy in Syria, and the success of al-Qaeda's belated pragmatism.

Think global, act local

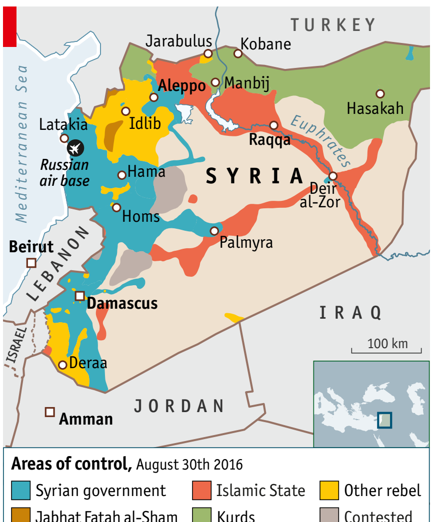
Jabhat al-Nusra has played a long game. Like IS, its roots lie in al-Qaeda's *jihad* against American troops (and increasingly against Shias) in Iraq; both later grew in Syria's blood-soaked soil. But whereas IS doubled down on its anti-Shia sectarianism and the "management of savagery", Jabhat al-Nusra sought to learn from the excesses of Iraq. IS favours ostentatious brutality, the extermination of rivals and the imposition of strict *sharia* rules. It took the fast lane to the caliphate, and calls on supporters worldwide to attack the West by whatever means. Jabhat al-Nusra, by contrast, seeks to win the respect of brutalised ▸▸

Sunnis by fighting Mr Assad; *sharia* strictures have, for the most part, been light; the caliphate is a long-term objective, to be established when conditions are ripe. Jabhat al-Nusra has formed alliances with more moderate groups; and it has focused on the fight in Syria rather than global *jihad*.

In July Jabhat al-Nusra declared it had severed "external" ties with al-Qaeda, and rebranded itself Jabhat Fatah al-Sham (Front for the Conquest of the Levant, or JFS). Western counter-terrorism experts tend to dismiss the move as cosmetic. But in Syria it proved contentious enough that some hardline jihadists left. JFS now seeks a full merger with other rebel groups; purists think that its global ambition will be diluted by the nationalist Syrian rebel agenda. David Petraeus, a former CIA chief, has suggested talking to its "reconcilable" elements. Some are even pushing Staffan de Mistura, the UN special envoy to Syria, to start putting out feelers to the front.

"Al-Nusra is still an integral part of al-Qaeda despite the name change. The danger is that they are acquiring popular support. If it continues to grow then it could become a genuine mass movement," says Charles Lister of the Brookings Institution, an American think-tank. "With a large enough majority behind them they could establish an emirate, a kind of protected territorial base on the borders of Europe that the international community would find very hard to root out."

There is little evidence so far that the group has sought to carry out attacks against the West. Indeed its leader, Abu Muhammad al-Julani, says Mr Zawahiri has expressly forbidden him from doing so. But counter-terrorism officials worry that it is just a matter of time. America has been targeting what it calls the "Khorasan group" within the front, a nucleus of al-Qaeda figures who have moved to Syria and were allegedly plotting international attacks. For the most part, though, American bombing has been directed at IS.



Areas of control, August 30th 2016

Source: Institute for the Study of War

The front's fighters have acted as the shock troops of the Sunni rebellion, especially in northern Syria. Its cadre of suicide-bombers, known as *inghimasi*, was used with devastating effect to breach the Syrian regime's lines before rebel assaults. "Al-Nusra's fighters have become to the opposition what Russian and Syrian jets are to the regime," says a seasoned observer. Soon after its rebranding, JFS was instrumental in breaking the siege of rebel-held Aleppo. The respite was brief but earned JFS the gratitude of many in the city.

Other units have little choice but to work alongside the front. It has attracted many recruits; more than two-thirds of its roughly 7,000 fighters are thought to come from Syria. They see it as a better-trained, better-equipped, more disciplined force that takes greater care of its wounded. It has even drawn fighters from IS.

Though Syrian rebel groups are more or less keeping the ceasefire, few will obey America's order to separate from JFS. They fear that, should fighting resume—as after an abortive ceasefire in February—Mr Assad's forces will reclaim territory. Many think strikes against JFS would be like "ripping a vital organ from the body of the revolution", as one Syria-watcher puts it.

The softer side of jihadism

Like IS, the front presents itself as a quasi-government in areas where it is dominant. Its Department of Relief paves roads, repairs electricity lines, pumps water and rebuilds damaged infrastructure. To prevent looting, its police guard marketplaces. It subsidises bread, runs flour mills and bakeries, offers Islamic education, provides health care and ensures rents remain low for families displaced by the fighting. At "family fun days" locals compete in games of tug-of-war and enter raffles to win TVs.

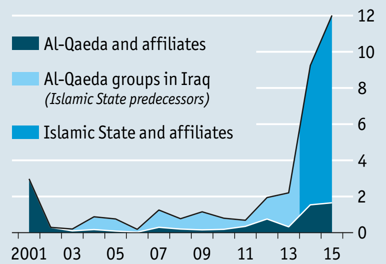
Many regard the front as less corrupt than other rebel factions. By controlling the judicial system, and access to marriage certificates and property deeds, it seeks to settle disputes and steer locals towards its ideology. "They don't intervene in people's affairs like before. Even around Idlib, their main stronghold, you can see girls and women not wearing the *niqab*," says Sami al-Raj, an activist from Aleppo. "Many people consider it the only rebel group that can protect their property and money. You rarely find robbery in the areas it controls."

Already in 2013, before the split with IS, Mr Zawahiri was urging moderation on jihadists. Except for some places—such as Afghanistan, Pakistan, Somalia and Saudi Arabia—they should as far as possible avoid clashing with local regimes. They should resist fighting "deviant sects" like Shias, and "avoid meddling" with non-Muslim minorities. The priority should be to strike America "until it bleeds to death both militarily and financially", he said in a public missive. "Our struggle is a long one and *jihad* is in need of safe bases and consistent support in terms of men, finances and expertise."

A grim toll

Global deaths from terrorism, '000

Attributed* to:



Sources: START, University of Maryland; *The Economist*

*In attacks for which perpetrators can be identified

The move from avoiding unnecessary friction to taking care of populations is a new stage in al-Qaeda's pragmatism, which has been visible in Yemen, too. With the collapse into civil war last year, caused by Shia rebels' armed takeover of much of the country and a Saudi-led intervention to push them back, al-Qaeda took control of the port of al-Mukhalla. It kept it running, levying taxes on oil imports. It administered the city through existing tribal structures. Supplies of water and electricity increased. Visitors described security as better than elsewhere in Yemen. "They wanted to show that they could rule better than anyone else," says Elisabeth Kendall of Oxford University. By and large, she says, they succeeded.

In April, though, special forces from the United Arab Emirates, with the reported help of American ones, put an end to al-Qaeda's "Hadramawt province". Its fighters moved east into al-Mahra, prompting internecine fighting for control of smuggling routes into Oman. Far from the rivalry in Syria, al-Qaeda is flirting with a nascent IS offshoot in Yemen.

Harried by American strikes, and more involved in local conflicts, jihadists have not been able to attack the West on the scale of 9/11. But 15 years on, says Nicholas Rasmussen of America's Counterterrorism Centre, "the array of terrorist actors around the world is broader, wider and deeper than at any time since that day."

IS and al-Qaeda may yet swap roles. If and when the IS caliphate is destroyed, say Western officials, it might go global, dispersing among its regional franchises, or turning to full-blown international *jihad*. It would thus become a bit like the al-Qaeda of yesteryear. And if there is no reasonable settlement to the war in Syria, al-Qaeda will plant stronger local roots. Its future emirate, should it come to it, may be more firmly supported by the local population, and therefore even harder to extirpate, than the barbarous IS caliphate. ■

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A tech icon's future

Twitter in retweet

SAN FRANCISCO

It is too late for the social-media firm to become the giant that people once expected

BEFORE Jack Dorsey helped found Twitter, the social-media firm known for snappy, rapid-fire updates, he worked briefly as a masseur. More recently, Mr Dorsey has been trying to massage away the aches and pains that afflict his creation. He returned as the firm's chief executive in July 2015, taking over from Dick Costolo, who presided over a period of slowing growth and a string of departures by senior executives.

Twitter's problems have continued despite Mr Dorsey's ministrations. The biggest is that it has largely stopped growing. Its tally of monthly users, at around 313m, is barely rising. Americans who use the service via their smartphones spend around 2.8 minutes on it each day, which is around a third less than they did two years ago and far less than they spend on rival apps, such as Facebook and Snapchat. In the next quarter, revenues are expected to fall. Even though sales will probably increase for the full year, a quarterly drop is worrying for an internet company which is a household name and only ten years old.

In bringing back Mr Dorsey, who was pushed out in 2008, Twitter's board was betting that his earlier knack for unruly creativity could work once again. Soon after arriving he announced a new offering called "Moments", which shows Twitter users what subjects are trending, and said the service would loosen some restrictions on its strict 140-character limit, which dates from its early days as an SMS messaging service. Mr Dorsey has also expanded the firm's video offering. Twitter won the rights to stream ten matches from the National Football League, the first of them on September 15th.

Its biggest strength remains its well-known brand, and its central place in users' lives. "Every sentient, literate being on earth has heard of Twitter," says Peter Stabler, an analyst with Wells Fargo Securities, a bank. Well before Donald Trump made it one of his main campaign tools, it was the most popular platform for posting and discovering news. The video that captured Hillary Clinton stumbling near New York City's 9/11 memorial this week, shortly before she admitted to having pneumonia, was first posted on Twitter, some time before professional news outlets picked it up.

But Twitter's share price has fallen by half since Mr Dorsey returned, to around $18. And the reasons to be pessimistic are multiplying. The first problem is Mr Dorsey himself. Considering the firm's challenges, it needs a full-time boss if it is to have any hope of rebounding. Yet Mr Dorsey continues to split his time between Twitter and Square, another public company he co-founded which manages financial payments (and which has also struggled of late). Far more of his net worth is tied to Square's performance than to Twitter's. Having a boss who shows up part-time affects morale at Twitter's San Francisco headquarters, say people there. Because he is often working at Square, many managers arrive late, depart early and generally show up just to "punch the time card", says one former senior executive who has sold all of his shares.

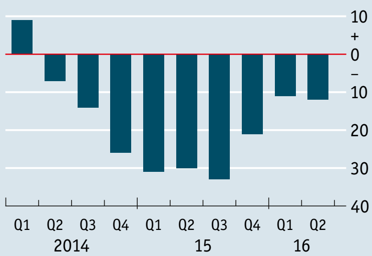
Second, Mr Dorsey's conviction that there is no need for a radical overhaul of the core product looks like a mistake. Twitter has a loyal base of users—probably around 20m-40m—who adore the service and want only minor tweaks. But the vast majority of people find it fiddly. Mr Dorsey has tweaked some algorithms, as well as launching Moments, but bigger changes are needed to win back lapsed users and bring in new ones. Some observers recommend eliminating the 140-character limit to allow far freer expression. Twitter also needs to rid itself of trolls who harass users, and to close down its millions of false accounts. According to a website called Twitter Audit that analyses followers, 35% of Mr Dorsey's own 3.8m followers are fake.

Third, and most worryingly, while Twitter was distracted by dysfunction and turnover at the top, rival firms have pushed into the space it once might have owned. Twitter was early to recognise the potential of video. It bought Vine, an app specialising in six-second videos, in 2012, and Periscope, a live-streaming app, last year. But Facebook is energetically pushing into vid-

Losing character

Average time on Twitter mobile app

United States, monthly active users per day, minutes
% change on a year earlier



Sources: Morgan Stanley; comScore

eo, and Snapchat, a mobile messaging app that launched in 2011 and is popular with youngsters, is heavy on video, too. Facebook has now added the option of following people, a signature feature of Twitter. It has also invested in news, which people used to go to Twitter to read. Referral traffic to external websites from Twitter, including to many news websites, has declined by a fifth in the past 15 months, according to Chartbeat, a web-analytics firm.

Celebrities and politicians still tweet, but they are sharing photos on Instagram (a photo app owned by Facebook) and posting videos on Snapchat, too. Messaging apps, such as WhatsApp and Facebook Messenger, are hugely popular. People who might have chirped at each other on Twitter are spending more time in these apps. In short, while Twitter used to have an edge because it anticipated people's desire to share news and details about their lives online, it has been painfully slow to defend the territory it helped popularise.

Twitter will survive, but it has lost its chance to be the sort of internet giant it might have become under better management. Advertisers go where users spend time. Although many brands buy ads on Twitter, they are unlikely to increase spending unless more users flock to the service, or existing users spend more time there. In 2017 Twitter's revenues will probably rise by a paltry 6%, to $2.7 billion, according to Brian Nowak of Morgan Stanley, a bank. The firm is not profitable according to normal accounting standards (GAAP, or generally accepted accounting principles) because of the huge amount it pays out to employees in the form of stock-based compensation.

Some people wonder if it could make an acquisition and transform its fortunes. So far there is little sign that it has the appetite. It was reportedly in discussions to buy Medium, a platform for long-form writing owned by Evan Williams, who co-founded Twitter and still sits on its board (see next story). But that purchase, of a small company, would not solve its problems.

It is far more likely that Twitter itself will eventually be bought. A deal may not arrive quickly, for Twitter's share price, and its market value, at more than $12 billion, are still high. Several analysts are expecting a steep fall in its shares, possibly to as low as $13, a level at which it would make a tempting target. Some in Silicon Valley speculate that a media firm, such as Disney, might come forward. Mr Dorsey serves on Disney's board. But the wholesome media giant may shy away from a platform that throws up daily crises over hate speech and undesirable users, including terrorists.

Another possible acquirer is 21st Century Fox, whose founder, Rupert Murdoch, might have a stronger stomach. Yet most people reckon that Google is the natural buyer, because it could tie Twitter in to its other properties, including search and YouTube, and sell more ads than Twitter can on its own. It has already agreed to help it sell some ad inventory and is showing tweets in its search results. Google could easily afford a high price.

It may so far have shied away from a purchase because of its clashes with European regulators on whether it is a digital monopoly and how it delivers online news articles. They might not look fondly on it controlling an important platform for news and free speech.

That sentiment may be widespread. Whether people use Twitter regularly or not, most would say they want it to thrive, whether on its own or under the wing of another company. The firm has helped raise awareness of conflicts and injustices, for example, in Egypt, Iran and Tunisia that would otherwise have attracted less attention. Much of the world will keep watching Mr Dorsey's attempts to pound Twitter into shape, even if people increasingly do so on Facebook and Snapchat. ■

Online media

Three-hit wonder

SAN FRANCISCO

A co-founder of Twitter is betting he can revolutionise digital publishing once again

FEW feel as conflicted about the internet's descent into glib, 140-character tweets as Evan Williams. As a co-founder of Twitter, he has profited handsomely from the social-media firm's rise and remains its largest shareholder. Yet now his main project is to ensure that serious-minded, long-form prose will offset the torrent of tweets, often penned by twits.

Mr Williams's latest venture, Medium, which launched in 2012, is a clean, elegant-looking destination for essays, open letters and "big think" pieces. It is trying to become the central hub for writing by the public at large, as YouTube is for amateur videos. Journalists, business executives and heads of state, including Barack Obama, have all published on Medium. When Amazon disagreed with a *New York Times* article on the e-commerce giant's apparently brutal work culture, a senior executive from the firm wrote a long retort on Medium. Small papers and digital-media firms, such as the *Pacific Standard* and The Ringer, are using it to publish content.

Hack with a future

As in Hollywood, it is easier to sell a sequel in Silicon Valley. In 1999 Mr Williams co-founded Blogger. The startup helped popularise the concept of blogging and the word itself by making it simple for people to post their musings without needing to code. After Google bought the company in 2003, Mr Williams worked on a podcasting firm called Odeo that ended up launching a text-messaging service, which became Twitter. "Anyone who has changed the world twice, I would bet on a third time," says Jeff Jarvis, a professor of journalism at City University of New York.

Some venture capitalists have done so: they have joined Mr Williams in financing Medium to the tune of $130m, valuing it at around $600m. Investors hope that Medium will be able to rival Facebook as a place for personal commentary and news discovery. "The world needs a hedge to Facebook," says Kevin Thau of Spark Capital, a venture-capital firm that has invested in Medium. (That view will have been boosted by a recent controversy over the social-media firm's censoring in Norway of an iconic photograph of a naked girl in a napalm attack during the Vietnam war.)

The site certainly is not Facebook: Medium's sleek, minimalist look is heavy on blank space and has raised the bar for reading on the web. Users like its features, such as the estimated time an article will take to read, and one that shows which passages were highlighted frequently in an article, though Mr Williams himself has some criticisms. "We were a little too precious about the design, engineering and who could write on the platform," he says, admitting that he probably rolled out new features too cautiously early on.

Medium has only just begun experimenting with how it will make money. One option is to take a cut of the subscription fees charged by publishers on its platform. So far it is working mainly with small firms, but eventually some bigger newspapers and magazines could sign on. Medium also has plans to make money by means of sponsored advertisements, where companies pay to promote posts they have written.

Yet to build a large advertising business, it will need many more readers. With 30m monthly users and a reputation cultivated mainly among coastal, tech-savvy elites, Medium is a long way from the scale of a Twitter, which has more than ten times as many users, let alone a Facebook, which has 1.7 billion.

For John Battelle of NewCo, a digital publisher that posts articles on Medium, the big question is whether the site's focus on lengthier prose leaves it vulnerable to short attention spans. Elsewhere online, stories are increasingly told with images, emojis and videos. Mr Williams remains optimistic. Having trained people to express themselves in short, snappy quips, he believes they still have a "hunger for substance". This may be true, but whether it makes for a thriving business is an entirely different question. Plenty of newspaper and magazine bosses can testify to that. ■

Europe's digital single market

Incumbents rule

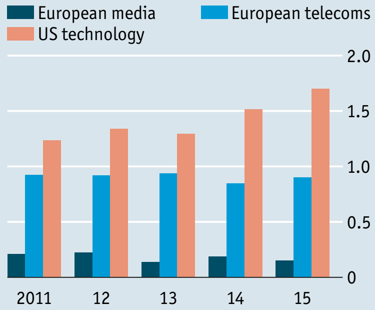
The European Union's online reforms help the old more than the new

LOBBYING is big in Brussels (see chart). As well as lots of cash, it takes up vast amounts of time. Between December 2014 and this July, members of the European Commission, the EU's executive body, and their closest advisers held more than 11,000 meetings with lobbyists. Among the most approachable, it seems, were commissioners Andrus Ansip and Günther Oettinger and their teams. They clocked up 2,156 meetings, or 6.5 per working day on average, according to Transparency International, an anti-corruption group.

It helps to keep these numbers in mind to understand the evolution of what is arguably the commission's most important economic initiative, led by Messrs Ansip and Oettinger. This is to create a digital single market across all of the EU's member states. On September 14th the commission unveiled its most controversial proposals

Spin-tech

European lobbying, ten largest firms' average spending, €m



Sources: LobbyFacts; *The Economist*

thus far, one on telecoms regulation, the other on copyright reform. The plans have to be approved by national governments and the European Parliament, and they are already being fought over.

The commission's intentions are laudable. In the digital realm Europe is still very much a patchwork. Digital businesses must work around 28 sets of national contract laws, which add an estimated €4 billion-8 billion ($4.5 billion-9 billion) a year to their costs. That is a big reason for the region's dearth of big technology businesses: only 27 of the 176 tech platforms identified by the Centre for Global Enterprise, a think-tank, hail from Europe.

Some of what the commission has proposed, together with what it plans to unveil later this year, would chip away at such virtual borders. One idea is to make it easier for consumers to access online content in another country. Today firms often block it for copyright reasons. More importantly, the EU wants to boost digital connectivity across the continent. Proposals include common rules for radio spectrum and incentives to invest in broadband networks. The commission also wants to sponsor free Wi-Fi across the EU.

Yet vital bits of the proposed rules do not seem aimed at creating a single market. Rather the goal is to arbitrate between battling corporate interests: European telecoms operators and big media firms in one corner and American tech giants in the other. Firms such as Deutsche Telekom and Spain's Telefónica have long pushed for a "level playing-field" with online rivals. The commission now proposes that certain offerings, such as internet-telephone services including Skype, must obey telecoms regulations, including the requirement to allow emergency-call services.

News publishers, similarly, want internet platforms such as Google to pay for the snippets of articles they display. The new regulatory proposals give them a new sort of copyright on these, to strengthen their ability to negotiate fees with the tech platforms (although it doesn't introduce a "tax" on web links, as some had feared).

The interests of European startups, originally seen as a high priority, have got short shrift. Thus far the EU's digital strategy includes little to make life easier for them. The commission decided not to include them in an important copyright exception, for example. Academic researchers will be allowed to mine bodies of text and data without having to pay extra for this, but, oddly, not if the purpose is to set up a new firm. Another round of telecoms and copyright regulations is likely to make it more difficult for young firms to expand.

There is also the likelihood that the commission's planned new rules will become still more unfocused as they wind their way through the legislative process. Meanwhile, American platforms will broaden their footprint even further, perhaps into manufacturing industries where the continent's firms have more clout. "Europe has lost the first half-time of the digitisation game," said Timotheus Höttges, the boss of Deutsche Telekom, a few years ago. The outcome of the second half may not be that different. ■

Retailing

Long journey

NEW YORK

Why Asian fashion brands struggle to wow the masses in America and Europe

ASIAN designers have little trouble appealing to wealthy fashionistas in the West. Last year, a long yellow cape dress worn by Rihanna at the Met Gala made a celebrity of Guo Pei, a Chinese designer. Winning over the mainstream shopper is another story. In 2005 Uniqlo, a Japanese brand with a genius for selling multicoloured basics, entered the American market with three stores in suburban shopping malls in New Jersey, only to close them within two years. It has yet to turn a profit in America with its other stores; between this January and June it closed five outlets.

Now Muji, another Japanese clothing and lifestyle giant, is expanding. It has ventured into New Jersey with a big new store in a glitzy mall. The difficult thing is reaching local people and selling them ordinary, daily essentials, says Asako Shimazaki, the head of operations in America. Customers queued for the store's grand opening last month. But their aim, they said, is to be part of a cool, niche group of Muji fans: not exactly what the brand had in mind.

The majority of the world's clothes, bags and shoes are manufactured in Asia. But the region's brands have made little headway in the West. Of the ten most valuable global apparel labels ranked by Millward Brown, a market-research firm, only

Uniqlo is Asian. Li-Ning, one of China's best-selling sportswear brands, tried to enter America in 2010. It opened a flagship store in Portland, Oregon and later launched an English-language online store. Both failed. Other "Asian" labels, such as SuperDry and Shanghai Tang, are actually owned by Europeans.

What makes the journey so hard? Adjusting to Western tastes takes time. Although Uniqlo became the largest Japanese apparel brand by selling US-style clothing, it still encountered cultural barriers in America itself. For example, vests are one of Uniqlo's most popular products at home, but relatively few Americans and Europeans wear an additional layer beneath their shirts, says Dairo Murata, an analyst at JPMorgan Chase, a bank. It was only two years ago the firm also realised that XL was not big enough in America; it now duly provides XXXL.

Another problem, at least outside the big cities, is price. Uniqlo takes pride in the use of high-tech, comfortable fabrics, an attempt to differentiate itself from other basic clothing brands like Gap and Old Navy. But at Danbury Fair, a Connecticut shopping mall that is a barometer for retail trends in the suburbs, people prefer Primark, a super-cheap Irish retailer which recently opened, to Uniqlo, which shut up shop in June. Mall visitors are conservative about fashion and about spending, explains F.K. Grunert, its leasing manager.

What still seems to work better is concentrating on chic urban centres, even though that means a smaller potential market. This month Uniqlo opened a revamped stand-alone store in Manhattan's Soho; such shops tend to do well. In 2002 it had 21 stores in Britain, dotted around the north-west, Midlands and south-east; now eight of the ten it still has are in London.

One answer could be e-commerce. Uniqlo is shifting its attention to the internet. But Asian retailers in America face the same hardships as local vendors: matching the convenience of Amazon is difficult. Not even Alibaba, China's biggest e-commerce firm, could make a fashion website work. Last year it sold its American online boutique store, 11 Main, a year after the launch. Customers declined to visit in large enough numbers, and 11 Main had to ask merchants to ship their products directly to consumers, which meant high costs and inconsistent delivery speed. It was a humiliating moment for a company that, like most of Asia's big retailers, usually gets it right at home. ■

Rihanna shows the way

Multinationals in Venezuela

Stay or go

CARACAS

Companies in the age of chavismo

EIRA, a 38-year-old Venezuelan, used to like shopping. Now she stands beside barren shelves in a Caracas supermarket. The average Venezuelan spends 35 hours each month queuing for food. This supermarket's few products include Kellogg's Zucaritas, its muscular tiger cartoon strangely pallid in hue—supposedly to make the packaging more eco-friendly but, many Venezuelans reckon, more likely the result of an ink shortage.

The dearth of goods reflects the fact that Venezuela, led by Nicolás Maduro, the president, is in freefall. The International Monetary Fund expects output to shrink by 10% this year and inflation to top 700%. Businesses are prostrate. The country has never been rich, but having the world's largest oil reserves once meant many citizens could afford foreign brands. Not now. Firms have long grappled with price controls, bizarre labour laws, the threat of expropriation and, since 2003, currency restrictions. Plunging oil prices have further exposed the system's frailty. As the bolívar's value has tumbled, firms with profits in the currency have reported big losses—for example, Merck, an American drugmaker, announced a hit to its earnings of $876m for 2015.

For most firms, there is no easy solution. Two years ago Clorox, which makes household products, decided to leave. That meant giving up not just sales but assets: the government seized its factories. A more common approach has been to "deconsolidate" a subsidiary. When a country's rules are so restrictive that a parent firm cannot control its local operations, American accounting rules let a firm mark its subsidiary to fair value and classify it as an investment. The parent company's earnings no longer recognise profits stuck in Venezuela, but the subsidiary continues to exist. Goodyear, a tyremaker, and Ford, a carmaker, have done this. The cost of the accompanying write-down can be high—for Procter & Gamble, it was a whopping $2.1 billion. But the move lets firms maintain some presence in Venezuela in the hope that the country might someday recover.

Those that have stayed operate in a morass. The government controls where goods are sold, often directing products to neighbourhoods where it wants to boost political support, explains Risa Grais-Targow of Eurasia, a research outfit. Parts and supplies are scarce. Many firms get creative. Coca-Cola Femsa, a Mexican bottler that is partly owned by the American drinks giant, has little sugar, for example, so it is making diet soda.

For the staff who remain, the outlook is bleak. Threats of arrests of employees are common, since Mr Maduro blames shortages of essential items on a *guerra económica* waged by foreign and local firms to stir discontent. Companies cannot afford to raise wages at the pace of inflation. Some are at least providing a few important necessities. Many workers are bringing their cafeteria lunches home, to share with their families. Given the conditions, one former executive of a multinational who is based in Caracas thinks that foreign firms are hanging on for too long. But they doubtless hope that tenacity will benefit them if and when a new regime comes. ■

The drug industry

Growing pains

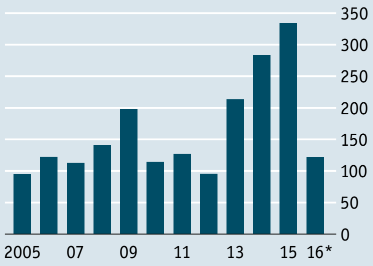
Prescriptions for the pharma business

LAST year, Pfizer almost became the world's largest drug firm when it tried to merge with Allergan, an Irish company that makes Botox, among many other products. The deal would have been worth $160 billion, but was indirectly blocked by the American government (via a change in tax rules) because it appeared to be aimed at avoiding taxation. In the confused aftermath, Pfizer said it would return to an earlier plan: breaking itself up. Then last month it gobbled up Medivation, a cancer-drug company, in a $14 billion deal, followed by AstraZeneca's antibiotics division for $1.6 billion, and questioned whether a split would be worthwhile.

By wrestling with the question of its corporate structure, Pfizer is having a debate that echoes throughout the industry. Investors have pressed many diversified drug firms this year over whether they

Cell fusion

Global pharmaceutical and biotechnology companies, M&A, $bn



Source: Dealogic *January 1st-September 14th

should break themselves up into more specialised units. Diversified firms are those that typically have consumer-health divisions offering low-margin products such as plasters and talcum powder. Meanwhile, "pure-play" drug companies focus on innovative medicines—for example, a full cure for Hepatitis C—that command high margins.

Companies such as Johnson & Johnson (J&J), GSK and Novartis fall into the first camp, and have all recently wrestled with the question of splitting themselves up. Investors and analysts tell them that they may be worth more broken into their parts than as a whole, and ask whether capital is being allocated efficiently across their divisions. These sort of questions inspired Pfizer to sell its consumer-products division to J&J in 2006, and Merck, an American drug firm, to divest its consumer unit to Bayer in 2014.

Neil Woodford, an influential shareholder in many pharma companies, including the British drug firm GSK, accused it in January of being four FTSE 100 companies bolted together. GSK includes its core medicines and vaccines outfit, a consumer-healthcare division, a dermatology unit and a specialist HIV business. Andrew Witty, its boss, explains that some time ago he took a long-term view of his company, anticipating greater pressure on drug prices. The firm wanted to offset lower drug prices with higher sales of low-margin, high-volume products. The aim was to invest in businesses that were less exposed to a "pricing dynamic".

Other diversified pharma companies make the same case. Consumer divisions smooth out the bumpy revenue that comes with the uncertain business of inventing drugs—which may fail to win approval, and eventually come off patent.

In recent months the argument has gone their way. There has been heavy pressure on drug pricing in America after a series of firms, most recently Mylan, were pilloried for stratospheric rises. The NASDAQ biotech index, comprising mostly small firms pursuing innovative drug research, fell by 3.6% on a single day in August when Hillary Clinton sharply criticised the industry's decisions on pricing. Advocates of diversification were boosted by GSK's strong performance in the second quarter of this year. It handily beat expectations thanks to those boring, low-margin areas like consumer health and vaccines.

Even firms that publicly profess a desire to slim down are likely to buy others. Cash is piling up on the balance-sheets of many companies in the industry. Japan's Takeda is the latest to indicate that it is on the prowl for acquisitions. Firms may be looking for new drugs to sell, or different geographical regions to operate in. In specific areas such as cancer, points out Matthias Evers, a partner at McKinsey, a consultancy, scale and the depth of drug pipelines matter enormously. Pfizer's purchase of Medivation, for example, allows the bigger firm to bolster its oncology portfolio. However much pharma bosses and investors debate the merits of focus versus diversification, they will keep doing deals. ■

Autonomous cars

Pitt stop

PITTSBURGH

Uber launches its first self-driving cars

SITTING in the back seat of the self-driving Uber as it navigates narrow streets in Pittsburgh's old industrial heart, the Strip District, is surreal. The global ride-sharing firm chose the area as the spot to develop and test driverless cars, and picked up its first customers on September 14th. Your correspondent got a ride the day before. The vehicle moves smoothly down busy Penn Avenue, stopping at four-way stop signs and traffic lights, slowing to allow other cars to parallel park. It navigates around double-parked delivery vans. It even stops to allow jaywalking pedestrians to cross.

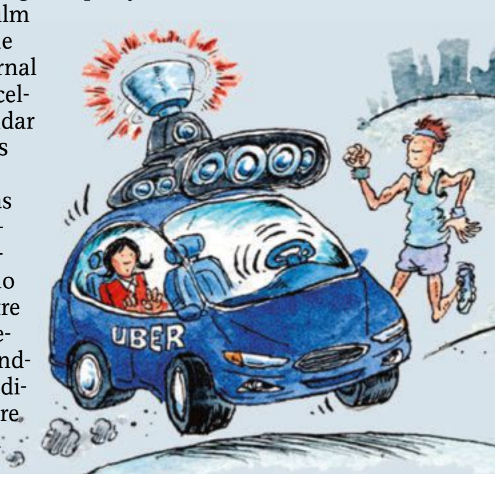
The cars are not truly driverless yet. During the trial an Uber employee sits behind the wheel, ready to take over should something go wrong. A second employee, a sort of co-pilot, sits in the front passenger seat, monitoring a screen, alerting the pilot to what the car "sees", including other cars, upcoming traffic, potential obstacles and elevation—Pittsburgh is very hilly. Another monitor in the back seat allows passengers to see what the car is seeing.

By the end of the year, 100 Volvos will be on the road, but in the meantime a fleet of Ford Fusions are picking up passengers. A large rotating laser (that strongly echoes the flux-capacitor from the film "Back to the Future") is mounted on the roof. The car is also fitted with 20 external cameras, measurement devices for acceleration and orientation, 360-degree radar sensors and separate antennae for GPS positioning and wireless data.

Pittsburgh is ideal for the tests. It has the talent, because Uber poached Carnegie Mellon University's robotics department last year. Raffi Krikorian, who heads up the company's research centre in Pittsburgh, calls the city the "double-black diamond of driving". It has a winding road system, extreme weather conditions and lots of traffic. Drivers there are used to odd quirks like the "Pittsburgh left", as it is known, where oncoming traffic yields to cars making left-hand turns. If Uber can master autonomous driving in Pittsburgh, Mr Krikorian says, it can make it almost anywhere.

Having City Hall's support for the urban lab helps. Even before Uber came to Pittsburgh, Bill Peduto, the mayor, was fighting state lawmakers to allow ride-sharing. Local government must take risks and behave like a startup, he says. "Regulation will never be ahead of innovation. If you sit and wait, the innovation will happen, but somewhere else." The city is small enough that it can get things done, but large enough that the world should notice.

Put in the actual driver's seat, for a short spell, your correspondent did need to intervene when midway through a turn, the traffic light turned red and the car suddenly stopped. But *The Economist* felt very safe. Not all Pittsburghers are convinced. "I'd want to know that it's 100% foolproof before I'd get in," says Shelby Rocco, a student. Mike Taylor, a banker, who uses Uber all the time, has no reservations. He feels bad for the drivers, who he suspects may lose their jobs, but "it'll be nice not to have to keep up any more awkward conversations."



BASF

Chemical reaction

LUDWIGSHAFEN

How the world's largest chemical company brews innovation

ALONG the west bank of the Rhine, south of Frankfurt, cormorants and herons frolic as barges moor at Ludwigshafen. Here the world's largest chemical park stretches out over ten square kilometres. Streets such as Chlor-, Ammoniak- and Methanolstrasse are shaded by 2,850 kilometres of pipes that connect everything like arteries; red is for steam, yellow for gas, green for water. The saying goes that most Westerners touch at least one product from a BASF site before leaving home.

It is the world's largest chemical company, and one of Europe's largest manufacturers. Because it sells chemicals and chemical products to other companies, such as BMW, Nestle and Procter & Gamble, BASF is little known to consumers. It isn't one for blowing its own trumpet. "We will try our best to remain spectacularly unspectacular for the media," said Kurt Bock, the CEO, at last year's 150th anniversary. But BASF repays attention for two reasons: the sheer impact of what it does, given its size, and its systematic approach to innovation.

Big and bold

The two go together. Mr Bock thinks size helps it make big bets on long-term innovation, which he calls an "increasingly lonely activity". Last year the company spent nearly €2 billion ($2.2 billion) on R&D—its revenues last year were €70.4 billion—and devoted 10,000 employees to coming up with new ideas. It generated 1,000 patents, a typical number in any given year.

BASF's most celebrated breakthrough was its discovery in 1913 of a way to mass-produce fertiliser, which helped eliminate mass hunger. The real innovation of this "Haber-Bosch process", named after the two scientists who won Nobel prizes for it, was not converting nitrogen and hydrogen into ammonia, but doing so on an industrial scale. Subsequent inventions have ranged from the tape in cassettes (1935) to an aroma called citronellal (1982) to drought-tolerant corn (2013). The new Adidas Boost, a running shoe that promises extra bounce using "energy capsules", relies on a BASF invention.

The firm's next big bet is on electric cars. Some 200 metres from where Mr Bosch (of fertiliser fame) made his breakthrough, Marina Safont Sempere, a young chemist from Spain, is working on what could be another. Her team is working on next-generation battery materials. Today, she explains, electric cars typically contain 50 big, heavy batteries, which weigh them down, take up space and run out after 150km-200km. BASF hopes to create a powder that packs more energy into less space, weighs less and comes at a lower cost. Such investments are partly a bet on the future, partly a hedge on current revenues tied to the combustion engine.

One tested strategy for BASF is trying to anticipate exactly how future markets will develop. As the middle classes grow, for example, sales of dishwashers and dishwasher tablets are booming. But phosphate, which removes scale, will be banned in the EU from January. Scientists at BASF started thinking about this over 20 years ago and worked on Trilon M, a chemical that performs as well as phosphate but is biodegradable.

Its approach is founded on an extensive network. It works with 600 universities, research institutes and companies, and has its own venture-capital outfit. It seeks out joint ventures and makes small strategic acquisitions, such as the recent purchase of Verenium ($62m), an enzyme-research company. It also increasingly works in partnership with customers, as an inventor-for-hire, on whatever they need (non-sticky sunscreen, carbon-free packaging, lighter cars), marking an expansion to downstream and service provision.

Green and pleasant innovation

Some of BASF's customers increasingly request help to meet their environmental goals, although the company acknowledges that there are many clients for whom this is a much lower priority. It is a dilemma for the chemicals industry whether or not to shift more quickly to sustainable production than clients actually demand. The firm claims that by now, 27% of its products contribute in some way to "sustainability", a figure that it wants to increase. Its *Verbund* principle, a system whereby it recycles waste products—for example, by selling excess carbon to the beverage industry—is good for profits. It saves some €1 billion a year from such processes.

Another feature is BASF's habit of quickly shedding businesses when new iterations no longer pay off. This happened in the textile-chemicals business, and in parts of the paper-chemicals industry, when customers told it that there was no need for further product refinements. Similarly, it got out of fertilisers, caffeine and standard plastics because they all became too commoditised, making it hard to compete.

Steady as she goes

Discipline has some drawbacks. Stock-market analysts like BASF's vertically-integrated structure—it owns most of its supply chain—and its strong focus on innovation. Its share price has risen over the past decade. But the firm's methodical approach to acquisitions could also work against it.

On September 14th Monsanto, the world's biggest seed producer, accepted a takeover by Bayer, a German drugs and chemicals giant, worth $66 billion (€59 billion). Amid a wave of consolidation in the agribusiness industry, says Lutz Grueten of Commerzbank, BASF could be left behind because it does not possess its own seeds business and has instead relied on partnerships, including with Monsanto. It is unclear whether this contract will be renewed. BASF emphasises that it is serious about its crop-protection business, that it has €6 billion in sales and that it devotes 26% of its R&D to agribusiness. The firm will be on the lookout for anything coming onto the market as a consequence of the Bayer-Monsanto deal.

Another worry for Mr Bock is a zeal for regulation on the part of European governments. The continent's approach to scientific testing is becoming too cautious compared to that of America, he reckons. A current debate over research on, and use of, endocrine-disrupting chemicals (substances that can have harmful effects on the body's hormone system) is one example. But Mr Bock is optimistic about his industry's ability to help solve mankind's problems as a silent enabler of progress. He apologises for sounding pompous, but promises that "if you want to improve the state of the world, chemistry can really help." ■

Schumpeter | Risky business

Managers need to watch political risk in developed markets as well as emerging ones

MULTINATIONAL companies have always paid careful attention to political risk in the developing world. No surprise there, given the risk premium attached to investment in emerging markets. Western businesses turn for advice to consultancies that keep a watchful eye on alarming developments in far-flung places. There is booming demand for political-risk insurance that can protect companies against shocks, be they coups in Turkey, sanctions against Russia or a debt default by Venezuela.

Now, however, firms need to pay the same attention to political risk in the developed world. Just consider the latest news from the American election trail. The woman who stands between the presidency and a hot-head who wants to tear up the world's trading system is losing her air of invincibility, due to an unguarded comment about a "basket of deplorables", a bout of pneumonia and a foolish decision to conceal the illness from voters.

Britain's vote on Brexit in June was a reminder that impossibles may turn into improbables, and then quickly become fact. Businesses now face years of uncertainty as politicians thrash out the details of the Anglo-continental divorce settlement. Europe faces various possible crises. Spain is on its way to its third election in a year. Matteo Renzi, prime minister of Italy, has promised to resign if he loses a constitutional referendum due by the end of the year, which would threaten political turmoil just when the banking system is particularly shaky. Angela Merkel, Germany's chancellor and until now the iron woman of European politics, is weakening rapidly because of her unpopular policy on refugees.

Plenty of commentators reckon the world of risk is turning upside down. "Political risk has shifted to the developed world," gloated a recent column in South Africa's *Rand Daily Mail*. It is easy to see why this idea has traction. The Indian government is both stable and pro-business. Vladimir Putin has imposed order on Russia, albeit at a horribly high cost. China produces five-year plans while America struggles to pass a budget.

But it is a misguided view, nonetheless. Brazil lurches from one corruption-driven crisis to another. Jacob Zuma's government in South Africa is riven by graft and incompetence. The Philippines, which has one of the world's best recent records on economic growth, has elected a Trumplestiltskin of its own, Rodrigo Duterte. There isn't a fixed lump of "instability" to be distributed around the globe. At the moment political turmoil is on the rise across most of the world.

That still represents a big change. For the past 30 years multinationals in developed markets have mostly operated in a benign environment. Political parties worked within relatively narrow parameters, and pro-business policies, such as the liberalisation of trade and of rules on immigration, rolled forward. Shocks were few. No longer. The political spectrum is widening. In Britain, Jeremy Corbyn, an old-fashioned leftist, controls the Labour Party, which was once the apogee of pro-business leftism. In France, Marine Le Pen, the leader of the National Front, who boasts that she wants to add "Frexit" to "Brexit", is almost certain to be one of the final two candidates for the French presidency next year. Unprecedented shocks are almost routine. In 2011 Standard & Poor's downgraded America's sovereign-debt rating for the first time. Greece's default in 2015 to the International Monetary Fund was the first by a rich-world country. Donald Trump upends political convention on a daily basis.

Companies need to recognise that many developed countries are becoming high-risk markets that do not compensate for those risks by delivering higher returns. They may need to import risk-management practices that they already apply to emerging markets: making sure not to concentrate their investments in too few countries; developing "emergency response plans" in the event of a sudden crisis; and planning how they will cut their losses and move, or slim, their businesses if a populist seizes power.

Firms are already wary of long-term investments given slow growth. Political risk could reinforce such hesitancy. For the time being they may prefer shorter-term bets. There is evidence that companies are stashing cash in safe securities as they wait to see what "Brexit means Brexit" actually means. In August sterling-denominated money-market funds held £180 billion ($240 billion) in assets, up by almost a fifth since the start of the year.

Tumbrils could roll

Yet if businesses pull back on long-term investments, they may only encourage more instability. A vicious cycle, of low corporate spending that encourages stagnation that in turn produces popular discontent and more political turmoil, may spin faster. Companies need to supplement prudence with something more proactive. Defusing popular anger at corporate excesses is a business priority as well as a political one. Over the past 30 years companies got into the habit of thinking about things like executive pay in purely market terms. For example, they devoted a great deal of thought to making managers behave like owners rather than employees, by granting stock options. But public perception matters as much as complex calculations.

Firms' efforts to grapple with such issues can easily backfire. Conclaves of the super-rich meeting together to talk about the ills of inequality reek of aristocrats debating whether to share some crumbs from their tables. The World Economic Forum's decision to make "responsive leadership" the theme of its next annual meeting in Davos is almost an invitation for ridicule.

But that is an argument for thinking harder rather than giving up. By-invitation chinwags do not cut it. Companies need to be conscious of political—indeed, populist—considerations in their day-to-day operations, from how they set the pay of their executives to who they appoint to their boards to how much they spend on corporate entertainment. The price of freedom to do business in the rich world today is eternal vigilance. ■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Chinese investment

A sponge wrung dry

SHANGHAI

China's private investors keep their hands in their pockets

ORDERS from on high can shape the Chinese economy. In 2013 Xi Jinping, the president, said cities should be more like sponges, sopping up rainwater for re-use when parched. China is now working on some 30 "sponge cities". Then in 2014 Mr Xi said the government should encourage businesses to invest in state projects. Since then China has announced plans for thousands of "public-private partnerships" (PPP), including sponge cities. But investors do not seem interested. Sponge cities are struggling to soak up private capital.

This month Guyuan, a city in Ningxia, a north-western region that is dry most of the year, launched China's first sponge-city PPP. However, as is the case with others that are in the works, the "private" side of the partnership was not all it was cracked up to be. The investor, Beijing Capital, is in fact a government-owned firm. And to make the deal viable, the government pitched in a subsidy worth nearly one-fifth of the 5 billion yuan ($750m) total cost.

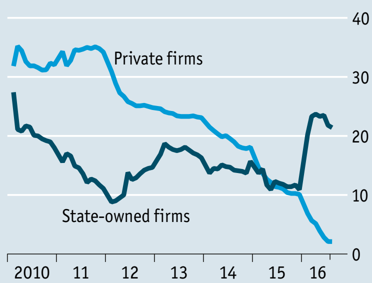
This points to a bigger problem: a sharp slowdown in private investment in China. New data on September 13th underlined the trend. Over the first eight months of 2016, private-sector investment rose by just 2.1% from the same period a year earlier, virtually the lowest rise since records began in 2005. Meanwhile state-backed investment has soared (see chart). It might seem unsurprising that the government is driving China's economy. But it marks a big shift: the private sector was responsible for roughly two-thirds of investment over the past decade. And since investment accounts for nearly half of GDP, private caution clouds the growth outlook.

The simplest explanation for the slowdown is that the state has crowded out the private sector. Government-backed entities have long had better access to banks. In the past private companies have compensated by using their own earnings and tapping shadow lenders. Both routes are harder this year. Profits are not growing at the heady double-digit rates of not long ago. At the same time regulators have curbed shadow banks, leery of the risks brewing inside them. A side-effect has been to deprive some private firms of financing.

Stepping up

China's fixed asset investment

% increase on a year earlier*



Source: Wind Info *Calculated monthly, year-to-date

Yet that is only part of the problem. Many companies have money but are not spending it, says Zhu Haibin of JPMorgan Chase. They are keenly aware of the overcapacity in industries from coal mining to solar-panel making. Returns on capital have fallen by a third since 2011 to about 7%, according to Société Générale. With average bank lending rates just a touch lower at 5.25%, many are holding back, hoping profitability will improve. State firms can afford to pay less attention to the bottom line. Despite weaker returns than their private peers, they have kept investing.

The politics of big infrastructure projects are also a stumbling block. Local governments are reluctant to cede their most promising projects to private investors. Many officials are suspicious of private firms. Beijing municipality recently signed a PPP agreement for a new highway, and picked China Railway Construction Corp, a mammoth state-owned enterprise, as its partner. The official in charge suggested that private companies had neither the ability nor the capital necessary. And with ventures such as the sponge cities, it is not clear to private investors how they will make returns. Unlike toll roads or power stations—normal fodder for PPP deals—better drains and reservoirs are not easily converted into profits.

This being China, there are, as ever, questions about the quality of the data on investment. Some economists believe the public-private gap is exaggerated because of the government's stockmarket rescue last summer, when the state acquired bigger stakes in companies. As these ownership changes filter into the data, they may be adding to the apparent increase in state investment. Separately, catastrophic num- ▸▸

bers from Liaoning, a north-eastern province, have wreaked havoc with national statistics this year. Investment there is down by nearly 60%, but this may largely reflect a clean-up of previously embellished figures, not an economic disaster.

The government itself, however, is certainly behaving as if the problem is more than a statistical accident. This summer it dispatched teams of inspectors to 18 of China's 31 provinces to see why private companies were not investing. Earlier this month the cabinet unveiled measures to encourage them to spend more. It promised to treat private firms the same as public ones when investing in sectors such as health and education. It called on banks to lend more to them. And it said it would roll out more PPP projects, enticing private investors with larger state subsidies.

These pledges may well show some results in the coming months, especially now that the government is talking so openly about the need to spur private investment. But many economists say that bigger changes are needed. To begin with, China could make it easier for private businesses to invest in state-controlled sectors such as finance and transportation. The government could also break up some of the state-owned enterprises that currently dominate these sectors. For the time being, though, it is moving in the opposite direction, merging state firms to create even bigger national champions.

The silver lining in all this is in what it says about the acumen of China's private investors. Their caution reveals how big a role market forces, as opposed to top-down orders, now play. The government would love to see companies open their wallets. Instead, they are behaving like sensible businesses anywhere. They are conserving their cash and waiting for better opportunities than sponge cities to emerge. ■

Buttonwood | Trust busting

The dangerous contradiction between economic reality and political rhetoric

MANY political upheavals of recent years, such as the rise of populist parties in Europe, Donald Trump's nomination for the American presidency and Britain's vote to leave the EU, have been attributed to a revolt against existing elites. People no longer trust mainstream politicians, nor indeed the media that report on them. This of course has huge economic as well as political consequences.

Some populist political leaders try to exploit this climate of mistrust—and extend it to encompass foreigners and minorities within the domestic population. These people, it is alleged, intend to cheat, rob or sponge off the voters. By extension, international agreements, it is implied, are a betrayal of domestic voters—backroom deals cooked up by global elites looking after their own interests.

Trust is built into the heart of almost all economic activity. Once humans specialised, they required others to produce what they themselves did not—the farmer needed the blacksmith to produce his tools, the blacksmith needed the farmer to supply his food. A global trading system requires us to deal with complete strangers on a daily basis. We must trust companies to deliver the goods we order, our employers to pay our wages and the banks to keep our deposits safe.

Any hint of a general erosion of trust—of a retreat to the kind of economic nationalism that marked the 1930s—would be a very worrying sign. Already new trade agreements, such as the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership, face an uphill struggle to be implemented. As yet, however, nothing suggests that the angry political mood is being converted into boycotts of foreign goods or firms. Consumers seem to value their iPhones and Volkswagens too highly to deprive themselves of them on political grounds.

Yet complacency would be unwarranted. The 2007-08 crisis showed what can happen when belief in the financial system breaks down. Banks lost confidence in each other's creditworthiness and refused to lend; a knock-on effect was that companies found it hard to get trade credit. Economic activity suffered. In 2011 investors lost confidence in the creditworthiness of some European governments; bond yields spiked, recessions followed.

Disaster was avoided with the help of immense efforts from central banks. As a result, bond yields have fallen sharply. Historically, this has been a sign that investors are less risk averse than before—they trust debtors will not default and that central banks will not stoke inflation.

Yet it is harder to argue that negative interest rates and bond yields are a sign of enhanced trust—instead, it seems that investors are so desperate to park their money with safe lenders that they are willing to pay a penalty to do so. Furthermore, central banks are in a vulnerable position. They have been able to act decisively in the past few years because they are free of democratic constraints. But their actions have attracted criticism—from the right in America and Britain and from all quarters in the euro zone. Central bankers were given policy freedom because they were perceived to be disinterested experts. Now both their impartiality and their expertise are in question. The powers that democratic governments bestow, democratic governments can take away.

The dependence on trust makes the global economy vulnerable in another way, too. Systems benefit from being more open; the more people that can take part, the more potentially profitable connections can be made. But open systems can be exploited by those with malign intentions. The laxity of boarding procedures on American domestic airlines was exposed by the 9/11 attacks.

Every system of exchange ever devised has been exploited; coins made of precious metals were debased; paper notes were forged; cheques bounced. Today money largely consists of bits on a computer, a staggeringly convenient system that allows people to pay instantly for goods (often denominated in different currencies) from all over the world. But it also causes immense frustration for consumers and retailers when systems are disrupted and internet connectivity breaks down. Cyberwarfare is an increasingly tempting tool for the ill-intentioned; the source of an attack is hard to trace and responsibility is easy to deny.

That again brings the problem of declining trust into focus. Today's economy and financial system depend on global co-operation; today's political system is one where such co-operation is increasingly seen by voters as intrinsically suspicious. That is a dangerous disconnect.

Economist.com/blogs/buttonwood

Wages in Japan

Behind a pay wall

TOKYO

Raising Japanese wages is harder than it looks

IT WAS, for the IMF, an unorthodox suggestion. Last month a report from the fund suggested that Japan should take measures to prod companies into paying higher wages. It came on the heels of an exhortation from Olivier Blanchard, a former chief economist at the IMF, and Adam Posen, another economist. They argued that in the next year the country should increase nominal wages and other benefits by 5% to 10% "by fiat".

Wage policies have long been out of favour with economists. Their return to fashion among Japan-watchers shows just how deep concerns about the economy run. Fiscal and monetary easing has failed to stimulate consumption. Some 61% of GDP comes from private consumption, but Japanese are not spending. That is not because they reckon that entrenched deflation means things will get cheaper in the future. Rather it is because they expect to be more squeezed financially thanks to their stagnating incomes.

The IMF says wages have increased by only a paltry 0.3% since 1995. In 2015 Toyota, a carmaker, increased employees' "base" pay by only 1.1%. The average wage increase by 219 firms in Keidanren, a business association made up mainly of large manufacturers, was 0.4%, according to the IMF. Yet Japan Inc sits on a massive pile of cash: some ¥377 trillion ($3.7 trillion).

Shinzo Abe, the prime minister, who has staked his reputation on Japan's economic recovery, has tried to push up pay. He has increased minimum wages, which will rise again on October 1st. But they are modest and affect only a small proportion of the workforce. In the 2016 annual pay round, when government observers join talks for the permanent, unionised section of the labour force, Mr Abe asked Keidanren to raise wages. He will do so again in the next round.

Looking for a rise

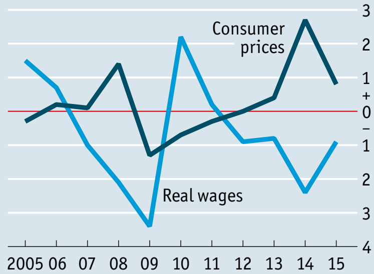
Wages have fallen less slowly since 2014 (see chart) and are rising this year, but they are not doing so fast enough. Robert Feldman of Morgan Stanley, a bank, reckons wages would have to rise by 4% rather than the current 2% to hit the government's inflation target (also 2%). Takashi Suda of Rengo, Japan's largest trade union, argues that pay must rise faster at small and medium-sized firms where wages are lower and are rising more slowly than at big firms. Also, he says, to encourage spending it is more effective to raise low-earners' incomes than high-earners'.

But Keidanren's members, which do not face a labour shortage and are struggling with the costs of a stronger yen, are not playing ball, despite sitting on hoards of cash. This is much to the chagrin of Mr Abe's people, who thought they had a deal: bigger wage increases in return for a cut in corporate tax. It is far from obvious, however, what more Mr Abe can do. He is unlikely to outrage the private sector (and traditional economists) by mandating pay hikes. Instead, the government is said to be mulling a tax on corporate savings. "I believe that's only a threat, but it's a good threat," says Takeshi Niinami, the head of Suntory, a beverage company, who sits on a government council for labour reform.

Executives retort that the government needs to look at its own behaviour. Keidanren calculates that a third of wage increases are absorbed by social-security payments, which are due to rise again in October. In an ageing country the mounting costs of pensions and medical care mean this share is unlikely to fall.

But given Japan's ageing and shrinking population, and hence tightening labour market, it seems odd it should be so hard to nudge wages upwards. One reason is that some industries that need to raise wages are unable to. Public nurseries, for example, are desperately short of staff yet cannot increase pay because of government rules. Many employers are resorting to golden handshakes and other incentives, but the Ministry of Health, Labour and Welfare says higher monthly wages have a far greater impact on spending than bonuses and overtime.

Further, pay discrepancies for similar work are bigger than can be explained by skills gaps. Using government figures, Morgan Stanley calculates that civil servants are paid ¥8.8 per minute, workers in large firms ¥7.1 and those in medium ones ¥4.2.



The sins of wages
Japan, % change on year earlier

Sources: Ministry of Health, Labour and Welfare; Thomson Reuters

Such inequities, and the divide between traditional, regular "salarymen" jobs and non-regular workers, distort the labour market. Regular workers are more willing to trade higher wages for job security. Most Japanese companies reward staff for seniority rather than ability, which stops people moving companies. Mr Niinami calls Japanese business practices "dinosaur systems".

Tackling such issues has frustrated Japanese governments for decades. Some reckon the introduction of artificial intelligence to workplaces, to make up for the falling labour force and poor productivity, will actually push down wages in many industries. Already *sushi* restaurants with almost no staff are common: dishes are ordered on a tablet and delivered by conveyor belt. Wage hawks have a lot on their plates. ■

American property

The REIT stuff

Explaining the boom in property-based investment trusts

THEY did not know it, but when a group of merchants raised money for the Boston Pier in 1772, they were early pioneers of a vehicle known today as a REIT (real-estate investment trust). The financing structure for the pier—the merchants owned the land together and shared the rent—in essence describes an investment product that, 250 years on, is all the rage.

A REIT is a legal structure that owns, or finances, property that generates income. It pays no taxes itself but has to distribute over 90% of earnings to shareholders. Crippled by the financial crisis in 2008, they have since grown fast. This year their market capitalisation passed $1 trillion, or 4% of the American total, close to the size of the utilities sector. They have been performing well, beating the market in 2014, 2015 and so far this year, when they have generated ▸▸

a return of 18.1%, and are trading at an average multiple of 23 times earnings, compared with 17 times for the S&P 500 index as a whole. In a mark of their new prominence, this month S&P and MSCI, another index provider, classified real estate as a distinct sector.

The early REITS of the 1960s were seen as dull, niche investment vehicles designed to collect a steady stream of rental income. But what used to make them boring—that they resemble fixed-income bonds—is positively exciting in today's low-interest-rate world. REITS churn out stable and predictable cashflows from five- to ten-year-long property leases. Their current yield is 3.6%, higher than the 1.7% yield offered by a ten-year Treasury bond.

Moreover, the growth of REITS has coincided with a soaring rental market after America's housing crisis in 2008. As more people have opted to rent than own, rents have surged by as much as 3-6% a year in cities such as New York and San Francisco. Even in the suburbs, national REIT operators have emerged, buying and leasing batches of single-family homes with gardens. As a group, three of these have made a return of 33% this year.

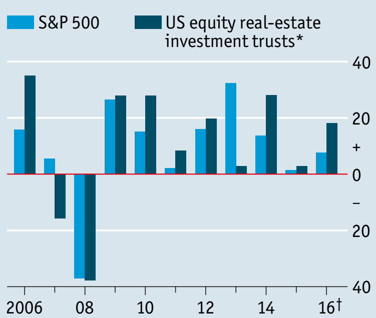
A third reason for the current craze for REITS is that, since the crisis, they have become more diverse. Businesses not traditionally seen as part of the property sector, such as telecom towers, data centres and forestry concessions, have labelled themselves as REITS to avoid corporate tax and achieve higher market valuations. They now make up one-sixth of REITS' total market capitalisation. Between 2013 and 2015 a wave of casinos and hotels spun off their properties, listed the assets separately as REITS, and leased them back to the operating business. Big firms such as Macy's and McDonald's have faced pressure from activist investors to do something similar.

The REIT-creation frenzy, however, may already have passed its zenith. In June the Internal Revenue Service, America's tax bureau, issued regulations banning companies outside the property industry from abusing the tax-free REIT structure. So far this year only one REIT has listed its shares, compared with seven last year and 19 in 2013. Another looming risk is an interest-rate rise. When the Federal Reserve hinted at tighter monetary policy in 2013, REITS prices dropped by 13.5% in five weeks. And the rental market is coming to a peak as supply picks up and demand weakens. "The days of 6% rent growth in lots of markets are probably over," says Mike Kirby, the chairman and co-founder of Green Street Advisors, a property-advisory firm.

But REITS also look more resilient than they were in 2008. They have reduced their debt-to-asset ratio from about 70% then to 31% today. E-commerce may threaten some shopping malls, but also boosts demand for facilities such as warehouses and data centres. Last year four out of the seven top-performing REITS were data centres. The industry today bundles a range of different businesses whose only similarity is checking the same tax-free box. Another pier, anyone? ■

Better REIT than wrong

Market returns, %



Source: National Association of Real Estate Investment Trusts

*FTSE NAREIT All Equity REITs †To July 29th

Global inequality

Shooting an elephant

HONG KONG

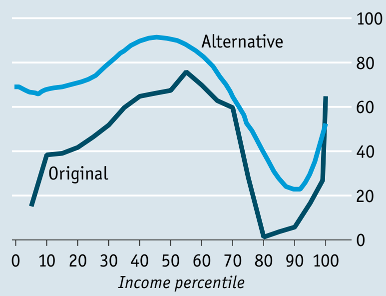
Charting globalisation's discontents

THE "elephant chart" began life in 2012, hidden in the middle of a World Bank working paper by Branko Milanovic, an authority on global inequality. It turned a few heads in the *New York Times* in 2014, then graced Mr Milanovic's well-received book on global inequality earlier this year. Somewhere along the way it acquired its name, which helped it stampede across social media, brokers' notes and even a ministerial speech this spring and summer. "I'm about to bring an elephant into the room. A wild, angry, and dangerous elephant," joked Lilianne Ploumen, the Dutch trade minister, last month, before unveiling the chart to her audience. Now, its critics are trying to shoot it.

A mammoth undertaking

Increase in real income*, 1988-2008, %

By percentile of global income distribution



Source: Christoph Lakner & Branko Milanovic, World Bank

*At purchasing-power parity

The distinctively shaped chart summarised the results of a huge number (196) of household surveys across the world. It was created by ranking the world's population, from the poorest 10% to the richest 1%, in 1988 and again in 2008. At each rank, the chart showed the growth in income between these two years, an era of "high globalisation" from the fall of the Berlin Wall to the fall of Lehman Brothers.

When drawn for individual countries, charts of this kind tend to slant upwards (the rich gain more than the poor) or downwards. The global chart was unusual in sloping up, down, then upwards again, like an inverted S on its back, or an elephant raising its trunk. The chart showed big income gains at the middle and very top. But the era of globalisation seemed to offer little for the people in between: households in the 75th to 85th percentile of the income distribution (who were poorer than the top 15% but richer than everyone else) seemed scarcely better off in 2008 than they had been 20 years before. They constituted a decile of discontent, squeezed between their own countries' plutocrats and Asia's middle class. This dramatic dip in the chart seemed to explain a lot. "Cue Donald Trump. Cue nationalism. Cue Brexit," wrote Mr Milanovic's publisher.

But who exactly occupies this dangerous decile? A report this week by Adam Corlett of the Resolution Foundation, a British think-tank, examines this group more closely, taking aim at some simplistic interpretations of the chart. Many people assume the chart shows how people in this controversial income bracket back in 1988 fared over the subsequent 20 years. But that is not quite the case. Instead it compares the people in this bracket in 1988 with people in the same bracket 20 years later. They may not be the same people. They may not belong to the same class. They may not even belong to the same country.

What accounts for the changing constituents of each income bracket? Fast growth will, of course, carry people up the income ranks. Data, dissolution and demography also play a part. The countries included in the 1988 and 2008 rankings differ because data did not exist for both years or because the country did not (several emerged only after the Soviet Union dissolved). In addition, faster population growth among people in the lower reaches of the income distribution will automatically shunt everyone above them further up the income ranks, even without any improvement in their fortunes.

To see why, imagine a simple world populated by 750m poor Southerners and 250m rich Northerners. Imagine that incomes do not change over the next 20 years, but the South's population doubles. That would increase its share of mankind from 75% to over 85%. For that simple reason, in the 75th to 85th percentiles of the global income distribution poor Southerners would replace rich Northerners. Any comparison of this income bracket with the same bracket 20 years before would thus show a big decline in fortunes, even though no one is worse off.

Turbulent deciles

In reality, better-off Latin Americans and Westerners of modest means dominated the 75th-80th percentiles of the global income distribution in 1988. By 2008, rich Chinese had encroached upon this income bracket. The flat incomes shown by the elephant chart do not, then, reflect the stagnant fortunes of Trumpians and Brexiteers. They instead reflect a comparison between the original Latin American and Western occupants of this income bracket and the Chinese who jumped into it 20 years later.

None of this will be new to readers of Mr Milanovic's academic work. He and his co-author, Christoph Lakner, were quite clear about the shifting composition of the troublesome deciles. Their journal article also included an alternative chart, which does what many people assumed the elephant chart had done: it illustrates how each income group in each country in 1988 fared over the subsequent 20 years. In its shape, the chart looks recognisably elephantine. But the top 1% do markedly less well in this alternative chart than in the more famous one, and even the worst performing groups (now around the 90th percentile) boast income growth of 20% or more over 20 years.

Both charts show that China's middle classes and the world's rich have gained handsomely in the era of globalisation. It also remains true that the lower middle classes in rich countries have fared less well. The elephant shape remains, even if its dimensions are different. The Resolution Foundation's critique added little to the original academic papers (except a reason to go back and read them). But it clarified a misunderstanding shared by many of the pundits and drumbeaters who made such a noise about the rampaging chart. Like the elephant George Orwell described in a famous essay about his time as a colonial policeman in Burma, this one was shot chiefly to silence a crowd. ■

Hank Greenberg

Final claims

NEW YORK

An insurance legend has his day in court in a fight to save his name

A QUEUE began forming early. By the time the doors swung open at 2pm, there was a mob. After 11 years of legal skirmishes, including eight pre-trial appeals, the case of the people of the state of New York versus Maurice (Hank) Greenberg, a former chief executive of AIG, once the world's largest insurer, and against Howard Smith, AIG's former chief financial officer, began at last on September 13th.

Mr Greenberg was one of the last to arrive. Still spry at 91, he wore an elegant dark suit, sporting the red-and-white pin from his recent induction to the French *Légion d'Honneur*. As he sat, looking attentive and relaxed, it was indeed his honour at stake.

Opening, David Ellenhorn, counsel for the state of New York, accused Mr Greenberg and Mr Smith of concocting two sham transactions to mask problems in the company's core insurance operations. These took place between 2000 and 2003, when AIG was perceived by the stockmarket as that insurance rarity, a firm capable of producing high growth at low risk.

Even at the time, however, there were whispers of problems. The most prominent of the controversial transactions occurred after AIG's share price briefly plunged following a quarterly financial disclosure. A trend of declining reserves was tarnishing AIG's reputation for underwriting prowess and mitigating risk.

Hank has legacy issues

In response, Mr Ellenhorn said, Mr Greenberg called the chief executive of General Re at the time, Ronald Ferguson, to initiate a deal that enabled AIG to pay $5m to bolster the appearance of its reserves. Two General Re executives pleaded guilty to federal charges as a result of the transaction. Five other executives from AIG and General Re were subsequently found guilty in a trial. The verdict was later reversed and charges dropped, but the defendants acknowledged fraud.

The second transaction was prompted by losses in a car-warranty business run by Mr Greenberg's son, Evan. Mr Greenberg was irate, Mr Ellenhorn said, and took complete control of the organisation. An offshore company secretly controlled by AIG was used to disguise underwriting losses as an investment. Mr Ellenhorn said Mr Greenberg "designed, created, negotiated and implemented every aspect" of both transactions. His direct involvement reflected how important he believed the underlying issues to be, particularly because they could have an impact on AIG's share price, which Mr Greenberg saw as an external report card on AIG and himself.

None of the state's accusations, responded Mr Greenberg's lawyer, David Boies, could be substantiated by an individual or a document. The state's case, he added, is "devoid of any admissible evidence". Also, the transactions were too small to have a material impact on AIG's results, and thus to have legal relevance.

Resolving these claims will take many months. Perhaps the oddest aspects are the potential penalties. The state seeks to recover past bonuses and bar the defendants from senior roles in public companies and the securities industry. Given the defendant's age, Mr Boies responded, the ban is superfluous and any return of bonuses would be unjustified given the company's performance at the time. Mr Ellenhorn countered that Mr Greenberg continues to run an important insurer, C.V. Starr, that buried within its operations is control of a securities firm, and that he remains sprightly.

None of this suggests unbridgeable differences between the two sides. But that may be because the penalties should not be viewed literally. Both sides accept the case is really about Mr Greenberg's legacy. He needs to be found accountable, said Mr Ellenhorn: that would send a message to other CEOs that they cannot get away with fiddling with the books.

The importance of the charges being heard, moreover, pales beside a possible inference from a guilty verdict. That might raise the suspicion that Mr Greenberg condoned accounting fraud to mask deteriorating earnings and risk-control shortcomings. That, in turn, might make some wonder whether the AIG that blew up during the global financial crisis, after his departure, had long been a house of cards. ■

Misbehaving bankers (1)

Accounts receivable

At an American bank, staff found dodgy ways to meet targets set by higher-ups

PEOPLE respond to incentives. When bankers at Wells Fargo were paid to sign customers up for more and more products, that's exactly what they did. To a fault. Over around five years, starting in 2011, up to 1.5m deposit accounts and 565,000 credit-card accounts may have been opened without clients' permission; unwanted debit cards were issued; fake e-mail addresses were created to enroll people for online banking.

The gain to Wells was tiny. America's second-biggest deposit-taker and biggest mortgage-lender, which earned $5.6 billion in the second quarter, has so far refunded $2.6m in charges for overdrafts, failing to maintain minimum balances on unwanted accounts and so on. The punishment, at first blush, is small too. At $185m, the fines announced by regulators on September 8th are loose change next to the ten-digit penalties coughed up by banks since the financial crisis. But the damage done to Wells's reputation, on both Main Street and Wall Street, is harder to gauge.

Wells emerged strongly from the financial crisis, spreading across America from its western base after buying stricken Wachovia, once the country's fourth-largest bank, in 2008. Its watchword was "cross-selling"—prodding customers into taking extra services, to tie them more tightly to the bank. "Eight is great", staff were told. They got pretty close: in the second quarter households with current (checking) accounts had on average 6.27 products. The bank is not abandoning cross-selling. It says it erred on the side of caution in totting up the number of dodgy accounts. But it said on September 13th that it would cease to set staff targets for product sales.

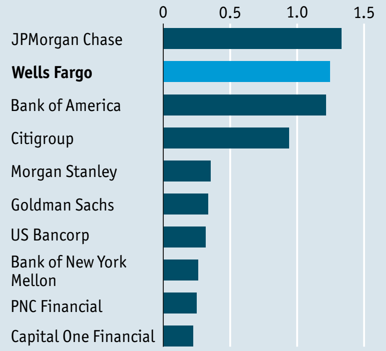
What went wrong? According to the bosses, a few rotten apples in a retail bank employing 100,000: it sacked 5,300 people over the five years. John Shrewsberry, the chief financial officer, has said those at fault were poor performers, "making bad choices to hang on to their job". Of the sacked staff, one-tenth were branch managers or above. They do not include the head of the retail bank, Carrie Tolstedt. Wells said in July that Ms Tolstedt, who was paid $9.1m in cash and shares last year, would retire at the end of 2016, after 27 years' service. John Stumpf, the chief executive, piled on the praise.

The bank's embarrassment is not about to end. Federal prosecutors have reportedly begun investigations. Mr Stumpf has been summoned to appear before the Senate Banking Committee on September 20th. With elections looming, senators will doubtless queue up to give him a good shoeing in front of the cameras.

The stockmarket has already kicked the share price: this week Wells lost its place as America's biggest bank by market capitalisation to JPMorgan Chase. Investors may worry that less pushy selling may dampen earnings—or that the scandal will cost Wells custom. But people stick with their banks, even after bigger blunders than this. Mr Shrewsberry said this week that Wells had been braced for a flood of calls, e-mails and social-media traffic but "we've had very low volumes". Inertia can be a bank's best friend. ■

Phoney Express

US banks' deposits, June 30th 2016, $trn



Source: Bloomberg

Misbehaving bankers (2)

Accounts payable

MUMBAI

At Indian banks, staff found dodgy ways to meet targets set by higher-ups

PEOPLE respond to incentives. But as economists have long recognised, often not in the way they were supposed to. Take an odd Indian phenomenon: bank branch managers have personally been donating tiny amounts of money to their own customers. Their aim was to please their political masters by boosting the usage rates of a government scheme to bring banking to the poor.

"The One-Rupee Trick", as it was dubbed by the *Indian Express* newspaper, which uncovered it this week, is a hare-brained attempt by bankers to spare politicians' blushes. In 2014 a bold financial-inclusion plan known as *Jan Dhan* (whose full name translates as "Prime Minister's People's Wealth Scheme") was launched by the newly elected prime minister, Narendra Modi. It promised basic bank accounts for all Indians. Hundreds of millions of accounts were opened. But as with past schemes, many remained unused.

Where cash is still the raj

Then the scheme seemed to take off. The proportion of such "zero-balance" accounts began to fall, from roughly half a year ago to under a quarter at the end of August. The apparent success was trumpeted widely, including by Mr Modi. But it is now clear a large part of the decline was fictitious. A cheap way to massage the figures was to deposit as little as one rupee (1.5 cents) into each account. Many bank managers used their own money.

So far, over 10m one-rupee accounts have been found at 34 banks, out of 240m accounts opened since 2014. One, Punjab National Bank, had boasted that only 9% of its 13.6m *Jan Dhan* accounts were zero-balance. It was forced to admit that a whopping 29% had only one rupee, and a further 5% no more than ten rupees.

The vast majority of the fiddling was at state-owned banks. Many are struggling and have either been rescued by a government bail-out or may need one soon—not the ideal time for a bank boss to admit he has failed to keep a flagship government promise. Some bank bosses were reported as having complained about "pressure" from above.

The revelation lends credence to claims that big poverty-reduction schemes are often mainly public-relations exercises. That is a shame: *Jan Dhan* is part of a sensible attempt to move away from inefficient subsidies of staples such as rice and kerosene to deposits made directly into poor people's bank accounts. For now, all many poor Indians have to show for it is a single rupee.

Free exchange | Stealth socialism

Passive investment funds create headaches for antitrust authorities

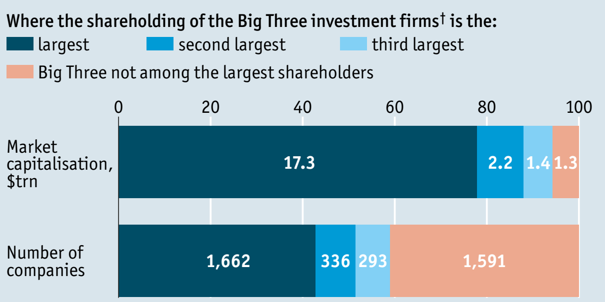
THERE is a contradiction at the heart of financial capitalism. The creative destruction that drives long-run growth depends on the picking of winners by bold, risk-taking capitalists. Yet the impressive (if not perfect) efficiency of markets means that trying to out-bet other investors is almost inevitably a losing proposition. Algorithmic punters trade away the tiniest of arbitrage opportunities near-instantaneously. Active investment strategies therefore amount to little more than a guessing game: one in which, over time, the losses from bad guesses eventually top the gains from good ones. Betting with the market—through broad index funds, for instance—is therefore a good way to maximise returns. Yet where does that leave capitalism, red in tooth and claw, and its need for bloody-minded nonconformists?

"Passive" investment vehicles, like those low-fee index funds, now soak up enormous amounts of cash. In America, since 2008, about $600 billion in holdings of actively managed mutual funds (which pick investments strategically) have been sold off, while $1 trillion has flowed into passive funds. So the passive funds now hold gargantuan ownership stakes in large, public firms. That makes for some awkward economics. Research by Jan Fichtner, Eelke Heemskerk and Javier Garcia-Bernardo from the University of Amsterdam tracks the holdings of the "Big Three" asset managers: BlackRock, Vanguard and State Street. Treated as a single entity, they would now be the largest shareholder in just over 40% of listed American firms, which, adjusting for market capitalisation, account for nearly 80% of the market (see chart). The revolution is here, but it was not the workers who seized ownership of the means of production; it was the asset managers.

A growing number of critics reckon this cannot be good for capitalism. Some argue that because such funds take investors out of the role of allocating capital the outcome does indeed resemble Marxism (or worse, since communists at least dared to suggest that some activities were more deserving of capital than others). In August analysts at Sanford C. Bernstein, a research firm, thundered: "A supposedly capitalist economy where the only investment is passive is worse than either a centrally planned economy or an economy with active market-led capital management." This is over the top. Passive investment pays because active investors rush to price in new information. If passive investors took over the market entirely, unexploited opportunities would abound, active strategies would thrive and the passive-fund march would stall.

Powers of concentration

Ownership of US listed companies*, %



Source: "Hidden Power of the Big Three?", Fichtner, Heemskerk and Garcia-Bernardo, 2016

*June 1st 2016
†BlackRock, Vanguard, State Street

Others worry that concentrated ownership will lead to managerial complacency. Actively traded mutual funds might sell a stake in a poorly managed firm; passive funds lack that option. Captive shareholders could allow management to run amok. Yet that worry, too, seems overstated. Passive asset managers can still be active shareholders. Most have signalled their intent to push executives for good performance. Rather, the big problem with concentrated ownership may be that firms are too mindful of the interests of their biggest shareholders. A fund with a stake in just one firm in an industry wants that firm to out-compete its rivals. Big asset managers, which take large stakes in nearly all of the dominant firms in an industry, have a somewhat different view. From their perspective, the best way to generate portfolio returns might be for rivals to treat each other with kid gloves.

In a series of recent papers, Martin Schmalz of the University of Michigan and a cast of co-authors work to detect the anti-competitive effects of concentrated ownership. Their results are striking. Institutional investors hold 77% of the shares of the companies providing services along the average airline route, for instance, and 44% of shares are controlled by just the top five investors. Adjusting measures of market concentration to take account of the control exercised by big asset managers suggests the industry is some ten times more concentrated than the level America's Department of Justice considers indicative of market power. Fares are perhaps 3-5% higher than they would be if ownership of airlines were truly diffuse. In theory large asset-management firms might be quietly instructing the firms they own not to undercut rivals. But the writers suggest nothing so nefarious need occur to cause trouble. Fund-appointed board members could simply refrain from urging conservative CEOs to compete aggressively, or CEOs might anyway conclude that their big shareholders would prefer peace and profits.

Buy low, sell high

A similar analysis suggests bosses are rewarded handsomely for playing along. The authors note that large funds often approve generous pay packets for executives whether or not they are performing well. Indeed, in industries with highly concentrated ownership, bosses receive relatively less pay than peers when their firm does well, and relatively more when competing firms do well. The authors reason that a weaker link between executive pay and firm performance makes CEOs lose interest in aggressive competition, boosting profits across the portfolio as a whole.

Such findings should trigger alarm bells among regulators. There are no easy fixes, however. Limiting the ownership stakes of the large, passive asset managers might boost competition, but it would undercut the cheapest and most effective investment strategy available to retail investors. Forcing asset managers to be entirely hands-off, on the other hand, might also boost competition, but neuter shareholder oversight of management.

Yet despair is premature. Common ownership is not the only barrier to competition in the American economy. Corporate giants are all too good at buying up troublesome rivals and lobbying for privileges. As evidence of the side-effects of growth in passive funds accumulates, the best remedy might be for Washington to take its antitrust responsibilities more seriously. ■

*Studies cited in this article can be found at www.economist.com/passivefunds

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The Zika virus

A mystery no more

Scientists have learned a great deal about Zika since the outbreak began. Now for the task of stopping it

A YEAR ago, most people would have drawn a blank if asked about Zika. Since then, an outbreak of the mosquito-borne virus that began in early 2015 in Brazil has spread to more than 60 countries in the Americas, Africa, Asia and the Pacific islands (see chart on next page). A study published on September 1st in the *Lancet* estimates that 2.6 billion people live in areas to which Zika could eventually spread.

At first, scientists knew little more than anyone else. Zika is not new; the virus was first isolated in Africa in 1947. But it was obscure, and therefore little studied. Only during the present outbreak did it become clear that infection among pregnant women was associated with birth defects and neurological problems in babies. But there has been much progress, and scientists now know far more about the disease than they did when the outbreak began.

Start with transmission. The vast majority of Zika infections occur through the bite of *Aedes aegypti*, a mosquito common in tropical climates and especially in cities. Another species, *A. albopictus*, which thrives in cooler climes, may also be able to transmit the bug, though possibly not as efficiently. Unusually for a mosquito-borne virus, Zika can also be transmitted sexually (the first case of transmission in the United States occurred this way). Studies are under way to find out how long after infection that remains possible, but traces of the virus's genetic code have been found in semen six months after the onset of symptoms. Infection through blood transfusion has been confirmed as well. The virus has also turned up in urine, tears and saliva, though that does not necessarily mean that it can spread through them.

The health effects of the virus are becoming clearer too. Something like four in five Zika infections cause no symptoms. The rest usually pass with only mild discomfort, including a rash and red eyes. Occasionally, infected people develop Guillain-Barré syndrome, a condition in which the immune system goes awry, causing weakened muscles and temporary paralysis. Death is rare, but some sufferers spend weeks hooked to a breathing machine.

Infection is also dangerous if it occurs during pregnancy: in perhaps 1-2% of cases the virus attacks the brain tissue of the fetus. That causes microcephaly, a condition characterised by an abnormally small head, a result of the skull collapsing around the shrunken brain. Babies who escape that fate may suffer other Zika-related damage, including eyesight and hearing loss. Scans of apparently healthy babies born to infected mothers sometimes show brain abnormalities, though it is too early to know whether these will lead to developmental problems later in life. And there are worries, as yet unresolved, about the neurological implications in adults, too.

Then there is the question of tracking and diagnosis. Working out just how far Zika has spread within a country is tricky. A common test works by testing for antibodies, specialised proteins produced by the immune system that are designed to disable the virus. But it cannot distinguish easily between antibodies for Zika and those for dengue fever, another mosquito-borne illness, which is related to Zika and often occurs in the same sorts of places. That may turn out to be a good thing: antibodies against dengue may provide some defence against Zika. But it muddles attempts to track the disease, and to predict how it might spread.

Two open questions are whether a Zika infection confers lasting immunity to the virus, and how strains from the two known lineages—one African and one Asian—might interact. There are reasons to worry: an initial infection with one of the four strains of dengue is usually harmless, but subsequent infection with another strain can be fatal.

An ounce of prevention

Official advice continues to evolve with the stream of new findings. Preventing mosquito bites is the main line of defence. The World Health Organisation prescribes condoms or sexual abstinence for at least six months for those returning from areas where Zika is spreading. Several countries have begun screening blood donors.

The most encouraging news is on the vaccine front. Several are in early-stage trials. Two—one developed by the National Institutes of Health in America, and the other by Inovio Pharmaceuticals, a private firm—use a new technology called "DNA vaccination". Traditional vaccines use either dead viruses or weakened live ones to provoke an immune response. DNA vaccines introduce snippets of the viral genome into the patient's cells, relying on the cells themselves to produce viral proteins ▸▸

that are then recognised by the immune system. DNA is much easier to handle than weakened or dead viruses; and by focusing on genetic sequences common to different variants, a vaccine may offer protection against several strains of the virus. If all goes well, large-scale trials could begin early next year, with results by mid-2018.

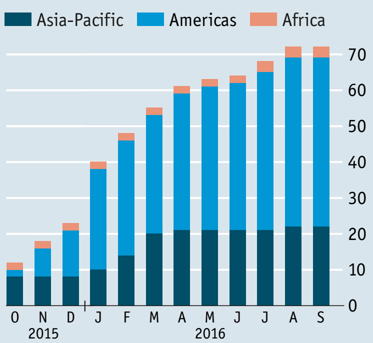
By contrast, efforts to cull mosquitoes have been less successful. *Aedes aegypti* is a hardy creature, happy to breed in water pools as tiny as a bottle cap; it has also learned to live indoors, in nooks where outdoor spraying cannot reach it.

So the hunt is on for other ways to limit mosquito numbers. One is to unleash mosquitoes pre-infected with *Wolbachia*, a bacterium that impairs their ability to transmit Zika, and makes males sterile. The hope is those males will mate with wild females but produce no offspring, shrinking the size of the next generation. An alternative is to release mosquitoes sterilised with radiation, though this may make them less appealing suitors. Oxitec, a British firm, has developed genetically modified *Aedes aegypti* whose offspring die before reaching adulthood; in trials, releasing them into the wild has cut mosquito counts by 90%.

The trouble with such ideas is that they give evolution a powerful incentive to select its way around the problem. Over time, that could make them less effective. One option that might avoid that problem is a "gene drive", a new technique that tweaks genomes in a way that ensures that the modified, damaging traits are inherited by all of a mosquito's offspring. Gene drives are highly controversial: if they work, they could give humans the power to wipe out—with minimal effort—any species that engages in sexual reproduction. They are also experimental and confined to labs; no one knows how effective they would be in the wild. Last week the Bill and Melinda Gates Foundation, a charity, announced it would boost its funding of gene-drive research to $75m. That will speed up the work—and the debate about deliberately wiping out a species. ■

The flies have it

Number of countries and territories reporting mosquito-borne Zika transmission, cumulative



Source: World Health Organisation

Similarities in language

You say potato...

Distant languages sound more similar than you might expect

IN ENGLISH, the object on your face that smells things is called a "nose", and, if you are generously endowed, you might describe it as "big". The prevailing belief among linguists had been that the sounds used to form those words were arbitrary. But new work by a team led by Damian Blasi, a language scientist at the University of Zurich, and published in *Proceedings of the National Academy of Sciences*, suggests that may not be true—and that the same sounds may be used in words for the same concepts across many different languages.

Dr Blasi was struck by the fact that, although the idea that sounds were arbitrary was firmly entrenched, there was strikingly little evidence for it. So along with his team, which combined skills in anthropology, linguistics, cognitive science, history and statistics, he decided to examine as many languages as possible to see if it was true. They analysed word lists derived from 4,298 of the world's 6,000-odd languages, which accounted for about 85% of its historical linguistic diversity.

They focused on words for 100 basic concepts, including the names of body parts, such as "bone" and "ear", and natural phenomena, like "leaf" and "star". Verbs, including "bite", the pronouns "I", "you" and "we", and descriptive properties, such as "red", were also studied. The words were transcribed using a sort of universal alphabet that reduced all sounds to 34 distinct consonants and 7 vowels. Then they ran the numbers.

Dr Blasi knew that some words, such as "language", "langue" and "lingua", would be similar because they have a common history. Others, including "sugar", "tea" and "coffee", have similar-sounding names in different languages because they are traded goods. The people exchanging them were thus exposed to each other and had strong incentives to make themselves understood. But even when keeping all of that in mind and trying to control for it, the team found a lot more consistency across languages than they had expected.

The words for "nose", for instance, often involve either an "n" sound or an "oo" sound, no matter the language in question. The concept of "round" was noticeably likely to be conveyed using a word containing the "r" sound. Employing an "s" sound in the word for "sand" is similarly common. In fact, the researchers found that almost a third of their 100 concepts had more similarities in the sounds used by languages to express them than expected. That suggests there must be some deeper reason for the commonalities.

There are several theories. One is that some objects have names whose sounds bring them to mind, a sort of "sound symbolism". Employing a nasal "n" sound to name a nose would be one example. Another is that sensory associations play a role. Studies have found that people routinely associate darker colours with lower sounds and lighter colours with higher ones, for instance. Such shared synaesthesia might account for some of the similarities. Or the commonalities might be leftovers from some ancient, now-forgotten proto-language.

Dr Blasi and his colleagues are reluctant, at this stage, to endorse one theory over another. But there is a more prosaic possibility—expediency. "Huh" is a word that has been found to be remarkably similar across languages. "It's cheap, short and understandable," says Dr Blasi—convenient for something you might say hundreds of times a day. Ditto for a pronoun like "I". Perhaps parsimony is what ultimately unites the world. ■

Precision agriculture

TV dinners

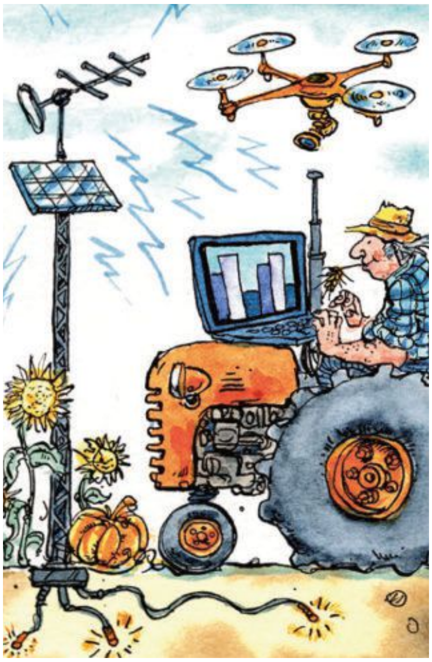
CARNATION, WASHINGTON

Unused TV spectrum and drones could help make smart farms a reality

ON THE Dancing Crow farm in Washington, sunflowers and squashes soak up the rich autumn sunshine beside a row of solar panels. This bucolic smallholding provides organic vegetables to the farmers' markets of Seattle. But it is also home to an experiment by Microsoft, a big computing firm, that it hopes will transform agriculture further afield. For the past year, the firm's engineers have been developing a suite of technologies there to slash the cost of "precision agriculture", which aims to use sensors and clever algorithms to deliver water, fertilisers and pesticides only to crops that actually need them.

Precision agriculture is one of the technologies that could help to feed a world whose population is forecast to hit almost 10 billion by 2050. If farmers can irrigate only when necessary, and avoid excessive pesticide use, they should be able to save money and boost their output.

But existing systems work out at $1,000 a sensor. That is too pricey for most rich-world farmers, let alone those in poor countries where productivity gains are most needed. The sensors themselves, which probe things like moisture, temperature and acidity in the soil, and which are



scattered all over the farm, are fairly cheap, and can be powered with inexpensive solar panels. The cost comes in getting data from sensor to farmer. Few rural farms enjoy perfect mobile-phone coverage, and Wi-Fi networks do not have the range to cover entire fields. So most precision-agriculture systems rely on sensors that connect to custom cellular base stations, which can cost tens of thousands of dollars, or to satellites, which require pricey antennas and data plans.

In contrast, the sensors at Dancing Crow employ unoccupied slices of the UHF and VHF radio frequencies used for TV broadcasts, slotting data between channels. Many countries are experimenting with this so-called "white space" to unlock extra bandwidth for mobile phones. In cities, tiny slices of the white-space spectrum sell for millions of dollars. But in the sparsely populated countryside, says Ranjeev Chandra, a Microsoft researcher, there is unlicensed space galore.

The farmer's house is connected to the internet in the usual way. A special white-space base station relays that signal to a shed elsewhere on the farm that sports an ordinary TV aerial. Individual sensors talk to the shed using TV transceivers with a range of more than 8km—enough for all but the biggest farms. And those transceivers are cheap: "We've already built sensors for less than $100," says Mr Candra. "Our aim is to get them to under $15."

Microsoft is not the only organisation hoping to make agricultural sensors practical. Researchers at the University of Applied Sciences in Mannheim, for instance, have developed a sensor network that relies on a technology called software-defined radio, which uses computers to simulate an ultra-flexible, very sensitive radio receiver. And scientists at the university of Nebraska-Lincoln are working on sensors that communicate with radio waves that propagate through the soil rather than the air, and which draw their power from the vibrations generated by farm vehicles moving about on the surface.

But although such sensor data are useful, but they cannot tell you everything. To fill in the gaps, Dancing Crow uses a drone. These are getting cheaper (a basic model costs $1,000) but they require some skill to fly, and their small batteries mean limited flight times. So Microsoft's team wrote an autopilot that lets a farmer outline a plot to survey, works out the most efficient route and sends the drone on its way, reducing the time taken to cover a farm by over 25%.

The resulting imagery contains useful information on growing conditions, crop health and insect pests, but interpreting it properly is beyond most farmers. So Microsoft also developed software that runs on an ordinary laptop, and can stitch together individual pictures into a single panoramic view of the entire farm. Sensor data can be laid atop this view, and the computer can then extrapolate a handful of sensor readings into predicted values for moisture, acidity and so on at any given point.

When the nearby Snoqualmie River rises up to flood Dancing Crow farm in a couple of months, as it does most winters, Mr Chandra plans to take his technologies to India. For the very poorest farmers, even a cheap drone will be beyond their budget. He wants to see if a lower-tech solution will work just as well—simply attaching a smartphone to a $5 helium balloon and walking it through the fields. ■

Medical treatment

Feed a virus, starve a bacterium

An old wives' tale gets some support from medical science

WHETHER it is best to feed a fever and starve a cold, or vice versa, varies with the grandparent being asked. Medicine has decided that it is always a bad idea to deny food to the ill. Now a new study suggests that by ignoring such old wives' tales, medics may have missed a trick. A paper just published in *Cell* by a team of researchers led by Ruslan Medzhitov at Yale University suggest that force-feeding mice infected with influenza keeps them alive—but doing the same to mice with bacterial infections is fatal.

Dr Medzhitov was inspired by experiments conducted not by medics, but by zoologists. Most animals instinctively respond to infection by cutting back on food, and a slew of studies in recent years have shown that when diseased animals are force-fed they are more likely to die than if they are allowed to abstain. But Dr Medzhitov wondered whether that held true for all types of disease.

To investigate, he and his team infected one group of mice with a murine influenza virus, and the other with *Listeria monocytogenes*, a bacterium that causes food poisoning. Some mice in each group were force-fed rodent chow, while others were force-fed nutrition-free saline. Every single mouse that was infected with the bacterium died if they were given food, but half survived on the saline. The results of the viral infection were less stark, but still clear: 77.8% of infected mice survived if given food, but only 10% did so when given saline.

One clue as to what might be going on lies in the fact, identified in earlier research, that cells infected with bacteria often prefer to burn fat instead of glucose, their usual fuel. Further experiments led the team to confirm that glucose specifically was the key to survival in both viral and bacterial infections. As with the rodent chow, mice with bacterial infections that were fed glucose died. But infected mice fed a version of glucose that they could not metabolise lived. Again, those results were nearly reversed in mice suffering from a viral infection. All of those fed the unusable variant of glucose died within ten days; 40% of those fed the ordinary stuff survived.

The glucose seemed to make no difference to the bugs, nor to the immune systems of the mice. Instead, it altered the biology of the infected cells. In viral infections, many infested cells were committing suicide, a cellular scorched-earth strategy designed to slow the spread of the virus. Providing glucose seemed to bolster their ability to fight the infection without resorting to such drastic measures.

The opposite was true for bacteria. Burning fat protected infected mice. But swamping the cells with glucose caused them to produce prodigious quantities of highly reactive chemicals known as free radicals, which damage cells. That collateral damage made survival less likely.

The precise biological details of why glucose is good for viral infections and bad for bacterial ones are not yet known. And Dr Medzhitov's results will have to be tested in humans before medics can apply them. But they are a useful reminder that there is sometimes genuine wisdom hidden in folksy homilies. ■

Aviation safety

Flight response

An artificially intelligent autopilot that learns by example

ON JUNE 1st 2009, an Air France airliner travelling from Rio de Janeiro to Paris flew into a mid-Atlantic storm. Ice began forming in the sensors used by the aircraft to measure its airspeed, depriving the autopilot of that vital data. So, by design, the machine switched itself off and ceded control to the pilots. Without knowing their speed, and with no horizon visible in a storm in the dead of night, the crew struggled to cope. Against all their training, they kept the plane's nose pointed upward, forcing it to lose speed and lift. Shortly afterwards the aeroplane plummeted into the ocean, killing all 228 people on board.

French air-accident investigators concluded that a lack of pilot training played a big part in the tragedy. As cockpits become ever more computerised, pilots need to keep their flying skills up to date. But pilots are also in short supply. In July Airbus predicted that 500,000 more will be needed by 2035 to keep pace with aviation's expected growth. That means there is pressure to keep aircrew in their cockpits, earning money, rather than in the simulators, taking expensive refresher courses.

Help may be at hand, though, from artificial-intelligence (AI) experts at University College London (UCL). Inspired by the Air France tragedy, Haitham Baomar and his colleague Peter Bentley are developing a special kind of autopilot: one that uses a "machine learning" system to cope when the going gets tough, rather than ceding control to the crew.

Today's autopilots cannot be trained, says Mr Baomar, because they are "hard coded" programs in which a limited number of situations activate well-defined, pre-written coping strategies—to maintain a certain speed or altitude, say. A list of bullet points (which is what such programs amount to) does not handle novelty well: throw a situation at the computer that its programmers have not foreseen, and it has no option but to defer to the humans.

Mr Baomar suspected that a machine-learning algorithm could learn from how human pilots cope with serious emergencies like sudden turbulence, engine failures, or even—as happened to the Air France jet—the loss of critical flight data. That way, he says, the autopilot might not have to cede control as often, and that, in turn, might save lives.

AI takes off

Machine learning is a hot topic in AI research. It is already used for tasks as diverse as decoding human speech, image recognition or deciding which adverts to show web users. The programs work by using artificial neural networks (ANNs), which are loosely inspired by biological brains, to crunch huge quantities of data, looking for patterns and extracting rules that make them more efficient at whatever task they have been set. That allows the computers to teach themselves rules of thumb that human programmers would otherwise have to try to write explicitly in computer code, a notoriously difficult task.

UCL has lots of experience in this area. It was the institution that spawned DeepMind, the company (now owned by Google) whose AlphaGo system this year beat a human grandmaster at Go, a fiendishly complicated board game. The UCL team has written what it calls an Intelligent Autopilot System that uses ten separate ANNs. Each is tasked with learning the best settings for different controls (the throttle, ailerons, elevators and so on) in a variety of different conditions. Hundreds of ANNs would probably be needed to cope with a real aircraft, says Dr Bentley. But ten is enough to check whether the idea is fundamentally a sound one.

Just relax and enjoy the view, Captain

To train the autopilot, its ten ANNs observe humans using a flight simulator. As the plane is flown—taking off, cruising, landing and coping with severe weather and aircraft faults that can strike at any point—the networks teach themselves how each specific element of powered flight relates to all the others. When the system is given a simulated aircraft of its own, it will thus know how to alter the plane's controls to keep it flying as straight and level as possible, come what may.

In a demonstration at a UCL lab, the system recovered with aplomb from all sorts of in-flight mishaps, from losing engine power to extreme turbulence or blinding hail. If it were to lose speed data as the Air France flight did, says Mr Baomar, the machine would keep the nose low enough to prevent a stall. The newest version will seek speed data from other sources, like the global positioning system (GPS).

To the team's surprise, the system could also fly aircraft it had not been trained on. Despite learning on a (simulated) Cirrus light aircraft, the machine proved adept with the airliners and fighter jets also available in the database. That is a good example of a machine-learning phenomenon called "generalisation", in which neural networks can handle scenarios that are conceptually similar, but different in the specifics, to the ones they are trained on.

UCL is not the only institution interested in better autopilots. Andrew Anderson of Airbus, a big European maker of jets, says his firm is investigating neural networks, too. But such systems are unlikely to be flying passenger jets just yet. One of the downsides of having a computer train itself is that the result is a black box. Neural networks learn by modifying the strength of the connections between their simulated neurons. The exact strengths they end up with are not programmed by engineers, and it may not be clear to outside observers what function a specific neuron is serving. That means that ANNs cannot yet be validated by aviation authorities, says Peter Ladkin, a safety expert at Bielefeld University in Germany.

Instead, the new autopilot will probably find its first uses in drones. The system's versatility has already impressed delegates at the 2016 International Conference on Unmanned Aircraft Systems in Virginia, where Mr Baomar presented a paper. The system's ability to keep control in challenging weather might see it used in scientific investigations of things like hurricanes and tornadoes, says Dr Ladkin—some of the most challenging flying there is. ■

Also in this section

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Medieval manuscripts

Patricians of parchment

Why manuscripts matter

Meetings with Remarkable Manuscripts. By Christopher de Hamel. *Allen Lane; 632 pages; £30*

ON MAY 4th 1945, when Allied troops entered Adolf Hitler's mountain retreat in the Bavarian Alps, they discovered devastation—and some very valuable art. Later, American troops would display a selection under an improvised sign reading: "The Hermann Goering Art Collection: Through Courtesy of the 101st Airborne Division". Among the Rembrandts and Renoirs, few paid much attention to two small, dull, squarish objects. A French officer trod on one, thinking it was a brick; another was scooped up by an army doctor.

That initial diagnosis proved incorrect, though. It was not a brick, but a medieval manuscript (the word means "written by hand".) The second was one of the most famous manuscripts ever made: a prayer book for a medieval queen that had fetched a record-breaking price at Sotheby's in London in 1919. This was the "Book of Hours" made for a French queen, Jeanne de Navarre. In "Meetings with Remarkable Manuscripts" Christopher de Hamel, fellow and librarian of the Parker Library of Corpus Christi College, Cambridge, reminds readers why this was such a thrilling discovery.

Mr de Hamel is an unashamed manuscript groupie. The 12 works he writes about are, he explains, superstars of vellum. Like many celebrities, some are tastelessly glitzy, gleaming with gold and studded with jewels. All are closely guarded, spending their days in climate-controlled confinement and travelling in bomb-proof cases. "It is easier," says Mr de Hamel, "to meet the pope or the president of the United States than it is to touch the 'Très Riches Heures' of the Duc de Berry."

When one New York bookseller was asked to explain in a few sentences who buys such objects, he replied, "I can tell in two words: the rich." These books, patricians of parchment, have circulated in European society at the very highest level for centuries. Queens inherit them. Saints travel with them. Popes, even now, bow down before them. Jeanne de Navarre's "Hours", before Goering got it, was made for the 14th-century French queen and later owned by Baron Edmond de Rothschild.

To touch a manuscript is to touch another world. And what an otherworldly world this is. Half of the works here were written between the sixth and 11th centuries, when Vikings ruled the waves and men had names like Ecgfrith and Ceolfrith. A little of this mystery still clings to their pages: when Mr de Hamel takes the Gospels of St Augustine (pictured) to a service in Canterbury Cathedral he notices that its leaves are so light they flutter and hum in time to a hymn, "as if the sixth-century manuscript…had come to life".

Manuscripts are words written down, but they impart far more than sentences. Precise moments in time can be found, like pressed flowers, preserved in their pages. In one ninth-century manuscript a picture of the planets in orbit has been drawn with such precision that astronomers say this configuration happens only once in 17 trillion years. They have dated the manuscript to March 18th 816.

These books may no longer be owned by monarchs, but modern libraries can be as well-defended as medieval kings. Mr de Hamel's interviews are the closest most readers will come to meeting these books themselves. Like all good interviewers, he leaves the reader with the sense of what it was like to meet each star—their aura, their attire and their size (frequently, as is so often the case with celebrities, smaller than expected). Erudite and enthusiastic, Mr de Hamel is not so star-struck that he cannot be critical: a famous illustration in the "Book of Kells" is "dreadfully ugly"; a naked Adam and Eve look "knobbly-kneed" and "brightly pink like newly arrived English holidaymakers on Spanish beaches".

He concludes with a call to arms: manuscripts are a neglected corner of academia and he wants more people to study them. Mr de Hamel has catalogued more medieval manuscripts than anyone in history; everyone, not only academics, should listen to what he has to say. These books are object lessons in impermanence. Only one, the "Hours" of Jeanne de Navarre, remains in the country where it was made. The rest have been dispersed.

In much the same way that oceanographers study the paths of plastic ducks to understand currents, or economists study shipping routes to observe the world economy, one could follow these manuscripts to understand a millennium of European history. Churches are overthrown. Empires fade. Thousand-year Reichs crumble after just a few years. As powers move, so too do manuscripts. Intended to be monuments to their owners' everlasting potency they serve mainly as their tombstones. A medieval lesson for us all. ■

Russia today

Cluster bomb

All the Kremlin's Men: Inside the Court of Vladimir Putin. By Mikhail Zygar. *Public Affairs; 371 pages; $27.99*

"WHO is Mr Putin?" a foreign-affairs columnist famously asked when the then unknown Vladimir Putin took office in 2000. Now, more than 16 years into his rule, the question has become: Which Mr Putin is the real Mr Putin? Is it the coolly pragmatic accidental president who once discussed joining NATO? The swaggering manager of a country drunk on petrodollars? Or the new tsar, out to restore Russian greatness, annexing Crimea and relentlessly challenging the Western order?

The answer, Mikhail Zygar argues in a compelling new book, "All the Kremlin's Men", is that all of these hold true. Mr Zygar, a leading Russian journalist, portrays a ruler who has transformed himself in response to outside events. This is especially so regarding the Western world. Mr Zygar argues that Mr Putin began his presidency convinced that he could build good relations with the West, particularly with America. By his third term, having accumulated a litany of grievances and grudges, he has become what Mr Zygar describes as a "world-weary…Slavophile philosopher" who reportedly told Joe Biden, America's vice-president: "We are not like you. We only look like you."

Refreshingly, Mr Zygar chooses to focus not on the president himself, but on the courtiers who have shaped and shepherded him. He tells an insider's tale, drawing on material collected over many years, latterly as editor-in-chief of TV Rain, Russia's last independent television network (Mr Zygar stepped down last December, not long after this book was published in Russia). He brings fresh insight to characters such as Mikhail Khodorkovsky, the ex-boss of Yukos who was convicted of underpaying taxes, and Dmitry Medvedev, Russia's prime minister. And he pulls back the curtain on several key figures whom Western readers may not know, such as Viktor Medvedchuk, the chief-of-staff of the former Ukrainian president, Leonid Kuchma, and Vyacheslav Volodin, a political strategist who engineered Mr Putin's conservative turn in his third term.

Mr Zygar portrays Mr Putin as a reactionary tactician rather than a nefarious grand strategist. Fate and opportunity play more of a role than calculated scheming. One example was the decision to clamp down on the independent media after its withering coverage of Mr Putin's clumsy handling of the Kursk submarine sinking in August 2000. But two important constants emerge. At home, Mr Putin is driven by the pursuit of power, and abroad, by the perception that the West does not respect Russia and its interests (including its primacy over former Soviet neighbours). From the start, Ukraine occupied a central place. "We must do something, or we'll lose it," Mr Putin often repeated to his staff (or so Mr Zygar reports).

What unfolds is a tale of Russian politics based on personalities, ego and ambition, rather than policy, convictions or ideology. Mr Zygar focuses on the fluid allegiances of the *polittekhnologs*, the uniquely Russian spin doctors who shaped the recent political landscape. Mr Volodin began his career running Yevgeny Primakov's campaign against Mr Putin's nascent Unity party; only in recent years did he become Mr Putin's chief political adviser. Vladislav Surkov, an architect of Unity, meanwhile, aligned himself with Mr Medvedev during Mr Putin's interregnum, only to return to the fold as his point man on the Ukraine crisis. If there is any question, Mr Zygar writes, that a given event is the result of "malicious intent or human error, rest assured that it is always the latter".

The stream of court intrigue gives "All the Kremlin's Men" the juicy allure of a Russian thriller. But structuring the book around members of Mr Putin's entourage leads to some confusing chronological leaps. Foreign readers may struggle; the English edition has a list of characters, but a timeline would also have come in handy.

More troubling is Mr Zygar's reliance on hearsay and anonymous sources, a flaw he readily owns up to and tries to parlay into insight. Thus, readers should take his verbatim report of some of Mr Putin's private remarks, for example, with a grain of salt. Even so, the conflicting accounts and confused recollections of his subjects lead him to identify one of the Putin era's defining features: the absence of plans or strategy. As Mr Zygar concludes, "It is logic that Putin-era Russia lacks." That, more than the master plots often ascribed to Mr Putin, is reason for the West to fear him. ■

The godfather of them all

Practical ethics

How to live well

Ethics in the Real World: 82 Brief Essays on Things That Matter. By Peter Singer. *Princeton University Press; 355 pages; $27.95 and £19.95*

SEARCH on Google, buy products on Amazon or share a friend's post on Facebook and, after a while, the invisible algorithms that underpin these websites will start subtly changing their offerings in an effort to please. As algorithms like these improve the way they serve up content that people like, they may create for their users a false, virtual world where their values go unchallenged.

Those wishing to escape this cosy cocoon should welcome a robust test of the ethical assumptions by which they live. There are few people better qualified to provide this challenge than Peter Singer, a moral philosopher and professor of bioethics at Princeton University. "Animal Liberation", an earlier book by Mr Singer, is credited with giving the animal-rights movement intellectual heft. "The Life You Can Save", which proposes minimum ethical standards for charitable donations, was cited by Melinda Gates in an interview about "The Giving Pledge", a campaign to encourage billionaires to give the majority of their fortunes to good causes (over 150 have signed so far).

Mr Singer's latest book, "Ethics in the Real World", is a collection of 82 essays, each rarely more than three or four pages long. As such, it is an accessible introduc- ▸▸

tion to the work of a philosopher who would not regard being described as "accessible" as an insult. As Mr Singer notes drily in the introduction, "I suspect that whatever cannot be said clearly is probably not being thought clearly either."

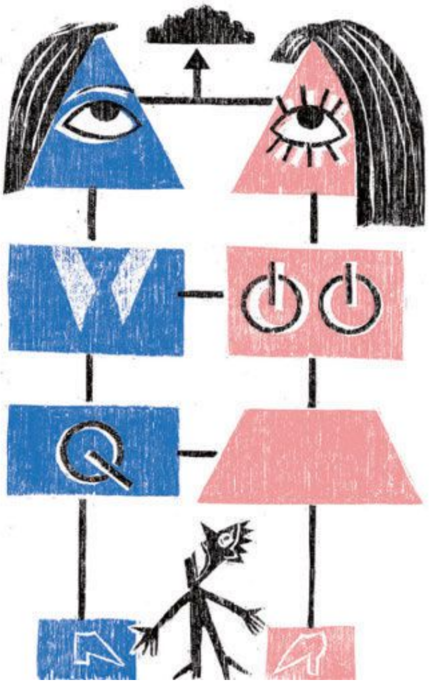
Despite their brevity, the essays do not shirk the big moral questions including perhaps the biggest of all: can there be objectively true answers to the question of how one ought to act? In a piece about "On What Matters" by Derek Parfit, a philosopher, Mr Singer distils more than 1,400 pages of argument down to a scant three and concurs with him that moral judgments can, indeed, be true or false.

Most of Mr Singer's book, though, deals with pressing contemporary moral issues including abortion (he argues that the interests of a conscious, rational being trump those of the fetus, which only has the potential to become self-aware in the future), voluntary euthanasia (he is in favour) and the importance of acting to prevent catastrophic climate change.

Perhaps the most arresting essay is a previously unpublished piece in which Mr Singer urges readers to spare a thought for the poor, benighted turkey during Thanksgiving. The breast of the standard American turkey has become so enlarged by selective breeding that it can no longer mate because the male's breast gets in the way. Mr Singer describes how thousands of such sexually disabled male turkeys are masturbated by workers and the females artificially inseminated using the tube of an air compressor (at the rate of one every 12 seconds at one turkey farm). Mr Singer advises serving a vegetarian Thanksgiving meal or, at the very least, forking out for a more expensive heritage breed that has been raised humanely.

Agree with him or not, Mr Singer practises what he preaches. He has not eaten meat for more than 40 years, and in 1996 he stood (unsuccessfully) as a Senate candidate for the Australian Greens. One essay from 2012 celebrates the European Union's ban on the use of battery cages for hens, a ban he and others helped to bring about through protests beginning in the 1970s.

However, agreeing with Mr Singer that objective ethical truths exist and imagining anyone, even a moral philosopher, has a monopoly on divining what these might be are not the same. Among the best essays in this collection are those that demonstrate that Mr Singer is alive to the possibility of being wrong. In "A Clear Case for Golden Rice" he admits that "none of the disastrous consequences" that Greens feared would result from planting genetically modified (GM) crops have come to pass and some GM crops may have a role to play in public health or in feeding the planet in an era of climate change. A welcome admission that even a much-feted moral philosopher may sometimes err. ■



Mankind tomorrow

Future shock

Homo Deus: A Brief History of Tomorrow. By Yuval Noah Harari. *Harper; 440 pages; $35. Harvill Secker; £25*

"SAPIENS", Yuval Noah Harari's previous book which came out in 2011, looked to the past. Zipping through 70,000 years of human history, it showed that there is nothing special about our species: no divine right, no unique human spark. Only the blind hand of evolution lies behind the ascent of man. That work ended with the thought that the story of *Homo sapiens* may be coming to an end. In his new book, "Homo Deus", the Israeli historian heads off into the future.

In one thrilling sweep, Mr Harari proclaims that the old enemies of mankind—plague, famine and war—are now manageable. "For the first time in history," he writes, "more people die today from eating too much than from eating too little; more people die from old age than from infectious diseases; and more people commit suicide than are killed by soldiers, terrorists and criminals combined." Instead, the challenges of the third millennium will be how to achieve immortality, happiness and divinity, the latter in the sense of enhancing people's physical and cognitive abilities beyond the biological norm.

This might sound like good news, but the author has a dystopian vision. People, increasingly, will cede jobs and decisions to machines and algorithms. The "useless masses" cast aside by this development will pursue the mirage of happiness with drugs and virtual reality. Only the super-rich will reap the true rewards of the new technologies, commandeering evolution with intelligent design, editing their genomes and eventually merging with machines. Mr Harari envisages an elite caste of *Homo sapiens* evolving into something unrecognisable: *Homo deus*. In this brave new world, the rest of mankind will be left feeling like "a Neanderthal hunter in Wall Street".

Mr Harari's prophecy is bleak, but it is far from new. More interesting is the way he roots his speculation about technology in the context of how liberal democracy has evolved. For most of human history, Mr Harari says, humans believed in gods. This lent their world a cosmic order. But then, at least in some parts of the world, science began simultaneously to give mankind power and to strip it of meaning by relegating religion to the sidelines. This existential hole was filled by a new religion, humanism, that "sanctifies the life, happiness and power of *Homo sapiens*", he writes. The covenant between humanism and science has defined modern society: the latter helps people achieve the goals set by the former.

But the life sciences are now undermining free will and individualism, which are the foundations of humanism. Mr Harari describes scientific research that, in his eyes, proves that the "free individual is just a fictional tale concocted by an assembly of biochemical algorithms". As it dawns on mankind that free will is an illusion and external algorithms can predict people's behaviour, Mr Harari believes liberal democracy will collapse. What will replace it? Perhaps a techno-religion such as "Dataism" that treats everything in terms of data processing and whose supreme value is the flow of information. In this context, *Homo sapiens* is a rather unimpressive algorithm, destined for obsolescence—or an upgrade.

Although there is plenty to admire in the ambitious scope of this book, ultimately it is a glib work, full of corner-cutting sleights of hand and unsatisfactory generalisations. Mr Harari has a tendency towards scientific name-dropping—words like biotech, nanotechnology and artificial intelligence abound—but he rarely engages with these topics in any serious way. Instead, he races along in a slick flow of TED-talk prose. Holes in his arguments blur like the spokes of a spinning wheel, giving an illusion of solidity but no more. When the reader stops to think, "Homo Deus" is suddenly less convincing, its air of super-confidence seductive but misleading. ■

Correction: The Three Gorges dam is on the Yangzi River in China, and not on the Yellow River as implied in our review last week ("Water, water, everywhere").

Ebola

Best practice

Ebola: How a People's Science Helped End an Epidemic. By Paul Richards. *Zed Books; 180 pages; $24.95 and £12.99*

AS THE Ebola virus galloped across Guinea, Liberia and Sierra Leone two years ago causing mounting panic in Europe and America, familiar tropes about west Africa began to reassert themselves. "Many locals seem unwilling to break with age-old customs," fretted an exasperated foreign doctor who was evacuated from Sierra Leone to Germany in December 2014. West Africans, it seemed to some, were stuck in the fatal grip of irrational superstition. Dogged fealty to immutable traditions, above all funeral practices that insisted upon the ritual washing of the dead, had condemned the region to an epidemic of potentially biblical proportions.

But as the West became more fretful, west Africans were quietly doing the opposite. And it was this calm, considered and deeply rational response to the disease among affected populations that meant that the doom-laden predictions—the hundreds of thousands of cases prophesied by some epidemiologists at the height of the crisis in late 2014—in the end failed to materialise. This is the argument of Paul Richards, a British anthropologist specialising in the Mano River region where Sierra Leone, Guinea and Liberia intersect and the 2014-15 Ebola epidemic first appeared. The most important lesson, he argues in his new book, "Ebola: How a People's Science Helped End an Epidemic", is that money and technology—from vaccines and drugs to robot nurses—ultimately mattered much less than indigenous know-how.

This is not an entirely new argument, since many at the time noted the chiefs' central role in leading the fight against the disease. It is also well-known that Sierra Leone's rural south-east saw Ebola decline much earlier than the north-west, despite receiving less aid and technical assistance. This is, however, the first book-length ethnographic study of the epidemic, and represents the first serious attempt to grapple with some of the practical as well as epistemological questions posed by the local response to the outbreak.

Mr Richards's work is in places controversial. His suggestion that better-functioning health systems might have made the epidemic worse in its early stages is questionable. His criticism of the public-health propaganda put out by the World Health Organisation (WHO) is perhaps unduly harsh. And his conviction that "local ideas changed independently of the loudhailers" is supported by too little hard evidence.

But he offers important insights, especially concerning the central issue of burial practices, one of the epidemic's main routes of infection. Tradition, it turned out, was mutable. Villagers on the front line quickly came to see the risks, and rituals were adapted accordingly. The problem was that the "safe burials" ordered by the WHO—with its understandable yet singular fixation on biosafety—were insensitive to the sacred dimensions of funeral custom. Burial teams were made up of outsiders, with no social connection to the dead that they buried; religious respect was an afterthought. Friction with central governments—Sierra Leone's government, for example, made washing corpses a criminal offence—was the predictable result.

In the final analysis, though, Mr Richards's argument is a surprisingly optimistic one. The Ebola epidemic pitted an underfunded and sluggish international public-health infrastructure against supposedly ignorant rural communities. Doomsday did not result. ■

New film

Man of the moment

At 90, Andrzej Wajda has made a poignant new film

HE WAS a friend of Kazimir Malevich and Marc Chagall, champions of Russia's avant-garde, and he founded Poland's foremost museum of modern art, in Lodz. But that didn't save Wladyslaw Strzeminski from humiliation, persecution and destitution when he refused to toe the party line during Stalin's Sovietisation of Poland. Now, focusing on the years between 1949 and 1952, the country's greatest film-maker, Andrzej Wajda, has told the visionary art theorist's story in "Afterimage", one of a new crop of biopics dealing with great artists.

The film, shot by Pawel Edelman (whose previous works include "The Pianist"), is a haunting depiction of a tragic life. Pictures are smashed; so are illusions. Strzeminski was missing an arm and a leg—he was wounded in the first world war—and also emotionally crippled. He was angrily estranged from his late ex-wife, Katarzyna Kobro (who had to burn her own sculptures to keep the family warm in wartime Poland). Their small daughter Nika, brilliantly played by Bronislawa Zamachowska in her film debut, is devoted to her workaholic father—but decides she would feel more at home in an orphanage than living with him. When a besotted student declares her love, he grunts, "and I thought that it couldn't get any worse."

Remembering the struggle

Strzeminski is initially unbroken, contemptuously dismissing the guardians of obligatory Socialist-Realist orthodoxy, with their leaden rhetoric and aesthetic illiteracy. He has influential friends. He is a world-famous academic. He is an outspoken critic of the suffocating cultural conservatism of pre-war Poland. His students rally round, demanding to be taught. "Art has a right to take part in life, and life has a right to play in art," he argues.

But brains and beauty break on the grim, grey rocks of the Communist bureaucracy. Strzeminski (played by Boguslaw Linda) is expelled from the artists' association—a body he helped found. His great achievement, the Neoplastic room in the city's art museum, is painted over. Even his students' artworks are smashed by secret-police goons. He tumbles down the artistic ladder, first painting propaganda posters, and finally, half-starving, getting a job dressing shop windows. As an artistic unperson he is banned even from buying paints.

Mr Wajda, aged 90, lived through that era, fighting Communist censorship to make films like "Ashes and Diamonds" and "Man of Marble". Many thought he had already made his last film, his Oscar-nominated masterpiece, "Katyn", from 2007, about the wartime Soviet massacre of 20,000 Polish officers (one of whom was his father). They were wrong. "Afterimage" adds a powerful final note to a stellar career.

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Appointments

Kukuza Project Development Company (KPDC)

KPDC, a company promoted by Indian and International Organizations for conceiving and developing infrastructure projects in African Continent is in the process of establishing its Head Office at Nairobi. KPDC seeks application from qualified professionals to fill the following vacancies:

CHIEF EXECUTIVE OFFICER

Qualification : Post Graduate Degree in Engineering/Management or equivalent from a premier educational institution

Experience desired : Minimum 25 years of overall work experience of which at least 15 years in all facets of development of infrastructure projects including conceptualization, planning, structuring, financial analysis, risk management, Government Interface and its related areas especially for Public Private Partnership ("PPP") projects.

- Must have headed the above mentioned functions for three years at least.
- Experience of working with Development Financial Institutions, and recent working in Africa would be an added advantage

PROJECT DIRECTOR

Qualification : Post Graduate Degree in Engineering / Management or equivalent from a premier educational institution

Experience desired : Minimum 20 years of work experience in handling all facets of project development activities of multi-sectoral infrastructure projects on PPP basis

- Experience in successful project/program management. Should have demonstrated experience in coordinating and managing the work of project team and consultants
- Experience in financial modeling for infrastructure projects on PPP basis

PROJECT MANAGER

Qualification : Post Graduate Degree in Engineering / Management or equivalent from a premier educational institution

Experience desired : Minimum 10 years of experience in developing infrastructure projects on PPP basis.

- Should be familiar with the requirements for PPP projects from the perspective of both the Government as well as investors

LEGAL OFFICER

Qualification : Bachelors / Master's degree in Law

Experience desired : Minimum 15 years of experience

- Expertise in drafting and negotiating PPP/contract documentations / concession agreements etc

Applicants must be a citizen of one of the AfDB Member countries.

Detailed Job Description/ Roles & Responsibilities and format for CV submission for various posts could be accessed at ***http://www.iidcindia.co.in/pdf/KPDC-all-Job-Description.pdf.*** *Salary & perks are market linked and will not be a constraint for the right candidate. To apply, send your application by email to:* ***hr.kpdc@gmail.com*** *on or before October 8, 2016.*

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UNHCR
United Nations High Commissioner for Refugees
Haut Commissariat des Nations Unies pour les réfugiés

Director of the Division of Human Resources Management Geneva, Switzerland

Closing date for applications: September 24th 2016

The Director of the Division of Human Resources Management (DHRM) is based in Geneva and administers human resources for the 13,000-strong UNHCR workforce. The position oversees strategic responses to operational and organizational concerns on workforce issues. As UNHCR's work takes place primarily in emergency settings often under trying circumstances, a high degree of flexibility in the workforce is critical to ensure quick and appropriate responses based on operational needs. In this regard, the Director continuously balances the needs of the organization with those of individual staff members.

In 2016, DHRM issued a five-year *People Strategy* to strengthen the way we recruit, care for, support and manage our workforce. The Strategy situates UNHCR's vision along four main goals: preparedness and diversity; performance and competence; flexibility and timeliness; and, care and support. The Director oversees the implementation of a multiyear plan elaborated from the Strategy.

In an effort to modernize human resources practices and tools in use at UNHCR, several ground-breaking reviews and analyses were recently completed on a range of subjects including diversity, inclusion, contractual arrangements, promotions and assignments. The Director will be tasked with coordinating and maintaining oversight of the developments and determining priorities stemming from these reviews.

The Director of DHRM reports to the Deputy High Commissioner and requires a minimum of an advanced university degree (Master's degree or equivalent) in human resources, business administration, social sciences or in another field directly relevant to this position and 20 years professional experience, preferably in an international and/or multi-national environment, with at least 10 years serving as a senior manager, including significant budgetary responsibilities as well as extensive experience leading human resources reform and transformation to meet modern human resources standards.

Applications should be sent to: *tom.vacher@tomvacher.com* by September 24th 2016

Economic data

% change on year ago

	Gross domestic product			Industrial production	Consumer prices		Unemployment rate, %	Current-account balance		Budget balance	Interest rates, %	Currency units, per $	
	latest	qtr*	2016†	latest	latest	2016†		latest 12 months, $bn	% of GDP 2016†	% of GDP 2016†	10-year gov't bonds, latest	Sep 14th	year ago
United States	+1.2 Q2	+1.1	+1.5	-0.5 Jul	+0.8 Jul	+1.3	4.9 Aug	-473.1 Q1	-2.6	-3.2	1.72	-	-
China	+6.7 Q2	+7.4	+6.6	+6.3 Aug	+1.3 Aug	+2.0	4.1 Q2§	+256.1 Q2	+2.7	-3.8	2.58§§	6.67	6.37
Japan	+0.8 Q2	+0.7	+0.5	-4.2 Jul	-0.5 Jul	-0.1	3.0 Jul	+167.6 Jul	+3.4	-5.0	-0.01	103	120
Britain	+2.2 Q2	+2.4	+1.6	+2.1 Jul	+0.6 Aug	+0.7	4.9 Jun††	-161.9 Q1	-5.4	-3.9	0.89	0.76	0.65
Canada	+0.9 Q2	-1.6	+1.2	-1.3 Jun	+1.3 Jul	+1.7	7.0 Aug	-51.1 Q2	-3.2	-2.5	1.19	1.32	1.33
Euro area	+1.6 Q2	+1.2	+1.5	-0.5 Jul	+0.2 Aug	+0.3	10.1 Jul	+393.5 Jun	+3.2	-1.8	0.03	0.89	0.89
Austria	+1.2 Q2	-0.7	+1.3	+0.9 Jun	+0.6 Jul	+1.0	6.0 Jul	+10.5 Q1	+2.8	-1.4	0.13	0.89	0.89
Belgium	+1.4 Q2	+2.2	+1.3	+6.3 Jun	+2.2 Aug	+1.8	8.3 Jul	+6.5 Mar	+1.2	-2.8	0.30	0.89	0.89
France	+1.4 Q2	-0.2	+1.3	-0.1 Jul	+0.2 Aug	+0.3	10.3 Jul	-22.5 Jul‡	-0.5	-3.3	0.35	0.89	0.89
Germany	+1.7 Q2	+1.7	+1.6	-1.2 Jul	+0.4 Aug	+0.4	6.1 Aug	+300.2 Jul	+8.4	+0.4	0.03	0.89	0.89
Greece	-0.4 Q2	+0.7	-0.6	+4.1 Jul	-0.9 Aug	-0.2	23.4 Jun	+1.5 Jun	-0.1	-4.6	8.47	0.89	0.89
Italy	+0.8 Q2	+0.1	+0.8	-0.3 Jul	-0.1 Aug	nil	11.4 Jul	+53.9 Jun	+2.3	-2.6	1.30	0.89	0.89
Netherlands	+2.3 Q2	+2.5	+1.5	+2.4 Jul	+0.2 Aug	+0.3	7.4 Jul	+62.0 Q1	+9.8	-1.4	0.14	0.89	0.89
Spain	+3.2 Q2	+3.4	+2.9	-5.2 Jul	-0.1 Aug	-0.4	19.6 Jul	+22.7 Jun	+1.3	-4.3	1.14	0.89	0.89
Czech Republic	+3.6 Q2	+3.7	+2.4	-14.0 Jul	+0.6 Aug	+0.7	5.3 Aug§	+3.7 Q2	+1.2	-0.5	0.27	24.0	23.9
Denmark	+1.0 Q2	+1.8	+1.1	+2.2 Jul	+0.2 Aug	+0.8	4.2 Jul	+18.1 Jul	+6.8	-2.5	0.10	6.62	6.61
Norway	+2.5 Q2	+0.1	+1.0	-1.4 Jul	+4.0 Aug	+3.5	4.8 Jun‡‡	+23.6 Q2	+6.6	+3.0	1.29	8.25	8.21
Poland	+3.0 Q2	+3.6	+3.1	-3.4 Jul	-0.8 Aug	-0.8	8.5 Aug§	-1.3 Jul	-0.8	-2.9	2.90	3.86	3.73
Russia	-0.6 Q2	na	-0.5	-0.3 Jul	+6.8 Aug	+7.1	5.3 Jul§	+38.4 Q2	+3.3	-3.7	8.06	65.2	67.3
Sweden	+3.4 Q2	+2.0	+3.3	+4.2 Jul	+1.1 Aug	+1.0	6.3 Jul§	+25.4 Q2	+5.6	-0.4	0.28	8.48	8.28
Switzerland	+2.0 Q2	+2.5	+1.1	-1.2 Q2	-0.1 Aug	-0.5	3.4 Aug	+71.9 Q1	+9.7	+0.2	-0.34	0.97	0.97
Turkey	+3.1 Q2	na	+3.2	-8.4 Jul	+8.0 Aug	+7.7	9.4 May§	-28.9 Jul	-4.7	-2.0	9.75	2.98	3.06
Australia	+3.3 Q2	+2.1	+2.8	+3.7 Q2	+1.0 Q2	+1.3	5.6 Aug	-52.8 Q2	-4.4	-2.1	2.10	1.34	1.40
Hong Kong	+1.7 Q2	+6.5	+1.5	-0.6 Q2	+2.4 Jul	+2.5	3.4 Jul‡‡	+11.7 Q1	+2.7	nil	1.12	7.76	7.75
India	+7.1 Q2	+5.5	+7.6	-2.4 Jul	+5.0 Aug	+5.2	4.9 2013	-22.1 Q1	-1.2	-3.8	7.08	66.9	66.3
Indonesia	+5.2 Q2	na	+5.0	+7.1 Jul	+2.8 Aug	+3.8	5.5 Q1§	-18.7 Q2	-2.2	-2.4	6.94	13,205	14,348
Malaysia	+4.0 Q2	na	+4.3	+4.1 Jul	+1.1 Jul	+2.0	3.4 Jun§	+5.3 Q2	+2.8	-3.4	3.57	4.12	4.31
Pakistan	+5.7 2016**	na	+5.7	nil Jun	+3.6 Aug	+3.9	5.9 2015	-2.5 Q2	-0.7	-4.6	8.03†††	104	104
Philippines	+7.0 Q2	+7.4	+6.3	+10.1 Jul	+1.8 Aug	+1.7	5.4 Q3§	+6.7 Mar	+2.5	-1.3	3.59	47.5	46.8
Singapore	+2.1 Q2	+0.3	+1.4	-3.6 Jul	-0.7 Jul	-0.8	2.1 Q2	+58.4 Q2	+19.5	+0.7	1.86	1.36	1.41
South Korea	+3.2 Q2	+3.2	+2.6	+1.6 Jul	+0.4 Aug	+1.0	3.6 Aug§	+104.4 Jul	+7.4	-1.3	1.57	1,119	1,183
Taiwan	+0.7 Q2	+0.2	+0.6	-0.3 Jul	+0.6 Aug	+1.3	4.0 Jul	+75.7 Q2	+13.5	-0.6	0.75	31.7	32.5
Thailand	+3.5 Q2	+3.2	+3.0	-5.1 Jul	+0.3 Aug	+0.3	1.0 Jul§	+42.4 Q2	+8.0	-2.5	2.20	34.9	36.0
Argentina	+0.5 Q1	-2.7	-1.2	-2.5 Oct	— ***	—	9.3 Q2§	-15.0 Q1	-2.3	-5.1	na	15.0	9.36
Brazil	-3.8 Q2	-2.3	-3.3	-6.6 Jul	+9.0 Aug	+8.2	11.6 Jul§	-27.9 Jul	-1.0	-6.6	12.19	3.33	3.87
Chile	+1.5 Q2	-1.4	+1.6	-1.8 Jul	+3.4 Aug	+4.1	7.1 Jul§‡‡	-5.1 Q2	-1.8	-2.5	4.25	676	688
Colombia	+2.0 Q2	+0.8	+2.0	+6.6 Jun	+8.1 Aug	+8.0	9.8 Jul§	-16.9 Q1	-5.5	-3.7	7.22	2,989	3,027
Mexico	+2.5 Q2	-0.7	+2.1	-1.0 Jul	+2.7 Aug	+2.9	3.8 Jul	-30.9 Q2	-3.0	-3.0	6.02	19.2	16.8
Venezuela	-8.8 Q4~	-6.2	-14.8	na	na	+532	7.3 Apr§	-17.8 Q3~	-2.8	-24.2	10.58	9.99	6.30
Egypt	+6.7 Q1	na	+3.0	-8.6 Jul	+15.4 Aug	+11.6	12.5 Q2§	-18.3 Q1	-6.8	-11.4	na	8.88	7.83
Israel	+2.6 Q2	+3.7	+2.7	+1.2 Jun	-0.6 Jul	-0.3	4.7 Jul	+12.1 Q2	+3.6	-2.2	1.76	3.79	3.89
Saudi Arabia	+3.5 2015	na	+1.0	na	+3.8 Jul	+4.4	5.6 2015	-59.5 Q1	-7.3	-12.6	na	3.75	3.75
South Africa	+0.6 Q2	+3.3	+0.3	+2.5 Jul	+6.0 Jul	+6.0	26.6 Q2§	-12.9 Q2	-4.3	-3.4	8.68	14.3	13.6

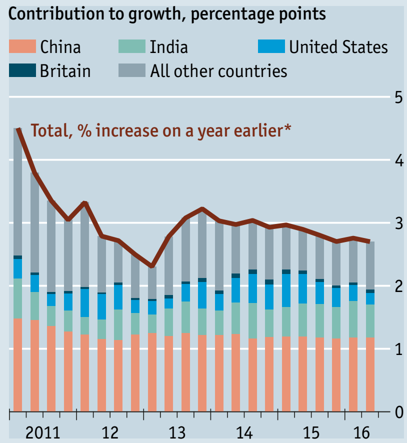
Source: Haver Analytics. *% change on previous quarter, annual rate. †*The Economist* poll or Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. ~2014 **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. ***Official number not yet proved to be reliable; The State Street PriceStats Inflation Index, June 36.96%; year ago 26.70% †††Dollar-denominated bonds.

Markets

	Index Sep 14th	one week	% change on Dec 31st 2015 in local currency	in $ terms
United States (DJIA)	18,034.8	-2.7	+3.5	+3.5
China (SSEA)	3,143.3	-2.9	-15.1	-17.4
Japan (Nikkei 225)	16,614.2	-2.3	-12.7	+2.3
Britain (FTSE 100)	6,673.3	-2.5	+6.9	-4.4
Canada (S&P TSX)	14,366.3	-2.9	+10.4	+16.3
Euro area (FTSE Euro 100)	1,013.1	-3.9	-7.4	-4.1
Euro area (EURO STOXX 50)	2,964.9	-4.1	-9.3	-6.0
Austria (ATX)	2,329.4	-2.7	-2.8	+0.6
Belgium (Bel 20)	3,502.9	-3.6	-5.3	-2.0
France (CAC 40)	4,370.3	-4.1	-5.8	-2.4
Germany (DAX)*	10,378.4	-3.5	-3.4	nil
Greece (Athex Comp)	556.1	-3.3	-11.9	-8.8
Italy (FTSE/MIB)	16,539.9	-4.4	-22.8	-20.0
Netherlands (AEX)	441.0	-4.8	-0.2	+3.4
Spain (Madrid SE)	876.1	-3.4	-9.2	-6.0
Czech Republic (PX)	867.5	-1.6	-9.3	-6.1
Denmark (OMXCB)	836.4	-1.1	-7.7	-4.2
Hungary (BUX)	28,095.4	-1.9	+17.5	+23.9
Norway (OSEAX)	661.0	-3.6	+1.9	+9.3
Poland (WIG)	46,988.6	-3.1	+1.1	+3.6
Russia (RTS, $ terms)	970.6	-3.5	+14.4	+28.2
Sweden (OMXS30)	1,409.9	-2.2	-2.6	-3.2
Switzerland (SMI)	8,162.7	-1.9	-7.4	-4.8
Turkey (BIST)	77,053.5	-0.8	+7.4	+5.2
Australia (All Ord.)	5,326.6	-3.5	-0.3	+2.2
Hong Kong (Hang Seng)	23,190.6	-2.3	+5.8	+5.7
India (BSE)	28,372.2	-1.9	+8.6	+7.5
Indonesia (JSX)	5,146.0	-4.4	+12.0	+17.0
Malaysia (KLSE)	1,661.4	-1.7	-1.8	+2.2
Pakistan (KSE)	40,340.2	+0.6	+22.9	+23.4
Singapore (STI)	2,809.4	-2.9	-2.5	+1.3
South Korea (KOSPI)	1,999.4	-3.0	+1.9	+6.8
Taiwan (TWI)	8,902.3	-3.9	+6.8	+10.7
Thailand (SET)	1,458.2	-2.0	+13.2	+16.8
Argentina (MERV)	15,546.4	-4.7	+33.2	+14.6
Brazil (BVSP)	57,059.5	-5.1	+31.6	+56.2
Chile (IGPA)	20,212.5	-1.1	+11.4	+16.8
Colombia (IGBC)	10,107.6	-3.3	+18.3	+25.6
Mexico (IPC)	45,767.6	-3.4	+6.5	-4.4
Venezuela (IBC)	12,106.3	-3.1	-17.0	na
Egypt (Case 30)	8,132.8	-0.2	+16.1	+2.4
Israel (TA-100)	1,255.3	-2.1	-4.5	-1.9
Saudi Arabia (Tadawul)	6,176.5	+0.6	-10.6	-10.6
South Africa (JSE AS)	52,502.0	-1.8	+3.6	+12.2

World GDP

The world economy grew by 2.7% in the second quarter of 2016 compared with a year earlier, according to our estimates. China's second-quarter GDP grew at an annual rate of 6.7%, largely because of government stimulus that helped shore up demand. Growth slowed in India, but a 7.1% expansion was still the fastest of any big economy. Together, China and India accounted for 63% of global growth. The United States also saw its growth slow, to a year-on-year rate of 1.2%, after business inventories fell for the first time in nearly five years. Britain's GDP grew by 2.2%, up from 2% in the prior quarter, suggesting that uncertainty in the run-up to the Brexit referendum in June did not much affect the economy.



Sources: Haver Analytics; IMF; *The Economist*

*Estimates based on 55 economies representing 84% of world GDP. Weighted GDP at purchasing-power parity

Other markets

	Index Sep 14th	one week	% change on Dec 31st 2015 in local currency	in $ terms
United States (S&P 500)	2,125.8	-2.8	+4.0	+4.0
United States (NAScomp)	5,173.8	-2.1	+3.3	+3.3
China (SSEB, $ terms)	352.5	-1.0	-15.1	-17.3
Japan (Topix)	1,314.7	-2.6	-15.0	-0.4
Europe (FTSEurofirst 300)	1,331.8	-3.5	-7.4	-4.1
World, dev'd (MSCI)	1,694.8	-3.0	+1.9	+1.9
Emerging markets (MSCI)	886.0	-4.3	+11.6	+11.6
World, all (MSCI)	410.9	-3.2	+2.9	+2.9
World bonds (Citigroup)	956.5	-1.5	+9.9	+9.9
EMBI+ (JPMorgan)	804.7	-1.8	+14.2	+14.2
Hedge funds (HFRX)	1,183.4§	-0.6	+0.8	+0.8
Volatility, US (VIX)	17.2	+11.9	+18.2	(levels)
CDSs, Eur (iTRAXX)†	69.8	+6.9	-9.5	-6.3
CDSs, N Am (CDX)†	77.2	+7.7	-12.6	-12.6
Carbon trading (EU ETS) €	4.0	-0.5	-51.9	-50.2

Sources: Markit; Thomson Reuters. *Total return index. †Credit-default-swap spreads, basis points. §Sept 12th.

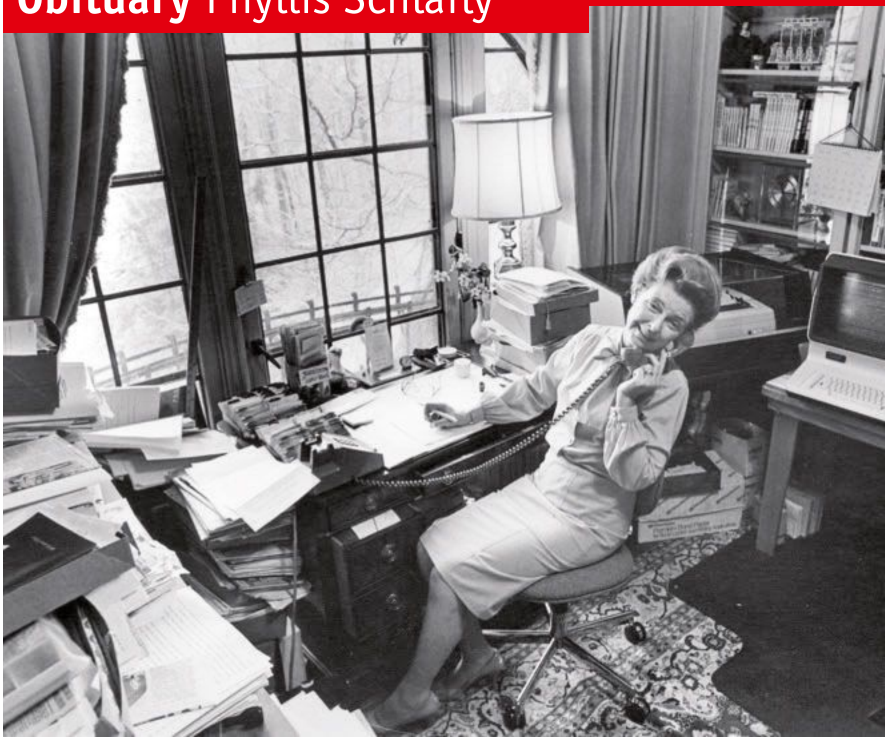
Indicators for more countries and additional series, go to: **Economist.com/indicators**

The Economist commodity-price index

2005=100

	Sep 6th	Sep 13th*	% change on one month	one year
Dollar Index				
All Items	134.6	133.4	-3.7	+1.4
Food	153.8	152.4	-4.2	+0.8
Industrials				
All	114.5	113.6	-2.9	+2.2
Nfa†	123.6	122.7	-2.0	+11.9
Metals	110.7	109.7	-3.4	-1.8
Sterling Index				
All items	182.2	184.0	-5.3	+18.1
Euro Index				
All items	148.9	147.5	-3.5	+1.7
Gold				
$ per oz	1,340.7	1,325.0	-1.7	+20.0
West Texas Intermediate				
$ per barrel	44.8	44.9	-3.6	+0.6

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



"Ms" for "misery"

Phyllis Schlafly, a firebrand critic of American feminism, died on September 5th, aged 92

SINCE the Pilgrim Fathers wisely abandoned their "naive and nonsensical" socialist experiment, America had thrived on hard work, motivated by family, in a climate of freedom, lately defended by the atom bomb: "a marvellous gift that was given to our country by a wise God". Such was Phyllis Schlafly's creed and as every liberal-minded American agreed it was outdated, extreme and repellent: obsessively anti-communist, anti-immigration, anti-abortion, anti-gay. Yet those who patronised or ignored her regretted it.

She cut her political teeth chewing up the internationalist Republican establishment, personified by the 1964 presidential contender, Nelson Rockefeller. Her first book, "A Choice not an Echo", a 121-page, 75 cent self-published polemic, sold 3m copies and helped the populist Barry Goldwater ("in your heart you know he's right") snatch the nomination. He plunged to defeat against Lyndon Johnson, who countered: "in your guts you know he's nuts."

Her next target was the treacherous, weak-willed foreign-policy elite: people like Robert McNamara who blundered into Vietnam but were scared to fight properly, or that deluded appeaser Henry Kissinger, whom she lambasted in a densely argued 800-page tome. Rather than wasting money on the "moondoggle" America should scare the Soviet Union by maintaining an overwhelming superiority in those God-given nuclear weapons. Arms-control talks were a dangerous distraction too: the Communists would cheat as they always did—the only deal they honoured was the one with Hitler in 1939.

Her consuming interest in the Soviet menace meant she came late—almost too late—to what proved to be her most notable fight: stopping the Equal Rights Amendment. By 1972 the ERA had passed both houses of Congress overwhelmingly. It was quickly adopted by 30 of the 38 states required. Her decade-long crusade to block "lesbians, radicals and federal employees" from seeking a "constitutional cure for their laziness and personal problems" was one of the most striking feats of grassroots organisation in American political history.

She united socially conservative Catholics, Protestants, Mormons and Orthodox Jews, previously mistrustful and distant camps, with tens of thousands of women enraged by their supposed champions. In halting a juggernaut backed by almost the entire political establishment she also brought the ultraconservative right from the fringe to the mainstream, paving the way for the Moral Majority of the 1980s, the Tea Party and ultimately Donald Trump—the first Republican nominee since Reagan, she said, "who actually represents the average American worker".

The "men's liberation amendment", she argued, destroyed women's rights to be mothers and homemakers, and to be gently treated in hard manual jobs. Mandatory equality would mean conscription for women—even into combat units; she mockingly sent quiches to legislators who failed to see how cowardly that was.

Cooked up

Her wider battle was against what she claimed was the feminist aim to make women and men interchangeable. Her arguments ranged from history (the Christian age of chivalry) to theology (the honour and respect due to Mary). The claim that American women were downtrodden was the "fraud of the century", she wrote in "The Power of the Positive Woman", a book published in 1977. If women were underrepresented in Congress, that was because they mostly wanted to do more important things, like having babies. Free enterprise helped far more than feminism—household appliances ended drudgery. Above all: marriage was the best deal ever devised for women.

She delighted in the ire she aroused. In a debate in 1973 Betty Friedan, a leading American feminist, called her an "Aunt Tom", adding "I would like to burn you at the stake." She was doused in pig's blood, hit in the face by an apple pie and lampooned in the "Doonesbury" comic strip (delightedly, she framed it). Her opponents saw her as an arch-hypocrite: married to a wealthy lawyer, a fortunate lady of leisure who sought to deny equality to her sisters. She thought the abuse proved her point: her opponents were smug, intolerant and out of arguments.

In fact Mrs Schlafly (not "Ms", which stood for "misery") was no more the child of privilege than she was a powder-puff. Born into a family hard-hit by the Great Depression, she worked her way through college doing night shifts in an ammunition factory, testing machineguns. Under her carefully coiffed locks—like a treble clef, the *New York Times* wrote unkindly—was a formidably effective brain. It was honed by a master's degree from Radcliffe gained at 20; at 51 (having gained her husband's permission) she whizzed through law school.

A deeper paradox, which she fiercely denied, was that sexism in her own ranks held her back. A male politician with her brains, charm, drive, grit and following—and 20-plus books, a syndicated column and a radio show—would have surely landed a job in Ronald Reagan's Pentagon. But she never held or won public office. Not that she cared. Her biggest achievement, she insisted, was raising her six children: all breast-fed, against (like so much) the fashion of the times. ■

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