

The Economist

Not safe yet: the euro at 20

Flower power in Beijing

Why the second little pig was right

A special report on childhood

JANUARY 5TH-11TH 2019

The Trump Show



Season Two

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The world this week

Print edition | The world this week Jan 3rd 2019

James Mattis spent his last day in office as America's **defence secretary**. Mr Mattis decided to step down after Donald Trump unilaterally announced the withdrawal of American troops from Syria. (Mr Trump also said he would downsize America's deployment to Afghanistan, but he appears to have changed his mind.) Mr Mattis had wanted to stay until February, but Mr Trump gave him a week to clear his desk. See [article](#).

Mr Trump's decision to withdraw from **Syria** was felt across the Middle East. Bashar al-Assad, Syria's dictator, welcomed it, as did his Russian and Iranian backers. America's Kurdish allies, feeling betrayed, asked Mr Assad to protect them from a looming offensive by Turkey. And Arab countries that loathe Mr Assad quickly tried to make up with him. See [article](#).

Binyamin Netanyahu, **Israel's** prime minister, called for an election to be held on April 9th, seven months earlier than originally scheduled. Many see this as an attempt by Mr Netanyahu to head off possible corruption charges. See [article](#).

Elizabeth Warren became the first heavy-hitter to enter the race for the Democratic Party's presidential nomination in 2020. The senator from Massachusetts favours higher taxes, universal health care and 40% of seats on company boards reserved for workers.

Jair Bolsonaro, a former army captain and apologist for military rule, took office as **Brazil's** president. Addressing congress, he proposed a "national pact" to overcome "the yoke of corruption, criminality" and "economic irresponsibility". In a more combative speech to a crowd of 100,000, he said he would free Brazil from "socialism, inverted values, the bloated state and political correctness". See [article](#).

Emmanuel Macron, **France's** president, vowed to press on with reform despite the *gilets jaunes* protests that have paralysed much of the country. Protesters vowed to block more roads and light more bonfires.

Elections were held in the **Democratic Republic of Congo** two years after they were supposed to have taken place. The vote was marred by intimidation. As results were awaited, the internet was turned off to make it harder for voters to complain. See [article](#).

Thousands protested in **Sudan** over rising food prices and the despotic rule of Omar al-Bashir, who has run the country since taking power in a military coup in 1989. Government forces shot dozens.

The death toll from the recent tsunami in **Indonesia** stood at 430, with more than 14,000 injured. The tsunami was caused by a slope on a volcano sliding into the sea during an eruption. New cracks have appeared on the mountain. See [article](#).

Bangladesh's ruling party, the Awami League, won a third five-year term in an election the opposition denounced as a farce. The party and its allies won all but 11 of the 299 seats contested, an even bigger landslide than in the previous election, which the opposition had boycotted. See [article](#).

Japan said it would defy an international ban and restart commercial **whaling** in its territorial waters, although it promised to stop whaling near Antarctica. See [article](#).

China's leader, Xi Jinping, said his country "must and will be united" with **Taiwan** and did not rule out the use of force to achieve this. Taiwan's president, Tsai Ing-wen, said the island would "never accept" China's offer of "one country, two systems".

America's *New Horizons* spacecraft flew past **Ultima Thule**. Thule, which is part of the Kuiper belt of asteroids beyond the orbit of Neptune, is the most distant object visited by a machine. It proved to be 33km long and snowman-shaped. Meanwhile, closer to home, China also achieved a first in space: a Chinese robot rover, *Chang'e-4*, landed on the "dark" side of **the Moon** invisible from Earth. See [article](#).

Following December's tumultuous trading, **stockmarkets** fell again at the start of 2019. Last year was the worst for markets since the financial crash. The S&P 500 was down by 6% over the year, the FTSE 100 by 12%, the NASDAQ by 4%, and both the Nikkei and Euro Stoxx 50 by 14%. But it was China's stockmarkets that took the biggest hammering. The CSI 300 index fell by 25%. See [article](#).

The rout is in part a response to the tightening of monetary policy by the Federal Reserve. Last month the Fed raised its benchmark **interest rate** for the fourth time in 2018, to a range of between 2.25% and 2.5%, but suggested it would lift rates just twice this year. See [article](#).

Investors were further unnerved this week by **Apple's** warning that revenues in the last three months of 2018 were much weaker than it had forecast, because of lower sales in China and because people aren't upgrading their iPhones as frequently as before. **Tesla's** share price took a knock, after it delivered fewer Model 3 cars in the fourth quarter than markets had expected.

A Japanese court approved a request to keep **Carlos Ghosn** in custody while prosecutors continue to question him. Mr Ghosn was sacked by Nissan as its chairman amid allegations that he misstated his pay. He was recently "re-arrested"—without ever being released—over new allegations of shifting a private investment loss onto Nissan's books.

KAL's cartoon

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American politics

The Trump Show, season two

The Trump Show, season two

What to expect from the second half of Donald Trump's first term

Thus far the president has been lucky. It may not last

Print edition | Leaders Jan 5th 2019

DONALD TRUMP'S nerve-jangling presidential term began its second half with a federal-government shut down, seesawing markets and the ejection of reassuring cabinet members like Generals John Kelly and James Mattis. As Mr Trump's opponents called this a disaster, his supporters lambasted their criticism as hysterical—wasn't everybody saying a year ago that it was sinister to have so many generals in the cabinet?

A calm assessment of the Trump era requires those who admire America to unplug themselves from the news cycle for a minute. As the next phase of the president's four-year term begins, three questions need answering. How bad is it really? How bad could it get? And how should Americans, and foreign governments, prepare for the Trump Show's second season?

Mr Trump is so polarising that his critics brush off anything that might count as an achievement. Shortly before Christmas he signed a useful, bipartisan criminal-justice reform into law. Some of the regulatory changes to schools and companies have been helpful. In foreign affairs the attempt to change the terms of America's economic relations with China is welcome, too. But any orthodox Republican president enjoying the backing of both houses of Congress might have achieved as much—or more.

What marks out Mr Trump's first two years is his irrepressible instinct to act as a wrecker. His destructive tactics were supposed to topple a self-serving Washington elite, but the president's bullying, lying and sleaze have filled the swamp faster than it has drained. Where he has been at his most Trumpish—on immigration, North Korea, NATO—the knocking down has yet to lead to much renewal. Mr Trump came to office with a mandate to rewrite America's immigration rules and make them merit-based, as in Canada. Yet because he and his staff are ham-fisted with Congress, that chance is now gone. Kim Jong Un still has his weapons programme and, having conceded nothing, now demands a reward from America. Europeans may pay more into their defence budgets at the president's urging. But America has spent half a century and billions of dollars building its relations with Europe. In just two years Mr Trump has taken a sledgehammer to them.

The next two years could be worse. For a start, Mr Trump's luck may be about to turn. In the first half of his term he has been fortunate. He was not faced by any shock of the sort his two predecessors had to deal with: 9/11, Afghanistan, Iraq, the financial crisis, Syria. Electoral triumph, a roaring economy and surging financial markets gave him an air of invulnerability.

Even without a shock, the weather has changed. Although the economy is still fairly strong, the sugar-high from the tax cut is fading and growth is slowing in China and Europe. Markets, which Mr Trump heralds as a proxy for economic success, are volatile (see [article](#)). Republicans were trounced in the House in the mid-terms. The new Democratic majority will investigate the president's conduct, and at some point Robert Mueller, the special counsel, will complete his report on links between Russia and the Trump campaign.

Over the past two years, Mr Trump has shown that he reacts to any adversity by lashing out without regard to the consequences. Neither the magnitude nor target of his response need bear on the provocation. In the past few weeks he has announced troop withdrawals from Syria and Afghanistan. Seemingly, this was partly because he was being criticised by pundits for failing to build a southern border-wall. The Afghanistan withdrawal was later walked back and the Syrian one blurred, with the result that nobody can say what America's policy is (though the harm will remain). Now that his cabinet has lost its steadying generals, expect even more such destructive ambiguity.

Moreover, when Mr Trump acts, he does not recognise boundaries, legal or ethical. He has already been implicated in two felonies and several of his former advisers are in or heading for prison. As his troubles mount, he will become less bound by institutional machinery. If Mr Mueller indicts a member of Mr Trump's family, the president may instruct his attorney-general to end the whole thing and then make egregious use of his pardon powers. House Democrats might unearth documents suggesting that the Trump Organisation was used to launder Russian money. What then?

Confusion, chaos and norm-breaking are how Mr Trump operates. If the federal government really were a business, the turnover of senior jobs in the White House would have investors dumping the stock. Mr Trump's interventions often accomplish the opposite of what he intends. His criticism of the Federal Reserve chairman, Jerome Powell, for being too hawkish will, if anything, only make an independent-minded Fed more hawkish still. His own negotiators fear that he might undermine them if the mood takes him. Most of the senior staff who have left the administration have said that he is self-absorbed, distracted and ill-informed. He demands absolute loyalty and, when he gets it, offers none in return.

How should Congress and the world prepare for what is coming? Foreign allies should engage and hedge; work with Mr Trump when they can, but have a plan B in case he lets them down. Democrats in control of the House have a fine line to tread. Some are calling for Mr Trump to be impeached but, as of now, the Republican-controlled Senate will not convict him. As things stand, it would be better if the verdict comes at the ballot box. Instead, they must hold him to account, but not play into his desire that they serve as props in his permanent campaign.

Many Republicans in the Senate find themselves in a now familiar dilemma. Speak out and risk losing their seats in a primary; stay silent and risk losing their party and their consciences. More should follow Mitt Romney, who marked his arrival in the Senate this week by criticising Mr Trump's conduct. His return to politics is welcome, as is the vibrant opposition to Mr Trump by activists and civil society evident in the mid-terms. Assailed by his presidency, American democracy is fighting back.

After two chaotic years, it is clear that the Trump Show is something to be endured. Perhaps the luck will hold and America and the world will muddle through. But luck is a slender hope on which to build prosperity and peace.

This article appeared in the Leaders section of the print edition under the headline "The Trump Show, season two"

EUR not safe yet

The euro still needs fixing

How to make the single currency's next 20 years better than the first 20

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THE BIRTH of the euro on January 1st 1999 was at once unifying and divisive. It united Europe's leaders, who hailed a new era of tighter integration, easier trade and faster growth, thinking they were building a currency to rival the dollar. But the euro divided economists, some of whom warned that binding Europe's disparate economies to a single monetary policy was an act of historic folly. They preferred a comparison with emerging markets, whose dependence on distant central banks fosters frequent crises. Milton Friedman predicted that a downturn in the global economy could pull the new currency apart.

For years the sovereign-debt crisis that engulfed Europe after 2010 seemed close to fulfilling Friedman's prediction. But the euro did not collapse. It stumbled on, often thanks to last-minute fixes by leaders who, though deeply divided, showed a steely commitment to saving the single currency. Public support for the project remains strong. Over three in five euro-zone residents say the single currency is good for their country. Three-quarters say it is good for the EU.

However, that support does not reflect economic or policy success. Euro-zone countries have never looked as if they all belong in one currency union, stripped of independent monetary policies and the ability to devalue their exchange rates. Italy's living standards are barely higher than they were in 1999. Spain and Ireland have recently enjoyed decent growth following laudable structural reforms, but their adjustments have been long and hard, and remain incomplete. In Spain the youth unemployment rate is 35%. Wage growth is slow almost everywhere.

The euro's history is littered with errors by technocrats. The worst was to fail to recognise quickly in 2010 that Greece's debts were unpayable and that its bondholders would have to bear losses. Greece has endured a prolonged depression and its economy is almost a quarter smaller than it was a decade ago. The European Central Bank has an ignominious history of setting monetary policy that is too restrictive for the euro zone as a whole, let alone its depressed areas. It was slow to react to the financial crash in 2008, arrogantly viewing it as an American problem. In 2011 it helped to tip Europe back into recession by raising interest rates too early. The ECB's finest hour—Mario Draghi's promise in 2012 to do "whatever it takes" to save the euro—was an impromptu act.

Leaders may be committed to the euro, but they cannot agree on how to fix it (see [Briefing](#)). The crisis exposed the depth of the divide between creditor and debtor countries: northern voters simply will not pay for fecklessness elsewhere. Economic stagnation helped populists to power in Greece and Italy. Because reform has been slow, the crisis could flare up again. If so, Europe will have to withstand it in a political environment that is much more divided than it was in 2010.

Technically, the path to a stable euro is clear. The first step is ensuring that banks and sovereigns are less liable to drag each other down in a crisis. Europe's banks are parochial, preferring to hold the sovereign debt of their respective home countries. Instead, they should be encouraged to hold a new safe asset, composed of the debt of many member states. Otherwise, when a country gets into debt trouble, its banks will face a simultaneous crisis, damaging the economy. Similarly, sovereigns must be shielded from banking crises. A central fund to recapitalise distressed banks is already being beefed up, but deposit insurance should also be pooled. This has been more or less agreed on in principle, but countries disagree over the speed of the transition.

Other necessary reforms are still more contentious. If the euro zone's disparate economies are to see off local economic shocks, like collapsing housing bubbles, they need a replacement for their lost monetary independence. Were countries to run a tight ship during booms, in line with the EU's rules, they would have more leeway for fiscal stimulus in crunches. But that advice is of no use to countries like Italy that are hemmed in by decades-old debts. Residents of indebted states cannot be expected to endure perpetual stagnation.

Instead, the euro zone should have some centralised counter-cyclical fiscal policy, as Emmanuel Macron, France's president, has called for. This does not mean letting countries off reform; it should not mean paying off their creditors. But it might include targeted investment spending, say, or shared unemployment insurance, to shield against deep economic downturns. The aim should be to avoid a repeat of the self-defeating fiscal contractions after the latest crisis.

This degree of risk-sharing may involve more transfers than northern voters can bear. But without it, the euro's next 20 years will be little better than the last 20. And when crisis strikes, Europe's leaders may find that political will, however substantial it was last time, is not enough.

This article appeared in the Leaders section of the print edition under the headline "EUR not safe yet"

Over to you, Vlad

The fate of Syria is now in Russia's hands

But Vladimir Putin is struggling to sort out its future

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IN THE PAST four years American troops have helped crush Islamic State (IS) in Syria. But President Donald Trump has had enough and he is bringing them home. All 2,000 are expected to be out in the next few months. The abrupt withdrawal has startled America's allies in the region, notably Syria's Kurds, and risks allowing the jihadists to regroup. It also cedes the eastern part of Syria, rich in oil, gas and arable land, to the government and its Iranian and Russian allies.

As America pulls back from Syria, Russia grows more entrenched. It intervened decisively in 2015, saving Bashar al-Assad. With its help, the heinous dictator has won Syria's civil war after nearly eight blood-soaked years. The authoritarian rulers of the Gulf, who loathe Mr Assad, are conceding his victory by restoring diplomatic ties.

Having proved that it will stick with even its most monstrous allies, Russia is now seen by many as the region's indispensable power. It alone is still talking to all of those with a stake in Syria, including Iran, Israel and Turkey. But if Russia wants to consolidate its success, and even supplant America, it must show that it can win a lasting peace after the terrible war.

So far, it is failing that responsibility. Rather than stitching Syria back together, Russia has let Mr Assad continue to tear it apart. It has helped him bomb his opponents into submission and given cover for his use of poison gas. Syria's ruler has long seemed intent on altering the country's sectarian mix by striking Sunni towns, where the rebellion against him once gathered strength, while encouraging Shias, Christians and Alawites (his own sect) to take over property abandoned by those who fled the onslaught. Now he is making it hard for the 6m Syrians who escaped abroad to come home. Hundreds if not thousands of Syrians returning from Lebanon, mostly Sunnis, have been blocked.

Russia says Mr Assad's heavy hand is needed to keep Syria stable. That is mistaken. Although savagery helped Mr Assad survive, it prevents Syria's revival. It has pushed bitter Sunnis into the arms of extremists. Inequality, corruption and divisive rule originally fuelled the rebellion and nurtured the jihadist insurgency. For as long as they remain government policy, Syria will never be properly secure.

For this to change Syria must begin to rebuild its institutions and infrastructure. What reconstruction has taken place has mostly benefited Mr Assad's cronies. Power and wealth must be shared more broadly. Decentralisation and federalism would help persuade Sunnis (who form the country's majority) and other groups that they have a voice. Mr Assad shows no sign of adopting such notions; he feels vindicated, and wants to continue the war until he recovers all his territories. Russia can and should twist his arm; after all, his survival depends on Russian air power.

Russia should also do more to ensure that new conflicts do not erupt in Syria. In the north the Kurds, abandoned by America, have turned to Mr Assad for protection from Turkey, which calls them terrorists. Turkish troops already control a swathe of northern Syria. Russia might act as a buffer between the parties, especially in the combustible city of Manbij. It could also do more in the south to restrain Iran, which is trying to deepen its footprint in Syria—and risking a new war, with Israel. Russia knows well that several big powers fighting so close to each other carries risks for all parties. Last September a Russian spy plane was shot down by Syrian air-defence batteries. Their intended target was Israeli bombers.

President Vladimir Putin, who casts himself as the master of Syria's fate, will struggle to sort out its future so long as he allows Mr Assad to rule wildly. Peace talks have flopped, in large part because of Mr Assad's intransigence. Russia cannot simply walk away without losing its newly won regional clout. Sometimes it has seemed as if Mr Putin avoided a costly quagmire in Syria. In fact, the danger still looms.

This article appeared in the Leaders section of the print edition under the headline "Over to you, Vlad"

The good, the bad and the scary

The radical agenda of Brazil's new president

He has a chance to transform his country but he may do it grave harm

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“HOPE, FINALLY, defeated fear,” declared Luiz Inácio Lula da Silva upon becoming Brazil’s president 16 years ago. Many Brazilians greeted the election of Lula, a left-wing former trade-union leader who vowed to uplift the poor, with optimism bordering on ecstasy. The government led by his Workers’ Party at first brought prosperity, but its 13 years in power ended in a nightmare of economic depression and corruption. Dilma Rousseff, Lula’s chosen successor, was impeached in 2016. Lula himself is serving a 12-year jail sentence for graft.

The fear and rage this caused has ushered into power Jair Bolsonaro, who took office on January 1st. He will be a different sort of president: fiercely socially conservative, a fan of Brazil’s military dictatorship of 1964-85, confrontational where most predecessors were conciliatory. And yet Brazilians greet him with something of the hope that welcomed Lula. Three-quarters say they like what they have seen since his election.

On many counts these hopes look misplaced. Mr Bolsonaro had an undistinguished record during seven terms in congress. He often belittles women, has praised the old military regime’s torturers and goads the police to kill more criminal suspects. His new ministers for foreign affairs, education, the environment and human rights all look likely to do more harm than good. Yet in some areas, he espouses sensible ideas. In particular, if he means what he says about the economy and can put his policies into practice, he could end up lifting Brazil’s fortunes. Brazilians are entitled to hope. A cyclical upturn, which has already begun, will help him (see [article](#)).

A former army captain, Mr Bolsonaro is not instinctively an economic liberal. However, he has entrusted economic policy to a genuine believer in free markets. Paulo Guedes, a former banker with a doctorate from the University of Chicago, wants to lighten many of the burdens that have weighed down the economy. Since 1980 GDP growth has averaged just 2.6%, far below that of many other emerging-market economies. Mr Guedes wants to deregulate, simplify the enterprise-crushing tax code, privatise state-owned firms and slash the enormous budget deficit, which was an estimated 7% of GDP last year.

He recognises that the most important reform is to slash pension costs which, at 12% of GDP, are roughly the same size in Brazil as they are in richer, older countries and on course to become staggeringly larger. The changes will be painful. They include raising the effective retirement age (Mr Bolsonaro began collecting a military pension when he was 33) and changing the rule for adjusting the minimum wage, to which pensions are linked. Without this, the government has little hope of containing its growing public debt or complying with a constitutional amendment that freezes spending in real terms. An ambitious reform, by contrast, could keep inflation and interest rates low, hastening Brazil’s recovery and accelerating long-term growth.

Moro’s move

Mr Bolsonaro’s other opportunity is to lock in gains Brazil has made in fighting corruption. The scandals that so enraged voters were brought to light mainly by police, prosecutors and judges, especially those in charge of the Lava Jato (Car Wash) investigations of the past four years. Mr Bolsonaro appointed the most prominent corruption-fighting judge, Sérgio Moro, to lead an expanded justice ministry, which will fight crime of all sorts. Mr Moro was the first judge to find Lula guilty. In joining the Bolsonaro team, he opened himself to the charge that he had a political agenda all along. His answer is that the fight against crime and corruption needs better laws alongside the energised judiciary. The new justice minister must now prove that he means it.

If Mr Bolsonaro succeeds in reforming the economy and cleaning up Brazil, he could unleash his country’s long-squandered potential. Nothing would give *The Economist* more pleasure. But to do so he must end his career as a provocateur and become a statesman. He must give up having only a selective respect for the law. And he must stop being lukewarm on pension reform, his government’s most important policy, and give it his full-throated support. Mr Bolsonaro has yet to show that he can tell voters bad news—such as that their pensions are unaffordable—or that he can work with congress. Unless he learns quickly, Brazilians will be disappointed again.

This article appeared in the Leaders section of the print edition under the headline “A dangerous populist, with some good ideas”

The house made of wood**Why more buildings should be made of wood**

*It is better for the planet, and safer than you think***Print edition | Leaders** Jan 5th 2019

THE SECOND little pig was unlucky. He built his house from sticks. It was blown away by a huffing, puffing wolf, which promptly gobbled him up. His brother, by contrast, built a wolf-proof house from bricks. The fairy tale could have been written by a flack for the construction industry, which strongly favours brick, concrete and steel. However, in the real world it would help reduce pollution and slow global warming if more builders copied the wood-loving second pig.

In 2015 world leaders meeting in Paris agreed to move towards zero net greenhouse-gas emissions in the second half of this century. That is a tall order, and the building industry makes it even taller. Cement-making alone produces 6% of the world's carbon emissions. Steel, half of which goes into buildings, accounts for another 8%. If you factor in all of the energy that goes into lighting, heating and cooling homes and offices, the world's buildings start to look like a giant environmental problem.

Governments in the rich world are now trying to promote greener behaviour by obliging developers to build new projects to “zero carbon” standards (see [article](#)). From January 1st 2019 all new public-sector buildings in the European Union must be built to “nearly zero-energy” standards. All other types of buildings will follow in January 2021. Governments in eight further countries are being lobbied to introduce a similar policy.

These standards are less green than they seem. Wind turbines and solar panels on top of buildings look good but are much less productive than wind and solar farms. And the standards only count the emissions from running a building, not those belched out when it was made. Those are thought to account for between 30% and 60% of the total over a structure's lifetime.

Buildings can become greener. They can use more recycled steel and can be prefabricated in off-site factories, greatly reducing lorry journeys. But no other building material has environmental credentials as exciting and overlooked as wood.

The energy required to produce a laminated wooden beam is one-sixth of that required for a steel one of comparable strength. As trees take carbon out of the atmosphere when growing, wooden buildings contribute to negative emissions by storing the stuff. When a mature tree is cut down, a new one can be planted to replace it, capturing more carbon. After buildings are demolished, old beams and panels are easy to recycle into new structures. And for retrofitting older buildings to be more energy efficient, wood is a good insulator. A softwood window frame provides nearly 400 times as much insulation as a plain steel one of the same thickness and over a thousand times as much as an aluminium equivalent.

A race is on to build the world's tallest fully wooden skyscraper. But such edifices are still uncommon. Industry fragmentation, vicious competition for contracts and low profit margins mean that most building firms have little money to invest in greener construction methods beyond what regulation dictates.

Governments can help nudge the industry to use more wood, particularly in the public sector—the construction industry's biggest client. That would help wood-building specialists achieve greater scale and lower costs. Zero-carbon building regulations should be altered to take account of the emissions that are embodied in materials. This would favour wood as well as innovative ways of producing other materials.

Construction codes could be tweaked to make building with wood easier. Here the direction of travel is wrong. Britain, for instance, is banning the use of timber on the outside of tall buildings after 72 people died in a tower fire in London in 2017. That is a nonsense. Grenfell Tower was covered in aluminium and plastic, not wood. Modern cross-laminated timber panels perform better in fire tests than steel ones do.

Carpentry alone will not bring the environmental cost of the world's buildings into line. But using wood can do much more than is appreciated. The second little pig was not wrong, just before his time.

This article appeared in the Leaders section of the print edition under the headline “The house made of wood”

Letters

Letters to the editor

Letters

Letters to the editor

On Brexit, Donald Trump, banks, hydrocarbons, suicide, MPs

Print edition | Letters Jan 5th 2019

Letters are welcome and should be addressed to the Editor at letters@economist.com

New year, same issue

I agree with holding a second referendum, as was argued in “The best way out of the Brexit mess” ([December 8th](#)). However I do not think Remain should be an option. I am a staunch Remainer myself, but I worry about the greater damage populism could inflict on Britain if we, in effect, tell those who voted for Brexit that they are stupid and should try again. We saw what happened with the election of Donald Trump and the first Brexit referendum. Calling people racists and ignorant only emboldens populist sentiment.

On the ballot in 2016, the question we were asked was whether Britain should remain a member of the European Union. The word “leave” was on the ballot paper, but since it provided no explanation of what this meant, we have to assume that it means “leave” in the context of membership.

But we should now hold a second referendum offering the people the choice of what our non-membership of the EU should look like. This will force both Remainers and Leavers into making concessions. They should be offered the choice of Theresa May’s package, the Norway model, the Turkey model, the Switzerland model, and leaving on WTO terms. Since these are technical questions, it will be much harder for populists to hijack the debate and force emotional issues upon it.

FRASER BUFFINI

Pristina, Kosovo

Begging your pardon

The significant legal question concerning any charges that may be brought against Donald Trump is whether he will brazenly act on the claim that he has the absolute right to pardon himself from criminal jeopardy (“Mueller, she wrote”, [December 8th](#)). The constitution’s limitations on the pardon power apply only to federal offences. Constitutional textualists, who focus on the plain meaning of the text, might agree with Mr Trump’s interpretation that it covers other matters, but the argument has never been considered by federal court.

This interpretation is wrong. In a democracy, allowing the pardon power to be used for self-protection creates an inherent conflict of interest and undermines confidence in the rule of law. It is also inconsistent with the constitutional provision that the president take care that the laws be faithfully executed. Whether President Trump would resign and accept a pardon from his successor, which would be a reprise of the Ford-Nixon pardon, is another matter.

JOHN MINAN

Professor of law, emeritus

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America’s small lenders

The suggestion in “Homing in” ([December 1st](#)) that non-bank lenders in America pose a harm to the housing-finance system and economy is unfounded. Independent mortgage companies and non-depository institutions play an important role in lending to creditworthy borrowers. If they hadn’t stepped up their efforts in the years after the great recession home sales and prices would have been slower to recover. Many first-time buyers, members of the armed forces, moderate-income borrowers and minority households would have found themselves locked out of home ownership. The majority of non-bank mortgage lenders are appropriately capitalised for the risks they take. Furthermore, most of the post-crisis regulations that traditional banks must follow also apply to these firms. Counterparties such as Fannie Mae and Freddie Mac as well as state regulators, also enforce guidelines and provide significant additional oversight.

Regardless of the source of mortgage credit, risky products have been removed in today’s mortgage market. Careful underwriting ensures that borrowers have the ability to repay their mortgages. That is a big reason why overall mortgage-delinquency rates are hovering below 5%, near all-time lows.

BOB BROEKSMIT

President and CEO

Mortgage Bankers Association

Synthetic hydrocarbons

Regarding your Technology quarterly on decarbonising the global economy (December 1st), there is much talk of the alternative energy carriers and their associated logistical networks that can replace hydrocarbons. Hydrogen is one, but other compounds, such as ammonia or methanol continue to be considered. But there is no reason why a net zero carbon system cannot be based upon the same hydrocarbon fuels and infrastructure that power society today. The key difference is that they would be synthetic hydrocarbons (rather than the naturally occurring variety) built from a carbon recycling system where CO₂ is pulled from the air and reacted with hydrogen to form a drop-in fuel that can be used in natural-gas heating systems, cars, trucks, or planes.

There are two reasons why synthetic hydrocarbons are downplayed. First is the incorrect thinking that a net zero carbon society must use an energy carrier that does not contain carbon. Educating policymakers on this point is a must. The second is that synthetic hydrocarbons are more expensive on a unit basis than simply using hydrogen. The latter point is true, but should be an impetus for R&D.

Synthetic hydrocarbons are compelling for pragmatic reasons. By developing “drop-in” substitutes, the hydrocarbon users and logistic system—cars, pipelines and so on—can be used as is. The unit cost of the fuel is more expensive, but the large upfront cost of replacing the hydrocarbon system is largely averted. Moreover, all those cars, pipelines and chemical facilities have voters and political interests behind them. By making them part of the solution, rather than left out in the cold, you obtain a coalition with its interests preserved in the new low carbon world.

If we had the luxury of building the energy system from scratch, hydrogen would play a big role. Substitutes that can slot into existing systems are the ones we should collectively pursue.

PROFESSOR TIM LIEUWEN

Georgia Institute of Technology

Atlanta

Ending a life

You propose that the state should make suicide more difficult (“Staying alive”, [November 24th](#)). I disagree. In a Darwinian sense we want to live only because evolution produces only things that want to live, be they bacteria or Nobel prize-winning scientists. Things that don’t want to live disappear from the world and those that are left therefore think that continuing to live is their prime imperative. For the individual that doesn’t want to live, suicide is logical and rational.

STEPHEN KING

Farnham, Surrey

Incapable MPs

“Knights become pawns” (December 1st) suggests that the minimum level of competence for an MP to hold a government job in Britain has fallen below the one outlined by Sir Humphrey Appleby in “Yes, Minister”. According to Sir Humphrey, if a party has just over 300 seats in the House of Commons it can form a government. Out of these MPs, 100 are too old or too silly to be ministers and 100 are too young or too callow. Therefore there is virtually no competition for the 100 government posts available.

JOHAN ENEGREN

Danderyd, Sweden

The euro at 20 Undercooked union

Incomplete union

The euro enters its third decade in need of reform

The EU's great project may not survive another crisis

Print edition | Briefing Jan 5th 2019

THE EURO is a survivor. The new currency, brought into being on January 1st 1999, has defied early critics, who thought it doomed to failure. It has emerged from its turbulent teenage years intact, cheating a near-death experience, the debt crisis of 2009-12. It is now more popular than ever with the public. But fundamental tensions attended its birth. Although the euro has made it this far, they still hang over it. If Europe's single currency is to survive a global slowdown or another crisis it will require a remodelling that politicians seem unwilling or unable to press through.

To its supporters the bold economic experiment was the culmination of half a century of European co-operation and a crucial step towards an "ever closer union" that would unite a continent once riven by conflict. "Nations with a common currency never went to war against each other," said Helmut Kohl, Germany's chancellor who, together with France's president, François Mitterrand, championed monetary union in the 1990s to cement deeper political and economic integration.

Each member brought its own hopes and fears to the union. To the French it was a way of taming the economic might of a newly reunified Germany and the power of the Bundesbank. To the Germans, who feared they would eventually foot the bill for profligate southerners, the prize was a stable currency and an end to competitive devaluations by Italy. To the Italians, Greeks and other southerners, monetary union was a means of borrowing the inflation-fighting credibility of the Bundesbank, on which the European Central Bank (ECB) was modelled.

The most vocal critics of the euro—many in America—saw a foolhardy plan crafted by naive politicians. The currency union would shackle together economies that were too different in structure while taking away a weapon to fight "asymmetric" downturns that hit individual members, such as a local housing bust. By giving up the ability to devalue currencies, the only way to adjust would be through painful and politically troublesome cuts to real wages. Unlike America, which also shares a monetary union, there would be no federal budget to help stabilise demand across state borders. Milton Friedman gave the euro no more than ten years before it collapsed and took the EU with it.

Neither its staunchest advocates nor its harshest critics have proved correct. The currency area has grown to 19 countries and ranks as the world's second-largest economy, when measured using market-exchange rates, behind only America. But the euro has only muddled through. Political will, particularly at its Franco-German core, meant that just enough was done to ensure that the euro survived the debt crisis but none of the union's fundamental problems was solved. As it enters its third decade, the question is whether the currency can withstand the next upheaval.

Currency affairs

To do so will require the right economic tools to overcome the euro area's weaknesses. These became obvious after debt crises engulfed Greece, then Ireland, Portugal and Spain. The unresolved conflicts of the past 20 years has meant too little integration and too little reform. Crucial gaps in its structure are yet to be fixed, and its ammunition is limited. At the same time, Europe is politically more divided. In many countries, mainstream leaders are succumbing to populists. Divisions have widened between the fiscally disciplined north and the south, which advocates redistribution across borders.

The deeper cross-border integration of economies, banks and capital markets that would alleviate domestic economic difficulties has not materialised. The euro's architects hoped that deeper integration would make the pain of real-wage adjustment easier to bear. But the external discipline of a single currency has not, as hoped, forced governments to undertake much reform to labour and product markets to improve competitiveness and so bring economies into line. Members trade more with each other. But, compared with grand expectations, the gains have been modest. Labour mobility is still low.

Financial integration has been limited, too. In America, capital and credit flowing from the rest of the country cushion the impact of a downturn in any one state. But a single capital market has not fully developed in the euro area. According to the OECD, a rich-country club, the corporate-bond market amounts to a tenth of GDP, compared with over two-fifths in America. A study by the European Commission in 2016 found that integration of capital and labour markets helped to cushion the blow of half of asymmetric shocks in America but only a tenth in the euro area.

No sense of togetherness

What banking integration has occurred has amplified risks not spread them. Banks have done little direct lending to firms and households across euro-area borders. Lending in the 2000s was of the flighty interbank sort that could easily be withdrawn.

This fed macroeconomic imbalances: net foreign liabilities in Portugal, Greece and Spain rose to 80% or more of GDP by 2008. But capital fled swiftly once the global financial crisis got under way. Foreign debts suddenly could not be rolled over and crisis erupted.

Without deep integration, the burden of adjustment falls on member states that are already stricken. Greece was engulfed by crisis after it overspent and hid its fiscal deficits. The crisis spread to Ireland, poleaxed by reckless banks, and Spain, which suffered a property bust. Matters were made worse in an infernal loop of doom as governments struggled to borrow enough to support failing banks, while banks were beset by the tumbling value of the government debt they held. Greece, Ireland, Portugal, Spain and Cyprus needed bail-outs. In return, northern countries insisted on stringent austerity measures and onerous structural reforms.

The euro area has become more balanced economically as a result of these measures. Gaps in competitiveness that ballooned during the first decade of the currency's existence have since narrowed as wages have been slashed and collective-bargaining practices reformed in southern states. Almost every country—apart from France, Estonia and Spain—is now running a primary fiscal surplus (ie, before interest payments). Ireland, Portugal and Spain ran current-account deficits before the crisis, but are now running surpluses.

Nevertheless, as the euro area enters its third decade it is still vulnerable to another downturn and underlying tensions are unresolved, if not sharpened. Past imbalances have left large debts that are only slowly being chipped away. Greece, Portugal and Spain have big external debts (see chart 1). Fiscal firepower is limited. Seven countries have public debt around or over 100% of GDP (see chart 2). The euro area has no budget of its own to soften the blow. The wider EU has one but it is small, at 0.9% of GDP, and is not intended to provide stimulus.

As fiscal policy provided too little stimulus when it was required, the ECB bore the burden. In 2015, after much delay, it began a programme of quantitative easing. Its purchases of securities, such as government bonds, from banks eventually encouraged more lending and kick-started recovery.

Even that took a fight. German horror of monetising debt led the ECB to set limits on the amount of a country's debt it could own. Even so, German critics launched legal complaints that the bank was breaking EU law by monetising debt. It was only in December 2018 that the European Court of Justice ruled that the scheme was legal, thanks in part to its ownership limits.

The bank's ability to provide stimulus in the next downturn will be constrained. Short-term interest rates are already negative. The bank's balance-sheet of €4.5trn (\$5.1trn) is vast, and holdings of German sovereign bonds are already nearing its ownership limit of 33%. It will take years before interest rates, let alone the balance-sheet, return to normal. Should a recession strike before then, the bank will have to rethink its toolkit. Morgan Stanley, a bank, puts the ECB's firepower at €1.5trn if it increases its ownership limit of sovereign bonds to 50% and widens its private-sector asset purchases to include bank bonds. But such a redesign could be difficult. Increasing holdings of sovereign debt would risk dividing the bank's governing council and provoking fresh legal challenge by critics.

In 2012 Mario Draghi, the ECB's president, said he would do "whatever it takes" to save the euro, committing to buy unlimited amounts of government bonds if sovereigns hit trouble. But the bank's governing council may be split when it comes to putting such a scheme into practice. Jens Weidmann, the Bundesbank's chief and a contender to become the next leader of the ECB, has opposed it.

Northerners still fear paying profligate southerners' bills, either through debt monetisation or bail-outs. For the Germans and the more hawkish New Hanseatic League, a group of eight small northern members, the debt crisis highlighted the importance of a national discipline that they fear is still lacking in the south.

Southern discomfort

At the same time, southerners feel they are bearing all the pain of recovery. The politics of monetary union is more febrile as a result. After eight years of eye-watering austerity, Greek GDP per person is still far below its level in 2007 in real terms (see chart 3). In 2015 Syriza, a left-wing party, came to power promising to end austerity, before spectacularly reversing course when it became clear that Greece needed a third bail-out.

The hope that lawmakers in Italy would be forced into making growth-enhancing reforms has been dashed. The economy was limping even before currency union. Public debt is a daunting 130% of GDP. Income per head in real terms is no different than in 1999. The stagnation raises the question of whether Italy can grow within the euro area, says Jeromin Zettelmeyer, from the Peterson Institute for International Economics. And the EU has become the Italian government's external enemy. In June 2018 a populist coalition took office seeking to overturn pension reforms and promising to increase public spending, provoking a stand-off with Brussels before Italy backed down in December.

After the previous crisis politicians struggled to cope. Their successors are even less well-equipped—or less well-intentioned. Political developments both within the euro area and without could restrain the economic response to the next downturn and are holding back much-needed institutional reform. Emergency action was taken during the debt crisis. A sovereign bail-out fund was cobbled together, for instance. Such steps had been urged by the IMF and America's president, Barack Obama. The Federal Reserve helped to provide dollar liquidity. Similar engagement or encouragement is unlikely while Donald Trump is in the White House.

Political differences between the north and south mean that three institutional flaws remain unresolved. Private-sector risk sharing through banks and capital markets is insufficient, the doom loop connecting banks and sovereigns has not been fully severed, and there is no avenue for fiscal stimulus.

Don't bank on it

Europe's banks, like those across the Atlantic, have improved their liquidity and capital positions since the financial crisis.

The total amount of bad loans, although still high in Greece and Italy, is falling. In 2012 the euro area introduced reforms to create a “banking union” in order to integrate national systems and loosen the ties between banks and sovereigns. Big banks are now supervised by a central authority. And a resolution fund is responsible for winding down failing banks, so that national governments are not as exposed to big ones that collapse.

Lenders remain stubbornly national, however. Branches and subsidiaries that operate across borders make up only a tenth of the euro-area banking sector’s assets. Banks cannot use deposits in one country to lend in another, because national regulators do not want to be on the hook for loans to improvident foreigners. An EU-wide deposit-guarantee scheme would allay that fear, but has yet to be agreed. At a meeting of heads of state on December 14th a discussion of the scheme—first proposed in 2012—was kicked further into the long grass. Fiscal hawks insist that banks bring down non-performing loans before risks are shared across countries.

Political differences have also prevented the doom loop from being broken fully. A side-effect of stricter rules on banks’ capital, which deems sovereign debt as riskless, is that banks have loaded up on it. Big banks in Italy, Portugal and Spain hold around 8-10% of their assets in these bonds. Jitters about the sustainability of a country’s debt could worsen banks’ balance-sheets, translating into fears about their solvency. But limits on banks’ sovereign exposures, backed by northerners, were not even discussed in December. Highly indebted Italians detest limits, fearing the loss of a steady source of demand for their debt and a rise in borrowing costs.

Fiscal policy is another political battleground. It is meant to be a matter for member states. But to avoid imbalances building up, they are required to obey the EU’s rules, which include running fiscal deficits of less than 3%, and public debt below 60%, of GDP. That has led to clashes between the European Commission, which polices the rules and is backed by hawks, and other national governments, which want to enact stimulus or deliver on election promises.

Some economists think that national fiscal policy alone is insufficient, particularly if countries that most need stimulus are constrained by fears of provoking bond markets. Country-level rules cannot force the miserly or the better off to spend more for the good of the currency area. In 2017 Emmanuel Macron, France’s president, proposed a euro-area budget to help stabilise demand in countries hit by an asymmetric downturn. But northern hawks see little need for such a function. For them, national public finances suffice.

A heavily watered down version of Mr Macron’s budget proposal was agreed in December. But rather than drawing on new funds, it will sit within the existing EU budget and focus on convergence and competition, rather than stabilising demand. The prospects for meaningful change may seem bleak. But it could still happen, thinks Daniele Antonucci of Morgan Stanley. He reckons that investors are too pessimistic about reform and that there is a chance that the bloc will enact a euro-area budget with a stabilisation function over the next ten years. Mr Macron’s budget proposal was considered taboo only a year ago, he says. Now that a version has been agreed it leaves scope for expansion.

Never let a crisis go to waste

If the euro’s past is a guide, change only happens during a crisis. The previous one revealed a willingness of the Franco-German core to save the euro at any cost. That willingness remains and cannot be underestimated. Laurence Boone of the OECD, who was an adviser to François Hollande, Mr Macron’s predecessor, thinks that the EU budget already contains tools, such as cohesion and investment funds, that could be enlarged and repurposed to stabilise the euro area if it hit trouble. The euro’s public popularity should help, as should the quietening of calls for leaving the euro in countries where it once seemed possible. Parties that flirted with exit, such as the Front National in France and the Northern League in Italy, now seek change from within. Britain’s agonising Brexit drama may have served as a warning.

Other events, though, could easily conspire against immediate action. Mr Macron has been weakened. His recent concessions to *gilets jaunes* protesters means that France will probably violate European fiscal rules. Angela Merkel, Germany’s chancellor, who led the euro area’s emergency response during the crisis, is due to step down in 2021. Reform-minded European officials, such as Mr Draghi, depart this year. If crisis engulfs Italy, the bloc’s third-largest member, even Franco-German determination to save the euro may not be enough. Political fragmentation means there is no guarantee that the next crisis will deliver the leap in integration needed to keep the euro safe.

The economics of currency union was always going to be hard for politicians to manage. In its first 20 years they did enough to keep the euro alive. The next 20 years will be less forgiving. A crisis will inevitably strike and if politicians do not see through reform, they may well oversee the euro’s demise.

This article appeared in the Briefing section of the print edition under the headline “Undercooked union”

When Donny met Nancy

The era of divided government in Washington begins, inauspiciously

Will the president be able to see the wood for the subpoenas?

Print edition | United States Jan 5th 2019

SINCE AMERICA'S government partially shut down on December 22nd, roughly 800,000 federal employees have been furloughed or compelled to work without pay. Not since 2013 has a government shutdown lasted this long. None has spanned a shift in partisan control of Congress, as this one has: Republicans held both legislative chambers when Congress adjourned in December; when it convened on January 3rd, Democrats, two months after their mid-term victory, regained control of the House of Representatives for the first time in eight years. This messy opening to a new era of divided government matters not just because federal workers are going unpaid and agencies unstaffed. It also signals an end to the congressional supineness that defined Donald Trump's first two years in office.

Behind the shutdown is Mr Trump's insistence on \$5bn for a wall on the southern border (the one that Mexico was supposed to pay for). David Cicilline, a congressman from Rhode Island who heads the Democratic Party's messaging arm, says there is "zero" chance that Mr Trump will get that much money. Late last year Senate Democrats offered \$1.6bn for border security, and even that much set House Democrats snarling. "There is no disagreement that we need to secure our border," says Mr Cicilline, "[but] we have a responsibility to appropriate funds in a cost-effective way." A wall, he argues, "is a 19th-century solution to a 21st-century problem."

For a time, Mr Trump seemed to agree. Shortly before the shutdown he began referring to a "beautiful...Steel Slat Barrier". John Kelly, his outgoing chief of staff, said that "we left a solid concrete wall early on in the administration." In early December Mr Trump backed off on his demand for his \$5bn, suggesting he would approve a short-term continuing resolution without wall funding to keep government open. Then right-wing talk-show hosts attacked him for backing down, and he reversed course, shutting down the government and reiterating his demand for "an all concrete Wall".

No dark sarcasm in the classroom

Each side believes the other will pay a greater political price. Republicans have a structural advantage: they are suspicious of government, while Democrats have styled themselves the party of good governance. But Democrats point to Mr Trump saying, during a televised meeting in December with Nancy Pelosi and Chuck Schumer, Democratic leaders in the House and Senate, "I will shut down the government if I don't get my wall." They may also suspect that however loyal congressional Republicans appear in public, privately they are weary of Mr Trump's intemperance and unpredictability, and may pressure him as the shutdown drags on.

Some argue that what Mr Trump really wants is not the wall, but the fight over the wall. After all, if he really wanted his \$5bn he could negotiate a deal with Democrats to get it—perhaps by agreeing to provide DREAMers (undocumented immigrants brought to America as children) a path to citizenship. But his base prizes his pugnacity above any realistically attainable concrete achievement, and he sees attacking Democrats as weak on crime and immigration as a better strategy than compromise.

"We have the issue, Border Security," he crowed on Twitter, two days after Christmas. He believes, not without reason, that his hawkish views on immigration won him the presidency in 2016, and remain his strongest suit. But that theory was tested in 2018, when Republican congressional candidates around the country ended their campaigns by stoking fears of, in Mr Trump's words, "death and destruction caused by people who shouldn't be here." Leaving aside the fact that immigrants commit crimes at lower rates than the native-born, that tactic failed. Republicans lost more seats in last year's mid-terms than in any election since Watergate. Now Ms Pelosi is once again House Speaker, and Democrats are committee chairmen with subpoena power.

How they will use that power will quickly become clear. They have spent months preparing. Matt Bennett of Third Way, a centrist Democratic think-tank, believes the committees will "fire subpoenas like machine guns...There will be full-blown investigations by the middle of January."

Elijah Cummings, the incoming chair of the House Oversight Committee, has already requested information about, among other things, the use of personal email for government work and payments to the Trump Organisation. Jerry Nadler, who will chair the House Judiciary Committee, plans to hold hearings on the administration's family-separation policy and Russian interference in 2016. Adam Schiff, who will head the House Intelligence Committee, wants to investigate Mr Trump's business interests. Richard Neal, who will run the House Ways and Means Committee, plans to compel the release of Mr Trump's tax returns.

Mr Trump's approval ratings remain stuck around 40%; unlike most presidents, he has barely tried to expand his appeal. Meanwhile, Robert Mueller's investigation is grinding inexorably forward. The president cannot afford to lose his cheerleaders' support now, which may explain his refusal to negotiate over the wall.

But that need not mean permanent gridlock. One can imagine Democrats agreeing to modestly increase border-security funding beyond \$1.6bn—enough to let Mr Trump save face, claim victory and reopen government. Beyond that, the parties could spend the next two years battling over immigration while finding common ground where they can—on infrastructure, for instance, or prescription-drug pricing.

For Mr Trump, personal relationships can supersede partisan policy disagreements. He seems genuinely to respect Ms Pelosi's toughness and accomplishment. He also appears fond of the cut-and-thrust with Mr Schumer, a fellow outer-borough New Yorker. But his personalisation of politics cuts the other way too. Bill Clinton was able to shrug off Republican efforts to impeach him as just business, while keeping focused on policy goals. Mr Trump, a famous counter-puncher, has shown no such ability to compartmentalise.

This article appeared in the United States section of the print edition under the headline "When Donny met Nancy"

Grad inflation

The rise in American high-school graduation rates looks puffed-up

Online credit-recovery classes have been implicated in many school scandals

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THE PUBLIC high schools in Washington, DC, were once looked on with wonder. Overcoming deep-seated poverty (three in four pupils are classified as poor) and racial segregation, the district dramatically increased its graduation rate. In 2012 only 56% of high-school students graduated. By 2017 that rate had climbed to 73%. Arne Duncan, Barack Obama's education secretary, touted the district's results as an example of "what can happen when schools embrace innovative reforms."

Then the truth emerged. It began with media reports on shenanigans at Ballou High School, an all-minority and entirely poor high school in the southeastern corner of the nation's capital. Graduation rates had gone from 50% in 2012 to 64% in 2017. When auditors examined the district's records, they found that 34% of all diplomas in 2017 year were improperly awarded. Many went to students who seldom showed up at school. Graduation rates at Ballou have since sunk back to Earth.

Nationally, high-school graduation rates have increased at a steady clip even while other measures of learning and achievement—international exams, state-mandated standardised tests, college-admissions test scores—have been flat or even slightly negative. That could be because children are doing better, or because schools are lowering standards.

There are some pockets of real success—high-performing charters in cities have helped many poor, minority students most at risk of dropping out if left in traditional public schools. But for the rest of the country the warning lights are starting to flash. The state of Alabama—which posted a remarkable 17 percentage-point increase in graduation rates between 2011 and 2015—has since admitted that its numbers were inflated. From Charlotte, North Carolina, and Atlanta, Georgia, to New York City and Los Angeles, credible accusations of graduation-rate inflation have emerged.

An ever-present element in these stories is the reliance on online credit-recovery classes. These are remedial courses delivered via computer that students can take if they fail a class, rather than attending summer school or being forced to repeat a grade. Jeremy Noonan, a former science teacher in Douglas County, Georgia, was assigned to supervise a credit-recovery course in 2016. Mr Noonan says a colleague told him that his responsibility was to manage the course so that students received an average grade of 80 or higher, which would enable them to graduate even if they failed the end-of-term exams.

The computer programme doing the teaching allowed students to retake exams they failed, with many of the same questions. "I realised right away it was all about manipulating the system," he says. "Most teachers just gave the students the answers without bothering to explain the course content," says Ayde Davis, a former public-school teacher in Del Rio, Texas, who reported violations to the state education agency. "Students could finish their courses at accelerated rates, the administration was happy, and credit-recovery teachers who co-operated were feted."

Students completed exams at unreasonably fast speeds—one finished a physics exam in four minutes and earned an 80% score, according to records she saved. In the 2015-16 school year, 144 credits were given for recovery courses completed in less than ten hours, Ms Davis's documents show. According to the makers of credit-recovery software, each course has between 60 and 75 hours of instruction.

It is not possible to know how many credit-recovery programmes are being used as diploma mills. But these courses are now widespread. The Fordham Institute, an education think-tank, estimates that 69% of all high schools in America use them. Some high schools have more than half of their students enrolled in credit-recovery programmes. They are especially popular in urban high schools attended by poor and minority students—in other words, precisely the places where graduation rates have risen fastest.

This article appeared in the United States section of the print edition under the headline "Grad inflation"

The mercurial EPA

The federal government backtracks on mercury-emissions rules

Not even the operators of power stations seem to want the EPA's latest edict

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CHILDREN FEAR lumps of coal during Christmas. The adults at the Environmental Protection Agency (EPA) had no such reservations. On December 27th, despite general merriment and a government shutdown, the agency issued its finding that Obama-era regulations on mercury emissions from coal-fired power plants were no longer “appropriate and necessary”. It is the latest in a long series of deregulatory actions taken by the Trump administration in an effort to resuscitate the limping coal industry.

In this case the timing was off. Since Barack Obama’s EPA implemented the rule in 2011, coal plants have already spent billions in compliance costs. Mercury emissions have since fallen by nearly 90%. The money cannot be unspent—and many utility operators have written to the EPA asking for the rules to be left in place. Removing the mercury rule is, however, an *idée fixe* of Bob Murray, a coal baron with the president’s ear for whom Andrew Wheeler, the acting administrator of the EPA, once worked as both a lawyer and lobbyist.

The battle is being waged over regulatory maths. The costs of mercury pollution are hard to price, because it is difficult to put a figure on the cognitive impairment of children and fetuses due to mercury contamination. Conservative estimates put them at just \$6m per year. The compliance costs for industry, however, run into the billions. So how did Obama-era EPA justify its regulation? It noted that the plan for cutting mercury emissions would also reduce power-plant emissions of fine particulate matter by 18% across the country. This stuff, which can become lodged in the lungs, causes respiratory disease and premature death. These so-called “co-benefits” were several times larger than the costs, preventing up to 11,000 premature deaths each year.

The Obama-era rule also affects emissions of 80-odd acid gases and heavy metals. Mr Wheeler’s EPA does not deny the benefits of reducing these. It simply maintains that they should not be considered when costing the rule. “It’s like we pretend they’re not there. But how we can pretend that arsenic, beryllium and cancer-causing chromium doesn’t exist is beyond me,” says Ann Weeks, senior counsel at the Clean Air Task Force, an environmental group.

More recent scientific estimates suggest that even the direct effect of mercury pollution is much greater than reported in the EPA’s original analysis—perhaps as high as \$4.8bn per year. This is based on better evidence of the effects of low-level mercury toxicity on intelligence and earnings. Despite the new estimates, the agency is sticking to the older, much smaller number. Mr Wheeler’s reasoning could be vulnerable to an inevitable court challenge, which would span years. For his former law-firm colleagues, all those billable hours could prove a fine Christmas present.

This article appeared in the United States section of the print edition under the headline “A mercurial agency”

Warehouses work

Will Amazon's workers unionise?

The behemoth faces rumblings from labour organisers

Print edition | United States Jan 5th 2019

INSIDE THE Amazon fulfilment centre in Monee, Illinois, the temperature is pleasant and the whirr of machines bearable. “Stowers” take items from yellow containers and place them on shelves after scanning their location. “Pickers” follow instruction on screens, grab items from shelves, scan them and put them in containers, which then move on via conveyor belt to the packers. Packers scan them again and put them into cardboard boxes they quickly seal before sending them off to get their address tag. Shifts are ten hours four days a week, with two breaks every day. About 125,000 people work in 100 fulfilment centres across the country. (During the holiday season Amazon hired another 120,000 seasonal workers.)

As online retail grows ever bigger, warehouses have become the workplace of choice for many without a college degree. In the past they would have worked for a bricks-and-mortar retailer such as Sears (in bankruptcy) or Toys R Us (also bankrupt). Whereas traditional retail has its own union, the Retail Wholesale and Department Store Union (RWDSU), which had its heyday in the 1930s, hardly any warehouse workers are union members.

This could be changing. Workers in Amazon warehouses in Minnesota, Staten Island and New Jersey mobilised before Christmas. In Amazon's new state-of-the-art warehouse in Staten Island, workers launched a campaign to unionise. Their main grievances are safety, pay and 12-hour shifts with insufficient breaks as well as punishing hourly quotas. Amazon says it pays its workers in Staten Island \$17-23 an hour, which is more than other local warehouses, as well as providing health care, offering workers further education and up to 20 weeks of parental leave. In New Jersey activists pushed state government to enforce a code of conduct at big retailers which includes the right to unionise.

Will workers' activism lead to unionisation at the country's second-biggest private employer? If past experiences at Walmart, the world's largest retailer that is America's biggest private employer, is anything to go by, the answer is no. Walmart fought attempts by workers to form a union. As soon as top management heard rumblings about unionisation through a hotline that local managers were directed to call, the retail behemoth sent a “labour team” from its headquarters in Bentonville, Arkansas, to the uppity shop, writes Rick Wartzman, a former head of the Drucker Institute, a researcher of corporate management. The team took over the shop's management and showed workers a steady stream of strident anti-union videos and other propaganda. If these efforts failed, it simply closed the shop.

Amazon learned from Walmart (as did many other big firms) and is likely to be as effective as the Bentonville behemoth in influencing its workers' thinking. Even so, warehouse workers have a lot of latent power, argues Brishen Rogers of Temple University. Thousands of them work together at one giant site where they can easily communicate compared with, say, janitors who work in isolation. Warehouses are at the centre of Amazon's operation and they are hugely expensive to build, so management cannot simply shut down a warehouse. It takes weeks to train top-notch warehouse workers to operate the technology they use, so staff cannot be replaced from one day to another.

Unionisation typically succeeds when a company does a poor job in addressing grievances of workers, argues Paul Osterman at MIT. Amazon reacted quickly after Bernie Sanders, a senator from Vermont, introduced the “Stop BEZOS Act”, which would have required Amazon and Walmart to pay the government for food stamps, Medicaid, public housing and other federal assistance received by their workers. A few weeks later Amazon announced it would increase the minimum wage for all its workers in America to \$15 an hour.

Amazon cares about its reputation as a progressive company based in liberal Seattle. This is a vulnerability but also a strength. The company is likely to listen more to its workers than big retailers did in the past, discouraging anaemic unions to take on the Goliath of the industry.

This article appeared in the United States section of the print edition under the headline “Fulfilling”

A tale of two cafés**How a small city is responding to a huge influx of Somali-Americans***Dark-skinned Muslims discover the limits of Minnesota nice***Print edition | United States** Jan 5th 2019

YOUNG MEN take sips of sweetened tea from plastic cups. Their hangout is the Somali Grocery and Restaurant, a scruffy, brightly lit spot a few steps from the Mississippi river in central Minnesota. The men, while eyeing a televised football game, discuss the difficulty of finding well-paid jobs. A biochemistry graduate, Abdiweli Barre, says career-building is tricky in St Cloud, a city of barely 70,000.

It might be easier an hour away in Minneapolis, a global hub for the east-African diaspora. Ilhan Omar, a woman from Minneapolis, just became the first Somali-American elected to Congress. But these tea-drinkers and a growing number of Somalis prefer smaller-town living. They say St Cloud is safe and, on balance, congenial. That is despite its notoriety after a 2016 incident when a Somali refugee stabbed and injured ten people in a mall (he was shot dead). The café was once pelted with eggs; insults and bottles have been thrown at women wearing hijabs in the street.

The tea-drinkers complain of racism among police and employers, and they laugh at others' misconceptions—"people who believe we don't pay tax, that we drive free cars and live in free houses," chuckles Mr Barre, the graduate. But he suggests that among locals "80% are good people" and he knows discrimination exists elsewhere. In late November a gunman in Eden Prairie, a similar-sized city also in Minnesota, was arrested for threatening a group of Somali teens, whom he accused of buying burgers with welfare money.

Big cities draw many migrants and refugees, but it is in smaller places like St Cloud (historically of German and Nordic stock) that especially dramatic demographic change occurs. An immigration lawyer estimates the metro area with 200,000 inhabitants is home to 10,000 people of Somali descent—from almost none two decades ago. A pioneer was Abdul Kadir Mohamed, who is wrapped tight in a grey duffle coat, hat and scarf as he steps into the café. He says he arrived as a refugee in 1991: "there were six Somalis when I came, and no discrimination, no hostility."

He calls that "the beginning of the Somalian time." "Today we have so many people," he says, a note of wonder in his voice. Some settled as refugees directly from east Africa but many moved from within America, drawn to jobs in meatpacking sites or with manufacturers such as Electrolux. America's (legal) immigration rules, which look favourably on family members of migrants, swelled the population further. A few Somalis now spill out to tiny agricultural towns, such as nearby Coldspring (population 4,000), in truly rural areas.

Concern about this pattern runs through a recent book by Reihan Salam, an author of Bangladeshi-descent. He argues that historically high rates of low-skilled immigration have resulted in the creation of ethnic enclaves and helped to worsen economic inequality, by keeping down wages. Together that threatens to make an ever more "dangerously divided society" split between groups of "irreconcilable strangers". He argues the remedy is to choke off low-skilled immigration. Only if fewer outsiders arrive will those already here integrate. The alternative, he suggests, is a permanent, non-white underclass.

On average Somalis in St Cloud are indeed poorer and worse-educated than other Minnesotans. They are also self-starters. The city is home to dozens of small firms, including money-transfer businesses, and clothes shops at a Somali strip mall. Custom is brisk at the Mogadishu Meat and Grocery, beside a low-rise brick mosque crowded with women in bright headscarves. That suggests dynamism, but also a community apart from the mainstream. Haji Yussuf, who owns a communications firm, says mingling happens slowly, partly because of Somalis' strong cultural pride—"just like for Jews and Italians."

Yet a backlash is also evident. To see it visit Culver's, a café five minutes from the first. It is a neon-lit, fast-food chain with jolly staff. All the patrons on a recent day are white. In a corner booth, his black tea in a china mug, is John Palmer, a retired academic from St Cloud University. He calls Culver's his "campaign office", brandishes a red, "Make St Cloud Great Again" cap and says the city is in near-terminal decline.

Mr Palmer is a fan of the president's, for slashing refugee resettlement. He says that Somalis will not assimilate unlike an earlier, smaller group of Christian Hmong refugees and complains that Somali women dress in a way that "certainly causes fear". He also calls low-income newcomers a burden, even if many have jobs. A rise in non-English speakers strains public schools, he says, sending better-off taxpayers away. "That qualifies me as an Islamophobe and a hater, apparently," he adds.

He organises, as part of a group called "C-Cubed", for "concerned community citizens". He blames new ghettos for violent crime (violent crime is falling). In running for election to the city council (he lost narrowly) he says he dared not canvas near Somali-dominated housing. He promoted a ballot initiative (it failed) that demanded the council somehow ban settlement of any more refugees.

Others are more extreme. Some churches have hosted firebrand anti-Muslim, anti-refugee speakers. Natalie Ringsmuth of Unite Cloud, a charity, says they appeal to lower-income, anxious, white residents. One man erected a sign of a pig on his lawn, then screamed at a neighbouring Muslim family. Ms Ringsmuth calls the city "ground zero" for online, alt-right extremists. But like the tea-drinkers in the Somali café, she is phlegmatic. She expects strangers to reconcile, given time.

This article appeared in the United States section of the print edition under the headline "A tale of two cafés"

Lexington

Jim Mattis and John Kelly had little influence on the president

They were, however, safeguards against calamity

Print edition | United States Jan 5th 2019

SHORTLY AFTER his inauguration, Donald Trump paused during an awkward address to congressmen and pointed to Jim Mattis and John Kelly, two of the five retired or current generals who served in his administration early on. “I see my generals,” he said proudly. “These are central casting. If I’m doing a movie, I’d pick you general, General Mattis.” That shallow idea of military leadership was said to owe much to George C. Scott’s lead performance in the 1970 film “Patton”, a Trump favourite. Mr Mattis, the incoming defence secretary, was in reality better known for his intellectualism than his craggy looks—or for the moniker “Mad Dog Mattis” that the president loved and he hated. Yet Mr Trump’s bigger misjudgment was to assume that the generals—the last of whom, Mr Mattis, departed his administration this week—would serve as ruthless executors of his will.

That mistaken apprehension (signalled by the gleeful possessive: “my generals”) was one of several reasons why he hired them. Others smacked of desperation. Mr Trump didn’t know much about foreign and security policy, most Republican foreign-policy experts had denounced him as a charlatan, and he cannot forgive a slight. Senior military officers, who tend to refrain from commenting on politics, looked like a convenient alternative. They also fitted with Mr Trump’s hazy understanding of his new job. As commander-in-chief, he expected to issue orders with the Olympian majesty of a Hollywood general. By surrounding himself with real-life ones he assumed he would have a disciplined team of experts in carrying orders out. That the generals’ tough-guy cachet would glorify his imagined own was an additional delight.

It did not work out that way, mainly because Mr Trump’s notion of presidential power was as realistic as his idea of generalship. “Poor Ike—it won’t be a bit like the army,” mused Harry Truman on his incoming successor, Dwight Eisenhower. “He’ll sit here, and he’ll say, ‘Do this! Do that!’ and nothing will happen.” His point was that American politicians—including commanders-in-chief—have less power than responsibility. To effect change, even popular, competent ones must work with the grain of the law and establishment opinion, and around congressional and other interests. Mr Trump, having little understanding of legal boundaries, or attention span, or interest in building consensus, or long-term view of almost anything, was always liable to be even more constrained.

An excited focus on Mr Mattis and the rest’s high-minded efforts to foil Mr Trump has tended to obscure this reality. Certainly, in another illustration of how little Mr Trump understood whom he had hired, the generals’ first loyalty was not to him, but to the national interest and institutions they had served for decades. They therefore advised him against impulsive moves, such as withdrawing from the Paris climate deal, the Iran nuclear deal, and the Syrian and Afghan conflicts, which went against those interests. Yet they appear to have won few of those arguments, as Mr Mattis signalled by resigning in protest last month.

At times, to be sure, the generals came close to openly defying the president. Mr Mattis’s slow-walking of his demands for a ban on transgender soldiers and a North Korea-style military parade were examples of that. Yet they were rare. The generals mostly stymied Mr Trump only to the extent that any halfway responsible cabinet secretary would have done: by treating his tweets lightly, reassuring worried underlings that they had their backs, and informing the president of the limits of his authority. “Why can’t we do it this way?” the president often harrumphed at Mr Kelly, straining on his legal and constitutional leash. Yet he never ordered the then White House chief of staff to crack on and break the law.

Set against the consternation excited by the generals’ departure, this record seems moderately reassuring. Mr Trump has made many bad moves in security and other policy against the generals’ advice. That he has nonetheless done less damage than he has threatened—by failing to go to war with North Korea or reinstitute torture, for example—is probably not mostly down to them either. He appears to dislike war. He has for the most part followed legal advice. He appears too ill-disciplined to pursue a complicated policy for long—including his signature ones, like the national security strategy drawn up by Lieutenant-General H.R. McMaster, as national security adviser, which makes a reasonable fist of turning America First into a coherent world-view. There is no strong evidence Mr Trump has read it or that he means to pursue the great-power rivalry with China that is its central promise. The biggest check on Trumpian disruption, good or bad, is Mr Trump.

The generals’ absence may therefore have less tangible effect than many fear. Mr McMaster and Mr Kelly had both become peripheral figures by the time they were moved on. The former White House chief had also become uniquely disliked by both the president and the media. And Mr Mattis, exhausted by his efforts to reassure allies and shield colleagues from Mr Trump, has left relatively little mark on his department. Having been chosen by Mr Trump against his advice, the likely next chairman of the Joint Chiefs of Staff, General Mark Milley, might even have more sway with the president on military matters than Mr Mattis had.

Patton down the hatches

Even so, the generals will be missed. Their presence meant that, if the worst happened—and under Mr Trump that is always possible—America would have strong, reliable public servants close to the helm. The same cannot be said for John Bolton

and Mike Pompeo, Mr Trump's remaining national security chiefs. In addition, the presence of Mr Mattis especially was a reminder that moral leadership is still prized in America—and that had concrete effects. When the former defence secretary urged American allies to “bear with us”, at this uncertain time for America's traditional alliances, they listened. There is no one left in the administration who could provide the same reassurance.

This article appeared in the United States section of the print edition under the headline “General exit”

Brazil

Out with the old

Out with the old

What to make of Brazil's new firebrand president, Jair Bolsonaro

Voters long for an economic revival. Foreign investors are wary

Print edition | The Americas Jan 3rd 2019

THE CAPTAIN has arrived," chanted thousands of Brazilians on January 1st as Jair Bolsonaro ascended the white marble ramp that leads to the Planalto, the presidential palace in Brasília. Freshly inaugurated, the country's 38th president looked out over the crowd of flag-waving supporters, soldiers on horseback and besuited statesmen and spoke with the fiery tone that characterised his unlikely ascent. He vowed to rid Brazil of socialism, political correctness and "ideology that defends bandits". Unfurling a flag, he declared that it would "never be red, unless our blood is needed to keep it yellow and green". "Mito" ("Legend"), the crowd chanted.

No past president has revelled as Mr Bolsonaro has in the enemies he has made and the offence he has caused. The former army captain praises Brazil's old military dictatorship and has insulted gay people, blacks and women. Until recently, his detractors were almost as numerous as his adorers. And yet Brazilians are strikingly optimistic as he takes office. Three-quarters say the incoming government is on the right course, according to Ibope, a pollster. Although the economy is recovering slowly from its worst-ever recession in 2014-16, a poll by Datafolha found that the share of Brazilians who are optimistic about the economy has jumped from 23% in August last year to 65% in December.

That is because they see Mr Bolsonaro, who in seven terms as a gadfly in congress never advanced beyond its "lower clergy", as a potentially transformational leader. They look to him to overcome corruption, crime and economic disappointment. In fashioning his government since he won the presidential election on October 28th Mr Bolsonaro has shown some signs that he intends to fulfil that expectation. Some of his plans could change Brazil for the better; others could cause immense damage. The main uncertainties are what the balance will be between the good and the bad, and whether he has the skills and the strength to enact his agenda.

Unlike his predecessors, Mr Bolsonaro has not given ministerial jobs to political grandees in order to win their support for his programme. That delights Brazilians, who voted for Mr Bolsonaro largely because they are disgusted with conventional politicians. Instead, he has assembled a cabinet composed of technocrats, ideologues and military men. Much will depend on how they interact with each other, and with congress. That is hard to predict.

The case for optimism rests mainly on two "superministers". Paulo Guedes, a former banker with an economics degree from the University of Chicago, will be the economy tsar, leading a ministry that will absorb the ministries of finance, planning and industry. Mr Guedes's support for deregulation, privatisation and, above all, reform of Brazil's unaffordable pension system could provide a tonic that the economy has long needed.

The new justice minister, Sérgio Moro, is supposed to deal with the two other maladies Mr Bolsonaro has identified: corruption and crime. As the judge leading the Lava Jato (Car Wash) investigations into political corruption over the past four years, Mr Moro became a popular hero. He was responsible for the jailing of Luiz Inácio Lula da Silva, a former president from the left-wing Workers' Party, who has come to represent everything Mr Bolsonaro and his supporters despise. Lula's allies say that Mr Moro's shift from the courtroom to Mr Bolsonaro's cabinet confirms their suspicions that Lava Jato is a politically motivated witch hunt. But most Brazilians cheered: they expect Mr Moro to take the fight against graft to the heart of government.

He will also be in charge of some of the more brutish policies the president has advocated, including gutting Brazil's gun-control law, making it easier for ordinary citizens to bear arms.

Mr Bolsonaro has stocked his administration with former generals. These include the vice-president, Hamilton Mourão, and the national security adviser, Augusto Heleno. Mr Bolsonaro's critics feared that he would militarise politics (Mr Mourão has come close to justifying intervention by the army to keep order in Brazil). But the generals strive to seem pragmatic and democratic. "You can erase from the map any kind of [undemocratic] action by Bolsonaro," Mr Mourão said in an interview with *The Economist*.

The outlook of the government's ideologues may be closest to that of Mr Bolsonaro. They include his three sons, the most influential of whom is Eduardo, a congressman from São Paulo who has courted the Trump administration (he met Donald Trump's son-in-law, Jared Kushner, at the White House in November). He reportedly urged his father to name as foreign minister Ernesto Araújo, a hitherto-obscure diplomat who regards action against climate change as a globalist plot and advocates a Christian alliance among Brazil, the United States and Russia.

His soulmates include the education minister, Ricardo Vélez Rodríguez, who wants to fight the supposed influence in schools of left-wingers and gay-rights advocates. Ricardo Salles, the environment minister, calls climate change a "secondary issue"

and opposes many of the penalties levied for environmental damage.

Wonks and ideologues

With incompatible points of view, Mr Bolsonaro's team of rivals have already begun to argue with one another. Whereas the president is keen to move Brazil's embassy in Israel from Tel Aviv to Jerusalem (as Mr Trump has done), the agriculture minister, Tereza Cristina, worries that Muslim countries will punish Brazil by buying less of its beef.

Mr Bolsonaro and the foreign minister are suspicious of China—he has accused the country of wanting to “buy Brazil”. But Mr Mourão wants a good relationship with China, Brazil's biggest trading partner. Fernando Henrique Cardoso, a former Brazilian president, thinks the pragmatists will prevail in such disputes. “Money talks,” he says. But if Mr Araújo's neo-crusading policies win out, “we'll have to pray.”

The odds may be worse for Mr Guedes's reform plans. In part, that is because Mr Bolsonaro seems ambivalent about them. In the past he has shown no appetite for telling voters that their benefits might be cut. For example, he said that a proposal by the outgoing president, Michel Temer, to set minimum pension ages of 65 for men and 62 for women was too harsh. (Currently, both men and women retire on average in their mid-fifties.) A timid reform would not stabilise public debt, which at 77% of GDP is already too high, and prevent pensions from crowding out more productive spending by government.

Getting Mr Bolsonaro's agenda through congress, where his Social Liberal Party holds less than a tenth of the seats, may be harder than overcoming the government's internal divisions. That is especially true of pension reforms, which require constitutional amendments. Mr Bolsonaro has made that job more difficult by handling congress differently from the way his predecessors did. Unwilling to engage in the grubby exchange of pork and patronage for political support, he has tried to marginalise political parties and their leaders. He prefers dealing with congressional caucuses, such as those representing the so-called bullet, beef and Bible (gun, ranching and religion) interests. He hopes to assemble case-by-case coalitions in congress to pass laws. Congressmen will bow to popular pressure, he believes. “Once we have the support of the public, congress will follow,” says Mr Mourão.

But there is little popular enthusiasm for reforms. Unlike the political parties, the caucuses on which Mr Bolsonaro is counting for legislative support have no money and do not whip congressmen in legislative votes. Ricardo Sennes, a political analyst, thinks the odds of passing a pension reform are just 50%. The recent strength of Brazilian financial markets reflects local optimism about economic reform; foreign investors have been wary.

Perhaps realising that governing will be harder than he thought, Mr Bolsonaro has lately opened channels with congress's leaders. In an inauguration-day speech to congress, more measured in tone than his Planalto stemwinder, he called for a “national pact” between society and the three branches of government to restore growth and family values and to fight crime and corruption. He has wisely said he will not take sides when the lower house and senate choose their presidents; they play a crucial role in negotiating between parties and the presidency. Parties have been “demonised” because of corruption, says Marta Suplicy, a senator from the centrist Brazilian Democratic Movement whose term ended in December, “but that doesn't mean they should be marginalised”.

Mr Bolsonaro's hopes of being a transformational president depend on his ability to couple pragmatism and economic reform. As important will be fighting corruption and crime in ways that reinforce the rule of law rather than undermining it. Achieving those changes will require wisdom and a talent for political management. Little in Mr Bolsonaro's past suggests that he possesses either quality.

This article appeared in the The Americas section of the print edition under the headline “Out with the old”

2020 division

Oil riches raise the political stakes in Guyana

As the government loses a no-confidence vote, Venezuela eyes a sea grab

Print edition | The Americas Jan 5th 2019

THIS YEAR was shaping up to be a hopeful one for Guyana, South America's second-poorest country (after Bolivia). By early next year, oil should start flowing from vast offshore reserves discovered by a consortium led by ExxonMobil, an American company. By 2025 it hopes to be extracting 750,000 barrels a day. That would be worth \$15bn a year at current prices, quadruple Guyana's current GDP. The government will get a windfall that could transform the fortunes of Guyana's 750,000 people.

Now politics has provided a plot twist. On December 22nd the government of President David Granger lost a vote of no confidence when a legislator from his coalition rebelled. Under the constitution, presidential and legislative elections must be held within three months. So far, no date has been set.

The petro-cash raises the stakes. Whichever party is in government when it comes has a good chance of keeping power. Mr Granger's People's National Congress, a mainly Afro-Guyanese party, hopes to be in office on the normal election date in August 2020. Its main rival is the People's Progressive Party (PPP), which is dominated by Guyanese of Indian origin, whose forebears came as indentured workers on the country's sugar plantations. It governed for nearly 23 years until 2015. It hopes to return to power before the oil bonanza. In local-government elections in November it won 61% of the vote.

The no-confidence vote was a soap opera. Charrandas Persaud, the Indo-Guyanese backbencher who wiped out the government's one-seat majority by switching sides, gave no warning. If he had, the leader of the governing coalition could have sacked him first. Mr Persaud has gone to Canada, where he remains.

The national security minister accused him of accepting a bribe, without presenting evidence. After parliament reconvenes on January 3rd the government may hold another confidence vote with a new deputy in place of Mr Persaud. The PPP leader, Bharrat Jagdeo, who was Guyana's president from 1999 to 2011, says parliament can only meet to organise an election.

This leaves South America's newest petro-power in limbo. The next elections, whenever they happen, could be as bitter as any in Guyana's history. The PPP doubts the neutrality of the head of the election commission, James Patterson. The government did not choose him from a list of names proposed by the opposition in 2017, as is customary. Mr Jagdeo, who cannot run himself, is calling for international observers to monitor the elections.

Venezuela, a socialist dictatorship with a collapsing economy, is taking advantage of this disarray to reassert an old claim to Guyana's oil-rich waters and to two-thirds of its territory. Guyana has referred the case to the International Court of Justice in The Hague. On December 22nd a Venezuelan navy vessel menacingly "approached" a seismic survey ship working for Exxon-Mobil in Guyanese waters. The United States, Britain and the Caribbean Community criticised Venezuela's action. If there is one thing Guyanese agree on, it is that the failing state next door must not seize its future oil wealth.

This article appeared in the The Americas section of the print edition under the headline "2020 division"

Bello

“Roma” reflects on Mexico’s past, and its present

A film captures the plight of the muchacha

Print edition | The Americas Jan 5th 2019

IT FIRST CAUGHT attention because it is a film made for Netflix whose Hollywood-based director, Alfonso Cuarón, insisted that it be shown in cinemas. But if “Roma” was the movie sensation of this Christmas holiday, it is because it is a superb film, the best to come out of Latin America for years. It is a nostalgic look at Mr Cuarón’s childhood in Mexico City, rendered more profound by its examination of his country’s deep-rooted inequalities. All this is wrapped up in a drama that attains epic intensity. It is also ideal background viewing for the “Fourth Transformation” promised by Andrés Manuel López Obrador, Mexico’s new president.

That Mr Cuarón shot a film set in 1970-71 in black and white gives it a sharper sense of history. It tells the story of his family and is set largely in a big modernist house in Colonia Roma, a comfortable middle-class neighbourhood in gentle decline (but recently re-gentrified). “Roma” evokes a vanished Mexico City, of the whistle of the knife-grinder on his bicycle and the glamour of vast cinemas.

What lifts the film to another plane is that its protagonist is the family’s *muchacha* (“girl”), as Mexicans call a live-in nanny and maid. Cleo is a young Mixtec (southern indigenous) woman from a village in Oaxaca. The role has made a star of Yalitza Aparicio (pictured), a kindergarten teacher and novice actress.

Mr Cuarón’s film is thus a Mexican “Upstairs, Downstairs”, shorn of sentimentality. When the family spend New Year’s Eve at the country estate of friends, as midnight approaches Cleo is ushered down a stairway to a basement to join the carousing servants. In the Roma house two cast-iron outside stairways lead upwards, but offer no social ascent. One leads to the poky bedroom Cleo shares with her friend, the cook (the only person with whom she speaks Mixtec). The other climbs to the *azotea*, the flat roof where the *muchachas* do the washing.

Cleo is made pregnant and then jilted by Fermín, a cynical young tough, just when Sofia, her employer, and her four children are abandoned by her philandering husband, a doctor. “We women are alone, we are always alone,” Sofia tells Cleo. But Cleo is the more alone. While Sofia has gossiping friends, her maid must rely on her employers for help.

Though often overlooked in Latin American novels and films, the live-in *muchacha* was until very recently a fixture of middle-class households, part of the family but not on equal terms, omnipresent but often ignored. Some *muchachas*, like Cleo, were well treated (Mr Cuarón remains close to his nanny, on whom the character is based). Even so, Cleo starts work before the family rise and finishes after they have gone to bed. She cannot lift her eyes above her station, the film suggests. In the long opening sequence, she is washing the patio floor; at the new year’s party, a drunken dancer knocks her cup of *pulque* (rot-gut) to the stone floor; in a traumatic scene, her waters break in a furniture store.

“Roma” subtly highlights the ambiguity of the *muchacha*’s role just when it is evolving. Young Latin American women are reluctant to work as live-in maids, partly because they have better alternatives. The cleaner who commutes to work is becoming more common. In December Mexico’s supreme court ruled that maids enjoy full labour rights.

The film also captures Mexico’s chaotic modernisation. That neither parent is capable of parking the family’s finned Ford Galaxie, its bonnet as wide as a mariachi’s sombrero, in the tight patio without scraping its sides seems like an allegory of a country whose political system no longer contained its developing economy and evolving social structure.

An undercurrent of violence courses through the film. The authoritarian system of the Institutional Revolutionary Party (PRI) is represented by President Luis Echeverría, a free-spending populist who took office in 1970. There was a dark side to his rule. The film features what became known as the “Corpus Christi” massacre of June 1971, in which paramilitaries linked to the regime killed unarmed student demonstrators.

Cleo is triply subordinated, by race, class and sex. More than any Mexican president since the 1930s Mr López Obrador represents such people, in his determination to make Mexico more equal and to help its poorer, Indian south. But he is also an admirer of Mr Echeverría and of the PRI in its earlier incarnation, before it embraced democracy and the market. As well as recalling the past, Mr Cuarón’s film speaks to the present.

Correction (Jan 4th 2019): An earlier version of this piece described the car featured in “Roma” as a Ford Galaxie, a minivan produced for the European market from 1995 onwards. It is in fact a Ford Galaxie, a V8-engined luxury car sold in the 1960s and 70s, as any petrolhead would know. Sorry.

This article appeared in the The Americas section of the print edition under the headline “The invisible woman”

The king of Thailand

A royal pain

A royal pain

As the army and politicians bicker, Thailand's king amasses more power

He appoints generals, patriarchs and executives, and disposes of crown property as he pleases

Print edition | Asia Jan 5th 2019

IT HAPPENED IN the dead of night, without warning. In late December security forces showed up with a crane at a crossroads in Bangkok and whisked away the monument that stood there. No one admitted to knowing who had ordered the removal, or why. Police stopped an activist from filming it. The memorial itself, which marked the defeat in 1933 of putschists hoping to turn Thailand back into a royal dictatorship, has vanished. It is the second monument to constitutional monarchy to disappear under the military junta that has run Thailand since 2014: in 2017 a plaque celebrating the abolition of absolute monarchy in 1932 was mysteriously replaced with one extolling loyalty to the king.

Making hard men humble

The current king, Maha Vajiralongkorn, has been on the throne for two years. He has unnerved his 69m subjects from the start. When his father, King Bhumibol, died in 2016, he refused to take the throne for nine weeks—despite having waited for it for decades. The delay was intended as a mark of respect, but it was also a way of signalling to the military junta that runs the country that he was determined to make his own decisions. It was only this week that a date was set for his coronation: May 4th. King Vajiralongkorn spends most of his time abroad, in a sumptuous residence near Munich. He even insisted on tweaking the new constitution, after it had already been approved in a referendum, to make it easier to reign from a distance.

King Bhumibol was on the throne for 70 years. Partly because of his clear devotion to the job, and partly because military regimes inculcated respect for the monarchy as a way of bolstering their own legitimacy, he was widely revered. Official adulation for the monarchy endures, but in private King Vajiralongkorn is widely reviled. His personal life is messy: he has churned through a series of consorts, disowning children and even imprisoning relatives of one jilted partner. He has firm ideas about the decorum he should be shown—the picture above shows the prime minister prostrating himself before him—but little sense of the respect he might owe anyone else: his cosseted poodle, elevated to the rank of Air Chief Marshal, used to jump up onto tables to drink from the glasses of visiting dignitaries. The tedious tasks expected of Thai monarchs, such as cutting ribbons and doling out university degrees, he palms off on his more popular sister.

Writing about such things in Thailand is dangerous. The country's fierce *lèse-majesté* law promises between three and 15 years in prison for insulting “the King, the Queen, the Heir-apparent or the Regent”. In practice, it has been used to suppress anything that could be construed as damaging to the monarchy, whether true or not, including novels that feature venal princes and academic research that casts doubt on the glorious deeds of the kings of yore.

As his critics are cowed, the king has focused on accumulating personal power. In 2017 the government gave him full control of the Crown Property Bureau (CPB), an agency that has managed royal land and investments for decades and whose holdings are thought to be worth more than \$40bn. In 2018 the CPB announced that all its assets would henceforth be considered the king's personal property (he did, however, agree to pay taxes on them). That makes the king the biggest shareholder in Thailand's third-biggest bank and one of its biggest industrial conglomerates, among other firms.

With the help of the CPB the king is reshaping an area of central Bangkok adjacent to the main royal palace. The bureau declined to renew the lease of the city's oldest horse-racing track, the Royal Turf Club, leading to its closure in September after 102 years. An 80-year-old zoo next door closed the same month. The fate of two nearby universities that are also royal tenants remains uncertain. The CPB has not revealed the purpose of the upheaval; Thais assume the king just wants an even bigger palace.

King Vajiralongkorn has also put his stamp on the privy council, a body which has a role in naming the heir to the throne, among other things. It once contained individuals who opposed his becoming king at all. Now it is stuffed with loyal military men. The royal court is ruled with “iron discipline”, according to one local businessman. Leaks about the king's disturbing conduct have dried up. Some former favourites have found themselves in prison. Hangers-on who traded on their royal connections have been shown the door.

The king's authority over religious orders has also grown. In 2016 the government granted him the power to appoint members of the Sangha Supreme Council—in effect, Thai Buddhism's governing body—and to choose the next chief monk, known as the Supreme Patriarch. He did so in 2017, elevating a respected monk from the smaller and more conservative of Thailand's two main Buddhist orders.

The army, too, is receiving a royal makeover. The commander-in-chief appointed in September, Apirat Kongsompong, is the king's man. Over the next two years he will supervise the relocation of a regiment and a battalion out of Bangkok, ostensibly to relieve crowding. Security in the city will fall instead to the elite Royal Guard Command, which is directly under the king's control.

Many contend that it is the king who has pushed the army to hold the oft-delayed election that has at last been called for February 24th. This is not to suggest that the king is a democrat (his actions suggest anything but). Rather, the contest is likely to lead to a weak, chaotic government, which probably suits him well. The constitution the army designed makes it hard for elected politicians to achieve a parliamentary majority. But even if the army retains power behind the scenes, it will have surrendered absolute authority. Either pro-army types or democrats would probably seek royal support to govern, strengthening the king's position however the vote turns out.

This article appeared in the Asia section of the print edition under the headline "A royal pain"

Banyan

Japan withdraws from the treaty that bans hunting whales

Whaling is a proud tradition, supporters say

Print edition | Asia Jan 5th 2019

WHEN WORD leaked that Japan was planning to pull out of the International Whaling Commission (IWC) this year in order to kill whales at will, the reaction was swift and fierce. Australia said it was “extremely disappointed”. Others likened Japan to a rogue state. So much for its claims to uphold international institutions and act as model global citizen. The move, critics railed, was like America pulling out of the Paris agreement on climate change.

Yet all is not what it seems. For a start, even as Japan leaves the IWC, it has forsworn whaling in the Southern Ocean (the waters surrounding Antarctica). Nearly every austral summer since the IWC imposed a moratorium on commercial whaling in 1986, Japan has sent the *Nisshin Maru* and other vessels there to catch whales for “research” (after which the meat ends up in restaurants). The Sea Shepherd Conservation Society, in turn, tries to sabotage the hunt. Now, after two centuries of whaling on an industrial scale, the Southern Ocean will be a cetacean sanctuary. Sea Shepherd is claiming victory. Australia is likely to be relieved too. For it and New Zealand, it removes a thorn in the side of their relations with Japan at a time when the three countries are seeking ways to draw together in the face of a rising China.

In truth, Japan could no longer afford to continue the Southern Ocean hunt, even if giving it up exposes the old lie of “research”. The venture is so bankrupt it has, in effect, been nationalised, propped up with hundreds of millions of dollars of subsidies. The ageing *Nisshin Maru* would cost a fortune to replace. Meanwhile, although whale meat remains on Japanese menus and shop shelves, its consumption continues to plummet. Gristly, greasy whale sashimi no longer appeals, it seems. Much of it ends up in schools and nursing homes, where the clientele has little choice.

There is still a tiny but influential lobby at home, however. A few towns have ancient traditions of whaling, something the IWC took little account of. It allows various indigenous groups around the world to hunt whales for “subsistence”. The people of the Caribbean island of Bequia may go after humpbacks, even though they learnt whaling only 150 years ago, from New Englanders. The Makah tribe of north-western America had not caught a whale in 70 years when it resumed whaling in 1999. In Taiji, on Japan’s main island, memories of whaling are more recent and the tradition many centuries old. People have family names like Tomi (“lookout”). Stone monuments along the coast appease the spirits of whales, whose meat sustained the town through famines. Yet there is no dispensation from the IWC.

So the government plans to allow whaling in Japan’s huge territorial waters. A small local fleet has survived by hunting cetaceans not covered by the IWC, such as dolphins and Baird’s beaked whale, and by conducting “research” of its own. Freed from the commission’s constraints, it might increase its catch from 50 minke whales a year to 300.

Japan had previously sought a similar arrangement within the IWC. A decade ago a compromise seemed within reach, before pressure from unyielding conservationists caused Australia to lose its nerve and drop its support for such a scheme. Whalers and conservationists have long talked past each other. The pity now, as Peter Bridgewater, a former IWC chairman, puts it, is that Japan is giving up catching minke whales from a healthy population in the Southern Ocean in return for catching unmonitored numbers from a population in the north Pacific whose health is much less certain.

But political considerations trumped all for Shinzo Abe, Japan’s prime minister. For conservatives in his Liberal Democratic Party, whaling is a nationalist emblem (while the *Nisshin Maru* hails from his own home port of Shimonoseki). The nationalists are already irked by Mr Abe’s plans to let more foreigners into the country, and by the growing realisation that only a disappointing compromise is possible with Vladimir Putin over northern islands controlled by Russia since the end of the second world war. Protecting plucky Japanese whalers is a useful sop.

With whales now placed on the altar of expediency, will they be hunted mercilessly around Japan? Not necessarily. Whaling may be coming home, but its (mostly hidden) subsidies are surely dwindling. Besides, an informed debate about whaling’s merits in a country only vaguely aware of the industry may at last emerge. Let’s hear it now, please, from Japan’s whale-watchers.

This article appeared in the Asia section of the print edition under the headline “Wailing whalers prevail”

Pâté and prejudice

A baguette-bedecked beauty queen bedevils bigots in Vietnam

H'hen Nie is the first minority woman to become Miss Vietnam

Print edition | Asia Jan 5th 2019

“FROM NOTHING, I am here.” That was how H’hen Nie, a Vietnamese model, introduced herself in her opening speech at the Miss Universe beauty pageant on December 17th. She went on to make it into the top five in the competition, the highest rank any Vietnamese has achieved, dressing in a costume inspired by *banh mi*, a nationally prized sandwich typically made with pork pâté. Yet Ms Nie is an unlikely idol for Vietnam. In a country that prizes long, flowing hair and pale complexions, she is relatively dark-skinned and rocks a pixie-like bob. When she won the Miss Vietnam contest last year, she was the first woman from an ethnic minority to do so.

Ms Nie is from the Rade, one of the tribes from the central highlands collectively labelled Montagnards, or mountain folk, by French colonists. Two decades of fast economic growth have brought greater prosperity to most Vietnamese but have done little to improve opportunities for the country’s 53 official ethnic minorities. These groups, who are about 15% of the population, lag behind the majority of Vietnamese (known as Kinh) by almost all measures. Fully 45% of them are poor, compared with just 3% of Kinh.

One barrier is language. Ms Nie did not master Vietnamese until she was a teenager. Over a third of minority people never do, limiting access to jobs and education. Discrimination makes things harder still: many see minorities as backward. Geography hurts, too. Minorities tend to live in central Vietnam’s mountainous areas, which have few roads or public services. They are less likely to migrate than their Kinh counterparts. Ms Nie, who is from the province of Dak Lak, moved to Ho Chi Minh city to attend university, a rare step.

This remoteness hinders the government’s attempts to help minorities. Subsidies for health care are of little use because hospitals are far away. The same problem plagues efforts to boost attendance at high school, which is low among minorities but which earns big economic returns, says Tung Duc Phung of the Mekong Development Research Institute, a think-tank. Moreover, poor parents often want their children to work rather than study.

Many experts think that the Communist Party sees minorities as a security risk. It fears that, among others, the Montagnards, who fought on the anti-communist side during the Vietnam war, are still aligned with anti-government forces. Many Montagnards suffer state surveillance and police harassment as a result.

The government does seem to look kindly upon Ms Nie, however. Coverage of her by state-controlled media is glowing and free of the usual ethnic stereotyping. When a Hanoi-based journalist wrote racist comments about her on his Facebook page last year, the Ministry of Information and Communications obliged him to make a grovelling public apology.

Ms Nie’s success has prompted some Vietnamese to examine their prejudices about minorities. She, meanwhile, has donated her prize money to scholarships and library-building in rural areas. That will help others go places from nothing, too.

This article appeared in the Asia section of the print edition under the headline “Pâté and prejudice”

Just kidding

Rumours of an American pull-out from Afghanistan appear exaggerated

But they still will encourage insurgents

Print edition | Asia Jan 5th 2019

HAS HE OR hasn't he? In late December American media reported that Donald Trump had ordered the Pentagon to begin withdrawing half of America's troops in the country. The reports seemed credible, in so far as Mr Trump had just announced a withdrawal from Syria (see [article](#)) and had very publicly wavered about keeping any troops in Afghanistan at all in 2017, before deciding to increase their number from 8,400 to 14,000. Yet the sudden reversal had come out of the blue. The Afghan government and startled allies with troops in Afghanistan, such as Britain, said they had not been consulted and were awaiting confirmation.

Confirmation has not been forthcoming. Instead, a White House spokesman contradicted the reports on December 28th, saying Mr Trump had not ordered a pull-out. The commander of American forces in Afghanistan also said he had not received any marching orders, as it were. Nonetheless, the rumoured wobble has again called into question the president's commitment to the 17-year-old war in Afghanistan.

American forces originally showed up in late 2001 to hunt for Osama bin Laden and to help the militias that had just overthrown the Taliban regime maintain security. The American presence peaked in 2010, at more than 100,000 troops. But even then, America failed to root out the insurgency led by the remnants of Taliban.

The Afghan army has formally taken the lead in the war since 2014. The remaining American soldiers are there mainly to train Afghan ones, although Mr Trump's mini-surge has allowed American advisers to be stationed with Afghan soldiers on the frontline, to provide more hands-on assistance. Even so, the Taliban and other insurgents are thought to have been killing perhaps 30-40 Afghan soldiers and police a day in recent months. Many analysts wonder whether the Afghan army can sustain such punishing losses in the long run, let alone the higher casualties that would presumably follow if it lost American training and air support.

Ashraf Ghani, Afghanistan's president, scoffs at suggestions that security would collapse after an American withdrawal. But the insurgency is spreading, according to the American government's own reckoning: a recent oversight report found that only 55% of the country's territory is under the authorities' "control or influence", and just 65% of the population. And the Afghan security services are 40,000 recruits, or 11%, below their target strength, the lowest level since 2012.

The biggest immediate impact of the rumours of a withdrawal may be on peace talks with the Taliban. After years of trying to battle the insurgents into submission, America embraced attempts to find a political settlement in 2018. It held meetings with Taliban envoys, in the hope of initiating formal negotiations. Zalmay Khalilzad, Mr Trump's point man on Afghanistan, told the militants that America would never abandon the Afghan government, and that peace talks were therefore the only way to end the current stalemate. The confusion of the past few weeks, however, will have left the Taliban wondering yet again if they would do better simply to wait out their weary adversary.

This article appeared in the Asia section of the print edition under the headline "Just kidding"

Hard to swallow

A government scheme to scatter poison worries New Zealanders

The target is invasive species, but the public debate has turned toxic too

Print edition | Asia Jan 5th 2019

IT IS AN unusual stance for animal-lovers, but conservationists in New Zealand are hoping to bring about a mass extermination—of non-native species. Though local fauna everywhere suffer from foreign invaders, animals in New Zealand are particularly vulnerable, since they evolved in the complete absence of mammals, bar a few species of bats. That made local birds and reptiles easy pickings for the rats that arrived on Maori canoes in the 13th century and, later, the stoats and possums that accompanied European settlers.

It is these hungry four-legged immigrants, along with habitat loss, that are largely responsible for pushing 800 native species to the brink of extinction. In 2016, to save them, the Department of Conservation (DOC) launched “Predator Free 2050”, a plan to eradicate unwanted mammals. To succeed, the scheme will need a technological breakthrough: an infertility gene that rats inadvertently propagate, for example, or a lure so powerful that trap-shy stoats can’t resist poking their noses in.

Until then, there is poison. DOC helicopters drop pellets laced with sodium fluoroacetate or “1080” into areas too tricky for trapping. It is an effective form of control, if not eradication, and bird numbers quickly rise in poison-strewn forests. The state owns roughly a third of the country’s land, and 1080 has been applied to almost a fifth of that area.

But the toxin is controversial. In 2018 a group of anti-1080 protesters marched in Wellington, the capital, tossing dead birds onto the steps of parliament. In the wild, the resistance is even fiercer: wheel nuts loosened on DOC vehicles, staff threatened, poison found in an employee’s letterbox. Fonterra, New Zealand’s largest company, was forced to pull infant milk formula from supermarkets at an estimated cost of \$NZ20m (\$13m) after an anti-1080 protester sent it a sample of its formula mixed with 1080 and threatened to adulterate stock in shops in the same way.

The objections to 1080 are various, and some stack up better than others. Protesters argue that poisoning animals *en masse* is inhumane. That is hard to dispute, but 1080 is no worse than other poisons. Critics are right, too, that the killing is indiscriminate. Other animals do sometimes consume the pellets, but that is rare, and the victims are usually not native species but larger mammals such as dogs and deer (something that incenses recreational hunters). Fears of residual contamination of the environment or water supply are unfounded, as 1080 biodegrades harmlessly. Then there is the conspiratorial fringe, who peddle outlandish theories on Facebook about the true purpose of the 1080 campaign, such as establishing a new world order or controlling the world’s food supply.

In 2011 the Parliamentary Commissioner for the Environment (PCE), an official watchdog, conducted an exhaustive review of the evidence and endorsed 1080, noting that without such pest control, only one in 20 kiwi chicks survives to adulthood. Local scientists endorsed her conclusions.

But 1080’s opponents have not given up. Fake facts do not help: a photo of 50 dead, apparently poisoned kiwis was circulated widely online, for example, although the kiwis had actually been killed by dogs. A lawyer arguing for an injunction against a pellet drop near Auckland told Radio New Zealand, a public broadcaster, that multiple people in America had died when a chemical related to 1080 was added to scrambled eggs. But that mix-up involved concentrated sodium fluoride, a tooth-strengthening compound added to municipal drinking water. Dangerous residue is scarcely detectable in the vicinity of 1080 drops, and in concentrations too low to cause harm.

New Zealand First, a political party, campaigned for a ban on 1080 ahead of the most recent election, in 2017. It has kept quiet on the subject since becoming part of the governing coalition. But it may face pressure from its constituents to raise the matter with its main partner in government, the Labour Party. What would happen then is anyone’s guess. 1080 may have science on its side, but the debate about it has become toxic.

This article appeared in the Asia section of the print edition under the headline “Hard to swallow”

Leaving nothing to chance

Biased institutions usher Bangladesh's ruling party to a third term

The Awami League probably would have won a fairer contest too

Print edition | Asia Jan 5th 2019

THE AWAMI LEAGUE is an impressive outfit. Founded in 1949, the party spearheaded the movement that won Bangladesh independence from Pakistan in 1971. It has ruled the country for 19 of the 47 years since then, including the past decade. On December 30th it won another five-year term, capturing along with smaller allies some 96% of the seats at play. That is more even than it and its allies won in 2014, when voter turnout shrivelled after their main rivals boycotted the polls, leaving the party unopposed in over half the seats.

But does nabbing 288 out of 299 seats mean the Awami League and its leader, Sheikh Hasina Wajed, are growing ever more popular? Alas, there is no way of knowing. In this latest vote the electoral playing-field was so tilted, the voting so deeply flawed and the counting so lacking in transparency that even many of the party's supporters doubt the result.

That is a pity. In the judgment of opinion polls and independent observers, Sheikh Hasina's party looked set to capture a tidy majority even without such vigorous manipulation. With its origins in the liberation struggle and its leader's own legacy as the daughter of the hero of independence, the party has long enjoyed a base of around a third of voters. Strong and accelerating economic growth under Sheikh Hasina, big improvements in human development and a tough approach to radical Islam have boosted her popularity further at home. Her policies also earn goodwill abroad, particularly from neighbouring India.

Few Bangladeshi intellectuals or foreign diplomats had expected or very much wanted a victory for the rival Bangladesh Nationalist Party (BNP), which has historically enjoyed a core of voters only slightly smaller than the Awami League. When last in power, from 2001-06, it had gained a reputation for cronyism and pandering to Islamists. Yet after ten years with an overwhelming parliamentary majority, the Awami League's wholesale takeover of state institutions had stirred growing apprehension, even among admirers. Unaccountable police and prosecutors harass BNP members with arrests and lawsuits.

Bully buoys

A shoot-first policy with suspected drug dealers has left 400 people dead since May. Thugs from the league's "student wing" often beat up those considered hostile. When student protests over dangerous traffic in Dhaka erupted in the summer, the government's bullies responded brutally, as if the state itself were in danger. Soon after, the Awami League rammed through laws that sharply restrict freedom of the press.

Such pressure raised fears that the BNP might repeat its disastrous boycott of 2014. But in October, to much surprise, it dropped demands for a neutral caretaker government to run the elections, and instead joined a broad-based electoral alliance led by Kamal Hossain, an 81-year-old constitutional lawyer, noted liberal and former Awami League foreign minister. Despite heavy intimidation and harassment during the campaign, including the shutting down of the BNP website, a ban on big BNP rallies and the claimed arrest of some 10,000 party workers, the alliance stuck.

Local pundits and foreign diplomats began to muse about a potential "sweet spot"—a result that would leave Sheikh Hasina in charge, but with a strong enough opposition to restrain her somewhat. If the league's majority could be kept below two-thirds, an intellectual suggested, "That might help restore democracy, or at least put us on the road to healing."

That road will remain untravelled. As some 40,000 polling booths across the country opened, reports soon emerged that some of the plastic ballot boxes looked suspiciously full. A tour of stations in Dhaka revealed forests of Awami League banners and posters but scarcely a twig for the BNP alliance, and not a single opposition polling agent compared with scores of league helpers at every booth. This meant there was no one to help opposition voters find their voter number, and no one to monitor the voting or counting.

In league-dominated districts queues were short and voting was easy, with only a few ballot boxes per voting station. But in the more hotly contested Dhaka-15 district, thousands of angry men waited for hours in front of Monipur High School, or gave up in disgust as police and aggressive Awami League supporters allowed the barest trickle of voters through the single steel door giving access to the 36 ballot boxes inside. Midway through the voting, ballot stubs revealed that only 41 voters had made it to the box in one of the classrooms, out of more than 1,000 registered.

From across the country came similar reports of opposition polling agents being threatened or beaten, of voters being barred and of booths being closed "for lunch" or because "ballots ran out". Election-day violence left at least 19 dead. Predictably, the government-appointed election commission claimed the voting had been trouble-free, an odd group of figures labelled international observers chimed benedictions and the regional powers, China and India, sang congratulations.

Sheikh Hasina herself dismissed reports of trouble as "some incidents where members of our party were killed by the opposition". In her own district, the margin of victory was more than 1000:1. In several others, opposition candidates failed to garner a single vote—not even their own.

Now that the deed is done, government ministers speak cheerfully of getting back to the business of growth and development. With the full weight of the state under absolute control, with powerful friends abroad and with the opposition crushed

and demoralised, they may sleep peacefully enough for now. But as a fearful academic in Dhaka mutters: “What they don’t realise is that the biggest threat is their own unbridled power.”

This article appeared in the Asia section of the print edition under the headline “Leaving nothing to chance”

The anniversary year

Flower power

Growing might

China plans the biggest garden show ever

Celebrating one-party rule with a display of flower power

Print edition | China Jan 5th 2019

BEYOND THE Great Wall and the chain of rugged hills through which it snakes, workers are putting the finishing touches to a colossal edifice. The beams of its roof are curved, with golden tiles reminiscent of those that adorn the Forbidden City, 70km to the south-east. The building itself curves, too, in a shape that its architects say resembles a *ruyi*—a traditional Chinese talisman (pictured is an artist's impression). They say it invokes a longing for fulfilment of the “Chinese dream”. That is a cherished slogan of China's leader, Xi Jinping, whose wish is that China should emerge as a global giant. As a state news agency puts it, the building conveys the “imposing manner of a great power”.

The China Pavilion, as the structure is called, is for an international flower festival in Yanqing, a satellite town of the capital. The show will open on April 29th and last for more than five months. It will be the biggest expo of any kind that China has staged under the aegis of the Paris-based Bureau International des Expositions since the Shanghai World Expo in 2010. It will be the biggest horticultural one ever held anywhere. And it will be the centrepiece of the largest political celebration in China in a decade: the 70th anniversary of the founding of the Communist state. The big day itself will be on October 1st, as the flower show enters its final week.

The choreography of the coming year will convey Mr Xi's dream to perfection. In April, on a date to be announced, foreign leaders will gather in Beijing to discuss the president's Belt and Road Initiative—a scheme involving billions of dollars of Chinese loans to, and investment in, infrastructure projects around the world. A senior Chinese diplomat has said it will be “the most important diplomatic event” in China this year. The clout that countries wield with economic largesse is sometimes described as “hard power”. More power of an even harder kind is likely to be shown off on October 1st when, if tradition is upheld, the country's armed might will be paraded through central Beijing: tanks, jets, nuclear missiles and thousands of troops shouting “hello chairman” to their commander-in-chief, Mr Xi.

The flower expo will be the soft-power filling between these events and involve many times more people—16m visitors are expected, organisers say. Officials were keen to ensure that a record number of countries and international organisations would put on displays at the expo. They have succeeded: at least 110 have signed up.

Many people in the capital are unaware of the scale of what will soon unfold. The site in Yanqing is on the outer periphery of Beijing municipality, far beyond its urban core (see map). The Great Wall at Badaling is Yanqing's biggest attraction. For now, tourists have little reason to head beyond it to the district's main town, near to which, on requisitioned farmland, the expo will be held. It will be the biggest international festival in Beijing since it staged the Olympic games in 2008.

Extravaganza floribunda

On the riverside spot thousands of workers have built a 960-hectare park, half as big again as the one made for the Olympics, which was previously the city's record-setter. The expo will fill the new park, with its enclosed area covering more than half of it.

It will be of huge political importance. This is reflected in the heavyweight line-up of its organising committee. It includes some of the country's most powerful officials. Two of them are members of the ruling Politburo: Hu Chunhua, who is a deputy prime minister, and Cai Qi, who is the party chief of Beijing and a protégé of Mr Xi (Mr Cai calls the expo a “glorious political task” handed to the city by the central leadership). Also on the team are 18 deputy heads of ministries (including those in charge of China's police and spies) and Jiang Zehui, a first cousin and adoptive sister of Jiang Zemin, a former president.

Organisers have been told to let their work be guided by “Xi Jinping Thought”. They have clearly followed orders. The event will be suffused with symbolic references to Mr Xi's favourite topics, from pursuing the “Chinese dream” to creating a “beautiful China”. The expo's official theme, “Live green, live better”, echoes his calls for a better environment. That the festival is taking place in a city so acutely short of water appears not to worry officials. A diversion scheme that brings water from the distant Yangzi river basin began supplementing the city's supply in 2014. This has freed up a reservoir near the expo site to ensure the plants stay moist.

To ease the flow of visitors, the city has been on an infrastructure spending spree. There are already two motorways, the G6 and the G7, that lead to Yanqing (visitors to the Great Wall often use them). But they are frequently congested. On January 1st a new expressway, more than 40km long, was opened. It connects the northern suburbs of the capital with Yanqing. Planning documents for the new road, called the Xing-Yan, make it clear that the expo has been one of the main reasons for building it to

this schedule. It has cost more than 13bn yuan (nearly \$2bn) and involved boring a 5.9km tunnel beneath the Great Wall—about half the length of the one beneath Mont Blanc and the longest in Beijing’s road network. It has also been controversial: some environmentalists say the route threatens an ecologically sensitive area.

Officials say the new road will also be of help for the Winter Olympics in 2022, part of which will be held in Yanqing and another part in the neighbouring province of Hebei. But extending the motorway into Hebei has created a problem: the route cuts along one edge of the new park. To avoid spoiling the view, planners decided to build a 2km tunnel beneath the park and under the Guishui river, which flows through it. (For all the green-themed rhetoric of the expo, fossil-fuelled cars will play a big role. Ten car parks with a total of 22,000 spaces have been built for those who prefer to drive there.)

The view is crucial. Near the China Pavilion workers have built a hill, on the top of which they are erecting a huge four-storey pavilion in ancient architectural style. It has involved a team of nearly 300 craftsmen skilled in traditional techniques. It will provide visitors with a vantage point from which to survey the expo site and the hills 10km away on which the Great Wall can be dimly discerned. That is important: organisers like to call the event “the horticultural expo at the foot of the Great Wall”, aiming for a soft-power multiplier effect. The view from the pavilion provides proof of this link—on a good day. Smog sometimes renders even the hills invisible, let alone the wall.

But above all, it is the flowers that the party hopes will make its soft-power point. It loves them as a political tool. To mark the anniversary of Communist rule, Tiananmen Square is adorned every year with huge floral arrangements. The centrepiece in 2018 was in the form of a basket-shaped object with petals radiating from its base—17 metres high and 50 metres across—an assemblage of potted plants with, as always, a message (see picture). State media said they symbolised the Chinese people’s unity with the party with “Comrade Xi Jinping as the core”.

International horticultural shows are normally less to do with the national origins of plant species, and more about showing them off and sharing expertise in cultivating them. Beijing’s show will be different. One of its aims will be to highlight the global impact of Chinese flora. Visitors will be reminded that everything from tea and rice to many of the plants that are grown in Western gardens have Chinese origins. In April state television will begin showing a ten-part series called “Chinese plants that have changed the world”.

Officials worry that some Chinese may not be in a mood for celebration as the economy slows and mutterings grow about Mr Xi’s leadership. During the expo there will be sensitive dates that dissidents will be eager to mark. The first will occur just a few days after the show opens: the 100th anniversary on May 4th of a student movement that led to calls for “Mr Science” and “Mr Democracy” to be welcomed in China. The party officially marks May 4th as youth day, but it fears appropriation of it by disaffected youngsters. The movement’s 70th anniversary in 1989 gave huge impetus to the pro-democracy unrest that engulfed the country that year. On June 4th it will be the 30th anniversary of the crushing of those protests. Police will be on full alert. Stirrings of activism on some university campuses have already spooked them. A handful of students at Peking University staged a rare on-campus protest on December 28th against official interference in their Marxist student society.

Around the expo site itself, some people are grumbling. Building the venue and the new infrastructure has involved relocating hundreds, possibly thousands, of people. In Yanqing the authorities have used the expo and the games as a reason to knock down slums. A handful of residents who have refused to move vent anger at local officials for offering what they regard as derisory sums in compensation. “Bandits,” fumes one woman. “This is all just an excuse to get money in their pockets,” says a 75-year-old retiree.

In downtown Beijing, residents have other reasons to seethe. Since November 2017, when 19 migrant workers were killed in a fire in the south of the city, the authorities have been using the pretext of fire safety to accelerate efforts to push migrants out of the city by closing places where they work and the ramshackle housing in which they live. As a result, many of Beijing’s markets have been shut down. Ironically, they include those selling cut flowers.

Chairman Mao briefly encouraged dissent with the immortal words “Let a hundred flowers bloom, let a hundred schools of thought contend”—before imprisoning or persecuting hundreds of thousands of those who took him at his word. No one, however, is likely to misinterpret the party’s signals in a year that will be florescent with symbolism. As the party often reminds officials around the country, unrest should be nipped in the bud.

This article appeared in the China section of the print edition under the headline “Flower power”

America and Syria

Disengagement

Dumped by Trump

After America leaves Syria, what next?

The new geopolitics of the Middle East

Print edition | Middle East and Africa Jan 5th 2019

IT DID NOT take long for America's decision to withdraw from Syria to be felt across the Middle East. The Syrian regime, along with its Russian and Iranian allies, rejoiced. Arab states hurried to make up with Syria's leader, Bashar al-Assad. The Arab League will soon debate his return to the fold. America's Kurdish allies, crying betrayal, urged him to help fend off a looming Turkish invasion. Israel scrambled to contain the damage.

With a single tweet on December 19th—"We have defeated ISIS in Syria, my only reason for being there"—President Donald Trump has sent the region's geopolitics spinning like an old mechanical airport display. It announces big changes: an American exit, a triumph for Iran and Russia, the return of Syria and the repositioning of everybody else.

Mr Trump's decision to pull out America's 2,000-odd troops from eastern Syria astonished friend and foe alike, none more than his own envoys to the region. Granted, in April last year he declared that American forces would soon leave. But in September his administration announced that, in fact, they would remain indefinitely to ensure the lasting defeat of Islamic State (IS), the departure of Iranian and other foreign forces and the creation of an internationally acceptable government. On the eve of Mr Trump's about-turn, James Jeffrey, his special envoy for Syria, scoffed at the idea that Mr Assad might simply wait for America to give up: "I think if that's his strategy, he's going to have to wait a very long time." Brett McGurk, the American envoy for the war against IS, resigned within days.

As one Arab minister notes wearily: "The decision was a total surprise. But not the fact that America changed policy. This is the fifth or sixth shift in America's position in Syria." Might Mr Trump change his mind again? On December 30th Lindsey Graham, a Republican senator, seemed to convince Mr Trump to slow down the withdrawal, to take place over four months rather than one. Israel and Jordan were lobbying for American forces to remain in some areas, particularly Tanf in the south.

Mr Trump casts himself as the antithesis of Barack Obama. He ripped up his predecessor's nuclear deal with Iran and reimposed sanctions on its clerical regime, embraced Saudi Arabia and recognised Jerusalem as Israel's capital. Whereas Mr Obama hesitated to take military action against Mr Assad for using chemical weapons in 2013, Mr Trump fired volleys of cruise missiles at Syrian bases.

Yet Mr Trump may be more like Mr Obama than he would admit, especially in his desire to reduce America's involvement in the Middle East, where presidents have suffered many failures and few successes. Regarding Syria, Mr Trump says explicitly what Mr Obama's reluctance to engage implied: America has no vital interests there. "There is much continuity between Trump and Obama: the US does not have the answers to the complicated problems of the Middle East, and is not willing to fight a major war to try to solve them," says Philip Gordon of the Council on Foreign Relations, a think-tank, who had been in charge of Middle East policy in Mr Obama's White House. He argues, though, that the American operation in Syria is relatively small and cheap, and that Mr Trump's impetuous manner has caused much damage.

To many in Washington, Mr Trump is thus throwing away America's cards for no benefit. It controls the oil wells that produce 95% of Syria's oil and much of its gas; the waters of the Euphrates; prime agricultural land; and five large military bases.

The immediate losers are Syria's Kurds, whose dream of creating an autonomous region in Syria looks imperilled. Their fighters, the People's Protection Units (YPG), have proven to be the most capable allies in America's fight against IS, pushing the jihadists back from the Turkish border to the Iraqi frontier. America's presence, in turn, helped shield the YPG from attack by Turkey, which regards them as one and the same as its own Kurdish separatist insurgents, the Kurdistan Workers' Party (PKK).

Turkish forces last year overran the Kurdish enclave of Afrin west of the Euphrates; the Turks have threatened to do the same imminently east of the river, where the Americans are mostly deployed. Mr Trump's withdrawal announcement came after he spoke to Turkey's president, Recep Tayyip Erdogan. Whether Mr Trump feared a clash between American and Turkish troops, or accepted Mr Erdogan's promise to reduce the remaining IS enclaves, is unclear. A possible sale of American-made Patriot missiles may have helped their understanding. But Mr Erdogan's priority will be to push away Kurdish fighters on Turkey's border, not to fight IS, which still has thousands of fighters farther to the south. That may give the jihadists an opportunity to re-emerge, as they did after Mr Obama's withdrawal from Iraq in 2011.

The biggest winner is undoubtedly Mr Assad. In a war that has killed some 500,000 people and displaced about 13m, Mr Assad seemed on the brink of defeat in 2015. But through brutal tactics—and with the help of Russia in the air, and Iran and Shia militias on the ground—he has regained most of his country's heartland. He seems determined to keep fighting until he has recovered all his territory.

The YPG has lost no time in calling on Syrian forces to enter the district of Manbij to deter Turkey. Mr Erdogan will, in any case, have to calibrate any action against the Kurds. Russia and Iran may resist any attempt by Turkey to help its hotch-potch of Sunni Arab allies (jihadists linked to al-Qaeda are also mixed in with them) extend their fief and control the border. “Turkey will have to be careful about the other side’s red lines,” says Oytun Orhan, of ORSAM, a think-tank in Ankara. Failure to do so could precipitate a Syrian offensive in Idlib, the last bastion of the anti-Assad opposition.

Sunni Arab states are shifting from supporting the Sunni rebels to reconciliation with Mr Assad. On December 16th Sudan’s president, Omar al-Bashir, became the first Arab head of state to visit Damascus since the Arab spring in 2011. On December 27th the United Arab Emirates re-opened its embassy in Damascus. A meeting of Arab leaders in Beirut later this month is expected to discuss inviting Mr Assad to a summit in Tunisia in March. Although Saudi Arabia remains wary, Syrian officials see hope in the replacement of the hawkish Saudi foreign minister, Adel al-Jubeir, by the milder Ibrahim al-Assaf.

As with their re-engagement in Iraq, Gulf Arabs hope that diplomatic ties will over time give Syria reason to reduce its dependence on Iran—even though Mr Assad will forever remain indebted to it for his survival. If nothing else, Arabs are dismayed that the fate of Arab Syria is being determined mainly by non-Arab powers—Russia, Iran and Turkey.

Iran, for its part, is urging Iraqi forces to help fill the vacuum left by America in Syria. Iraq’s prime minister, Adel Abdul Mahdi, has offered unspecified support; Iraqi planes have already been striking at IS pockets in Syria. If America leaves Syria entirely, Iran will more easily be able to establish a land bridge to Lebanon, supplementing the air bridge now in operation, to supply its powerful ally, Hizbullah.

Having thus saved Mr Assad and enabled his rehabilitation, Russia is supplanting America as the region’s power-broker. Russia may have acted as the air force of the “Shia axis”, yet it has strong ties with all the main actors, including Israel and Gulf states. Its readiness to stand by even its most repulsive allies makes it seem, to Sunni Arab leaders, more reliable than America. Saudi Arabia has worked closely with Russia to co-ordinate oil output. No one could miss the exuberant high-five in November between Mr Putin and Muhammad bin Salman, the Saudi crown prince who is accused of ordering the murder of a journalist, Jamal Khashoggi.

Israel, too, has long courted Russia. Its prime minister, Binyamin Netanyahu, has repeatedly met Mr Putin in the hope of prising him away from Iran, or at least ensuring that Israel can act against Iran and its allies. Mr Trump promised that “we are going to take great care of Israel.” He then alarmed it saying the Iranians could “frankly do whatever they want” in Syria.

This article appeared in the Middle East and Africa section of the print edition under the headline “Disengagement”

Blue Christmas

On January 7th, Egypt's Copts celebrate a sad Christmas

The largest Christian community in the Arab world faces bombs, bullets and neglect

Print edition | Middle East and Africa Jan 5th 2019

SOMETIMES, THE simplest of gestures carries weight. In 2015 Abdel-Fattah al-Sisi became the first president of Egypt to attend a Christmas mass. He has done so each year since, and will probably do so again on January 7th, the date on which Egypt's Coptic Christians celebrate the birth of Jesus. The long-persecuted Copts are glad that the Muslim president of their mostly Muslim homeland offers them this token of respect. But Mr Sisi has done little else to improve their plight.

The Copts are the largest Christian community in the Arab world, numbering about 10m. Successive governments have ignored laws promising them equality. Copts are frozen out of senior government jobs, particularly in the security services. Textbooks gloss over the history of the church, one of the oldest branches of Christianity. After Mr Sisi's coup against Muhammad Morsi, Egypt's first elected president, in 2013, Copts suffered vicious attacks by Mr Morsi's Islamist supporters.

Even the Copts' right to worship is circumscribed. For most of its modern history Egypt restricted church-building under decrees written by the Ottomans and the short-lived monarchy of 1922-53. Security services had to approve new houses of worship. Permission was rarely granted. In 2011, the last year for which data are available, there was one church for every 2,780 Christians. Per person, Muslims had about four times as many mosques, which are not subject to onerous restrictions.

In 2016, to great fanfare, Mr Sisi's government passed a law to replace these antiquated regulations. It established a formal process for requesting construction permits and a committee to review them. If governors wish to refuse a new church, they must provide a written explanation within four months. But the law has done little to ease the burden, in part because the intelligence services still have an outsized role in the process. Since the law was passed just eight permits have been issued for new churches, a slower pace than before 2016.

The 2,500 Copts in Kom el-Raheb, 200km south of Cairo, must drive 40 minutes to the nearest church. Since 2001 they have sought permission to open one in their village. In December they celebrated mass in a building owned by the archdiocese, which they hope will soon receive a licence. Muslim villagers attacked them, pelting their homes with stones. Police rarely bother to investigate such cases. Instead they round up both Christian and Muslim villagers until local leaders agree to a "reconciliation session". After one such meeting in Kom el-Raheb, Copts agreed to suspend further prayers.

The state views churches as a security issue—because terrorists attack them and the police fail to stop the attacks. Seven Copts were shot dead near a Minya monastery in November, on the same road where 28 Copts were killed the previous year. The jihadists of Islamic State claimed responsibility for both attacks. In December a policeman shot two men outside a church in Minya. The victims were not militants. They were local Copts, a father and son who had a dispute with the cop over a parking space. Even where Mr Sisi's government has deployed more church guards, their presence may not be a comfort.

This article appeared in the Middle East and Africa section of the print edition under the headline "Blue Christmas"

Too many challengers

Israel's opposition could defeat Binyamin Netanyahu—if they united

But nobody wants to be number two

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ACCORDING TO POLLS, most Israelis do not want Binyamin Netanyahu, their prime minister, to serve another term. Many are fed up with the corruption allegations that have been swirling around him for months. He may soon be indicted on charges of bribery and breach of trust. Yet Mr Netanyahu's Likud party is still on track to win the next election, which he has called for April 9th (seven months earlier than originally scheduled), in part to head off the charges.

Mr Netanyahu can boast of peace and prosperity on his watch, but if he remains prime minister it will be in large part because the opposition is hopelessly divided. Since the election was announced on December 24th, five new opposition parties have been formed. They join an already crowded field. The new party leaders include disaffected ministers, two former army commanders and a rabble-rousing activist. All speak of replacing Mr Netanyahu. Not one of them has a real shot.

Under Mr Netanyahu, Likud has never received more than a quarter of the national vote. Yet it has dominated Israeli politics with the help of smaller nationalist and religious parties. Moderates, meanwhile, spread their votes more evenly and widely. In this election they can choose between no fewer than six vaguely centrist parties, none of which gets more than 13% in the polls. Were they running as one they would probably gather 40% of the vote, overtaking Likud. But none of the party leaders is prepared to serve as number two.

That is the case even though the leaders seem to have few discernible differences over policy—or much of an agenda at all. They offer no new solutions to Israel's intractable conflict with the Palestinians. The most popular new party, Israel Resilience, is led by Benny Gantz (pictured), a decorated former general. He has so far refused interview requests, saying his party's aim is "to strengthen the state of Israel as a Jewish and democratic state in the spirit of the Zionist vision". Other party leaders offer similar bromides on the need for unity and re-ordering national priorities.

The Labour Party has long dominated Israeli politics, espousing a socialist ideology. In recent years, though, it has tacked towards the centre and formed an alliance with Hatnuah, another centrist party, re-branding themselves the "Zionist Union". On January 1st the allies split. Labour, which has had a series of lacklustre leaders, has lost most of its support. It has not led a government since 2001 and now attracts under 10% of the vote, according to polls.

The other centrist parties are younger and built around ambitious leaders, such as Moshe Kahlon, the finance minister, who heads the Kulanu party, and Orly Levi-Abekasis, a three-term Knesset member, who leads the Geshet party. They hope to create their own power base. Many of Mr Netanyahu's opponents seem to be waiting, not for the election, but for the legal system to bring him down. In the coming months the attorney-general is expected to hold pre-trial hearings over whether to charge the prime minister.

Mr Netanyahu says he will not step down if indicted. An election victory would give him some political cover to stay on. But his opponents believe this is the beginning of the end of his time in office, which in July would surpass the record set by David Ben-Gurion, Israel's first prime minister. Some on the right spy an opportunity. On December 29th Naftali Bennett and Ayelet Shaked, the education and justice ministers, announced the formation of a new party, called the New Right, which will field religious and secular candidates. Mr Bennett, at least, thinks that Mr Netanyahu's job is up for grabs.

This article appeared in the Middle East and Africa section of the print edition under the headline "Too many challengers"

Knocking Gnassingbé

Togo's president suffers an electoral setback

Despite an opposition boycott, his party still lost seats

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IT IS NO mean feat for a ruling party to lose seats in an election boycotted by 14 opposition parties. Yet such is the depth of unhappiness with Faure Gnassingbé, the president of Togo, that his party's majority shrank in parliamentary elections on December 20th, even though almost no one was standing against it.

The opposition coalition shunned the vote, accusing the government of rigging the voters' register. It also complained that the police and army shot at protesters. On a video circulated on social media in December, a uniformed man in a pickup truck drove up to demonstrators and pointed a rifle at them. The gunman's face was not visible, and no shots were seen fired on the video. But activists claimed that two people (one a 12-year-old) were shot dead by soldiers that day.

Provisional results showed the ruling Union pour la République losing three of its 62 seats. The loss may be crucial. Mr Gnassingbé (pictured), who has run the country since 2005 following the death of his father (who had been in charge for 38 years) wants to be allowed to run again in 2020. Under pressure to stand down, he proposed a constitutional amendment that would limit presidents to only two terms, but insisted that the count should only start at the next election. That could allow him to remain in power until 2030.

A referendum on his constitutional amendment was meant to be held on December 16th. But it was called off after a wave of opposition protests by activists demanding that the two-term limit be applied retroactively, which would bar Mr Gnassingbé from running again.

Without a referendum Mr Gnassingbé may try to push his constitutional amendments through parliament. But to do so he would need to muster the support of allied parties to get a four-fifths majority (or 73 of 91 votes). If the changes are rammed through parliament, or if another referendum is called, the result would probably be more protests. Politically speaking, no one expects to hear Faure's requiem soon.

This article appeared in the Middle East and Africa section of the print edition under the headline "Knocking Gnassingbé"

Who will win the count?

Congo has a shambolic, unfair election, two years late

The vote was marred by widespread bias and intimidation

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STANDING ON A chair in a shabby classroom, a technician peels the plastic off the end of a cable with his teeth and attaches it to some exposed wires that dangle around a light bulb. “Soon the machine will work again,” he says cheerfully to a queue of voters, most of whom have waited for more than five hours.

Across Kinshasa, the Democratic Republic of Congo’s capital, hundreds of voting machines did not work on polling day, December 30th. The electronic tablets, nicknamed *machines à voler* (stealing machines), did little to redeem their dodgy reputation. A lot of voters, unfamiliar with touchscreen technology, struggled to use them. Officials from the electoral commission, widely believed to be in President Joseph Kabila’s pocket, offered unsolicited help. Observers feared they were nudging people to vote for the president’s chosen successor, Emmanuel Ramazani Shadary.

The following day, as tallies (some fake and some real) circulated, Congolese authorities switched off the internet to “maintain public order”. It may not be reconnected much before January 6th, when provisional results are due.

Opinion polls in such a vast and disorderly place as Congo must be treated sceptically. Nonetheless, the ones before the election showed that the main opposition candidates were far more popular than Mr Shadary. Martin Fayulu, a successful former oil executive, promised better governance and less corruption. Félix Tshisekedi, the son of a dead democracy activist, vowed rather improbably to raise average incomes nearly tenfold.

Mr Shadary, by contrast, is seen as offering more of the same. In a country where nearly everyone is poor, rebels rape and rob with impunity and officials are mostly predatory, that is hardly appealing.

Still, Mr Shadary has advantages that the other candidates lack. In one polling station in Kinshasa, where the opposition is strong, your correspondent saw a limping old lady failing to fend off the “assistance” of an election official. In another, the head of the station forgot the password for the machines and had not managed to turn any of them on by 2pm, complained Vital Kamerhe, a member of the opposition. Some polling stations in the district of Limete (Mr Tshisekedi’s home and heartland) opened four hours late.

Voting was barred in two eastern regions where the president is widely detested. The reasons given were semi-plausible: insecurity caused by marauding rebels and an outbreak of the deadly Ebola virus. But still, opposition supporters smelled a rat. In one excluded city, Beni, residents queued outside makeshift polling stations and staged a mock vote in protest.

Power in Congo has never changed hands peacefully via the ballot box. Its former leaders were either shot or forced to flee. Mr Kabila, who has been in power since 2001, has tried hard to derail the democratic process. An election he won in 2011 was widely seen as a sham. After his supposedly final term expired in 2016, he refused to step down, citing the difficulty of organising an election in such a chaotic country. His police shot and killed people taking part in pro-democracy rallies. He clung to office unconstitutionally for another two years. And when mounting international pressure forced him to call an election, he blocked his two biggest rivals (Moïse Katumbi and Jean-Pierre Bemba, a tycoon and a warlord) from standing.

Intimidation was rife. The police shot at Mr Fayulu’s supporters when he hosted rallies. After three people were killed, his campaign march in the capital was banned. In some eastern provinces the army put a boot on the scale. “Soldiers were in the polling stations to make the people vote for Shadary,” one observer from a youth group said, adding: “They were telling people that if they did not choose him, they would be stopped and beaten.”

Now observers worry how voters will react when the results are announced. Many fear that Mr Shadary will fraudulently be declared the winner. If he loses, those in charge may find some pretext to invalidate the election. In either case, protesters will no doubt take to the streets. Risk consultants are busy warning clients to leave the country. Residents of Kinshasa are stocking up on food, ready to hunker down if needed. Congo is waiting.

This article appeared in the Middle East and Africa section of the print edition under the headline “Who will win the count?”

Climate change

Will Europe's Green parties be the new leaders of the political left?

Or have they reached the limits to growth?

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LONG KNOWN for its bicycles, Amsterdam is taking recycling to a whole new level. Last year it began extracting used toilet paper from sewage plants and mixing it into asphalt, which helps reduce the noise from cars. The city is cutting down on cars, too: its "auto-avoidant city" strategy will make many streets one-way and raise parking tariffs to €7.50 (\$8.25) per hour. Its coal-fired power plant is shutting down, and the city plans to eliminate gas heating in homes by 2040, replacing it with electric heat pumps and centralised neighbourhood hot-water systems. A green-roof subsidy programme encourages owners to cover buildings with turf and moss.

This is what it looks like when a Green party takes power. For decades Amsterdam was a bulwark of the Dutch Labour Party. But the city's demography long ago shifted away from factory workers and towards multicultural yuppies, and last March the GreenLeft party came first in the municipal election. Femke Halsema, the mayor and a former leader of GreenLeft, has refused to enforce a national ban on burkas in her city's public buildings. The city has even removed the giant "i amsterdam" letters on which tourists used to pose: a GreenLeft council member had complained that the slogan was too individualistic.

Amsterdam is a harbinger of a wider European trend. Since last April, GreenLeft has been the most popular party on the Dutch left. Germany's Greens reached the same milestone in October, overtaking the once-mighty Social Democrats (SPD). Belgium's two Green parties (one French-speaking, one Flemish) are polling at high levels. In Luxembourg a coalition including the Greens took power in November and promptly abolished fares on public transport.

Many Greens see this as a historic chance to take over the leadership of the European left, supplanting the social-democratic parties that held that role for a century. "I think they're gone. They're parties of the past," says Jesse Klaver, GreenLeft's leader. The centre-left, he argues, betrayed its ideals by embracing austerity during the financial crisis. The future will be dominated by issues like climate change, migration and inequality, where the Greens represent a clearer alternative to the right.

The German and Dutch Greens owe part of their success to the vicissitudes of politics. In both countries centre-left parties entered grand coalitions with centre-right ones during the financial crisis, making themselves targets for anti-establishment voters. And both countries' Greens have charismatic young leaders: Mr Klaver in the Netherlands, the duo of Annalena Baerbock and Robert Habeck in Germany.

But political scientists say there is also a logic to the Greens' rise, one that mirrors that of right-wing populist groups. "Right now there is a high polarisation around globalisation versus nationality, which favours both the Greens and the radical right," says Emilie van Haute of the Université Libre in Brussels. Where left and right were once divided along economic lines, she sees a new cleavage over "post-materialist values" such as cultural identity and the environment. That explains results like Bavaria's regional election in October, where both the Alternative for Germany and the Greens made big gains.

The next big test will come at the European Parliament elections in May. The Green-European Free Alliance (Greens-EFA) group is among the smaller groups in the parliament, with just 50 out of 751 seats. But the election looks likely to shrink the overall share of the three largest ones: the centre-right EPP, the centre-left S&D and the liberal ALDE. Greens-EFA might just end up as kingmakers, with far more influence than in the past.

Not always greener on the other side

Still, beyond Germany, the Netherlands and Belgium, there is little sign of a Green wave. Green parties in the Nordic countries still lag far behind the established social-democratic ones. In central and eastern Europe, the educated urban voters who might support Greens in the west tend to back other parties. In Poland and Hungary, where populist nationalists are in power, urban liberals generally support the mainstream centrist opposition. In Romania and Bulgaria they can back anti-corruption outfits like the Save Romania Union or the Yes, Bulgaria! party. The Green-EFA strategy is to recruit such anti-corruption parties, says Bas Eickhout, a Dutch GreenLeft MEP and one of the group's two lead candidates in the election. (Like Germany's own Greens, the European-level group has two co-leaders, one of each sex.)

In southern Europe economic hardship has made the Greens' post-materialist values a handicap. In 1989, 11.5% of Italians listed environmental protection as an important issue, nearly as many as in Britain. But by 2008, after two decades of stagnation, that had fallen to 2.4%, well below most of northern Europe. What environmental concern there is in Italy, such as opposition to infrastructure projects, has mostly been captured by the populist Five Star Movement.

Meanwhile, France's main Green party, Europe Ecologie-Les Verts (EELV), has been hobbled by feuds and by a first-past-the-post electoral system. The EELV had its greatest success at the European election of 2009, winning 16% of the vote. But it was hurt by its collaboration with the unpopular government of François Hollande, and has struggled to find charismatic leaders to replace earlier ones such as Daniel Cohn-Bendit. Over the past two years President Emmanuel Macron's new party, La République en Marche, has sucked up the energy of the urban, educated voters to whom the Greens might hope to appeal.

It is also in France that the latest challenge to the Greens has emerged: the *gilets jaunes* (yellow jackets) movement. The protests began in opposition to a fuel tax introduced by Mr Macron's government to meet the goals of the Paris climate agreement. Their explosive spread highlighted the problem that people do not like paying for expensive green policies, as opposed to small-bore ones, out of their own pockets.

Mr Eickhout thinks Mr Macron's mistake was to introduce a carbon tax without using the revenues to aid those on the whom it falls hardest. To tackle such problems, Green parties have broadened their platforms far beyond environmental issues. In Germany Mr Habeck has proposed a social-security guarantee, similar to a basic income, to convince working-class voters that the party is not only for tree-huggers. In the Netherlands Mr Klaver has made tax avoidance by multinational corporations one of his signature issues.

But there is tough competition on many of these issues. Working-class voters may be more attracted to economic hard-left groups such as Unsubmissive France, or to populist-right parties. Tax-justice and rule-of-law enthusiasts may gravitate to liberal parties like the Netherlands' D66.

Indeed, no Green party has consistently stayed above 20% support in polls. That makes their ambition to lead Europe's left seem like a long shot. But Mark Blyth, a professor of European politics at Brown University, argues that with social-democratic parties collapsing, European leftists have little choice. "The left is weak or dead, unless they jump on the youth and enthusiasm that the Greens attract," he says.

This article appeared in the Europe section of the print edition under the headline "Political climate change"

Piranhas from Tirana

The “Albanian mafia” are not really a mafia

They are every bit as violent but far less organised

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JOHN MACRIS was leaving his house in the seaside Athenian suburb of Voula on October 31st last year when a man ran towards his car firing a handgun. Mr Macris, a Greek-Australian gangster, threw himself out of the car in a desperate attempt to flee his attacker, but the gunman pursued him and shot him dead.

Some weeks earlier in New York, Sylvester Zottola, an alleged member of the Bonanno crime family, was in his car at a McDonalds drive-through when he too was shot and killed. And when Raúl Tamudo, a retired international football player, returned to his home in Barcelona on August 12th, he found someone had broken in and stolen his watch collection, worth more than €100,000 (\$115,500).

Police said they suspected the burglar was a member of “the Albanian mafia”. Greek and American counterparts also blamed Albanians for perpetrating and ordering respectively the killings of Mr Macris and Mr Zottola.

The three crimes were among many that point to the growing prominence in the international underworld of ethnic Albanian gangsters. Asked to rank organised-crime groups by the danger they pose in Europe, a senior official at the EU’s law enforcement agency, Europol, put Albanian mobsters ahead even of their Russian counterparts. British police have said their activities are primarily responsible for a recent upsurge in human trafficking. Groups of Albanians and Kosovars in Britain are also claimed to have murdered and tortured their way to control of much of the cocaine trade there.

But, says Jana Arsovska, who teaches at the City University of New York and has followed the doings of Albanian criminals for more than 15 years, the “Albanian mafia” is a myth. The showy wealth and extreme violence of criminals hailing from Albania and Kosovo does not mean they belong to a structured organisation with common rituals like Sicily’s Cosa Nostra or the yakuza syndicates in Japan. “We see many organisations that work independently of each other,” says Ms Arsovska. “They speak Albanian, but that does not mean they are connected to organisations back in Albania, and they are never exclusively ethnically Albanian.”

Several reasons help to explain why organised crime was able to put down strong roots in Albania after the fall of communism: the disbanding in 1991 of the country’s security service, the Sigurimi, which left around 10,000 agents with skills well-suited to organised crime jobless; the collapse six years after that of various Albanian pyramid schemes that robbed many people of their savings and prompted the looting of more than 550,000 small arms from military armouries, and the emergence in Albania and Kosovo during the Balkan wars of strong links between criminals, politicians and guerrilla fighters (with some players filling all three roles). By the late 1990s northern Albania especially, where clan loyalties had always been important, had become a violent, lawless place, riven by murderous feuds.

Yet, while individual mobsters have emigrated, there is little evidence that gangs formed in the Balkans have expanded internationally like Cosa Nostra or another Italian mafia, the ‘Ndrangheta. Many ethnic Albanian offenders in Europe turned to crime after emigrating. Brutal, ruthless and showy, they are nonetheless much less sophisticated than true *mafiosi*. There are few signs of their forming alliances with local politicians to safeguard their activities or laundering their profits other than into Balkan real estate. And the very recklessness that makes them so frightening also makes them vulnerable to straightforward policing.

Ms Arsovska cites the example from New York of the Rudaj organisation. By the 1990s it was so powerful that some called it the city’s “sixth crime family”. The others, of Italian origin, remain in business. The Rudaj crew are all in jail.

This article appeared in the Europe section of the print edition under the headline “Piranhas from Tirana”

How straight is the gate?

Selective universities appear not to increase inequality

So the evidence from France and Finland suggests

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AMONG THE *gilets jaunes* on French streets last month were students protesting against the way the government is changing the university admissions system from one that admits pretty much everybody to one in which there is a modicum of selectivity. Objectors complain that the changes are inegalitarian. But figures from the OECD, a rich-country club, show that some of the most equal countries in Europe have the most selective systems, and vice versa.

Finland's tertiary education system is one of the most selective in Europe. Only a third of those who apply get in. Yet Finland also has one of the highest levels of intergenerational mobility in Europe, whether measured by educational outcomes or by the difference between parents' and children's social class. Finland's tertiary education system enjoys an unusual degree of autonomy: most of its universities are independent of the state.

France's university system, by contrast, has been run as an arm of the state since Napoleon decreed that it should be so in 1808, and it is one of Europe's least selective systems. University entrance is regarded as a right; students can sign up for courses in subjects they know nothing of. Last year's reforms, which allow universities to require students to take remedial classes if deemed necessary, will make little difference to that.

Yet despite France's inclusive tertiary system, the country performs poorly in terms of intergenerational mobility, whether measured by educational outcomes or professional class. That may be partly because only 40% of students in France graduate within the expected period for their course, which is wasteful of resources and rough on morale. Drop-out rates tend to be higher among disadvantaged students.

Finland's approach to universities also pays off in terms of quality. It tops the Universitas 21 index, which ranks 50 countries by quality of university, controlled for GDP per head. France comes in at 19, below Greece and China.

This article appeared in the Europe section of the print edition under the headline "How straight is the gate?"

In the eye of the storm

Turkey is still on the brink of a recession*The fallout from a currency crisis begins to settle***Print edition | Europe** Jan 5th 2019

THE GOOD news for Turkey's beleaguered economy is that the bad news could have been much worse. The Turkish lira, which spent much of the past summer in a death spiral, has rebounded to its highest level since August, when America slapped asset freezes on two senior Turkish officials and tariffs on the country's steel and aluminium exports. Investor confidence improved after Turkey released an American pastor who had spent two years behind bars on spurious coup charges. Dialogue with America picked up speed after the murder of Jamal Khashoggi, a Saudi journalist, at his country's consulate in Istanbul. Inflation, which in October reached over 25% year-on-year, has dipped by five points over the past two months, thanks largely to a series of interest-rate hikes. President Recep Tayyip Erdogan's son-in-law, Berat Albayrak, whose appointment as finance minister last July provoked the worst run on the lira since a coup attempt in 2016, and who stumbled during his first weeks on the job, has since earned cautious praise from bankers and analysts.

Yet the impact of the currency crisis, exacerbated by years of runaway borrowing and central-bank inaction, is continuing to lay waste to the real economy. Growth in the third quarter of 2018 dwindled to 1.6% year-on-year, down from 5.3% in the three preceding months. On a quarterly basis, the economy contracted by 1.1%. A recession, defined as two consecutive quarters of negative growth, now appears imminent. In November Moody's, a rating agency, predicted that the economy would shrink by 2% in 2019. The International Monetary Fund expects it to expand by a mere 0.4%.

Despite recent gains, the lira has still lost nearly 30% of its value in dollar terms over the past year, putting a strain on Turkish companies laden with foreign-currency debt. At least 846 firms applied for bankruptcy protection in 2018, according to government figures. Experts say the number may actually be in the thousands. Some of the country's biggest conglomerates have had to renegotiate debts worth billions of dollars. "From a corporate debt perspective, we've not seen the worst yet," says Zumrut Imamoglu, chief economist at TUSIAD, a business lobby.

Facing a pile of refinancing demands, as well as soaring interest rates (the central bank has raised the main rate by a whopping 7.5 percentage points since last June), the banks are finding it hard to provide new credit. "We're still strong and we can restructure most of this debt, but if we can't get interest on loans from one company then we can't lend to another," says one Turkish banker.

Mr Erdogan, who once proclaimed high interest rates to be "the mother of all evil", may be tempted to open the fiscal taps and put renewed pressure on the banks to resume lending ahead of local elections in March. But he has limited room for manoeuvre. The markets are watching more attentively than last year. A big lapse in fiscal discipline or a premature rate cut by the central bank is bound to provoke another lira sell-off. "Erdogan has to juggle voters, geopolitics and the economy," says Alvaro Ortiz Vidal-Abarca, chief economist for Turkey at BBVA, a Spanish bank. "But at the end of the day he will always look at the response of the lira. It is the most powerful check and balance on his power."

This article appeared in the Europe section of the print edition under the headline "In the eye of the storm"

Charlemagne

Political theatrics threaten to distract Europe in 2019

But alarming megatrends abound

Print edition | Europe Jan 3rd 2019

WHEN HISTORIANS look back on 2019 in Europe, what will they say? Many will doubtless discern a turning-point. Not only is Britain leaving the EU, but in May voters in the remaining 27 member states will elect a new European Parliament and end the majority that the two big-tent political groups—the Christian democrats and social democrats—have enjoyed in the European institutions for decades. Expect to hear lots about fragmentation and the twilight of the old establishment. Other electoral events will reinforce the narrative. An increasingly nativist Denmark goes to the polls in the spring; Poland faces a divisive general election by November; and in September the hard-right Alternative for Germany party looks likely to advance in four eastern German states.

The year ahead is thus a stage on which a grand political drama will play out. There will be a clash of ideas. A defensive Europe of Christian nation states will set itself against a post-modern and increasingly integrated Europe open to immigration and globalisation. Big, theatrical personalities will swagger around that stage and slug it out. Viktor Orban, Hungary's prime minister, and Matteo Salvini, Italy's interior minister, will bait Emmanuel Macron, France's president—who has said that the duo are right to “see me as their main opponent”—and Angela Merkel, Germany's outgoing chancellor. Mr Macron and to a lesser extent Mrs Merkel will engage Mr Orban and Mr Salvini in swordfights over cultural totems such as the role of Islam in European society, as well as policy quandaries such as migration, the rule of law and the future of European integration. The media will lap it all up.

None of it, however, will be as clear-cut as it looks. Mr Macron's federalist vision for Europe has, for now at least, succumbed to German reservations born of domestic woes. Mrs Merkel and Mr Orban sit in the same group in the European Parliament and Manfred Weber, her party's candidate for the European Commission presidency, has a record of indulgence towards the Hungarian autocrat. Mr Salvini's bark is worse than his bite: he knows the limits of his mostly middle-class electorate's appetite for European bomb-throwing. And for all the talk of a grand nationalist-populist front, its putative protagonists are at odds on fundamental questions such as the distribution of migrants between countries. In any case, much of the rhetoric from both sides is symbolic and for domestic consumption. Witness the ongoing spat between Mr Macron and Mr Salvini about the loan to France of paintings by Leonardo da Vinci (an Italian whose works should stay in Italy, says Mr Salvini). Witness, too, the recent pettifogging political battle in Germany over whether a migration minister was right to leave the word “Christmas” off her Christmas card.

The plain truth is that European politics will muddle on in 2019. Populists will make gains at elections and continue to insinuate themselves into the mainstream. But established political families will continue to wield great power. Neither side will win a decisive victory.

Beyond the limelight

And while Europe's political class obsesses about its own partly confected and wholly inconclusive battles, things will be happening that merit attention and will not get enough of it. The continent will reach all sorts of real turning-points in 2019. India will probably overtake both Britain and France to become the world's fifth largest economy. The stand-off between America and China, combined with China's growing and none-too-subtle influence in Europe, may force Europeans to consider awkward trade-offs between co-operation and confrontation with Beijing. President Donald Trump's withdrawal of troops from the Middle East will challenge them to put up more of their own forces.

They may yet face a similar quandary in the Sea of Azov, off Crimea, where Russia is trying to close Ukrainian ports and prompting Kiev to look westward for support—at the same time as Moscow builds up its troops and missiles in Kaliningrad, its enclave between Poland and Lithuania. Europe's willingness to fill the gap vacated by a revisionist America could also be tested in the western Balkans, where a swelling mood of revolt in Serbia and contentious land-swaps between countries that spilled blood over land in recent memory could augur a return to instability and violence.

At home, the picture is barely happier. The continent is not reforming its welfare states fast enough to keep pace with its ageing societies. In central Europe in particular hysteria about migrants overlooks a much graver threat to “Christian nation states”: slow death by emigration and low birth rates. Indeed, for all the hot air about migration, Europe is not having anything like a serious debate about its border policies and relations with its near abroad in an age of climate change, a rising Africa and unprecedented movements of people.

To deal with all of this, it needs a strong economic foundation. But the end of the European Central Bank's monetary stimulus, combined with signs that the European economy is slowing, raise big questions about the future of the euro that too few are taking seriously, especially in Germany (see [briefing](#)). Debate about the EU's long-term budget, which must be agreed on in the next 18 months or so, remains dismally short of strategic thinking about what issues the EU should be prioritising in the 2020s. Meanwhile the continent is falling behind America and China in the race for new artificial intelligence technologies.

If these subjects are too little discussed over the coming year, thoughtful Europeans might take solace from the fact that America—its news cycle driven by the presidential Twitter account—is hardly better. Yet America can better afford it. Europe's periphery is more threatening. Its demography and industrial prowess are more fragile. Its exposure to megatrends is consequently greater. A continent that fusses about Christmas cards instead of grappling with what really matters risks paying a high price.

This article appeared in the Europe section of the print edition under the headline "The prima donna continent"

Housing and demography

The silver lining

The silver lining

Cheer up, millennials! It will become easier to buy a house

The snag? It's because your parents are going to die

Print edition | Britain Jan 5th 2019

MANY YOUNG Britons believe that the housing market is stacked against them. And who can blame them? In the past two decades house prices have doubled in real terms, because of both tight planning restrictions, which have limited the supply of homes, and low interest rates, which have stoked demand for them. Theresa May, the prime minister, has described the scarcity of housing as “the biggest domestic policy challenge of our generation”. But the reality is that it challenges some generations more than others. Elderly folk, who bought their houses before the boom, own a huge slice of overall housing wealth relative to their share of the population (see chart). It is a different story for youngsters. A 27-year-old living today is half as likely to be a home-owner as one living 15 years ago.

Yet some economists spy a silver lining for millennials. The thinking goes that, within a decade or two, baby-boomers—the bumper generation born between roughly the early 1940s and early 1960s—will begin to sell up, as they first start to downsize, then move into elderly people’s accommodation and, eventually, to the great old-folks’ home in the sky. As their properties are put on the market, supply will rise, depressing prices and bringing ownership within reach for more people. This is much talked about in America, where a recent article co-authored by an economist at Fannie Mae, a government-backed mortgage provider, pointed to the “coming exodus of older homeowners”.

Back-of-the-envelope calculations give an idea of the effect on house prices when boomers begin to sell up. England’s owner-occupier baby-boomers live in houses with an average of three bedrooms. If all of them downsized to homes with two bedrooms, that would free up housing equivalent to around 2.5% of the current stock, reckons Ian Mulheirn of Oxford Economics, a consultancy. Most empirical work shows that a 1% rise in the housing stock leads to a 2% fall in prices and rents, all else being equal. On that basis, a mass-downsizing would imply a cut in prices of about 5%.

Yet so far the British boomers are in no rush to scale down. In contrast to America, Britain does not have much of a downsizing culture. By one calculation just 40% of Britons who owned their homes at age 50 will move house before they die. A paper published in 2011 by James Banks of the Institute for Fiscal Studies, a think-tank, and colleagues, provides convincing evidence that geography and climate play a big role. In America oldsters can move to sunny climes like Florida. Britain is a bit short on such places—Cornwall, lovely as it is, is not known as the “Sunshine County”—so most pensioners don’t bother. An intrepid few retire to the continent. But Brexit is likely to make that harder.

Government policy also discourages downsizing. Stamp duty, a tax on homebuyers, makes moving expensive. As house prices have risen in the past decade, the average amount of stamp duty charged per house-purchase has risen by half in real terms (homebuyers pay around £8,000, or \$10,200, in stamp duty). Meanwhile, there is little direct cost associated with remaining in a large empty nest. Council tax, an annual levy on residential property, is based on valuations from 25 years ago and falls relatively lightly on big, pricey houses.

If downsizing is unlikely, boomers may at least sell up when they move into an old people’s home. But here, options for elderly Britons are also limited. Perhaps 3% of British over-65s are in some sort of residential care, compared with more like 5% in America. Lawrence Bowles of Savills, a property firm, points out that Britain is under-supplied with good retirement housing. More than half of the existing stock was built or last refurbished more than 30 years ago. And the design of the social-care system means that most British pensioners do not need to sell their home to pay for their treatment. In their election manifesto last year the Conservatives floated a plan to include more people’s housing wealth in the test of whether they had the means to pay for their own care. After the move was dubbed the “dementia tax” it was hastily scrapped.

All this means that it may be only when baby-boomers start to check out in a more permanent way that lots of houses begin to change hands. The most common year of birth for the baby-boomer generation is 1947. Since their most common lifespan is around 87 years, Peak Death could occur in 2034, when Britain will see around 15% more fatalities than in 2018. It will be very sad. But for house-hunters it will be a help. By that time baby-boomer deaths will be pushing down on house prices by around 0.7% a year.

Yet just as the housing crisis affects different generations unequally, the impact of the great baby-boomer sell-off will have an unequal effect on different groups of youngsters. The boomers will leave record amounts of wealth to their descendants. Data are poor but according to our calculations, roughly £100bn are left behind each year. Over the next 20 years the total value of bequests is expected to more than double, peaking in 2035, according to a paper by Laura Gardiner of the Resolution

Foundation, a think-tank. Most of this unearned wealth will not be taxed, on current plans. By 2020 a couple will be able to pass on a house worth £1m tax-free.

Most of the inheritance bonanza, however, will go to a relative few. Nearly half of non-homeowning millennials have no parental property wealth at all, according to Ms Gardiner's research. The other half will be able to use their inheritance to gain greater purchase in the housing market, for themselves or their own heirs and heiresses. A class of wealthy oldsters is moving on, only to be replaced by a class of wealthy inheritors. Demography will put downward pressure on house prices. But some people have a lot more to look forward to than others.

This article appeared in the Britain section of the print edition under the headline "The silver lining"

Not quite an armada

An uptick in migrants crossing the Channel by boat

The change of approach follows the introduction of tighter controls elsewhere

Print edition | Britain Jan 5th 2019

ON A CLEAR day, they can make out the promised land. The few hundred migrants in the French port of Calais who long to come to Britain are taunted by the white cliffs of Dover, just 26 miles (42km) across the English Channel. Most days, some will try to hide in lorries bound for the tunnel beneath it. Only a handful elude the British customs checks in France. Most trudge back to their camp, a wasteland strewn with plastic bags where they fight off the cold with fires and, in one case, a Union flag woolly hat. “The border is too hard,” says Arthur Kwame, a 22-year-old from Ghana. “I wish I had wings.”

British newspaper readers could be forgiven for assuming they now have. A tidal wave of front-page headlines since Christmas has chronicled a “migrant crisis”, with ministers said to be “all at sea”. Sajid Javid, the home secretary, broke off a safari jaunt in South Africa to mastermind the response to what he called a “major incident”. After criticism from backbench Tory MPs, he redeployed two patrol boats from the Mediterranean to the Channel and called in the navy.

About 100 migrants have risked the precarious crossing of the busy shipping lane in dinghies since Christmas rather than attempt to break into yet another lorry. This is an increase on previous months, but absolute numbers are still small. Crossings cannot be tallied definitively but the Home Office knows of 539 migrants who tried to cross by boat in 2018, probably far fewer than the number who came by lorry. Only 312 completed the journey (the rest were caught). In contrast, 113,145 made it across the Mediterranean last year.

Far from demonstrating lax borders, the latest cases highlight the success of initiatives to tighten controls in Calais. Between 2016 and February 2018, British officials on the continent prevented more than 80,000 “clandestine” attempts to cross the Channel. In 2017 there were 26,500 asylum applications, some 19% below the level at the height of migration in 2015. More than three times as many asylum-seekers came to Britain in 2002, a recent peak.

Nor are many in the camp keen to pay smugglers a few thousand euros to join the flotilla. Mr Kwame had not heard it was an option until journalists began visiting. If he is given the chance, he might take it, but he is reluctant, having already been rescued from the Mediterranean. As much as migrants switching tactics, the rise in crossings by boat appears to reflect the growing proportion of Iranians in Calais. Maya Konforti, who runs a charity for migrants there, says different nationalities favour varying routes across the Channel. “Crossing by boat has always been in great part the speciality of Iranians,” she explains, though it is not clear why. Several hundred Iranians made it to Calais via Serbia between August 2017 and October 2018, after Belgrade temporarily dropped a visa requirement. Most speak English and are keen to work.

The fuss is partly down to the deadly stakes of the migrants’ bleak calculation. Though nobody has yet drowned, it is an obvious risk, as is collision with bigger ships. But migrants also die attempting to cross through the tunnel. Politicians have done little to calm the brouhaha. Gavin Williamson, the defence secretary, quickly offered the navy’s help. Mr Javid appointed a “gold commander” to deal with the affair. Cynics note that the crisis may help Theresa May’s potential successors burnish their leadership credentials.

Such concerns do not trouble Mr Kwame, who wants to come because he speaks English, “and besides we used to be a colony”. He has been found in lorries six times since arriving in Calais in July 2018. But he will keep trying. “I don’t need your money,” he says. “I just want to be safe.”

This article appeared in the Britain section of the print edition under the headline “Not quite an armada”

Bagehot

Britain's political landscape has been shaped by patient politicians

How tortoises triumphed over the hares

Print edition | Britain Jan 5th 2019

OVER THE coming weeks the British will have plenty of chances to reflect on Harold Wilson's dictum that "a week is a long time in politics". As MPs debate Theresa May's Brexit deal the future of the country will seem to hang on a tide-turning speech or a high-profile defection. But in fact high-speed politics will be a testimony to the importance of low-speed politics: the political landscape has been created by patient men who thought in terms of decades rather than weeks.

For most of their lives Brexiteers have been dismissed by the establishment as irritating protuberances who got in the way of good government. John Major called them "bastards". Other choice epithets include "the barmy army" and "swivel-eyed loons". They forged on regardless, convinced that they would be judged in the light of history rather than the next day's newspapers.

The paradigmatic example of a patient man is Sir Bill Cash. Fellow Tories dismissed him as the biggest Euro-bore in Parliament. When he was prime minister David Cameron invented an anti-Cash device: whenever he ventured into the Commons he surrounded himself with a scrum of well-built loyalists who were instructed to keep the member for Stone at bay. But nothing deflected Sir Bill from what he calls his "Thirty Years War" to save Britain from the European super-state. He joined the select committee on European legislation in 1985 and has been a member ever since, poring over the most tedious EU publications for signs of subterfuge. He founded the first grass-roots anti-EU organisation, the European Foundation. He even trained the younger generation of Eurosceptics. William Rees-Mogg, a former editor of the *Times*, was a close friend and Sir Bill provided his precocious son, Jacob, with lengthy tutorials.

The Brexiteers responded to every disappointment by redoubling their efforts. In the first decade of this century their project looked doomed. Their obsession with the EU had helped hand power to Tony Blair. Their choice for party leader—Iain Duncan Smith—turned out to be a nincompoop. Mr Cameron revived the Tory party by promising, in effect, to put them back in the asylum. But their persistence eventually paid off. They exploited a chance concatenation of circumstances—public anxiety about the surge of immigrants from eastern Europe after 2004; exhaustion with New Labour's endless spin; the rise of UKIP—to extract a promise of a referendum. The rest, as they say, is history, and history that has been made by patient men like Sir Bill rather than short-term party managers like Mr Cameron.

The triumph of the patient right has coincided with the triumph of the patient left. The Labour Party is now run by people who have spent not years but decades in the wilderness. Jeremy Corbyn was first elected MP for Islington North in 1983 (a year before Sir Bill made it to Parliament) but didn't hold his first serious office until 2015 when he became leader of the opposition. Before that he spent his life as an agitator, going on demonstrations, stuffing envelopes, fraternising with activists, and sticking it to the party leadership (he defied the party whip 428 times when New Labour was in power). His closest allies are internal exiles of the same generation: John McDonnell, his shadow chancellor; Diane Abbott, his home secretary; and, outside Parliament, Jon Lansman, the architect of Momentum, a campaign group, who made his name as Tony Benn's fixer in the 1980s.

The patient left were kept going by a burning faith that history would eventually move in their direction, a faith well illustrated by Mr McDonnell's comment, during the financial crisis, that "I've been waiting for this for a generation." While New Labour concluded that the lesson of Thatcherism was that they had to compromise to survive, Mr Corbyn's group concluded the opposite, that they had to do a Thatcher in reverse and bend reality to their will. They defended their position in the party's machinery by outboring their rivals. They were always the first people with a procedural motion and the last people to leave at night. As with the Brexiteers their patience eventually paid off. They were able to exploit another concatenation of circumstances—the financial crisis in 2008; Ed Miliband's decision to expand the membership; the willingness of a few moderate MPs to put Mr Corbyn's name on the ballot—to seize control of the party.

Best of enemies

The patient people of the right and the left are now busy propping each other up. Mr Corbyn's refusal either to support Mrs May's Brexit deal or to sanction another vote on EU membership makes it more likely that Britain will crash out of the EU without a deal (the default option). The Brexiteers' obsessive pursuit of a "clean Brexit" is tearing the Conservative Party apart and making it more likely that a furious electorate will vote Labour. Over the next couple of years both groups of patient men may get what they want: a hard Brexit for the Brexiteers this March and a Corbyn-led Labour government for the left.

What lessons should we learn from the rise of the patient tendency? The first is not to put too much hope in last minute compromises. You don't devote your life to a waiting game only to discover the virtue of pragmatism at the eleventh hour. The Brexiteers think that the shock of a hard-Brexit will be a small price to pay for regaining the country's freedom. Mr Corbyn thinks that chaos might well be the midwife of a glorious socialist future.

The second lesson is that long-termism can be overrated. It is conventional to decry the tyranny of short-term thinking, a tyranny that is supposedly getting more oppressive in a world of Twitter mobs and one-click consumers. But long-termism can

be coupled with monomania and utopianism. And short-termism makes for constant adjustments to an ever-changing reality. Britain's patient tendency is doing far more harm to the country than short-termists ever did.

Correction (January 6th 2019): A previous version of this piece misspelled Diane Abbott's name. This has been corrected.

This article appeared in the Britain section of the print edition under the headline "The triumph of the tortoises"

Construction and carbon emissions

Home truths about climate change

Construction and climate

Efforts to make buildings greener are not working

Rules on “zero energy” buildings do not go far enough

Print edition | International Jan 5th 2019

ARCHITECTURE STUDENTS used to visit Brumunddal, a town of 10,000 people on the shore of Norway’s biggest lake, for all the wrong reasons. Its crime-ridden high street illustrated how not to design a town centre. In the 1990s a third of all racist attacks in Norway, a country of some 5m people, occurred there. But locals hope that architects will soon have a better excuse to visit. In March the world’s tallest wooden skyscraper, 85 metres high, will open on Brumunddal’s waterfront.

The Mjostarnet tower currently looks like a naked tree rising spectacularly above the town’s low-rise concrete housing. But it is not the pine cladding of the tower that makes it special. The surprise is that all of its supporting columns are made of glulam—wooden beams laminated together. These are lighter than steel of comparable strength and require just one-sixth as much energy to produce. Most of the wood came from sawmills and spruce forests within a 50km radius of the tower, says Rune Abrahamsen, chief executive of Moelven, the Norwegian firm that supplied it. In short, few greenhouse gases were emitted in creating and transporting materials for the tower.

“This is the future of construction,” beams Harald Liven, Moelven’s project manager for Mjostarnet. But is it? Many governments in the rich world want to reduce greenhouse-gas emissions from constructing and using buildings. With some wonderful exceptions, they are failing.

Turning up the thermostat

Ever since the Romans began to build with fired-clay bricks and concrete, construction has been a polluting industry. The International Energy Agency (IEA), a research group, estimates that putting up and running buildings consumes 36% of the world’s energy and produces some 40% of energy-related carbon emissions. Five-sixths of that energy is used to light, heat, cool and run appliances. Consider the energy that goes into producing construction materials and the share of emissions from buildings is even higher. More than 5bn tonnes of cement—the raw material for concrete and mortar—is produced each year, adding a further 6% of emissions. The steel industry, half of whose production goes into construction, accounts for another 8%.

In 2015 world leaders pledged to keep global temperatures from rising more than 2°C above pre-industrial levels. That would entail drastically cutting emissions associated with buildings. So far, progress has been slow. Some things, like domestic boilers and lighting, have become much more efficient. Others have not. Under the current regulatory framework, for example, emissions from the cement industry will rise 4% by 2050 if policymakers take no further action, according to a report published last April by the IEA and the Cement Sustainability Initiative, an industry outfit.

The obvious way to make buildings greener is to impose a broad carbon tax, covering everything from household energy use to the emissions embodied in building materials. But any levy that visibly raises energy bills will be unpopular. In Britain the Labour Party jumped in the polls in 2013 when its leader, Ed Miliband, pledged to freeze household energy tariffs.

One problem is that the poor feel the hit from green taxes especially hard. They tend to live in the least efficient homes and struggle to afford better insulation, which would cushion them against rising prices. And many people will keep their homes toasty no matter what. The sensitivity of demand to price for domestic heating in Britain has been close to zero since the 1990s, according to research by Roger Fouquet of the London School of Economics.

Policymakers have tried offering subsidies and loans for rooftop solar panels and energy-efficiency improvements that are repayable with the savings from lower energy bills. America has a programme called PACE; Britain has a Green Deal. Unfortunately, take-up has been much lower than expected, partly because the expected savings did not materialise. Claims in Britain that installing loft insulation can cut energy bills by 20% were contradicted by a government study that found that it reduced gas consumption by just 1.7% on average.

One reason is the rebound effect. Insulate buildings better, and people will wear fewer layers rather than turn the heat down. The way energy-efficiency schemes are structured does not help, argues Richard Twinn of the UK Green Building Council, a think-tank. The schemes only finance a single type of upgrade at a time, such as loft insulation. A whole-house retrofit, in contrast, could have added digital thermostats to ensure that greater efficiency was converted into lower bills rather than higher temperatures.

A flawed blueprint

Many rich-world governments are therefore trying a third tactic. They have created rules forcing developers to build new projects to “zero energy” or “zero carbon” standards. Through a combination of energy-efficiency measures, on-site renewable heat or power generation and buying offsets elsewhere, new buildings are supposed to cover all their energy requirements from renewable sources.

From January 1st 2019 all new public-sector buildings in EU countries must be built to “Nearly Zero-Energy” standards. Other types of building will follow in January 2021. Parts of America and Asia are following. In Japan the government wants zero-energy buildings to become the standard from 2020. Last month the Canadian province of British Columbia passed a plan requiring that all new buildings from 2032 must be built to these standards. Governments in countries such as New Zealand are being lobbied to copy them.

The technology to build and retrofit buildings to cover their carbon footprint already exists. One such system is Energiesprong from the Netherlands, which clads entire apartment blocks and terraces in insulation and solar panels to the point where they can generate all the energy they need themselves. Some buildings can now produce more renewable electricity than they use, which helps to offset the emissions used in their construction. Norway is a pioneer. The Powerhouse in central Trondheim produces 49 kWh per square metre of floor space per year from solar panels and consumes just 21—an impressive achievement for a building just 350km from the Arctic Circle.

Regulations and standards are less efficient than taxes. But they are a politically palatable way of reducing emissions caused by the construction of buildings and their operation. They bury the costs of environmental action in house prices and office rents, where consumers cannot see them as readily as in monthly heating bills. And “industry is not going to do this on its own”, says Luc Luyten of Bain & Company, a consultancy. Construction is one of the world’s most fragmented industries, with fierce competition between small firms for contracts. With thin margins, developers and builders are unlikely to build greener than they are required to.

Still, Elrond Burrell, an architect based in New Zealand, questions whether the zero-energy standards are sensible. First, he points out, the impact on emissions will only be slight. The policy is focused on new buildings and does little to cut emissions created by older ones. In the developed world only about one in 100 buildings is replaced by a new one each year.

Second, the standards are not as exacting as they sound. They exclude items plugged into sockets, such as laptops and dishwashers. Astute architects can make buildings appear greener by replacing ceiling lights with free-standing lamps. And “zero carbon” buildings exclude the carbon emissions required to build them (which explains the “nearly” in the EU’s new standard). Sometimes these emissions are larger than for conventional buildings. Research at the University of Hong Kong has found that green walls covered in plants to turn carbon dioxide into oxygen required three to six times as much energy to build as a bare wall.

Third, as Mr Burrell notes, many “zero carbon” buildings are neither as efficient as they are supposed to be, nor do they generate as much renewable energy as expected. Britain’s Building Research Establishment, a research laboratory, was designed to be an exemplar of a zero-carbon building. It ended up consuming 90% more energy than planned. Wind turbines and solar panels on buildings produce far less power than larger ones in wind and solar farms. Installing wood-burning boilers in new buildings is especially daft because they discharge dangerous particles and gases into crowded parts of cities.

If zero-carbon standards were changed to include the emissions from building and demolishing structures, many of the perverse incentives in the building regulations would disappear. It would probably lead to more building with wood. Many mature forests do little to take extra carbon out of the atmosphere. Chopping some of them down, storing the carbon in wooden buildings, and planting new trees in their place could well increase forestry’s contribution towards actually removing carbon from the air. (Sawmills can be green, too: the electricity that powers Moelven’s sawmills comes from burning sawdust.) And because wood is so light compared with steel, brick or concrete, it lends itself to the mass production of buildings in factories. That should cut emissions from moving materials to building sites.

British Columbia is moving particularly quickly. A decade ago the spread of mountain pine beetles left 18m hectares of dead trees in the province. If those trees were left to rot or to burn in forest fires, Canada’s total carbon emissions would increase by 2% in 2000-20. So it passed a law in 2009 that required wood to be used in all new buildings erected with public money.

In the light of the Grenfell Tower fire in London that killed 72 people, Benjamin Sporton of the Global Cement and Concrete Association, a trade body, questions whether there will be much demand for wooden skyscrapers. But, as Mr Abrahamsen points out, wood does not melt in a fire. And once it has charred it does not continue burning, like a flamed-out log fire. Mjostarnet’s fire-exit staircase is clad in cross-laminated timber, a material widely regarded as safer than steel in a blaze.

A few other wooden skyscrapers are rising. Amsterdam and Vienna are already building wooden towers the height of Mjostarnet. More ambitious projects have been proposed, such as a 40-floor tower nicknamed “Treetop” in Stockholm and 300 metre-high towers in London and the Netherlands. Mjostarnet may be the world’s tallest wooden tower, “but we hope not to hold the record for long,” says Mr Liven. They do little more than demonstrate a possibility. But even that is useful.

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Childhood

The generation game

The generation game

Why children's lives have changed radically in just a few decades

Childhood has changed out of all recognition, says Barbara Beck. What does that mean for children, parents and society at large?

Print edition | Special report Jan 3rd 2019

“WHEN I WAS a kid, we were out and about all the time, playing with our friends, in and out of each other's houses, sandwich in pocket, making our own entertainment. Our parents hardly saw us from morning to night. We didn't have much stuff, but we came and went as we liked and had lots of adventures.” This is roughly what you will hear if you ask anyone over 30 about their childhood in a rich country. The adventures were usually of a homely kind, more Winnie the Pooh than Star Wars, but the freedom and the companionship were real.

Today such children will spend most of their time indoors, often with adults rather than with siblings or friends, be supervised more closely, be driven everywhere rather than walk or cycle, take part in many more organised activities and, probably for several hours every day, engage with a screen of some kind. All this is done with the best of intentions. Parents want to protect their offspring from traffic, crime and other hazards in what they see as a more dangerous world, and to give them every opportunity to flourish.

And indeed in many ways children are better off than they were a generation or two ago. Child mortality rates even in rich countries are still dropping. Fewer kids suffer neglect or go hungry. They generally get more attention and support from their parents, and many governments are offering extra help to very young children from disadvantaged backgrounds. As adolescents, fewer become delinquents, take up smoking and drinking or become teenage parents. And more of them finish secondary school and go on to higher education.

The children themselves seem fairly happy with their lot. In a survey across the OECD in 2015, 15-year-olds were asked to rate their satisfaction with their life on a scale from zero to ten. The average score was 7.3, with Finnish kids the sunniest, at nearly 7.9, and Turkish ones the gloomiest, at 6.1. Boys were happier than girls, and children from affluent families scored higher than the rest.

That is not surprising. Prosperous parents these days, especially in America, invest an unprecedented amount of time and money in their children to ensure that they will do at least as well as the parents themselves have done, and preferably better. Those endless rounds of extra tutoring, music lessons, sports sessions and educational visits, together with lively discussions at home about every subject under the sun, have proved highly effective at securing the good grades and social graces that will open the doors to top universities and well-paid jobs.

Working-class parents in America, for their part, lack the wherewithal to engage in such intensive parenting. As a result, social divisions from one generation to the next are set to widen. Not so long ago the “American dream” held out the prospect that everyone, however humble their background, could succeed if they tried hard enough. But a recent report by the World Bank showed that intergenerational social mobility (the chance that the next generation will end up in a different social class from the previous one) in the land of dreams is now among the lowest in all rich countries. And that is before many of the social effects of the new parenting gap have had time to show up yet.

Tell me the ways

This special report will explain what has led to these momentous changes in childhood in America and other rich countries, as well as in middle-income China. They range from broad social and demographic trends such as urbanisation, changes in family structure and the large-scale move of women into the labour force in recent decades to a shifting emphasis in policy on the early years and the march of digital technology.

Start with the physical environment in which children are growing up. In rich countries the overwhelming majority now lead urban lives. Almost 80% of people live in cities, which have many advantages, including better opportunities for work, education, culture and leisure. But these often come at a cost: expensive housing, overcrowding, lack of green space, heavy traffic, high air pollution and a sense of living among strangers rather than in a close-knit community. This has caused a perception of growing danger, even though crime in Western countries in the past few decades has declined, so statistically the average child is actually safer.

Even more important, the domestic environment for most children has changed profoundly. Families have become smaller, and women bear children far later than they did only a couple of generations ago. In the vast majority of rich countries the average number of children a woman will have is now well below the replacement level of 2.1. Households with just one child

have become commonplace in Europe and the more prosperous parts of Asia, including China. That means each child has more time, money and energy invested in it, but misses out on the hustle and bustle of a larger household.

Families have also become far more fluid. Rates of marriage have declined steeply, and divorce has become widespread. Many couples in America and Europe now cohabit rather than marry, and a large and growing proportion of children are born out of wedlock. Far more of them, too, are being brought up by lone parents, overwhelmingly mothers, or end up in patchwork families created by new sets of relationships. Again, this happens far more often at the bottom of the social scale than at the top.

At the same time the number of women going out to work has risen steeply, though in recent years the trend has slowed. The post-second-world-war model of the nuclear family with a breadwinner husband, a homemaker wife and several children has become atypical. In America the share of women of working age in the labour force has risen from 42% in 1960 to 68% in 2017. To a greater or lesser extent the same has happened in other rich countries. Mothers now mostly return to work within a year or so of giving birth, not five or ten years later. In the absence of a handy grandmother, the child, even at a young age, will probably be looked after outside the home during the working week.

The first few years of a child's life are now receiving more attention as new evidence has emerged about its vital importance in the development of the brain. James Heckman, a Nobel prize-winning American economist, has suggested that early investment in a range of measures from high-quality child care to support programmes for parents offers excellent returns, far better than remedial interventions later in life.

Governments in many countries have started to increase the number of public child-care and kindergarten places to supplement private provision, both to encourage more women to take paid jobs and to promote the development of young children from less privileged backgrounds. This report will look at the wide variety of early-years care on offer in different countries (ranging from plentiful and relatively cheap in the Nordics to scarce and often eye-wateringly expensive in the Anglo-Saxon countries, with most of the rest of Europe somewhere in between), and try to assess what difference it makes. In East Asia this is the first rung of a fiercely competitive educational ladder.

The report will also consider the effect on children of an array of screen-based devices, from televisions to smartphones, offering a feast of passive entertainment, interactive computer games and the opportunity to connect with peers remotely. Not long ago children used to rile their parents by declaring they were bored, but now “being bored is something that never has to be tolerated for a moment”, writes Sherry Turkle of MIT, an expert on digital culture. In rich countries the vast majority of 15-year-olds have their own smartphone and spend several hours a day online. There are growing concerns that overuse might lead to addiction and mental illness, and that spending too much time sitting still in front of a screen will stop them from exercising and make them fat. The digital world also harbours new risks, including cyberbullying and sexting.

But the first thing this report will explore is the new face of the institution still central to any child's life: the family.

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History

In the Middle Ages there was no such thing as childhood*How perceptions of children have changed through history***Print edition | Special report** Jan 3rd 2019

FOR MOST of Western history, childhood was nasty, brutish and short, or even non-existent. Before modern medicine and public-health standards, many infants did not live to see their first birthday—and if they did, they were expected to grow up at the double. In the two millennia from antiquity to the 17th century, children were mostly seen as imperfect adults. Medieval works of art typically depict them as miniature grown-ups. In 1960 one of the first historians of childhood, Philippe Ariès, declared that in medieval Europe the idea of childhood did not exist. Most people were not even sure of their own age.

For much of that time newborns were considered intrinsically evil, burdened with original sin from which they had to be redeemed through instruction and education. That changed in the 17th century, when children instead began to be seen as innocents who must be protected from harm and corruption by the adult world. Childhood came to be regarded as a separate stage of life. John Locke, a 17th-century English thinker, saw the mind of a newborn child as a blank sheet, to be filled in by its elders and betters. A few decades later Jean-Jacques Rousseau, a Swiss philosopher, argued that children had their own way of seeing, thinking, feeling and reasoning and should be left to develop as nature intended. In the late 18th and early 19th century the Romantics went one better, crediting children with deeper wisdom than adults.

Parents' relative lack of interest in their children in the Middle Ages may have been a rational response to a distressingly high infant mortality rate, reckoned to have been around 200-300 per 1,000 live births in the first year of life, compared with single figures per 1,000 in rich countries now. Many others were wiped out by diseases and accidents before the age of ten. Parents would not want to get too attached to a child who might not be around for long. Besides, in the absence of reliable birth control, families tended to be large, so less attention would be focused on each individual sibling.

Young children were encouraged to take part in adult activities as soon as they were able, usually starting between the ages of five and seven, and begin to work alongside grown-ups as they became more capable. In agrarian societies they had always been expected to help out at home and in the fields from an early age. In post-revolutionary America they were expected to become independent as soon as possible because labour was in short supply, which made the relationship between the generations less hierarchical than in Europe.

The Industrial Revolution turned children into an indispensable source of income for many poor families, often before they were fully grown. In Britain a parliamentary report in 1818-19 on children in cotton mills around Stockport and Manchester put the average age for starting work at around 11½.

But by the end of the 19th century the state had begun to clamp down on the exploitation of children in the West. Education for the younger age groups became mandatory in ever more countries. Children were seen as in need of protection, and their period of economic dependency lengthened in both Europe and America. The scene was set for the emergence of what Viviana Zelizer, a sociologist at Princeton, has memorably described as “the economically useless but emotionally priceless child”.

This article appeared in the Special report section of the print edition under the headline “Little man or little angel?” [Special report Childhood](#) [Why children's lives have changed radically in just a few decades](#) [In the Middle Ages there was no such thing as childhood](#) [The continuing importance of the family](#) [The early years are getting increasing attention](#) [How children interact with digital media](#) [The art and science of parenting](#) [Parenting methods are exacerbating social divisions](#) [Sources and acknowledgments](#)

The family

The continuing importance of the family

Smaller, more heterogeneous, but still indispensable

Print edition | Special report Jan 3rd 2019

ON A RAINY Saturday morning, the Museum of Childhood in east London reverberates with the sound of hundreds of small children enjoying themselves. Some are stacking bricks, others are playing in a sandpit as their parents look on. A large Victorian rocking horse attracts a queue of young riders. On a nearby wall a notice outlines a project on which the museum worked with a local school to find out what seven- and eight-year-olds consider important in their lives. The clear winners were the children's families—along with Lego, a construction toy.

The family is still the best place for a child to get the love and security it needs to grow into a well-balanced adult. Child-development experts agree that almost any family, however imperfect, is better than none at all. It does not even have to last for ever, only long enough to provide a safe and warm space for those crucial early years. That is just as well, because today's families are very different from those of a few decades ago.

Most obviously, they are smaller. Across the OECD, the total fertility rate (TFR)—the number of children a woman is likely to have in her lifetime—is now 1.7, against 2.7 in 1970 (see chart). Even America, which until recently used to procreate more than most of the West, is now close to the rich-country average. In South Korea the fall in the TFR has been precipitous, from 4.5 in 1970 to 1.2 now.

The road from five to one

Over the same period China's TFR has plummeted from 5.6 to 1.6. That is often attributed to the country's one-child policy, but the ultra-low birth rates of other countries in the region, including Japan, South Korea, Taiwan and Vietnam, suggest it would have happened anyway, if somewhat later. In 2016 the Chinese government, alarmed by the prospect of a rapid decline in the country's working population, relaxed the rules. That brought a small uptick, but by the following year the numbers were down again. In time the policy is likely to be scrapped altogether, but no one expects a baby boom.

Asked what is holding them back from having larger families, Chinese couples often cite the cost of raising children. But the country's increasing urbanisation has also played a part. Many of its modern cities are just as crowded, traffic-ridden, polluted and devoid of green spaces as those in the West, if not more so. They are uninviting places in which to bring up a family.

Both in China and throughout the rich world, couples marry far later than they used to, and have their first child when they are much older. At the start of the 1990s in most OECD countries the mean age of women at first marriage was between 22 and 27, and for men two or three years older; now it is 30 for women and over 32 for men. In Sweden, the place with the oldest brides and grooms, it is 34 and 36 respectively.

And many no longer bother to get married at all. In the past half-century marriage rates in the developed world have roughly halved, though there are big differences between countries, and not necessarily along the lines you might expect. Americans, for example, marry at twice the rate of Italians, French and Spaniards. The Chinese are keenest of all, reflecting a strong aversion to births out of wedlock, for both cultural and practical reasons.

In most rich countries such attitudes are a thing of the past. The average proportion of children born to unmarried parents across the OECD is now around 40%, compared with 7.5% back in 1970 (though numbers in East Asia remain low). In most cases that does not mean they lead chaotic lives. Over 80% of children live in a couple household; the parents may simply have chosen not to get married, or to leave it until later. Quite a few weddings these days feature the couple's offspring as bridesmaids or pageboys.

Still, a growing share of children in OECD countries are being brought up in single-parent households, usually headed by the mother. As a rule, such households are a lot poorer and often less settled than the two-parent kind. In America they account for more than a quarter of the total, and among African-Americans even more. A new class divide is opening up in which well-educated people continue to have conventional marriages and bring up their children within them, whereas those with less education often have unplanned children who grow up in unstable families.

Parents everywhere split up a lot more often than they used to; divorce rates are typically double those in 1970. Some of them remarry or move in with a new partner, and many children are now part of a patchwork family, perhaps with step-siblings thrown in. Others live with grandparents, other relatives or gay parents. So "home" is different from what it used to be; and with many more mothers going out to work, it may also be empty during the day.

The push of women into the labour force started in America, the Nordics and the Antipodes in the 1960s and gradually spread to other rich countries, with Spain and the Netherlands bringing up the rear. Across the OECD, female labour-force participation has risen from 47.6% in 1970 to 64% now—though in many countries the rise has slowed or even halted as women have found out how hard it can be to combine career and family. In America a big debate was kicked off by an article in the *Atlantic* magazine in 2012 by Anne-Marie Slaughter, an academic and foreign-policy expert who had held down a very senior post in the State Department and was known as a feminist. Entitled "Why women still can't have it all", the article argued

that in the face of institutional and cultural barriers, women—and indeed men—still had to make invidious choices between the demands of work and family. Women continue to be expected to play the main carer role, which helps explain why they typically spend far fewer hours than men in formal employment, but many more hours on unpaid child care and domestic tasks—even in places with enlightened men.

One trigger for getting more women into work has been the expansion of tertiary education. In the past couple of decades more women than men have been gaining higher-level qualifications. The growth in services, too, has created many more jobs that appeal to women. And cultural norms are slowly changing. In Germany a woman who worked outside the home while her children were young used to be branded a *Rabenmutter* (raven mother, an undeserved slur on avian parenting styles). But younger Germans, at least, now think it is fine for mothers to have jobs.

Governments can do a great deal to help parents reconcile work and family commitments. The most obvious way is through paid leave round the birth of a baby, though tax policy and cash support can also play a part. Entitlement to maternity leave in rich countries averages about four months, but with wide variations. America is the only wealthy nation to provide no paid maternity leave at all at federal level, though some states and many employers do. Some countries are moving towards the concept of parental leave, with a minimum period reserved for the mother and the rest divided up among the parents as they wish.

His turn

Where fathers have been offered paternity leave, they have been slow to take it up, for fear that having more than a few days off might harm their career. But if parental leave is offered on a use-it-or-lose basis to the parent who is not the main carer, usually the father, uptake increases, as Germany has been finding after a series of recent reforms.

Getting the father more involved has many benefits. It nudges the mother to go back to work sooner, which makes the family better off and boosts the economy. It is more equitable than to leave all the child care to the mother, and with luck may establish better habits of sharing domestic tasks. And it is good for the psychological well-being of everyone involved. Child and father form a closer relationship, and the mother has a more balanced life if she pursues a career of her own.

Assuming she wants to carry on working, what is top of her wish list? Olivier Thévenon at the OECD studied the effect on female labour-force participation of a range of policies to promote work-life balance, including paid leave, family benefits and tax incentives, and found that one of the most effective ways to get more women to take jobs was to expand child-care provision for the under-threes. That chimes with policymakers' growing focus on the crucial early years of a child's life.

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Early years

The early years are getting increasing attention

Catching them young

Print edition | Special report Jan 3rd 2019

AT TURNER ELEMENTARY SCHOOL in south-east Washington, DC, about 15 well-turned-out five-year-olds sit on a mat in an immaculate classroom, bellowing out an uplifting song about being ready for school and listening to the teacher. Then they act out little scenes about being good citizens, sharing and helping others. They are having fun, but of a well-controlled sort.

For many of them this may be the calmest and most enjoyable part of their day. The school is in a poor part of America's capital and almost all its students are eligible for free or subsidised meals, which means their parents may struggle to make ends meet. The principal, Eric Bethel, says the school has made a lot of progress and achieves good academic results. It is teaching its preschool kids to read from age three.

The little children at Turner, and many of the District of Columbia's 114 other public schools, are lucky. In 2017 about nine out of ten four-year-olds there, and seven out of ten three-year-olds, were enrolled in publicly funded preschool, the highest rate in America, says Amanda Alexander, the interim chancellor of DC's public-school system. The schools have no trouble recruiting staff for this age group because, unusually, preschool teachers here are paid the same as those for older age groups.

Good preschool education helps get kids from poor families ready for school proper and do better in standardised tests, but it is expensive. In 2017 DC spent about \$17,000 per child on this item, far and away the most of any American state. Average preschool spending across America in 2017 was about \$5,000, a drop in real terms compared with 2002. Seven states had no programme at all.

Early-childhood education and care is attracting a surge of interest in most rich countries. Increasingly, it is moving out of the home and into institutions, a process experts inelegantly call "defamilisation". Across the OECD, average enrolment of three- to five-year-olds rose from 75% in 2005 to 85% in 2016.

One reason, as already noted, is to make it easier for women to go out to work, which boosts GDP and saves the state money in family support. In some countries this has been an explicit policy objective. Britain, for example, some years ago introduced free child care for 15 hours a week, and of 30 hours a week provided the parents work, for all three- and four-year-olds, regardless of background. But a paper by the Institute for Fiscal Studies, a think-tank, found that this was likely to have only a slight impact on maternal employment. Even 30 hours a week would not be long enough to squeeze in a full-time job.

Kate Greenaway Nursery School, run by the local authority in Islington, North London, is a confidence-inspiring place full of happy, busy children. It is open weekdays from 8am to 6pm, including holidays, so it provides effective cover for working families. As well as taking three-and-four-year-olds, it offers subsidised places for kids from six months to three years. These cost from £125 to £300 a week, depending on what parents earn. The head, Fiona Godfrey, says the places for younger children are in high demand. Good-quality private nurseries can cost even more and offer less. Child-care costs in Britain as a proportion of average incomes are among the world's highest (see chart).

In France, the ubiquitous, subsidised *écoles maternelles*, which take children from the age of two, have long been the envy of working mothers elsewhere in Europe; and Germany has recently increased the number of child-care places for younger children, though provision is patchy. Sabine Bermann, head of a heavily oversubscribed *Kita* (Kindertagesstätte, or child day-care centre) in Berlin's rapidly gentrifying Prenzlauer Berg district, explains that parents have a legal right to a place for any child over the age of one. In Berlin they pay only for meals; some other German *Länder* (states) make charges ranging from modest to quite steep. But the promise rings hollow because the better *Kitas* have long waiting lists.

Denmark, along with other Nordics, had the debate about institutional care for young children 30 or 40 years ago and decided to make it universal, says Charlotte Ringsmose, who teaches pedagogy at Aarhus University. Attendance at preschool centres and kindergartens among three- to six-year-olds is around 98%. Danish child-care centres focus on play rather than formal tuition. Children do not learn to read until they start school proper at six, but then catch up fast. And Danes do not shop around for early-years child care because the nearest state-run place is usually just fine. Kids from the least well-off families go free, and even those with richer parents are heavily subsidised. Perhaps not coincidentally, both fertility rates and female labour-market-participation rates in Denmark and other Scandinavian countries—which have similar arrangements—are above the European average.

But Denmark's universal child-care provision also has a more ideological side to it. The idea is to make sure that all children, whatever their background, are steeped in the country's language, culture and values early enough to shape them for life. Last year the (right-wing) government controversially introduced legislation to require children living in designated poor neighbourhoods inhabited mainly by immigrants, which it calls "ghettos", to attend day care for at least 25 hours a week from the age of one.

Recent advances in neurology and child psychology have shown that the period from birth to age five, when the brain is at its most plastic, is the most important in a child's development, and that interventions during that period can be much more

effective than later ones. Children from prosperous, educated backgrounds start off with a huge advantage because they already get a lot of stimulation and informal learning at home. But institutional early education and care, if done right, can help level the playing field for those from less privileged backgrounds.

The doyen of this school of thought is James Heckman of the University of Chicago, who has long argued that government investment in early childhood in institutional care pays off both for individuals and for society at large. He calculates the return on investment in high-quality birth-to-five education at between 7% and 13%. In evidence he cites two long-term studies of children from poor homes that began decades ago, the Perry Preschool Project in Michigan and the Abecedarian Project in North Carolina, which suggest that offering extra support for such children pays off not just in academic results but also in social and economic outcomes: better health, less poverty, less crime.

As a follow-up, Mr Heckman and colleagues evaluated a raft of other American early-childhood education programmes. These included Head Start, a long-standing federal preschool programme designed to get poorer kids ready for school, which had been criticised by other scholars because the academic improvements it achieved seemed to fade over time. But Mr Heckman's team reckoned that taking part in the programme did help the children in other ways, fostering social and emotional skills that turned out to be important in later life.

Isabel Sawhill and Quentin Karpilow at the Brookings Institution, a think-tank, studied a representative group of American children, tracking their progress from the earliest years through school and beyond. They, too, found that well-targeted interventions—such as providing advice for parents and extra support for struggling children—improved the chances of disadvantaged kids becoming middle class when they grow up. Getting in early was crucial, and the best results were achieved by intervening several times from early childhood to early adulthood. The resulting boost to the incomes of those children in later life was about ten times greater than the cost of the programmes.

The fortunate few

On the other side of the world, in a suburb of Shanghai, the children on one of the campuses of the Fortune kindergarten are just finishing lunch. The menu alternates daily between Chinese and Western; today it is Chinese food, which seems popular. Later they will take a walk outside and listen to stories, followed by a nap, and then end their school day with games or free play.

Fortune is considered one of the best kindergartens in Shanghai. It is a private establishment with around 3,000 places for children aged from 18 months to six years, scattered among various campuses across the city. Competition to get in is fierce. Local parents are subsidised by the government, but for others, fees for the most expensive package can run to 15,000 yuan (\$2,200, £1,700) a month. That buys you bilingual, bicultural teaching in Mandarin and English and even includes philosophy classes for five- to six-year-olds, explains Stephen Walshe, Fortune's Irish co-principal.

Most important, though, it offers a head start in a highly competitive system leading from kindergarten to primary, middle and senior school and eventually on to university. Better-off mothers often stop work for a while to make sure their child reaches that vital first rung on the educational ladder. For ambitious Chinese parents, formal learning cannot start soon enough.

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Digital media

How children interact with digital media

Parents may loathe them, but they are here to stay

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TURN OFF media, turn on life”, urges the promotional video from South Korea’s Nori Media Education Centre for the Prevention of Internet Addiction, an organisation funded by a mixture of private and public money. Its manager, Kwon Jang-hee, is passionate about protecting children from the ill effects of the internet, and above all of smartphones, which he considers most damaging of all because of their omnipresence. Parents do not understand how dangerous the internet is, he says, pointing to a study by Seoul National University that detected similarities between the brain activity of cocaine addicts and computer-games enthusiasts. If he had his way, youngsters would have to wait for their smartphones until they had graduated from high school.

In one of the world’s most highly connected societies there is little chance that he will get his wish, but plenty of South Korean parents agree that their children are overdosing on screens. A recent government survey on smartphone and internet addiction put the share of three- to nine-year-olds at high risk of addiction at 1.2% and that of teenagers at 3.5%. That may not seem a lot, but when it happens the effects can be devastating. Some of these children are on their phones for at least eight hours a day and lose interest in offline life. Having tried and failed to wean them from their devices, their desperate parents turn to the government, which offers various kinds of counselling, therapy and, in extreme cases, remedial boot camps.

Hong Hyun-joo, who works on the boot-camp programme for the regional government of Gyeonggi, South Korea’s most populous province, says the kids undergoing the treatment are usually aged 14-16, with about the same number of boys and girls. They hand in their smartphones when they arrive at the boot camp and spend 12 days living in dormitories, eating regular meals and engaging in lots of sport and group activities. The aim is to increase their self-esteem and get them to make friends. They mostly start off sullen but gradually become more co-operative. The claimed “cure” rate (meaning a return to more normal usage) is 70-75%. But the camps can take only a few hundred children a year, not remotely enough to meet demand. That would take a lot more money.

South Korea is thought to have the world’s highest rate of problematic internet use among both children and adults, but concern about children’s growing use of digital media in the West is also rising, especially in America. In 2015, the latest year for which internationally comparable figures are available, nine out of ten 15-year-olds across the OECD had access to a smartphone. They spent an average of 18½ hours a week online, nearly five hours more than in 2012, so the figure is probably even higher now. About 16% of these kids were extreme users, defined as spending more than six hours a day online. The number of children who did not use the internet at all was vanishingly small.

Square-eyed babies

Moreover, children are starting on digital devices at ever younger ages. In Germany 67% of 10- to 11-year-olds already have their own smartphones, rising to 88% for 12- to 13-year-olds, according to Bitkom, an industry association. In Britain 83% of 11- to 12-year-olds and 96% of 13- to 14-year-olds have their own phones, says Childwise, a research outfit. What do these kids do on their smartphones? “Stuff,” says John, a 12-year-old living in north London. That turns out to mean sending messages and talking to his friends, watching video clips, playing computer games and going on Snapchat and Instagram. His ten-year-old sister does not have a smartphone yet, but uses an internet-enabled iPad. Their parents ration the children’s screen time (as the vast majority of parents do), but sometimes there is room for negotiation.

Infants and toddlers use digital devices such as tablets when they can barely speak, let alone read and write. The American Academy of Paediatrics used to advise parents to keep children under two away from screens altogether, but now says that video chatting is acceptable even for the very young. For two- to five-year-olds, it reckons, an hour a day of high-quality programming is fine. Some experts think it is still being way too conservative.

Opinions on the effects of children’s digital-media habits are deeply polarised. At one extreme, Jean Twenge, a psychology professor at San Diego State University, says it all with the title of her recent book, “iGen: Why Today’s Super-Connected Kids are Growing up Less Rebellious, More Tolerant, Less Happy—and Completely Unprepared for Adulthood—and What That Means for the Rest of Us”. The smartphone, she argues, has radically changed the lives of the generation of American children born between 1995 and 2012, wherever they live and whatever their background. She thinks excessive use of the internet and social media makes them lonely and depressed and poses serious risks to their physical and particularly their mental health, sometimes to the point of driving them to suicide.

Others note that similar warnings were sounded when television started to spread in the second half of the 20th century. At the time it was widely believed that if children spent long hours watching it every day, they would become dumb, fat and lazy. Now watching TV together is seen as a valuable family activity for parents and children. When technologies such as the radio, the written word or printed books were new, they were also demonised to begin with.

Some of the risks attached to internet use have barely started to be considered. For example, children are already generating large amounts of data, beginning when they are still in the womb as their parents put the first scan of the baby online, and continuing across multiple channels as the child is constantly recorded interacting with devices and programmes. These data can never be retracted. They will be available to third parties and there is no telling how they will be used. The effects may not become clear until many years after the event, says Monica Bulger of Data & Society, a research organisation that studies the social and cultural impact of data-heavy technologies.

Its founder, Danah Boyd, in a book called “It’s Complicated: The Social Lives of Networked Teens”, concedes that spending too much time online can be bad for adolescents, if only because it leaves less time for other activities. But she also argues that since most young people these days have fewer opportunities and less time to get out and see their friends, they need somewhere else to talk among themselves in private. The internet offers them such a forum. Certainly the youngsters themselves seem to appreciate it. Across the OECD, 84% of 15-year-olds say they find social networks online very useful, and more than half of them feel bad if they cannot get online.

Daniel Kardefelt-Winther of the Innocenti research office of Unicef, the United Nations’ children’s agency, looked at all the evidence he could find on how children’s use of digital technology affected their mental well-being, their social relationships and their physical activity, and found less cause for alarm than is often suggested. Most of the studies he examined seem to show that the technology helps children stay in touch with their friends and make new ones. In the 1990s and early 2000s, when the internet was relatively new, such benefits seemed less clear because it seemed to isolate people, but now that almost everybody is online, it has become a busy and sociable place.

What spending so much time looking at screens does to children’s health is hard to gauge. Although it clearly reduces physical activity, which may be bad for their general well-being and cause weight gain, the causal direction is not clear. It may be that children put on weight because they eat too much unhealthy food, perhaps egged on by advertising they have seen on some screen or other, and become less active as a result.

The relationship between the use of digital technology and children’s mental health, broadly speaking, appears to be U-shaped. Researchers have found that moderate use is beneficial, whereas either no use at all or extreme use could be harmful. But in either case the effects are very small, and children generally prove surprisingly resilient to moderate or even high levels of screen time. Although there are clear instances of overuse, terms like “addiction” or “compulsive use” may be overblown. There is no real evidence that spending too much time online severely impairs the user’s life in the longer term, as drug abuse often does.

No time to sleep

This is not to say that there is no need for concern. Mental-health problems represent the largest burden of disease among young people. One study across ten OECD countries found that a quarter of all young people had a mental disorder. Even a small addition to that share would be a bad thing. And heavy users of social media and video games often suffer from sleep deprivation, which seems to be associated with anxiety and depression. But again it is not clear which is the cause and which the effect.

Cyberbullying is also becoming more prevalent, though it directly affects a relatively small proportion of children, and experts think it is generally less damaging than the physical kind. And people on social media try to make their lives seem more glamorous than they really are, which can make children feel left out.

Sonia Livingstone, a professor of social psychology at the London School of Economics, has spent decades looking at the relationship between children, media and the internet. She concludes that screens are often held responsible for the broader anxieties of parents living in a high-stress environment, without much evidence that they do great harm. What worries her more is that screens are becoming part of the middle-class armoury for perpetuating social advantage, with children from well-off homes being enrolled in private classes to learn skills like “How to be a YouTuber”, which poorer parents cannot afford. That echoes concerns across the Atlantic about child-rearing becoming a new battleground for class warfare.

It is hard to be categorical about screen use. What is good for one child of a particular age may be bad for another one of a different age. But it is clear that, particularly for younger children, it helps if parents are engaged. Watching a video together or looking something up online and talking about it is not that different from reading a book together. The trouble is that children can find it hard to get any attention from their parents these days because they, too, are always on their smartphones.

This article appeared in the Special report section of the print edition under the headline “Primal screens” [Special report Childhood](#) [Why children’s lives have changed radically in just a few decades](#) [In the Middle Ages there was no such thing as childhood](#) [The continuing](#) [The early years are getting increasing attention](#) [How children interact with digital media](#) [The art and science of parenting](#) [Parenting](#) [Sources and acknowledgments](#)

Parenting

The art and science of parenting

Fewer kids can be a lot more work

Print edition | Special report Jan 3rd 2019

“WE ARE CREATING a miniature version of our own lives for our kid, wanting him to be productive, keeping him busy all the time.” Abigail is talking about her two-year-old son, Joshua. She has a well-paid job with an investment bank in Dallas, Texas, which she finds stressful but exciting. Now pregnant with another child, she has every intention of resuming work after the second birth. She will keep on her Mexican-American nanny, and her writer husband will help with the child care.

But combining work with a larger family will not be easy, not just because of Abigail’s demanding job but because she and her husband, like many other prosperous parents in America, pursue a form of child-rearing that makes huge demands on their time and resources. It includes filling the child’s day with round-the-clock activities, from music and sports to sleepovers; going to great lengths to get him or her into the right schools; and strictly supervising homework. The parents may not like it, but they feel they have no choice because all their friends are doing the same thing.

This is colloquially known as “helicopter parenting” (because the parents are always hovering), or “concerted cultivation”, a term coined by Annette Lareau, a sociologist at the University of Pennsylvania. In her book “Unequal Childhoods”, based on in-depth studies conducted in the 1990s and early 2000s, she looked at the child-rearing habits of American families from a variety of social and ethnic backgrounds and found a yawning gap. Whereas better-off, better-educated parents (black as well as white) overwhelmingly adopted this intensive method, working-class and poor families followed a different model which she calls “the accomplishment of natural growth”. They saw their role as providing shelter, food, comfort and other basic support but lacked the time, the money and the nous for such intensive management, so their kids were often left to their own devices, and the extended family played a much greater part in their children’s lives than among Ms Lareau’s middle-class subjects.

In his book “Our Kids”, Robert Putnam, a political scientist at Harvard, used a mixture of interviews and data analysis to argue that different child-raising conventions are reinforcing a growing divide in American society. The privileged top third is pulling ever further ahead of the disadvantaged bottom third, whose families are often fractured and whose lives tend to be precarious. That shows up as a growing divergence in income, education, single- parenthood, friendship networks and other indicators.

The power of words

Upper-middle-class children are far better placed even before their parents make any special effort, simply because of the sort of homes they are born into. Educated parents tend to respond readily to their children’s endless questions, talk to them over the dinner table and take them to new and exciting places. In a famous study in the 1990s, Betty Hart and Todd Risley from the University of Kansas found that in the poorest families children heard about 600 words an hour, whereas in professional families they heard 2,100. By the time they were three, the children from the well-off homes had heard around 30m more words than the poorer ones.

“Parenting”, in the sense that it is now understood, is a relatively new term; it first popped up in 1958, according to the Merriam-Webster dictionary, and came into widespread use only in the 1970s. Experts see it as an important factor in successful child-rearing, along with things such as genetic predisposition and external circumstances. To find out how much it mattered, Jane Waldfogel of Columbia University and Liz Washbrook of the University of Bristol separated out the effects of different parenting styles and home learning environments on the cognitive performance of three- to five-year-olds from different income groups in America and Britain. They found that they accounted for between a third and half of the income-related gap.

Studies show that even poorer and less well-educated parents on both sides of the Atlantic (except, oddly, in France) spent far more time with their children every day in the 2000s than they did in 1965. They also spent more money on them, both in dollars and as a proportion of their income. Sabino Kornrich of Emory University and Frank Furstenberg of the University of Pennsylvania found that between 1972-73 and 2006-07 total spending per child in constant dollars increased somewhat for all income groups (see chart), but far faster for the richest 10% of parents than for the rest. Because incomes in this group had gone up rapidly, their spending as a proportion of income did not rise much. Yet by this measure the poorest 10% of parents vastly increased their spending on their children because their incomes had barely budged.

America is not the only place to practise helicopter parenting. The British do it too, calling it “hothousing”; continental Europe less so, especially in the Nordic countries, where social hierarchies are flatter and parents more relaxed. But globalisation has cranked up competition for the best jobs, and academic standards in different countries have become easier to compare thanks to the OECD’s PISA scores, which measure the reading, maths and science performance of 15-year-olds. Such comparisons have highlighted the effectiveness of a kind of concerted cultivation that is ubiquitous in East Asia. It is somewhat different from the Western sort, being directed more single-mindedly towards academic success, and works particularly

well in maths and science. In the PISA rankings for these subjects in 2015 Singapore tops the bill, and Japan, China (currently measured only in Beijing, Shanghai, Jiangsu and Guangdong) and South Korea are all well ahead of America.

Such comparisons have made some Americans wonder whether they are being too soft on their kids. For all the hovering they do, they tend to let them off lightly on things like discipline and helping around the house, preferring to build up their self-esteem and keep them happy. But parents have noticed that some of the country's recent immigrants, particularly those from East Asia, use sterner methods to great effect. In her book "Battle Hymn of the Tiger Mother", Amy Chua, a first-generation Chinese-American married to an American academic, describes the tough love she meted out to her two daughters. She unapologetically made the girls do many hours of homework a day, pushed them into becoming musical prodigies and allowed them next to no time to have fun. Though one of them eventually rebelled, both achieved brilliant academic results and seem to have grown into accomplished adults.

Another Chinese-American mother, Lenora Chu, and her journalist husband tried a different variant of blended cultures. Having moved to Shanghai, the couple decided to send their three-year-old son to a top-notch state-run Chinese kindergarten. Ms Chu's book about their experience is called "Little Soldiers", after a song often recited in the kindergarten that started: "I am a little soldier, I practise every day." It summed up the educational philosophy prevailing there and across China: anyone can succeed at anything if they work at it hard enough, whether or not they have a talent for it. Effort is all.

The Chinese kindergarten, Ms Chu found, had little trouble securing co-operation and compliance from the children and their parents. The authoritarian structure of the education system and powerful administrators keeps parents and students in check. In turn, the kindergarten proved responsive to parental pressure to offer some formal teaching even to these very young children, despite consistent guidance from the ministry of education that this age group should be spending most of the day playing. Even at kindergarten level, the parents are already thinking about getting the child through the *gaokao*, the all-important university entrance exam. As one mother explains, this is not just about the child itself. The Chinese have long been obsessed with education, and academic success for the child brings honour to the entire family.

If life at school is not much fun for Chinese kids, it is even worse for South Korean ones. Though both countries put much store by rote learning, in South Korea this takes on extreme forms. Jang Hyung-shim, an educational psychologist at Seoul's Hanyang University, likens children's experience at school to military service and says it stifles their creativity.

The curse of the *hakwon*

Song In-soo leads a group that campaigns for educational reform, the No Worry Private Education Association, which has gained a formidable reputation and chalked up a few successes, including a slight relaxation of the high-school entrance exam. He is particularly concerned about the high suicide rate among schoolchildren, partly blaming the ubiquitous *hakwon*, or private crammers, which he says 60% of South Korean students attend. The *hakwon* lessons take place outside school hours and often go on until late at night, turning the children into overworked, sleep-deprived zombies—as well as exacting a heavy financial toll on their parents. Mr Song has assembled lots of evidence against the practice. But as in China, everything hinges on the university entrance exam, so until that is tackled, nothing is likely to change.

In a little forest growing on one of the many rocky outcrops found all over Seoul, groups of tiny children from various local nursery schools are arriving at a "forest experience centre", one of 50 in this city of about 10m. They come once a week to explore discovery trails on the steep paths, play on various bits of equipment, listen to a guide explaining the wildlife they might see and exclaim at "bug hotels" full of insects. They seem delighted to be there. As wild places go, this is pretty tame; the paths may be steep, but all the play equipment is designed to minimise risk, and the children are carefully supervised. Even so, some parents stop their offspring from taking part in these excursions for fear that they might get hurt. In South Korea, not having fun starts early.

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An unfair world

Parenting methods are exacerbating social divisions

How to help level the playing field

Print edition | Special report Jan 3rd 2019

BRITISH CHILDREN used to play conkers in the autumn when the horse-chestnut trees started to drop their shiny brown nuts. They would select a suitable chestnut, drill a hole in it and thread it onto a string, then swing their conker at that of an opponent until one of them broke. But the game has fallen out of favour. Children spend less time outdoors and rarely have access to chestnut trees. Besides, many schools have banned conkers games, worried that they might cause injuries or trigger nut allergies.

That sort of risk-averseness now pervades every aspect of childhood. Playgrounds have all the excitement designed out of them to make them safe. Many governments, particularly in litigious societies such as America, have tightened up their rules, requiring parents to supervise young children far more closely than in the past. Frank Furedi of the University of Kent, a critical commentator on modern parenting, argues that “allowing children to play unsupervised or leaving them at home alone is increasingly portrayed as a symptom of irresponsible parenting.”

In part, such increased caution is a response to the huge wave of changes outlined in this report. Large-scale urbanisation, smaller and more fluid families, the move of women into the labour market and the digitisation of many aspects of life have inevitably changed the way that people bring up their children. There is little prospect that any of these trends will be reversed, so today’s more intensive parenting style is likely to persist.

But the child-rearing practices now embraced by affluent parents in many parts of the rich world, particularly in America, go far beyond an adjustment to changes in external conditions. They amount to a strong bid to ensure that the advantages enjoyed by the parents’ generation are passed on to their offspring. Since success in life now turns mainly on education, such parents will do their utmost to provide their children with the schooling, the character training and the social skills that will secure access to the best universities and later the most attractive jobs.

To some extent that has always been the case. But there are more such parents now, and they are competing with each other for what economists call “positional goods”—things that are in limited supply and that money cannot always buy, like those places at top universities. This competition starts even before the children are born. The prosperous classes will take their time to select a suitable spouse and get married, and will start a family only when they feel ready for it.

Social divisions

Children from less advantaged backgrounds, by contrast, often appear before their parents are ready for them. In America 60% of births to single women under 30 are unplanned, and over 40% of children are born outside marriage. And even if those children have two resident parents who are doing their best for them, they are still handicapped by a lack of funds, knowledge and connections. The result, certainly in America, has been to widen already massive social inequalities yet further.

What can be done about this? All the evidence suggests that children from poorer backgrounds are at a disadvantage almost as soon as they are born. By the age of five or six they are far less “school-ready” than their better-off peers, so any attempts to help them catch up have to start long before they get to school. America has had some success with various schemes involving regular home visits by nurses or social workers to low-income families with new babies. It also has long experience with programmes for young children from poor families that combine support for parents with good-quality child care. Such programmes do seem to make a difference. Without extra effort, children from low-income families in most countries are much less likely than their better-off peers to attend preschool education, even though they are more likely to benefit from it. And data from the OECD’s PISA programme suggest that children need at least two years of early (preschool) education to perform at their best when they are 15.

So the most promising way to ensure greater equity may be to make early-years education and care far more widely available and more affordable, as it is in the Nordics. Some governments are already rethinking their educational priorities, shifting some of their spending to the early years.

Most rich countries decided more than a century ago that free, compulsory education for all children was a worthwhile investment for society. Since then the school-leaving age has repeatedly been raised. There is now an argument for starting preschool education earlier, as some countries have already done. Before the Industrial Revolution it was the whole village that minded the children, not individual parents. In the face of crushing new inequalities, a modern version of that approach is worth trying.

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Books

“Our Kids: The American Dream in Crisis”, by Robert D. Putnam

“Unequal Childhoods: Class, Race, and Family Life”, by

Annette Lareau

“The Gardener and the Carpenter”, by Alison Gopnik

“The End of American Childhood”, by Paula S. Fass

“The Forgotten Americans: An Economic Agenda for a Divided Nation, by Isabel Sawhill

“Dream Hoarders”, by Richard V. Reeves

“Helping Children Succeed: What Works and Why”, by Paul Tough

“Battle Hymn of the Tiger Mother”, by Amy Chua

“Little Soldiers”, by Lenora Chu

“A History of Childhood: Children and Childhood in the West”, by Colin Heywood

Online sources

<https://www.prb.org/2018-kids-count-data-book-trends-in-child-well-being/>

https://www.oecd-ilibrary.org/education/education-at-a-glance-2017_eag-2017-en

<https://www.oecd-ilibrary.org/docserver/eag-2018-en.pdf?expires=1543260298&id=id&accname=guest&checksum=800E21B7443C>

<https://openknowledge.worldbank.org/handle/10986/28428>

PISA 2015 Results (Volume III) - Students' Well-Being - en

<https://data.oecd.org/pop/fertility-rates.htm>

OECD family database

OECD gender database

<http://www.oecd.org/publications/dare-to-share-germany-s-experience-promoting-equal-partnership-in-families-9789264259157->

<http://www.coface-eu.org/wp-content/uploads/2017/05/FOM-WS4-Olivier-Thevenon.pdf>

<https://www.americanprogress.org/issues/early-childhood/reports/2018/09/26/458208/effects-universal-preschool-washington-d-c>

<http://www.oecd.org/education/school/Early-Learning-Matters-Project-Brochure.pdf>

<https://www.brookings.edu/research/how-much-could-we-improve-childrens-life-chances-by-intervening-early-and-often/>

https://www.suttontrust.com/wp-content/uploads/2010/02/Sutton_Trust_Cognitive_Report-2.pdf

<https://journals.sagepub.com/doi/10.1177/2332858416644180>

[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP\(2018\)15&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2018)15&docLanguage=En)

<https://www.unicef-irc.org/publications/925-how-does-the-time-children-spend-using-digital-technology-impact-their-mental-well-being>

<http://www.oecd.org/els/health-systems/Children-and-Young-People-Mental-Health-in-the-Digital-Age.pdf>

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Computer chips

Armed with a crystal ball

Armed with a crystal ball

Masayoshi Son wants Arm's blueprints to power all tech

The British company's pre-eminent position in chip design helps him predict tech's future

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ON THE OUTSKIRTS of Cambridge, where city fades to field, the headquarters of Arm Holdings, a chip-design firm, is expanding apace. Its latest new building is long and flat, with a façade adorned with a pattern of metal triangles. These represent the nanometre-sized silicon fins found on the surface of modern transistors. Once the office block is finished, the firm hopes, its unusual exterior will help inspire employees on their mission to dream up, transcribe and sell designs for the omnipresent computers of the future.

Arm's recipes for computer chips—it designs them but does not make any itself—are the most popular on the planet. Since it was founded in 1990, its corporate customers have sold a whopping 130bn chips based on its designs. In one sense, the business is simple. “We do drawings of engines and we sell those drawings,” says Mike Muller, one of Arm's founders who is now its chief technology officer.

Yet Mr Muller's “drawings” are anything but simple. They are computer code which give Arm's customers a blueprint for the construction of microprocessors, information-processing machines so complex that firms are happy for Arm to shoulder the burden of their fundamental design. Those clients—consumer-hardware giants such as Apple and Huawei; chip companies such as Broadcom and Qualcomm—pay Arm one-off licence fees to access the design code, add to it what they will, then pay royalties on every product they ship containing it. Apple's popular A-series mobile processors, for example, are built in this way.

This model also gives Arm and its newish owner, SoftBank, a Japanese internet and telecoms conglomerate, a way of peering into the future of tech. Masayoshi Son, SoftBank's founder, has repeatedly called the firm his “crystal ball”.

Arm's model boasts both high margins and rapid growth; between 2008 and 2017 the number of Arm-processor based chips sold globally notched up a compound annual growth rate of 21%. Even so, few owners of phones, televisions, watches, voice assistants and other devices have heard of Arm, despite the fact that their gizmos are stuffed with its intellectual property.

After years spent building a dominant position in the smartphone market, Arm has its sights on new territory. SoftBank, which took Arm private in 2016 for £24.3bn (\$32bn), has instructed the company to lower its profits to around zero and instead reinvest in order to expand into other technology markets. The deal was the largest acquisition that Mr Son has made, and also one of his priciest (at a 43% premium to Arm's market value).

Mr Son has boasted that Arm could become more valuable than Google, by selling intellectual property (IP) into a world in which there could be as many as 1,000 internet-connected devices—from smart traffic sensors to utility meters to personal health trackers and so on—for every person on Earth. His switch to a focus on revenue growth, not profit, is well under way. In 2015 Arm raked in a profit of £539m on revenues a shade above £1bn; in 2017 profits were down to £325m on revenues of £1.3bn.

Money ploughed back into the firm has mainly gone into hiring staff. Arm has brought in 1,800 people in the two years since the acquisition, increasing its headcount by half; when your products are intangible, brainpower is the primary ingredient required to make more. Arm estimates that designing an advanced central processing unit from scratch takes it 300 man-years. SoftBank also signed legal contracts promising to increase headcount in Cambridge as part of winning permission to buy Britain's biggest tech company.

Arm is betting that more and more of the processors it licenses in the coming years will be destined for cars, a market in which it presently has a share of 20% (see chart). It got its start in 1996 as “in-car” electronics grew unwieldy. Car manufacturers started asking for multiple control circuits to be bundled into one chip, in order to save space and eliminate weight and complexity. Arm designed a processor which did just that. As a result, the vast majority of cars sold globally already have at least some Arm IP in them, managing things like electric windows or dashboard displays.

The promise of self-driving cars is pushing the automotive industry to pack more technology into its vehicles more rapidly than ever before. While fully autonomous cars will not be widespread for at least a decade, pursuing the dream is fuelling high investment in automotive computation designed to handle an array of tasks less redolent of science fiction. Chips are needed to handle automated driver-assistance features such as lane-keeping that are becoming standard on new cars, for example. In-car screens which display information and entertainment will become more common, and require information processing; electric drivetrains require computation to manage battery levels and optimise their performance. “This is the most change

that cars have seen since the advent of microcontrollers in the late 70s early 80s,” says Lakshmi Mandyam, who runs Arm’s automotive business.

When autonomous cars do arrive in the mass market, Arm anticipates a payday. It estimates that they will require ten times more computational power than an advanced smartphone does, meaning the market could give Arm the possibility of collecting ten times the royalties for each autonomous car that is built using its IP. While there will always be fewer vehicles on the roads than smartphones in pockets, the extra silicon required means that Arm estimates that cars will become as big a market as phones (which account for 60% of its annual revenues).

Another promising area is network equipment, the connective tissue of the internet. As the cost of storing and processing data has plummeted over the past two decades, the cost of managing all the resulting traffic has rocketed. Arm is betting that the world will need more machines that are designed to shuttle data around efficiently, and to keep networks secure as they do so. The company’s share of the infrastructure market has increased from 5% in 2011 to 20%.

Where Arm is weakest is in data centres, a market that is practically owned by Intel, which fabricates chips as well as designing them. It has a less than 1% share and wants to catch up. In November Amazon announced that it had built a new custom chip for its data centres using Arm’s server IP, a useful handhold in the market. The handful of gigantic firms that dominate cloud computing like the idea of designing their own custom hardware based on Arm licences, because it allows them to buy fewer expensive package deals from Intel.

A hitch in Arm’s plans could be that open-source processor designs, which are free of charge for any business to use, become a viable alternative to its own. A family of such designs, called RISC-V, are starting to show promise. Widespread adoption would spell trouble for Arm. Other problems could emerge if Mr Son’s plans succeed and Arm IP becomes an essential component for the vast majority of computation everywhere. This might tempt the firm to raise its prices, prompting a backlash from customers.

The more cash Mr Son pumps into Arm, the higher the stakes. Its revenues are far from Mr Son’s hopes of Google-like heights—the search giant’s top line is a hundred times the size of Arm’s. SoftBank has hinted that it might relist Arm after ramping up its ideas factory. That would presumably generate a return for Mr Son’s \$93bn Vision Fund, an investment vehicle through which he is pumping cash into an array of “frontier” technologies. SoftBank has almost finished transferring a quarter of Arm’s shares into the fund.

Beyond its own profitability, Arm has another attraction for Mr Son—its ability to help prophesy tech’s future. Arm typically takes eight years for a new design to go from idea to machine code that can be shipped to licencees. To keep its design pipeline full of viable new ideas, the firm must constantly forecast the computer industry’s direction. To do so it uses its close, ongoing relationships with big customers. It is in constant discussion with firms that make cars, televisions, fitness trackers, drones and other products. As well as Apple, one of its biggest clients, it talks to credit-card companies such as MasterCard as well as to content distribution networks like Netflix and Disney. All are anticipating their computing requirements many years hence and need Arm’s help to build them.

This has turned Arm into a sort of information clearing-house for future computing applications—hence Mr Son’s crystal-ball analogy. True, it cannot give SoftBank, or his Vision Fund, specific investment advice or proprietary information. But Arm can and does tell Mr Son about the interesting new postcodes of the future, ones that might warrant investment.

Some of those new areas are especially eye-catching. Eric Hennenhoefler, who runs Arm’s research division in Cambridge, says that the firm is working on designs for chips which can harvest the energy they need to run from the environment around them, instead of requiring some built-in power source. Why? When his team looked into the subject, they worked out that there is not enough lithium on the planet to build batteries for the trillions of computers with which Mr Son expects to paint the world in the coming decades.

So if his vision is to come to pass, many processors would have to get by without batteries. This might be done by harvesting energy from motion or from low-level background radiation, concepts that for now exist only in academic circles. Inside their new building, gazing out at green hills from nooks designed to aid contemplation, Arm employees are already attempting to design them.

This article appeared in the Business section of the print edition under the headline “Armed with a crystal ball”

Bartleby

The spy who hired me

*When employer health programmes go too far***Print edition | Business** Jan 5th 2019

THE NEW YEAR is the moment when people vow to improve their fitness. They join gyms, swear off alcohol and adopt detox diets. These resolutions usually do not last beyond January.

But some employers try to help their workers stick to their goals by offering “wellness” programmes. One of the longest-running examples began in 1979 at Johnson & Johnson (J&J), an American health-care company. The plan promotes weight loss, smoking cessation and efforts to reduce blood pressure. The firm claims it reduced medical costs by \$400 an employee per year, and resulted in fewer workers suffering from heart disease or high blood pressure.

Yet an examination of the data by Martin Cherniack of the University of Connecticut* found that in 2005-08, a sharp jump in alcohol use, depression and stress among J&J employees occurred. This coincided with a period when the firm had a target of lifting productivity by 9% a year. So the employees may have been leaner and fitter, but it is possible that workplace pressure to produce more meant greater stress.

All this suggests that employee well-being is a rather more complex topic than can be tackled by a programme devoted to exercise and healthy living. A study by RAND Europe, a research institute, found that obvious bad habits such as smoking and high alcohol use were in fact not associated with lower productivity, while obese workers were no more likely to take time off than anyone else. The biggest productivity problems were associated with lack of sleep, financial concerns and mental-health issues—factors that may well be directly linked to work-related stress.

It seems reasonable for companies to expect some level of economic return on any wellness programme that they provide. But the trade-off should not be too blatant. Making employees fitter so you can work them a lot harder seems rather like drilling your infantry on an assault course before sending them to face the machine guns. A better impact on morale (and thus productivity) might occur if workers felt that their managers had a genuine interest in their welfare.

Any health programme that tries to alter workers’ behaviour at home also raises privacy issues. There is a long tradition of employers taking an overly paternalistic attitude towards their staff. Titus Salt, a Victorian philanthropist, built a model village for his workers but banned alcohol from the village, smoking on the pathways and “loud behaviour”. Henry Ford, the car maker, had a “sociology department” that would make unscheduled calls on workers to monitor their lifestyles; those who failed to make the grade were paid lower wages.

The modern equivalent of those practices revolves around technology. Some companies persuade their workers to wear a Fitbit or other device to monitor things such as their level of exercise, heart rate and sleep patterns. BP America introduced Fitbits in 2013. Those who reach certain goals, such as walking 1m steps a year, qualify for extra health benefits.

In a health system dependent on private insurance, there may be a case for giving workers such incentives, provided take-up is voluntary. There is a parallel with car insurance, where vehicle owners pay lower premiums if they are willing to have their driving monitored.

But there is less excuse in a country like Britain, which has a public health service. Nevertheless, research published in 2017 showed there had been a 37% leap in the share of British workers who had been offered a wearable device by their employer. Many people, however, will regard these as a spy on their wrists, transmitting information back to the boss. A PwC survey in 2016 found that 38% of British employees did not trust their firms to use the data collected in a way that workers would benefit.

At least you can take a Fitbit off (and some workers have reportedly strapped them to their dogs to boost their activity scores). A few firms, such as Mindshare, a media agency in Sweden, and Three Square Market, a tech firm in Wisconsin, have already moved on to the next stage: implanting a chip under a worker’s skin. Employees gain a way to open doors and pay for meals in the canteen, but what do they lose in return? There is nothing wrong with employers offering a bit of fitness coaching. But nobody wants their boss to turn into a stalker.

* *The Productivity Dilemma in Workplace Health Promotion, Scientific World Journal, 2015*

Pipe dreams

A plan to reduce Europe's dependence on Russian gas looks shaky*The Southern Gas Corridor could even hand Gazprom more clout***Print edition | Business** Jan 5th 2019

FOR YEARS, western European countries have worried about their access to gas, almost two-fifths of which is supplied by Russian pipes. These fears have not receded since in 2014 Russia cut off gas to Ukraine, the main thoroughfare through which its gas arrives in EU countries. Three times since 2006, rows with Russia have stopped gas flowing through Ukrainian pipelines, leaving customers down the line shivering. EU leaders have long pondered other sources, such as American LNG, but the latter is far more expensive.

Such worries have flared again even as, in 2018, imports of Russian gas by EU countries reached a record high. On December 29th Russia rejected European demands to release 24 Ukrainian sailors detained after it seized three of its neighbour's ships in November. Ukraine is calling for fresh sanctions on Russia, raising the risk that it might once more cut off supplies.

Meanwhile, European politicians are also fretting about Nord Stream 2 (NS2), a planned pipeline that would carry more Russian gas under the Baltic Sea directly to Germany. On December 12th the European Parliament passed a resolution calling for the project to be cancelled, citing security reasons, but with 370km of pipes already laid it looks hard to stop.

Another tack is to develop alternative conduits and supplies. On December 7th Italian authorities gave the final approval for the construction of the last leg of the Southern Gas Corridor (SGC), an EU scheme to import natural gas from the Caspian region. The project is more than three-quarters complete and workers are beginning to extend the pipeline beneath the Adriatic Sea to Italy. If all goes according to plan, a \$40bn jigsaw of pipes from Azerbaijan will start supplying western Europe from 2020 (see map). But instead of increasing energy security, the SGC may do more to emphasise how hard it is for Europe to reduce its dependence on Russia.

Planners in the European Commission had initially proposed the construction of a pipeline from Iran or Turkmenistan. But Iran is under sanctions and Turkmenistan sells most of its gas production to China, hence the shift to import from Azerbaijan. The project now involves dozens of companies, including BP, an oil major, and Socar and TPAO, the state oil companies of Azerbaijan and Turkey respectively.

Despite the years of planning and complexity of the project, its capacity, at 16bn cubic metres per year, is about half what European planners had hoped. The SGC is set to meet just 2% of EU demand. At market prices, SGC gas is competitive in Turkey and south-east European countries but not in the more distant western European markets. Moreover, one of its developers is Lukoil, an oil firm backed by Russia.

In its current form the SGC therefore does little to curb dependence on Russia. That is unlikely to change, for two reasons. First, in addition to NS2, Russia has devised its own plans to bring gas into southern Europe. TurkStream, a pipeline to transport Russian gas across the Black Sea to Turkey, is scheduled to become operational this year. Gazprom, Russia's energy giant (and NS2's sole shareholder), plans to build a second line to the EU and is negotiating its destination. That would make the EU-backed SGC even less competitive.

Second, changes that would make the SGC more commercially viable are unlikely. Advocates of the project argue that they plan to double the volume of exports if more gas becomes available, notably from Turkmenistan. But the expansion would require new infrastructure and additional costs. A way of avoiding that would be to feed new gas from Turkmenistan into SGC through a swap deal involving transit through Iran. But renewed American sanctions on Iran preclude this option. They also hinder the development of rich gas resources in Iran, which could have otherwise been exported to the EU.

At least one energy giant appears to take seriously the idea that the SGC could expand. But it will not reassure the EU that this firm is none other than Gazprom, whose chief executive has said it would bid for access. European rules require the SGC to open capacity expansion to the most cost-competitive supplier. In that event, Gazprom's vast reserves and low costs would be hard to rival. A project touted as a way to diversify Europe's gas supply might end up providing an additional route for its current, unloved, supplier.

This article appeared in the Business section of the print edition under the headline "Pipe dreams"

Game on

China ends a long freeze on new video games

*Its new approval regime involves censoring porn, gambling and violence***Print edition | Business** Jan 5th 2019

THE BACKLOG of new titles awaiting approval has probably surpassed 5,000, so the news on December 29th that 80 new video games had received the blessing of the Chinese government might have seemed underwhelming. But for game developers, any let-up is welcome. After a reshuffle in March that put the new media regulator, the State Administration of Press and Publication, under direct control of the Communist Party's propaganda department, the firms were forced to forgo profits for the year on all new games.

China's gaming market, which in 2016 became the world's largest, generates over \$30bn in revenue a year. Among its heavy-hitters are Tencent, which called the unclogging "decidedly inspiring", and NetEase. Shares in each firm have fallen by about 30% over the past year, as revenue growth slowed sharply (see chart). When the news came their share prices ticked up a little. Both companies' titles were absent from the first lot of licence approvals, which was dominated by small developers, most of which rely on just a game or two to make money. Observers reckon the backlog is being worked through in the order that the titles were submitted, and that the titans' titles will be approved in due course.

Over time, their fat budgets relative to smaller firms should help them stay in lockstep with the government as it tightens protections on young gamers—it fears for their eyesight and mental health—and expunges content not in line with "core socialist values". Tencent has already been regulating itself. It has launched an "anti-addiction" measure for "Honour of Kings", one of its blockbusters, to limit the play time of under-12s to one hour a day (with a night-time curfew), and that of teens to two hours. Since November it has been expanding this, as well as new ID checks by facial recognition, to all its games.

Karen Chan of Jefferies, a bank, anticipates that larger batches will continue to receive licences this year, but that their numbers are likely to be less than half those before the freeze, then of 700-800 a month. The government has also warned that it will set a cap on the number of new games; this will mostly crimp developers of low-quality copycats, as well as poker and mah-jong platforms, reckons Niko Partners, a technology consultancy. Even though the latter are played for virtual tokens not cash, they are perceived as unsavoury by the government. In September Tencent shut down its well-loved "Texas Hold 'Em" poker game.

A sweeping sanitisation of content is likely to affect a wider array of games. In December the propaganda department announced a new ethics committee to scrutinise video games. How it operates is fuzzy, but the department has said that among its targets are violence, porn and the rewriting of history. One media outlet that is close to the party criticised "Honour of Kings" for misleading children by giving its characters the name of Chinese historical figures but changing their story—by, for example, turning a Tang-dynasty poet into an assassin, and allowing China's first physician to cure as well as poison. The department will also put out industry guidelines on how to "abide by social morality". Among the first set of 20 (undisclosed) titles that it reviewed, the committee requested edits to 11 and rejected nine outright.

Demand from gamers is as buoyant as ever. Rather than wait, some indie developers launched their unlicensed games on Steam, an American distribution platform, of which a local version is soon set to start officially. Chinese gamers who accessed them there made titles such as "The Scrolls of Taiwu", a martial-arts fantasy, and "Chinese Parents" (in which the player is the child of a tiger mum trying to balance parents' educational expectations with mental health) into strong sellers.

Undimmed too is a surge in female enthusiasm. Nearly half of all gamers in China are now women, compared with two-fifths in America, owing to a mix of social media, sleek game design and mobile adoption. Ever more games are aimed at them, such as "Love and the Producer", which involves dating four virtual supermen. It has been wildly popular with women in their 20s. About the same number of women play the mobile version of "Honour of Kings" as do men. One forecast puts revenue from female gamers at 57bn yuan (\$8bn) within two years, up by a third from 2017. For the most dexterous developers, there are plenty of rewards left to unlock.

This article appeared in the Business section of the print edition under the headline "Game on"

Schumpeter

Robots will help Chinese firms cope with wages and the trade war

Lessons from the rag trade

Print edition | Business Jan 5th 2019

FEW ITEMS of clothing convey seriousness quite like the white-collar shirt. It took the exuberance out of the Elizabethan ruff and put the starch into Victorian Britain. It defined a sense of upward mobility, whether for bank clerks, Japanese salarymen or anyone keen to push around paper and professional underlings.

But few white shirts are sold as earnestly as those at the PYE stores in China. You half expect the shop assistants to whip out a slide rule rather than a tape measure. The name PYE, the brand enthuses, “combines the Chinese character for flair with its homonym, the mathematical constant π .” Its white shirts are named, unfashionably, after mathematicians; Euclid and Newton for ones with a Western collar, Zu and Liu for Mao-like Mandarin ones.

Esquel, owner of PYE and a big shirtmaker for Hugo Boss, Tommy Hilfiger and other global brands, is not just serious about its shirts. It is also concerned with the upward mobility of its 56,000-odd employees, half of whom work in factories in China. Unusually for the textile and apparel industry, it is keen to raise their pay and productivity via mechanisation. As a private firm, it can do so with long-term thinking that borders on Confucianism. But it also has a hard-headed determination to adapt in the face of a tighter domestic labour market and a trade war with America. Other Chinese manufacturers are doing the same, meaning that these twin threats could, counter-intuitively, make them stronger.

Tech styles

The garment trade is not where you usually find stories of business success that are also inspiring, especially in cut-throat China. The supply chain is brutal. The work is repetitive; piece work makes it all the more soul-sapping. It is relatively hard to automate soft materials like textiles; making Esquel's shirts involves up to 65 fiddly sub-processes, such as stitching sleeves and cuffs. As soon as labour costs rise, textile and garment factories tend to fly away, seeking cheaper fingers to work to the bone, be they in Bangladesh or Ethiopia. Esquel plans instead to keep lots of its work in China.

Textiles is not the only Chinese manufacturing industry to face rising wages, high turnover of workers and an ageing population; electronics does too, for instance. In some cases, such difficulties are exacerbated by the trade war; Japanese firms have reportedly shifted production of devices for cars, such as radios, from China to Mexico where they can evade tariffs.

Yet even if American tariffs rise further, many Chinese companies are betting heavily on automation to remain competitive. In 2017 China's installations of industrial robots rose by 59% to 138,000, more than in America and Europe combined. While downplaying its controversial “Made in China 2025” industrial policy, to soothe the fears of the Trump administration, the Chinese government is happy to throw money at existing manufacturing industries in order to help them tool up. That will help keep the robot revolution running.

Walk through Esquel's biggest factory in Foshan in the Pearl River Delta and it is clear that even here the robots are coming. The hundreds of workers sitting, heads down, in pink caps are a sight to behold. They are also outnumbered by machines. On some lines, robotic arms swish, trimming collar bottoms and pressing plackets. The devices do fiddly jobs like making sure that tiny pearl-coloured buttons for Banana Republic have the word Banana on the top. Israeli cameras, adapted from military devices, use artificial intelligence to scan for flaws in the fabric, automating one of the most mind-numbing of jobs.

Some workers have been displaced but productivity has improved, keeping the firm's profits stable despite a tripling since 2006 of its average monthly wage in China, to 4,500 yuan (\$650). At first workers reacted to the machines rather as English Luddites eyed automated looms. But now they help design them. Esquel managers joke that they do so out of laziness—they want to make their jobs easier. Take “Sister Yan”, a matron in black dress and sensible shoes, who started on the factory floor aged 21. She worried about the shoddy quality of many of the hand-stitched garments, and helped the firm's engineers to design mechanisms to do the job better. Now she is a senior manager, and with “Brother Ming”, the chief engineer, shares credit for several industrial patents. Tian Ye, an Esquel executive, quips that the increasingly tech-savvy seamstresses are no longer strictly blue-collar workers but nor are they yet white-collar ones either. Instead, he says, they are “checked or striped”.

Automation is also expected to help Esquel in the trade stand-off with America. Despite the frictions, Marjorie Yang, Esquel's chairman, is in effect doubling down on China. She touts a 2bn yuan investment in a new factory in Guilin, a picturesque region, including a yarn-spinning division so high-tech that visitors are not allowed to walk the floors. So far Esquel's products have been spared American tariffs. American clients are nervous, so if need be the firm could shift some production to its factories outside China, such as in Mauritius, while moving other lines back home.

Two factors are likely to encourage manufacturers in China to remain loyal to their home market. The first is its sheer size. Willy Shih of the Harvard Business School says this enables them to practice and refine their production processes on a scale that allows them to keep cutting costs. The other is the skill of the robots themselves. He says there is so much “embedded knowledge” in today's machine tools that China can quickly start creating products that may have taken a generation to develop previously, such as cars with top-of-the-range automatic transmissions.

It is worth remembering this amid the fears about a trade-war-related slowdown in China's factory activity. If Esquel is any guide, Chinese firms may use the opportunity to become even more efficient, rather than wilting in the face of adversity. In the long run, that would make China's economy as a whole more resilient.

This article appeared in the Business section of the print edition under the headline "Shirt tales"

Whoosh

What the market turmoil means for 2019

Fears that the Fed will tighten too much are among the reasons the stockmarket has fallen

Print edition | Finance and economics Jan 5th 2019

AFTER A ROTTEN October and limp November, the S&P 500 tumbled in value by 15% between November 30th and December 24th. Despite an astonishing bounce of 5% the day after Christmas, the index finished the year 6% below where it started (see chart). The first trading day of 2019 extended the market wobble, with stocks closing down in Asia and gyrating in Europe. After markets closed in America, Apple warned that a sharp slowdown in China's economy, and weak sales in other emerging markets, meant revenues in the fourth quarter would undershoot expectations by up to 10%. Coming a day after news that China's manufacturing sector contracted in December, that spooked investors globally. S&P 500 futures dipped before Wall Street re-opened on January 3rd.

That investors have become more risk-averse can also be seen in the bond markets. The high-yield spread, or excess interest rate over government debt, paid by companies with a poor credit rating has been rising. Meanwhile the yield on the ten-year Treasury bond has dropped from 2.98% to 2.63% over the past month, as investors have rushed to the safety of government paper. What is more the yield curve—the difference between yields for short- and long-dated government debt—is almost flat. The market's response to signs of slowing growth is itself a cause of jangling nerves. Economists at J.P. Morgan have developed a model based only on the historical predictive power of the stockmarket, credit spreads and the yield curve; that implies the probability of a recession in America in 2019 is as high as 91%.

There are other reasons for investors to be skittish. The effect of President Donald Trump's stimulus package, which came into force a year ago, is likely to fade soon. There are further signs of economic slowdowns in China and Europe. Tariffs, and the threat of further trade disputes, have probably deterred investment. Profit forecasts have been scaled back. According to Factset, a research firm, at the end of September analysts expected earnings to grow by 10.4% on average for companies in the S&P 500 in 2019. Now they reckon the figure will be 7.9%.

Missteps by the American administration have added to the sense of unease. The government shutdown may presage further political battles to come. A startlingly incompetent attempt on December 23rd by Steven Mnuchin, the treasury secretary, to calm market jitters by saying that banks have “ample liquidity” made things worse (bank liquidity had been nowhere among investors' worries until he mentioned it). And reports that Mr Trump was considering firing Jerome Powell, the chairman of the Federal Reserve, raised questions about the administration's competence to manage any downturn.

Perhaps the main concerns, though, are provoked by the Fed itself. On December 19th its Open Markets Committee (FOMC) delivered its fourth interest-rate increase of 2018, even though financial conditions have tightened to become less supportive of growth. Mr Powell also said he did not see an imminent change to the Fed's policy of running down its balance-sheet “on automatic pilot”.

That added to fears that monetary policy will tighten beyond what the economy can bear. Of the forecasters surveyed by the Wolters Kluwer Blue Chip Financial Forecasts, 46% reckon the Fed's landing point for interest rates will be above their estimate of the long-run neutral Fed funds rate (a level at which the bank is trying neither to boost nor to slow activity). Only 10% thought it would be below. The median expectation of members of the FOMC for the number of interest-rate hikes in 2019 has fallen from three to two. The futures market suggests investors expect none at all.

The reason monetary policymakers seem so blasé compared with investors is that, setting aside the financial indicators flashing amber, America's economy appears to be doing well. The labour market went from strength to strength in 2018, and most indicators of consumer confidence remain at ten-year highs. A different model built by J.P. Morgan analysts, this time based on short-term economic indicators such as car sales, building permits and the unemployment rate, put the probability of recession in 2019 much lower, at 26%.

There are several ways this disconnect between market jitters and robust economic indicators could disappear. The direct effect of stock-owners feeling poorer could cut spending. The plunging stockmarket could hit consumer and business confidence, crimping spending and investment. Predictions of recession based on markets and financial indicators could influence economic behaviour and thus become self-fulfilling.

Judging by the past couple of decades, if stockmarket turmoil persists the Fed will respond by lowering its forecasts for growth. That would feed into a looser policy stance. After announcing the rate rise on December 19th, Mr Powell reminded listeners that “some volatility” is unlikely to leave a mark on the economy, but also that the Fed had already lowered its forecast for growth and inflation “a little bit”.

Fortunately for the Fed, inflation remains subdued, having come in at or below expectations in recent months. That gives the Fed's policymakers room to be lenient, meaning they can avoid the premature tightening they have often been criticised for. Investors may sense something the Fed does not. Playing it safe will give it time to correct course if needed.

There is a chance that the stockmarket will rouse itself from its slump in coming weeks. But even if it does, the Fed has re-emphasised its "data-dependent" approach to interest rates. That is central-banker speak for "less predictable". The coming year is likely to be bumpier than investors have become accustomed to.

This article appeared in the Finance and economics section of the print edition under the headline "Whoosh"

Going it alone

The Trump administration is weakening the global trading system

Multilateralism seems to be giving way to preferential trade deals

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“SEEING POSSIBILITIES in potatoes” is the upbeat slogan of Lamb Weston Potato Products, Inc., an American exporter. But new trade deals mean that its foreign competitors have fewer obstacles blocking their view. One is the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which came into effect on December 30th. Negotiated as the TPP between 12 countries and agreed between 11, after President Donald Trump pulled America out, the deal will phase out tariffs on frozen potato chips and mashed potato, benefiting Lamb Weston’s Canadian rivals. And another trade deal, between the European Union and Japan, to be implemented on February 1st, will do the same for its European ones.

The coming year is shaping up to be one of preferential trade deals, where two or a group of countries agree on their own trading rules. As well as CPTPP and the EU-Japan deal, America is aiming to strike several: with Japan, the EU and China. Will they act as stepping stones towards broad trade liberalisation—or, on the contrary, distort trade and divide the world into competing trade regions? And what will be the impact on the multilateral system overseen by the World Trade Organisation (WTO)?

Economists have long argued about the impact of preferential trade deals. For purists, it would be best if all trade took place under the WTO’s “most-favoured nation” (MFN) principle, which means that a tariff cut offered to one member must be offered to all, thus putting all exporters on an equal footing. Others—self-described pragmatists—fear that reliance on the MFN principle would cause gridlock. If some countries are happy with the status quo, others might be reluctant to cut tariffs for fear of granting rivals a free ride. China, for example, could refuse to reform while benefiting from lower American and European duties.

Better, the pragmatists think, to strike smaller deals between like-minded members. That could spur laggards onwards: Brent Baglien, Lamb Weston’s vice-president of government affairs, urged the United States Trade Representative (USTR), America’s top trade official, to seek a deal with Japan that would eliminate its 8.5% tariff on American imported potatoes. “Once the US loses an export customer, it is extremely hard, if not impossible, to get it back,” he warned.

In the post-war period American governments tended to side with the purists. But according to Anne Krueger of Johns Hopkins University, writing in the *Journal of Economic Perspectives*, by 1982 gridlock in multilateral talks meant it switched to a twin-track approach, simultaneously pushing for multilateral deals and negotiating preferential ones. Chief among these was the North American Free Trade Agreement, which came into force in 1994 and is due to be replaced by the United States-Mexico-Canada agreement (USMCA).

The approach spread. Nearly 300 preferential trade deals are now recorded by the WTO. Many go beyond tariff-cutting to include rules on state-owned enterprises, intellectual property and trade in services. Having grown into an integrated trading area, the EU became an enthusiastic proponent, striking many reciprocal deals, including with Canada, Mexico and Singapore. In June it started talks with Australia.

As such deals proliferated, economists studied their impact. One fear had been that they might divert custom from more efficient producers in third countries. But a paper by Aaditya Mattoo, Alen Mulabdic and Michele Ruta of the World Bank, published in 2017, found that shallow deals do little to reduce trade with third countries, and deep ones tend to increase it. This, they think, is because rules on competition policy, subsidies and standards are hard to apply in a discriminatory way.

But there is also reason to fear that preferential deals weaken the impetus towards comprehensive liberalisation. Nuno Limão of the University of Maryland, and others, have found that America and the EU offered less tariff liberalisation in multilateral talks in product areas where they had already granted preferential tariffs in bilateral deals.

Though previous American administrations were sometimes frustrated with the WTO, they viewed it as the foundation of the trading system. Preferential deals were an instrument of diplomacy. TPP was intended to create a template for a trading system that might eventually include China, and perhaps give reform-minded Chinese policymakers something to aim for.

Mr Trump’s trade agenda could hardly be more different. His “America First” rhetoric, threats of tariffs on allies and of withdrawal from the WTO, and policies of blocking appointments to the WTO’s court and using tariffs as a national-security tool, are inimical to an even-handed system that all can support. Even if these policies turn out to be temporary, the uncertainty they cause may be permanent.

Some of the USMCA’s provisions go beyond even those of the TPP, for example its rules on the movement of data across borders. And the USTR’s objectives for talks with Japan, published on December 21st, are similar to those in the USMCA. But the fear is that, having all but abandoned the aim of broad trade liberalisation, America may prioritise quick, shallow deals rather than deeper ones that would strengthen global trade governance.

The complex “rules of origin” that feature in preferential deals are also worrying. These specify the minimum share of a product that must originate in the parties to a deal if it is to qualify for reduced duties. They thus allow trade negotiators to

shape supply chains and manage production. And one study found that compliance costs amounted to 3-5% of the final product price, offsetting the deal's benefits. The Trump administration has sought to use such rules to reshape car production in North America, tightening them by several notches in the USMCA. As well as restricting trade, rather than liberalising it, they will make it tricky to agree more permissive rules of origin for cars in future trade deals.

Stumbling blocs

It will soon become clear how ambitious America wants to be. A deal with China that limited industrial subsidies, long a bugbear of other countries, could yet be baked into the multilateral system. One with Japan could set some useful standards and precedents. Mr Trump may decide to blow up the multilateral system and impose tariffs on America's allies. Even if he does not, success on his terms could cause long-lasting damage.

This article appeared in the Finance and economics section of the print edition under the headline "Going it alone"

Smoking barrels

Amateur buyers of fine Burgundy fear a speculative bubble

Investors are looking beyond Bordeaux

Print edition | Finance and economics Jan 5th 2019

EVERY YEAR Berry Bros & Rudd, Britain's oldest wine merchant, issues a pocket-sized price list. Reading old copies makes amateurs of quality quaff want to time-travel. In 1909 a case of 12 bottles of Domaine de la Romanée-Conti 1891, Burgundy's most famous Grand Cru, cost 180 shillings (about £1,000, or \$1,300, in today's money). In its historic London store, which opened in 1698, a single 18-year-old bottle of similar quality now sells for £25,000.

Fine wine is expensive to store, and its rarity and high transaction costs make it—oddly enough—an illiquid asset. Even so, its appreciation with age and perceived ability to diversify portfolios have made it popular with investors over the past two decades. The value of wine exchanged yearly between consumers, connoisseurs and collectors—the secondary market—has quadrupled to \$4bn since 2000, says Justin Gibbs of Liv-ex, a wine-trading platform. He reckons that just 15% of those buying wine on his website are doing so to drink it. The rest see it as a store of value.

Fine wines are traded privately, at auctions or through exchanges like Liv-ex, where members bid for listed crus. The equivalent of an initial public offering comes when estates release their latest vintages. The wine world also has asset managers, which buy and sell hundreds of cases on behalf of clients in the hope of turning a profit. Britain is a big trading hub, notably because it offers the ability to store wine free of customs and VAT provided it is kept in one of the few taxman-approved warehouses. Many professional buyers thus hold their stock under the same huge vaults. Updating records is sometimes all it takes to transfer ownership.

Investing in wine has long meant buying Bordeaux. But that is changing: the French region now accounts for 60% of secondary transactions, down from 95% in 2011. The new picks have star appeal. Bordeaux prices have done well in the past three years, rising by a third. But the value of fine Burgundy has more than doubled, according to the Liv-ex 1000 index.

One reason is that greater price transparency has boosted buyers' confidence. Fine wines, which do not generate cash flows, cannot be valued using financial metrics such as price-to-earnings ratios. But exchanges and websites like Wine Searcher, which gathers merchant quotes from around the world, provide reference points. Apps that collect reviews from critics and consumers also help; so do gadgets to improve traceability (though fakes remain a problem). Some of this cash finds its way to new terroirs.

Investors are becoming more sophisticated, too. Chinese buyers, whose thirst for Bordeaux kept prices afloat through the financial crisis, fled the region after 2012, when a crackdown on corruption meant demand for luxury goods dried up. Many have since turned to Burgundy. Most wine-investment funds, which in the 2000s managed €350m (\$396m), almost all of it invested in Bordeaux, went bust when the market tanked. Such outfits have since re-formed, trying harder to diversify.

Recent currency shifts have made top crus a relative bargain. Burgundy was already cheaper than Bordeaux, and a dollar rally after 2015 has put the region on American and Asian buyers' radars (the Hong Kong dollar is pegged to the greenback). Italian, Californian and other French regions have also become fashionable, says Philip Staveley of Amphora, a wine-portfolio manager. But the best Burgundy is produced in tiny volumes. Chateau Margaux, a Bordeaux star, puts out 11,000 cases a year; Domaine de la Romanée-Conti makes 450. That amplifies price movements.

Experts fear a bubble. "Everyone tells us it's getting absurd," says Philippe Masset, a wine scholar. Younger vintages have become pricier than older ones—the wine equivalent of a yield-curve inversion. The Burgundy region gained 8% in November, while all others plateaued. Whether that lasts may depend on the value-for-money of the vintage released this month. But for now, investors see the glass half-full.

This article appeared in the Finance and economics section of the print edition under the headline "Smoking barrels"

MiFID turns one

The EU's unbundling directive is reinforcing the power of scale*By squeezing research budgets and brokers' revenues, it has hastened market concentration***Print edition | Finance and economics** Jan 5th 2019

A NEW YEAR often begins with a headache. For asset managers and brokers, last year's pain was intensified by the European Union's revised Markets in Financial Instruments Directive (MiFID 2), which came into force on January 3rd 2018. Among other things MiFID 2 obliged fund managers (the "buy side", in industry argot) to pay brokers (the "sell side") separately for investment research, rather than receive it bundled with trading services.

Twelve months on, predictions that the directive would squeeze research spending and brokers' revenues, and hasten market concentration, look broadly correct. In a report in November, consultants from McKinsey noted that sell-siders' commissions from equity trading in Europe had fallen by 30% in a year. Recent signs of consolidation include the purchase by AllianceBernstein, a fund manager and research firm, of Autonomous Research, an independent analysis firm, and numerous takeover rumours involving smaller investment banks and brokers.

Simple economic theory says that if you charge for something rather than give it away, demand will fall. Investment research is no exception. (Typically, a broker will now charge a subscription for written research, plus additional fees for conversations with analysts and other services.) Three-fifths of asset managers responding to a survey of market participants published last month by Liquidnet, a trading network, said they had reduced the number of research providers they draw on.

This trend has further to run, as fund managers compare the value of analysts' ideas with the size of research invoices. One fund-management executive says that last year's cuts in analyst lists were just the start; another cull is likely in 2019. Although buy-siders still use dozens of global research providers, the trimming will probably favour bulge-bracket Wall Street firms. Scale not only cuts the unit cost of coverage; big investment banks are also splurging on information technology to carry out ever-fancier computational gymnastics with ever-bigger stashes of data, further sharpening their competitive edge.

The fall in demand for research may not matter much for coverage of big corporations, which dozens of analysts follow. A few analysts will probably not be missed. But for smaller companies a cut in coverage is much less welcome. As an unintended consequence of MiFID 2, more companies are therefore paying brokers and independent providers to write research. This has obvious pitfalls. Conflicts of interest in research are, alas, nothing new. That said, sponsored analysis is surely better than none. Paid research providers also have reputations to maintain and this way the payments are no secret.

Rather than pass charges for research on to investors, fund managers have mainly chosen to take the hit themselves. It is fiddly to have portfolio managers account for every minute spent talking to analysts and then allocate the time among customers. By paying the bills fund managers retain more control of their budgets—and have an incentive to use them prudently.

As well as being a European rule, MiFID 2 may evolve into an unofficial international standard. Instead of having different procedures outside Europe, global asset managers have decided to unbundle research worldwide. More than half of the buy-side respondents to Liquidnet's survey said they had done so and a further fifth said they would follow suit in the next five years. This makes competitive as well as administrative sense: clients may be drawn to fund managers who subject themselves to MiFID 2's strictures.

Instead of creating a new trend, MiFID 2 may merely have sped up one that was already under way. Big investment banks have long been pulling away from the pack. The three biggest, according to McKinsey, had increased their share of the top ten sell-siders' revenue from trading shares for clients by seven percentage points between 2014 and 2016.

Baillie Gifford, a big fund manager, chose to start paying separately for external research in January 2016, two years before MiFID 2 came into force. James Budden, its director of marketing and distribution, says that the firm decided that "we should pay for the research we really valued". Like other asset managers, Baillie Gifford is developing its own research prowess. It has recruited supply-side analysts and put resources into undercovered sectors (such as small-cap Japanese companies). It also commissions reports from academics and others (on the luxury-goods market in China, say).

Margin pressures on both the buy and sell sides are also an established fact of life. The rise of "passive" investing, in funds that track share indices rather than rely on fund managers actively picking shares, has crimped asset managers' margins. Brokers' equity commissions have shrunk as fees have tightened. Both sides are more cost-conscious and striving to be more inventive. If MiFID 2 has sharpened minds on both sides of the market, that is no bad thing. In most markets, after all, you get what you pay for. Why not this one?

This article appeared in the Finance and economics section of the print edition under the headline "MiFID 2 turns one"

Barbarians at the departure gate

Investors' appetite for transport infrastructure remains undiminished

Vinci's purchase of Gatwick airport is the latest in a series of deals

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STARTING ON December 19th, as Gatwick airport prepared to disclose a change of ownership, suspected drone sightings forced it to close its runway for a total of 36 hours. Passengers were delayed; so was the announcement. Only a week later could Britain's second-busiest hub reveal it had been sold to Vinci, a French transport group, in a deal valuing it at £8.3bn (\$10.5bn). The previous owners, including Global Infrastructure Partners (GIP), an American fund manager, will keep 49.99%.

The acquisition cements Vinci's position as the world's largest private airport-operator, with Gatwick the biggest of the 46 it runs. It is also a reminder of how fast the industry has been privatised: over 50% of European airports have some private participation, up from 22% in 2010. Nearly half of winning bidders since 2008 have been financial investors, according to Mergermarket, a research group. Returns have been juicy. GIP bought Gatwick for £1.5bn in 2009; it and its co-investors have made twice that by selling half of the airport, and earned £1.5bn in dividends in the interim.

Infrastructure, such as bridges, telecom masts and utilities, typically enjoys monopoly positions and produces predictable long-term cash flows. Since the financial crisis, many sovereign-bond yields have been close to zero, tempting insurers and pension funds to switch to infrastructure assets. Airports have added appeal. On top of airline fees, most make profits from car-parking and retail. And passenger numbers typically rise 5-10% each year, says Vincent Levita of InfraVia, a fund manager.

So prices are, naturally, stiff. Since 2014 most large deals have valued hubs at over 15 times EBITDA (a measure of company profits). GIP sold London City Airport to Canadian pension funds for 28 times EBITDA in 2016. At 20 times EBITDA, Gatwick's pricing is a tad more conservative. That may reflect uncertainty linked to Brexit. But it also hints at caution as central banks tighten.

At its simplest, an airport's valuation is the sum of its future cash flows discounted by the cost of money. When interest rates increase, that cost rises and the valuation falls. But the effect is limited, since airports' regulated cash flows are generally indexed to inflation, and their commercial income is correlated with GDP growth. Both inflation and growth tend to be higher when monetary policy is being tightened.

Another problem of higher rates is that airports tend to have a lot of debt. But airport owners have learnt from the pre-crisis years, when hubs often traded at more than 25 times EBITDA. They now raise longer-term debt and mix maturities, says Bruno Candès of InfraVia.

If government bond yields rise, infrastructure will seem less appealing by comparison. But a lot of capital has already been earmarked for the sector, ensuring that investors will continue to fight over the limited number of airports for sale. According to *Infrastructure Investor*, an industry publication, infrastructure funds could attract \$100bn in 2019, up from a record \$80bn in 2018. A blip in traffic growth could cause over-optimistic buyers to post disappointing returns, says Mathias Burghardt of Ardian, a fund manager. But prices are unlikely to suffer a hard landing.

This article appeared in the Finance and economics section of the print edition under the headline "Barbarians at the departure gate"

Buttonwood

Returns on stocks in 2018 were down across the board

For long-term investors that is good news

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ONE DAY in 1985 P. J. O'Rourke, an American humourist, invited a few friends to his home to take ecstasy. He wrote about the experience for *Rolling Stone*. For a veteran of the Age of Aquarius, the side-effects of recreational drugs—the frequent toilet trips; the grimy feeling on the skin; the fitful sleep later on—were familiar. It was all rather underwhelming. “Drugs are a one-man birthday party,” he explained. “You don’t get any presents you didn’t bring.”

Those who make a living navigating financial markets might understandably be reaching for the happy pills, or at least a couple of painkillers. For them, 2018 was a rotten year. Stockmarket losses were spread widely across the globe (see chart). The total return—capital gains or losses plus dividends—from the S&P 500 index of leading American shares was negative for the first time in a decade. Other markets were worse, notably China's, where the Shanghai index fell by a quarter. Safe assets eclipsed risky assets. Treasury bonds outperformed stocks. There were worse places to be than in gold, and few better than in cash.

The source of much of the red ink is concern about the world economy. China's economy is weaker; there are growing fears of a recession in America this year. Yet the truly far-sighted investor can see through such ups and downs. Indeed for people with a long-term saving goal, such as retirement or children's college fees, there is an upside to falling stock prices. Over the business cycle, stockmarket returns are also like Mr O'Rourke's one-person birthday party. Bad returns today imply better returns in the future and vice versa. For those looking to build their stockholdings through recessions and recoveries, falling asset prices are good news.

That is not everyone. If your job is to manage other people's money, you have probably just had a terrible 12 months. It is not just that fund-management fees are typically a fixed proportion of asset values and so lower prices mean lower earnings (though there is that). There is also the sense of futility. Such professionals give a lot of thought to asset allocation—how much should go into stocks or bonds; how much in America or elsewhere. For all that effort, vanishingly few allocations did better than your grandmother's bank account. Others will have suffered, too. The declines in stocks imply a smaller pension pot for those about to retire. Wherever investment income is needed to meet current expenses, belts must be tightened.

Yet those who are still building up their wealth will benefit from lower asset prices. Take housing, for instance. A fall in house prices hurts those who are “long” property, those who own more housing than they will personally need over their lifetime. Call such people “landlords”. But it also helps those people—call them “tenants”—who hope either to buy a property or to trade up to a bigger one in future. Falling house prices make it easier for them to reach their goal.

A similar logic applies to stockmarkets. Just as a home is a stream of future housing services, a stock is a stream of future dividends. Lower stock prices may be bad for stockmarket “landlords”, but they are good for stockmarket “tenants”. Warren Buffett has written that those who plan to be net buyers of stocks in the future should rejoice when stocks fall. An investor of this kind who cheers rising stock prices is like “a commuter who rejoices after the price of gas increases, simply because his tank contains a day's supply”.

Fears of recession are not the only reason for falling stock prices. Part of the recent decline is down to prospects, such as Brexit or growing protectionism, that will do permanent damage to the global economy, and thus to company profits and stockmarket returns. Yet even in this regard there is something to be said for a correction in asset prices. When excessive optimism is built into asset prices, wasteful investment often follows. Think of the homes built in out-of-the-way places in America, Spain and Ireland to satisfy speculative demand during the global housing boom of the noughties.

Investors, like those who use ecstasy or alcohol, face a choice. They can feel good now or later. Genuinely long-term investors will always choose later. They want to buy stocks as cheaply as possible and when they get a higher premium for owning risky assets. Recessions are an inevitable part of the risks investors face. As with hangovers, they feel interminable. But eventually they clear.

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Dark energy and cosmology

The grand horoscope

The grand horoscope

New instruments will study the universe's most mysterious component

That will illuminate both its past and its future

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LIKE A BLIND prophet, the observatory perched atop Cerro Pachón in the Chilean Andes ponders the heavens. Eyeless for now, the Large Synoptic Survey Telescope (LSST) will from 2022 turn into the biggest digital camera on Earth. Taking 3,200 megapixel snaps with an exposure time of 15 seconds, to capture an area 40 times the size of the full moon, the LSST will map almost the entire southern hemisphere once every three or four nights for a decade. The picture so generated will assess how matter (in the form of stars and galaxies) is distributed, shedding light on the clash of forces that have brought the universe to its current state, and thus scrying its future.

The LSST is one of a string of ground and space-based experiments that will soon help physicists understand a celestial tug-of-war. One side of the contest, gravity, is described by Albert Einstein's general theory of relativity. The attractive effects of gravity on matter thrown apart by the Big Bang would be expected to slow the universe's expansion over the course of time. In 1998, though, astronomers discovered that the opposite was true—the universe is now expanding at a faster clip than before.

That could be explained if gravity is opposed by an as-yet-unidentified, invisible form of energy permeating space. For this explanation to work, the amount of such “dark energy”, as it was dubbed by Michael Turner, a cosmologist at the University of Chicago, would have to increase as the universe expanded. The extra energy would fuel cosmic expansion in much the same way that a balloon inflates if the air inside it is warmed. What this energy might be—or even whether it exists at all—is moot. The LSST and its brethren may be able to provide some clarity.

The constant gardeners

The simplest version of the explanation is that the density of dark energy is the same everywhere in space and time. As the expansion of the universe creates more space, more dark energy is also created. But not more matter, and therefore not more gravity. At some point in the past, therefore, the “push” caused by the growth of dark energy overcame the gravitational pull of all the cosmos's matter, and the universe's expansion began to accelerate.

Handily, adding a single term, known as the cosmological constant, to the equations which describe general relativity extends that theory in a way which embraces this state of affairs. On their own, those equations do indeed suggest a universe that is either expanding or contracting. The idea of a cosmological constant—a force working in opposition to gravity—was dreamed up by Einstein as a way to reconcile relativity with the then-prevalent belief that the universe was actually static. Observations made in the 1920s, though, showed that the equations' prediction of a dynamic universe was correct and the cosmological constant was quietly dropped.

In recent years, however, the constant has been revived. Physicists have realised that it offers a solution to the dark-energy conundrum. Even the unadorned equations of relativity do not predict that the universe's expansion is accelerating. But adding the constant and setting it to an appropriate value does give a solution that fits the observed expansion.

The value in question is that every cubic metre of space holds (by Einstein's famous equation of mass-energy equivalence $E=mc^2$), about 10^{+25} grams of dark energy—the equivalent of a couple of protons. This may not sound much but, because dark energy occupies every corner of the universe, it actually accounts for around 70% of the mass-energy of the universe, compared with the 5% contributed by what human beings think of as normal matter (basically, the stuff from which atoms are made). The remaining 25% is dark matter, a hypothetical substance that is detectable only by its gravitational effects, and which has proved almost as elusive as dark energy.

This theorising is all very well. But it offers few hints about what dark energy might actually be. One possibility is that it results from the interactions of the short-lived virtual particles which, according to quantum physics, constantly appear even in empty space. The drawback is that calculations of the magnitude of this “vacuum energy” give a figure at least 10^{+60} times greater than the expected value of the cosmological constant.

The absurdity of this mismatch, called the “vacuum catastrophe” or, more candidly, “the worst theoretical prediction in the history of physics”, has led physicists to toy with other ideas. One is “quintessence”, which posits an all-pervasive field sloshing around in space. The energy of the field varies with time and, in some models, in space as well. This property of variation distinguishes quintessence from vacuum energy, and permits models of quintessence to be tuned to explain another riddle: why the expansion of the universe began to accelerate late enough in its history to let matter coalesce into galaxies first. Various

flavours of quintessence theory exist, with exotic names such as k-essence and phantom energy, depending on which physical parameters are tweaked.

A third approach to explaining the universe's accelerating expansion is to fiddle with general relativity itself, by changing the inverse-square law of gravity. This law, central to both Newton's and Einstein's descriptions of the force, is that the gravitational attraction between two bodies is inversely proportional to the square of the distance between them. The required deviation from the inverse-square law would be small, explaining why it has not been detected experimentally, but would, nevertheless, be sufficient, over cosmic distances, to have the required effect.

The details of such "modified-gravity" theories differ. Some versions, from the arcane world of string theory (a highly speculative attempt to create a theory of everything), allow gravity to propagate in a fifth dimension, additional to the four familiar dimensions of space and time. In general, however, modified-gravity theories require some sort of novel field that modifies gravity's effect. In these models, the source of the energy needed to produce the observed expansion of the universe is this modifying field, rather than quintessence or the cosmological constant.

Astronomers whose careers are devoted to making observations tend to be sniffy about such highfalutin departures from well-understood physics as gravity-modifying fields and quintessence. Many theorists, though, are similarly uncomfortable with the idea of "solving" the problem of the accelerating expansion simply by adding the cosmological constant to Einstein's equations. Without knowledge of the nature of the space-filling energy the constant represents, they point out, it is merely a "fudge factor" added to bring theory and observation into alignment.

Camille Bonvin of the University of Geneva is one such uncomfortable theorist. She calculates the predictions of many different theories and designs tests that would, with the requisite astronomical observations, permit her to rule in or rule out whole classes of different theories.

What has become increasingly clear in the past few years, she says, is that more precise measurements of the universe's expansion rate alone are not enough to distinguish between the possibilities. Astronomers must also collect more data on the large-scale structure of the universe. Modified-gravity theories, for example, have different predictions about how matter will clump together than do theories which require no such modification. By measuring the actual dispersion of matter, visible as the fine tracery of stars and galaxies in the night sky, it should be possible to distinguish between competing explanations. Dr Bonvin and her fellow theorists are therefore hungry for data. And the next two decades promise a deluge.

Measure for measure

Armed with its mighty camera, the LSST will produce the most detailed survey of the sky yet made. This map will allow the dark-energy problem to be attacked in four different ways.

First, the telescope is expected to discover about 1m type 1a supernovae, 100 times more than the number known today. These stellar explosions are one of a few cosmic yardsticks, known as "standard candles", that are available to astronomers. Twenty years ago they provided the first strong evidence of the universe's accelerating expansion.

A type 1a supernova is a binary star in which a small, dense object called a white dwarf pulls material from a larger companion. Eventually, the extra mass the dwarf has accreted triggers a runaway fusion reaction in its core, resulting in a huge detonation. Because this reaction occurs when the white dwarf's mass has reached 1.4 times that of the sun, the intrinsic brightness of all type 1a supernovae is the same. Comparing this intrinsic brightness with a supernova's brightness as perceived on Earth thus permits the distance to that outburst to be calculated.

Moreover, the velocities of light-emitting objects relative to Earth can be obtained from their red-shift. This is a measure of how much the wavelength of their light has been stretched (and therefore made redder) by the Doppler effect, a consequence of the speed with which they are moving away from Earth as the universe expands. As light from more distant supernovae must have begun its journey earlier, the relationship between distance and velocity reveals how the universe's expansion has changed over time.

The LSST's second approach to measuring this expansion will be to use a phenomenon called baryon acoustic oscillations. These oscillations are a feature of the early universe that can be discerned in the sky today. They date from 380,000 years after the Big Bang—the moment when matter, then in the form of a hot soup of electrons, protons and neutrons, cooled sufficiently to form the first atoms. That transition allowed light that had been bouncing around within the soup of particles to escape, and the resulting flash has, some 13.4bn years later, been red-shifted until it is in the microwave region of the spectrum.

The consequence of all this is a phenomenon called the cosmic microwave background (CMB), which was detected in 1964 and was early evidence in favour of the Big Bang theory of the origin of the universe. Since its discovery, the CMB, and the tiny fluctuations of intensity within it, have been measured with increasing accuracy—most recently by *Planck*, a space telescope launched in 2009 by the European Space Agency (ESA). Those fluctuations correspond to variations in the density of the soup at the moment the photons escaped. These variations, accentuated by gravity as matter cooled and coalesced, are now reflected in the distribution of galaxies in the cosmos.

The upshot is that galaxies are separated, on average, by a distance that was once related directly to the ancestral fluctuations in the CMB, but which has increased as the universe has expanded. Its value today is about 500m light-years. By measuring the average-separation distance for galaxies near and far (and therefore of different ages, the farthest away being seen when they were youngest) it is therefore possible to track that expansion over time.

The third approach available to those using the LSST to investigate accelerating cosmic expansion is called gravitational lensing. This relies on the fact that, as predicted by general relativity, a massive body causes the fabric of spacetime to curve, which deflects the path of light passing close by that body. In the case of "strong" gravitational lensing, an object such as a supernova or a type of exploding galaxy called a quasar, located behind the lensing body (usually a galaxy), is bright enough,

and the lens is massive enough, to cause a visible effect. The light from the object behind the lens may be bent into arcs or rings, or split to produce several images of that object (see picture).

Strong gravitational lenses are, however, rare. Most of the time the effects of gravitational lensing are not so clear-cut. Such “weak” gravitational lensing can, though, be inferred by collecting data from many galaxies (the LSST will study billions) and measuring how their shapes are distorted on average by the effects of any intervening mass. As lensing is sensitive to dark matter as well as the ordinary, visible stuff, this technique will let the LSST map the “true” structure of the universe in ways pertinent to choosing between explanations for accelerating cosmic expansion.

The LSST’s fourth approach to the cosmic-expansion question will be through observations of clusters of galaxies. By looking at closer, and therefore younger, clusters and comparing them with more distant, older ones, the telescope will permit physicists to study how these behemoths evolved. As galaxy clusters are the largest bodies in the universe that are held together by gravity, they provide a natural way to measure any departures from the behaviour predicted by general relativity.

Euclid’s propositions

Powerful though the LSST will be, it has its limits. The approach it employs is known technically as a photometric survey. This involves recording only light that passes through one of a number of coloured filters (six in the LSST’s case), limiting the accuracy with which the red-shifts of galaxies can be determined. To back this up requires a spectroscopic survey, which splits up unfiltered light into its component frequencies, permitting red-shifts to be measured across a bigger swathe of the spectrum.

Another new instrument, the Dark Energy Spectroscopic Instrument (DESI), which is mounted on the Mayall telescope at Kitt Peak National Observatory, in Arizona, will do this on an unprecedented scale. DESI will collect its first images in the autumn of 2019, and is expected to begin its five-year survey early the following year. The 5,000 optical fibres of which it is made can each be manipulated robotically. Each can therefore be trained on a different astronomical target. Light from the fibres is sent to one of ten identical spectrographs. These are sensitive to wavelengths that include the visible spectrum and also a part of the infrared.

The process will be programmed by choreographing the fibres to capture light from about 35m galaxies over the course of the survey. DESI’s predecessor, the Baryon Oscillation Spectroscopic Survey (BOSS), looked at a mere 1.5m. Its 1,000 fibre optic cables had to be plugged into holes by hand and rearranged several times every night. The automation and improvements in instrumentation involved in DESI mean it will be able to do in 30 clear nights what BOSS took five years to achieve.

Results from BOSS, using the red-shifts of galaxies of two different ages (3.5bn years and 5.7bn years) and of quasars 11bn years old, so far suggest a rate of expansion in keeping, to within a percentage point or so, with the cosmological-constant hypothesis. To rule out more exotic models, however, will require similar measurements from more times in the past. This is what all the red-shifts DESI measures should provide.

The DESI survey will measure the universe’s expansion rate in 300m-year increments, from about 11.5bn years ago until today. Astronomers will use these data to build a picture of how the universe’s large-scale structure—the networks of galaxies that DESI will chart—has changed. That will reveal whether gravity is being modified in ways that are out of kilter with Einstein’s theories.

Results from DESI and the LSST will be supplemented by *Euclid*, a space telescope being built by ESA that should be launched in 2022. During a mission lasting more than six years, *Euclid* will measure the weak-lensing effects of 1.5bn galaxies, and the red-shifts of 25m galaxies up to 10bn light-years away. Without the fluctuations imparted by Earth’s atmosphere, and other sources of noise that ground-based telescopes must contend with, *Euclid*’s results should improve the accuracy of estimates of the universe’s expansion rate ten-fold.

Further in the future will come the Square Kilometre Array (SKA), a huge radio-telescope project based in South Africa and Australia which has its headquarters at the Jodrell Bank Observatory in Britain. As its name suggests, the SKA will consist of thousands of dishes and small antennae that have a total collecting area of a square kilometre. At each site these will be spread over tens of kilometres, to take advantage of a technique called interferometry, in which an array of dishes working together can simulate a single larger telescope with an aperture equivalent to the separation between the farthest members of the array.

SKA1, the first phase of the project, will include 200 dishes in South Africa and 130,000 small antennae in Australia. It should be ready by the mid-2020s. SKA2 will expand the network to create the largest scientific instrument on Earth, but quibbles over the price tag may yet scupper the project. If the money is found, it might start work a decade or so after SKA1.

The SKA will address the question of the universe’s expansion by mapping the distribution of hydrogen atoms in the cosmos. The distribution of hydrogen is expected to correspond to the distribution of matter of all kinds, so mapping hydrogen is another approach to studying the universe’s structure. The SKA will also search for the gravitational lensing of radio sources (as opposed to the optical ones the LSST plans to look at).

With all these data, astronomers will open a window on the universe’s past. That should improve predictions about its future. The possibilities are grim. In some versions of quintessence, the energy in the quintessential field increases exponentially, resulting in a “Big Rip” that tears apart atoms, subatomic particles and eventually the fabric of spacetime itself. In most projections, though, the end is more whimper than bang. For anyone still around on Earth to look, the universe’s accelerating expansion will mean distant stars and galaxies wink out one by one, their light red-shifted to invisibility, to leave just a smattering of illumination from the Milky Way and its nearest neighbours, the only beacons shining in a sea of darkness.

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Disney goes back to the future

An old new world

An old new world

Disney goes back to the future

Live-action remakes of classic cartoons are one of the most lucrative innovations in cinema

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IN JANUARY 1991 Jeffrey Katzenberg, then chairman of Walt Disney Studios, sent a 28-page memo to his colleagues. Entitled “The World is Changing: Some Thoughts on Our Business”, it lamented that the studio had lost its way. The finances were sound—Disney had outdone its competitors at the box office the year before—but Mr Katzenberg felt the company was unduly focused on blockbusters. It should be less fixated on big budgets, big names and whizzy effects, he urged, and concentrate on developing original ideas and executing them well. “People don’t want to see what they’ve already seen,” he said. “Our job is not to count on recycled formulas, but to create and develop fresh, new stories.”

His advice now seems quaint. Of the ten most expensive films ever made, Disney is responsible for six. In 2012 the studio hired Alan Horn as its chairman after a successful stint at Warner Brothers, where he had devoted a hefty share of the budget to a handful of “event films”, such as the Harry Potter series. If the average American only sees around five movies a year, he reasoned, they are most likely to opt for “something of high production value, be it because of the story, or the stars involved, or the special visual effects”.

That approach can backfire. One calculation by Stephen Follows, a film consultant, implies that half of Hollywood productions with budgets over \$100m lose money. When Mr Horn arrived at Disney, it was lurching towards two of the worst-ever box-office flops. “John Carter” (2012) and “The Lone Ranger” (2013), a pair of untried action stories, lost around \$200m each. But since then the studio seems to have found a magic formula: extravagant remakes of animated fantasies that audiences already love. Discounting Mr Katzenberg’s dim view of blockbusters can evidently be risky, but big bets seem safer if film-makers eschew his yen for novelty, too. Or so Disney’s recent record suggests.

Never-ending story

“Cinderella” (2015) made \$535m from a budget of \$95m. “The Jungle Book” (2016) took \$963m from \$175m. The \$300m marketing and production budget of “Beauty and the Beast” (2017), starring Emma Watson, Emma Thompson, Ewan McGregor and Ian McKellen, made it the most expensive musical ever. Within ten days of its release it was the highest-grossing film of its genre, eventually making \$1.2bn in ticket sales. According to the *Hollywood Reporter*, Disney has been the most profitable studio for the past four years, earning more than \$7bn at the global box office in 2016 and 2018. Its share price has risen by more than 150% since 2012.

Princesses and talking animals are not the only characters to have been summoned back to the screen: audiences have been swamped by hordes of wizards, cape-wearers, dinosaurs and Jedi. But in this fairy-tale realm, Disney has an edge. Generations of children grew up on its animated backlist, and enough time has passed to retell the classics using new technology (and for fans to take children of their own). Reboots of old flicks have actually become less common in Hollywood overall, falling from 17% of top films in 2005 to 4% in 2017 (though prequels and sequels abound). But they are one of Disney’s staples. In 2019 it will add “Dumbo”, “Aladdin” and “The Lion King” to its roster of “live-action remakes”, which replace the original cartoons with filmed footage and computer-generated imagery. “Pinocchio”, “Snow White”, “James and the Giant Peach”, “Peter Pan” and “The Little Mermaid” will follow.

A crucial step in these renovations is to tap into the films’ existing fan base by zealously monitoring online forums and quizzing focus groups. A few purist fans decry any updates, such as the redesign of Mrs Potts, an enchanted teapot, in “Beauty and the Beast”. But the typical viewer covets the big moments—the waltz in “Beauty and the Beast”, or Simba held aloft on the African plains—while being less fussy about the details. That leaves room for plot changes and character development. “We looked back a lot at what Walt Disney had done, not in terms of specifics but in terms of spirit,” explains Sean Bailey, the studio’s president of production. The original Disney identified stories that had enduring appeal and adapted them to his era, Mr Bailey says; “then he applied the very best talent and technology that he could.”

Today that means attracting stars—Ms Watson as Belle, Donald Glover and Beyoncé as Simba and Nala, Will Smith as the Genie—and directors who reinforce each title’s strengths. Tim Burton is a good fit for a story about a persecuted circus elephant and a nefarious entertainment magnate, because Dumbo’s outsider status is “a central characteristic that also runs through all of [Mr Burton’s] work”, according to Derek Frey, the film’s producer. Guy Ritchie’s aptitude for raucous action sequences lends itself to “Aladdin”, a fable about a mischievous street urchin.

Producers and directors can now draw on astoundingly sophisticated computer-generated effects. Except for the actor who

played Mowgli, “The Jungle Book” was entirely digital; the authentically lush rainforest and convincing animals earned an Oscar. Jon Favreau, the director, will apply the same techniques to “The Lion King”. “We can put any animal next to a real one and not be able to tell the difference,” claims Richard Stammers, the visual-effects supervisor on “Dumbo”. The animators size up muscle, the wrinkles of skin and the movement of fur. Lacking an airborne elephant to copy, researchers studied the physics of large birds. For imaginary creatures such as the Beast, animators use the latest motion-capture technology, which tracks actors’ movements and facial expressions and then transposes them onto digital figures. The uncanny realism instils a sense of wonder of its own.

These revamps are not the only way Disney is ransacking its canon. In 2018 it released “Mary Poppins Returns” and a film about Christopher Robin, a pal of Winnie-the-Pooh’s; Cruella de Vil, Rose Red (Snow White’s sister), Tinker Bell and Prince Charming are all in line for their own movies. Fears that Disney would tarnish its family heirlooms with these do-overs and spin-offs seem to have been unfounded. On Rotten Tomatoes, a review-aggregator site, audiences give “The Jungle Book” an 86% approval rating—a similar score to the original’s, as is that of the new “Cinderella”.

Still, Mr Katzenberg’s insistence on “fresh, new stories” has not been wholly discredited. There are only so many venerable cartoons to revisit, and the exciting novelty of seeing real actors and realistic animals breathe life into fantastical yarns may fade. Franchise apathy has already struck: “Solo: A Star Wars Story” (2018) received decent reviews but failed to break even. The circle of live-action films may yet turn out to be a wheel of fortune.

This article appeared in the Books and arts section of the print edition under the headline “An old new world”

His brother's keepers

A startling novel of twins and Trinidad

"Golden Child" is a promising, unflinching debut

Print edition | Books and arts Jan 5th 2019

Golden Child. By Claire Adam. *SJP for Hogarth*; 288 pages; \$26. Faber & Faber; £14.99.

TWINS MAKE up only a small fraction of the population but loom disproportionately large in literature. They are handy for storylines involving mistaken identity and creepy synchronicity, and offer the chance to show how people whose lives begin in the same place can take drastically different paths. A contrast between dissimilar twins is at the heart of "Golden Child", Claire Adam's assured and compelling first novel, which is set in rural Trinidad, where she grew up, during the 1980s.

Unlike Viola and Sebastian in "Twelfth Night", Peter and Paul Deyalsingh do not appear to be "An apple, cleft in two". Not at all. Paul "tends to slink around", while Peter "walks with a bold step". The boys—aged 13 when the book opens—have been treated differently from the beginning. Paul was deprived of oxygen at birth; a doctor suggested to the twins' father, Clyde, that "mental retardation" might have resulted.

The family accepts this diagnosis as fact. And, true to expectations, as they develop Paul does not share Peter's genius for learning. Eventually a conscientious schoolteacher, Father Kavanagh, tries to delve beneath the assumption that Paul is "slow". Who told him he was retarded? "I don't know," the boy replies poignantly. "It's just—it's just how it is. Nobody said so, it's just so."

The children's parents take opposite approaches to the disparity between their offspring. Their mother, Joy, wants them to be kept together so that Paul, the more vulnerable, can be protected by Peter. Clyde is more concerned that Peter—his golden child—should be allowed to thrive, and to leave Trinidad for his education, without being weighed down by his slower brother. However dazzling Peter's talent may be, Clyde's obsessive focus on safeguarding his future at any cost bodes ill.

Ms Adam's depiction of Trinidad is intimate and wry. On her island, no one listens to the weather bulletins during the dry season as it takes "ten minutes just to say that tomorrow will be hot with no rain." More darkly, while the nightly news might begin with a montage of "smiling children dressed as butterflies", they are soon replaced by reports of "fatalities, domestic murders, missing people being dragged out of the bush in bodybags, or their charred remains found in burnt-out cars."

An uncle of the twins is murdered by bandits. When Paul goes missing, everyone fears the worst. Clyde is confronted with a terrible dilemma, reminiscent of "Sophie's Choice", which the author explores without flinching. This is a tough, original novel of remarkable poise and confidence.

This article appeared in the Books and arts section of the print edition under the headline "His brother's keepers"

Fire sales

The extraordinary life of Calouste Gulbenkian*War and ethnic hatred were a distraction from the real business of oil*

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Mr Five Per Cent. By Jonathan Conlin. *Profile Books*. 416 pages; £25.

THE END of the Ottoman era is generally described in one of two ways. In the first, a moribund empire that had oppressed its Christian subjects began to annihilate them. In the other version, the Christians colluded with foreigners to dismember an Islamic realm in which they had lived quite safely. The life of Calouste Gulbenkian, a tycoon and philanthropist who helped to shape today's oil industry, offers a nuanced third perspective.

An Armenian with deep roots in central Anatolia, Gulbenkian emerged from the heart of the Ottoman Christian world. As Jonathan Conlin shows in his meticulous biography, he epitomised one of the striking features of late Ottoman history: a final burst of economic expansion that was made possible by the capital and expertise of prominent Christians, from Greek bankers to globe-trotting Armenian traders. An easy interlocutor with European grandees, he also had an insider's understanding of the region then called the Near East. His chameleonic empathy made him a superb broker of many-sided deals that seemed to satisfy all parties, including himself.

Gulbenkian was born in 1869 to a father with growing oil interests in the Caucasus and Mesopotamia, attending French *lycées* and King's College London. After Ottoman Armenians had suffered a wave of killing, he returned to London in 1897; soon he was building connections in the world of finance. In 1907 he helped to bring together the two companies that formed Royal Dutch Shell.

But he plunged back into Ottoman affairs when a window opened to serve the empire. Right up to 1914, he advised the Young Turks who had seized the reins of Ottoman power as they pushed back against their European economic overlords, artfully playing one against another. Working closely with Cavid, the finance minister, Gulbenkian founded both a new National Bank of Turkey and the Turkish Petroleum Company (TPC), which had a careful balance of Western shareholders.

The window soon snapped shut. Starting in 1915, as this book somewhat laconically notes, "between a third and a half of the world's Armenians died on forced marches," from "exhaustion, starvation or disease" or by the bullets of Ottoman soldiers and their Kurdish accomplices. Although Gulbenkian drafted a will which provided for the relief of Armenian orphans, his people's tragedy does not seem to have been a preoccupation at that time; instead he was busy managing a somewhat turbulent relationship with Henri Deterding, a fellow oil magnate. He might easily have played a part in lobbying for an Armenian homeland after the Ottoman defeat, but he kept aloof.

The first world war put an end to Turkish control over the oilfields of present-day Iraq, but not to the TPC. In 1928 the company—whose many shareholders included Gulbenkian himself—struck a deal to extract those deposits. His 5% stake made him fabulously wealthy, and a great collector of art at his Parisian residence, though Mr Conlin presents him as a man driven more by the thrill of commerce itself than by Mammon.

During the second world war Gulbenkian was an envoy of the Iranian government to the collaborationist French regime, and was duly proclaimed an enemy alien by Britain. But his establishment friends chimed in to see that he was forgiven after 1945, although he lived the rest of his life in Lisbon (where he endowed a well-known philanthropic foundation). It might almost be said that Gulbenkian treated outbreaks of ethnic hatred and war as a kind of nuisance to be pragmatically overcome while building commercial alliances and orchestrating oil supplies.

As well as compellingly tracing his professional dealings, Mr Conlin's book evokes Gulbenkian's dysfunctional family. Among the memorable revelations is that in middle age he was told by an Armenian doctor to have sex with multiple young women, advice that was followed and apparently tolerated by his long-suffering wife. Yet for all the rich detail, quite what he made of the violent collapse of the empire in which he was born remains something of a mystery.

This article appeared in the Books and arts section of the print edition under the headline "Fire sales"

After the floods

The struggle over water in India and China

A thought-provoking history of South Asia through its rivers and rains

Print edition | Books and arts Jan 5th 2019

Unruly Waters: How Rains, Rivers, Coasts and Seas Have Shaped Asia's History. By Sunil Amrith. *Basic Books*; 416 pages; \$35. Allen Lane; £25.

ON THE LAST day of 1956 Jawaharlal Nehru, first prime minister of an independent India, took Zhou Enlai, his Chinese counterpart, to visit the Bhakra dam, on the Sutlej river in the north of the country. "These are the new temples of India, where I worship," he told his visitor. Both young governments saw managing water as a central part of their mandate. In Chinese mythology, civilisation dates from the efforts by the Emperor Yu to tame the floods 4,000 years ago. Meanwhile Indian history has been a long battle to predict, harness and exploit the monsoon—or to cope with its failure. Tens of thousands of farmers have recently taken to the streets to vent their anger at the hardship they are enduring after weaker-than-usual rains.

As Sunil Amrith notes in his enthralling, elegantly written and, ultimately, profoundly alarming history, nowhere "has the search for water shaped or sustained as much human life as in India and China." Between them they have perhaps 36% of the world's population, but just 11% of its freshwater—and, in both countries it is distributed hugely unevenly. Their hydraulic priorities have differed: "India's great need was irrigation; China's was flood control." But their approaches have had much in common: the massive investment of labour, capital and technology in a drive to contain and control the forces of nature.

The dams are an obvious symbol of this. Mr Amrith concentrates mainly on India, using China for comparison and contrast. He notes that more than 40m people in India have been displaced by dam-building. In China under Mao Zedong, an estimated 22,000 large dams were constructed. And the frenzy continues. More than 400 dams are planned by China, Pakistan, Bhutan and Nepal in the Himalayas, source of Asia's ten great rivers.

But dams are only part of the story. Both India and China have long nurtured grandiose visions of linking and diverting rivers to mitigate the inequity of nature's distribution. Thanks to the most expensive infrastructure project the world has ever seen, two-thirds of Beijing's tap-water now comes from a reservoir in central China, nearly 1,500km (930 miles) away. India has dreams of "interlinking" 37 rivers through 14,000km of canals.

And both countries have sucked ever increasing volumes of water from underground. The Green revolution in India, which, in the 1970s, transformed its ability to feed itself, relied on electric tube wells. Groundwater now accounts for 60% of India's irrigated area; agriculture's share of total energy use climbed from 10% in 1970 to 30% by 1995—encouraged in part by the cheap or free electricity that Indian politicians love to lavish on rural voters when elections loom.

The inspiring element of this chronicle is simple: a huge increase in human life, health and happiness. Water management, and the agricultural production it has sustained, have irrigated China's economic miracle. And India, after the repeated drought-induced famines inflicted by British rule, and its dependence on food aid into the 1960s, has become a big agricultural exporter.

The alarming aspect comes in the evidence Mr Amrith marshals to suggest that past strategies have run their course, and indeed are now causing new problems. Depleted aquifers, polluted waterways and silted-up dams threaten renewed and more intense water crises—which will be exacerbated by climate change. And as water management becomes an ever more pressing concern at home, it will create tension across borders.

Already India and Pakistan are arguing about how to interpret the treaty they signed in 1960 on sharing the waters of the Indus river. And of all the insecurities India harbours about China's long-term aims, perhaps none is as visceral as the worry about the future of the great subcontinental rivers—the Indus and the Brahmaputra—that rise in the Chinese Himalayas.

This article appeared in the Books and arts section of the print edition under the headline "After the floods"

Johnson
Hipsters, RIP

Like technology and clothes, some words go out of fashion

Print edition | Books and arts Jan 5th 2019

FOR MANY people, new year's resolutions entail a clean-out of the cupboard or the basement. All those once-useful but now clapped-out gadgets, outmoded or too-small clothes, the cables to devices long since lost, the book that, once read, will never be opened again—off they go to be recycled.

Like households, language is tidied and renovated, but constantly rather than once a year. Just as you no longer use the chargers for discarded phones, you can safely forget a generation of earlier tech vocabulary. Nobody “instant-messages” anyone anymore; stand-alone chat services have given way to versions integrated into smartphones or platforms such as Facebook and Slack. Speaking of Facebook, you may not realise that the “Poke” and “Wave” features still exist, though hardly anyone uses them, or the attendant terms.

But technical obsolescence need not dictate the linguistic kind. Computers remind users of their early days every time they “boot” them. Once, computers could not store their own operating systems. Since it is hard to load software (including an operating system) without already running software, the clever fixes to this problem were seen as akin to “pulling yourself up by your bootstraps”. “Boot” survived even as computers outgrew this flaw, much as the image of a floppy disk remains the visual embodiment of the “save” function.

A common target for a clean-up is the category of “awesome” words: brilliant, amazing, epic and their like were all once best in class. They have, through endless use, become dilapidated. They commonly feature on peevers’ most-hated-words lists, but there is no real reason to bemoan their rise and fall. Like physical items, terms in frequent use (and people do often need to describe awesome and brilliant things) simply wear with repetition. They must be replaced; just as motorists need new tyres every so often, so it is with these words.

Then there is fashion. In every cupboard are a few items which, though hardly tattered, are hopelessly unwearable, screaming “2013!” In the lexical wardrobe, think of “metrosexual”, useful for about five minutes in 2003 or thereabouts, to describe straight men who waxed, took expensive care of their hair and so on. “Metrosexual” faded not mainly because it went out of date, but rather the opposite, because of the success of the underlying concept; even though men started wearing beards and lumberjack shirts, they did so with exquisite care. In other words, every man is a metrosexual now, expected to spend time on his grooming. So there is little need for the moniker.

In the same vein, “hipster” culture is so dominant, from bare-brick coffee-shops to cocktail bars, that there is scarcely any reason to notice it. Google searches for the label peaked in America in 2011 and worldwide in 2015. Picking on hipsters is passé: the photo-blog “Look At This Fucking Hipster” last posted in 2010.

When does a word become unfashionable? When unfashionable people start using it, of course. In other words, well before these Google peaks—driven as they are by the uninitiated, many of them looking to learn the meaning of a trendy piece of jargon for the first time. As such searches rise, the cool kids who came up with the slang in the first place will have already moved on, preserving their avant-garde status by coining something else.

By this rationale, several bits of recent political slang are clearly on their way out too. “Woke”, briefly popular to playfully describe someone politically enlightened and on the left, peaked in Google searches in May 2017; it seems primarily to be used sarcastically, either by woke types themselves deriding the faux-woke, or by conservatives belittling the whole woke enterprise. It is headed the same way as “social-justice warrior”, a phrase meaning roughly the same thing as “woke”, which travelled the same road from lionising self-description to gibe. It is now such a cliché, even as an insult, that it, too, is ready for the junk heap (or perhaps, in keeping with its meaning, the charity shop).

Linguistic conservatives seem to wish language would just sit still. Even some people who are liberal-minded in politics can become more fusty over language as they get older. But hoping words would stop rising and, more to the point, falling, is as futile as wanting technology, politics or fashion to freeze. Be as conservative as you like in your own vocabulary—recycling old favourites and disdaining the latest duds—but time will nonetheless do its work.

This article appeared in the Books and arts section of the print edition under the headline “When hipsters ruled the world”

Economic data, commodities and markets

Print edition | Economic and financial indicators Jan 5th 2019

America's House of Representatives

The failure of gerrymandering

America's House of Representatives The failure of gerrymandering

How educated, suburban whites ended the over-representation of Republicans

Print edition | Graphic detail Jan 5th 2019

EVER SINCE district borders in America's House of Representatives were redrawn in 2011, Republicans' share of seats has exceeded their proportion of the vote. In 2012 Democrats won 51% of the two-party vote but just 46% of seats.

The Congress that began on January 3rd, however, has no such imbalance. Democrats won 54% of the total two-party vote—and also 54% of House seats. Whatever became of the vaunted pro-Republican bias?

America's political geography is shaped by education. In presidential contests the most influential voters are whites without college degrees, who cluster in "swing" states. By contrast, in House elections, white college graduates are unusually valuable, congregating in suburban districts where both parties are competitive.

Donald Trump has rearranged American politics, by courting working-class whites and alienating educated ones. That helped Republicans win the presidency. It should have hurt them in the House. But in 2016 the party got the best of both worlds, because many conservative whites with degrees split their tickets. In states whose presidential winner was never in doubt, they chose Hillary Clinton. But perhaps because they expected her to win and wanted a check on her power, they backed House Republicans in narrowly decided districts.

That changed in 2018, when educated whites abandoned Republican House candidates. Because Democrats were already competitive in suburbs, they needed only small swings. They won 13 of the 15 Republican-held districts where a majority of white voters have college degrees. That made the Democratic vote more efficient. In 2016 the party won 17 seats by single-digit margins; this time they took 40.

And what about gerrymandering, widely thought to protect incumbents? Republicans did draw the borders of more districts than Democrats did. But they only ran the process in 37% of seats. Of the 42 seats the party lost, it had gerrymandered just nine.

Those nine seats, however, show that extreme gerrymandering is risky. Many Republican mapmakers tried to neutralise Democratic voters by burying them in suburban districts full of educated whites. They never imagined that this ruse would backfire, but Mr Trump drove these once-loyal Republicans into Democrats' arms.

Sources: Michigan Department of State; Edison Research; Daily Kos

*In uncontested districts, including Michigan's 13th (much of Detroit and its southwestern suburbs) in 2018, we have imputed the most likely results

Amos Oz

A torn Israeli

A torn Israeli

Obituary: Amos Oz died on December 28th

A celebrated Israeli writer of novels and essays, died on December 28th, aged 79

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WHEN HIS father had to choose a primary school, Amos Oz had two alternatives within walking distance of the family home in 1940s Jerusalem— a religious institution and one belonging to a socialist-Zionist workers' union. A staunchly secular librarian and right-wing nationalist, Mr Oz's father chose to send the boy to the religious school, reckoning the important thing was that young Amos did not become a Bolshevik. Socialism was spreading like wildfire, he thought, but religion was on the wane and would soon disappear from the land.

That proved short-sighted, both on a national and a personal level. In the new state of Israel, the socialists would dominate for the first three decades but then gradually lose their dominance. Whereas religion endured. As for young Amos, shaken by his mother's depression-driven suicide, he would rebel against his father, leaving Jerusalem at 14 to become a member of a kibbutz, a socialist-Zionist collective agricultural community. Haunted, he would try to use his life there to recreate himself, even changing his name from the Ashkenazi Klausner, to "Oz", a short, stark Hebrew word meaning strength and courage. Years later he said it was the only thing he lacked.

At the kibbutz he had the status of a *yeled chutz*—an outside child, striving to belong, but also constantly observing from without. He tried to conform with the austere mores, working in the fields and, at 18, serving in a tough combat unit while writing at night. Fortunately for him, the kibbutz movement also saw the need for ideologues. He was appointed a teacher and allowed to study philosophy and literature, back in Jerusalem at the Hebrew University. His early work, like him, was split by the challenges of the Utopian experiment of the kibbutz he tried so hard to be a part of and the ancient phobia of Jerusalem that he never escaped.

His first collection of short stories, "Where the Jackals Howl" (1965), and his first novel, "Elsewhere, Perhaps" (1966), dealt with kibbutz life. But instead of describing his fellow young kibbutzniks as having found peace and satisfaction tilling the land, he wrote of their "sadness of distance", how "their hearts go out to other places that are not specific, but are far." His own heart returned to his birthplace. The novel that made his name, "My Michael" (1968), was about the tortured fantasies of an anguished young woman, married to a mediocre academic and struggling to raise her young son in 1950s Jerusalem.

"My Michael" established him as Israel's foremost young writer and over the years was translated into more than 30 languages. Only in 2002, when his epic memoir, "A Tale of Love and Darkness", was published, did it become clear that all along he had been writing about his own parents. Yet literary success and confronting his own personal demons was never enough for him; he publicly wrestled with Israel's internal furies throughout his writing career, struggling to realise, in his work, as in his life, the brave new Jewish state.

In 1967 he was drafted during the six-day war to serve as a speechwriter for Israel's victorious generals. He believed in the war as a justified action of defence against hostile Arab neighbours, but soon after, as Israel began to grapple with the realities of a military occupation of millions of Palestinians in the West Bank and Gaza, he was one of the first to give warning to his fellow citizens. "We were not born to be a nation of masters," he wrote in a column in *Davar*, the ruling Socialist Party's newspaper. Ten years later, Likud came to power. Except for brief periods, Israel has been ruled ever since by a coalition of right-wing and religious nationalists bent on remaining masters of the land.

Success as a fiction writer did not curb his burning need to be a political polemicist as well. He became one of the leading lights of Israel's peace camp, a confidant of politicians including prime minister and president Shimon Peres. At the same time he tried repeatedly to engage with the Jewish settlers in the West Bank and others in Israeli society with whom he had bitter differences. Much of his international renown was owing to his 19 novels and short-story collections, but for many Israelis, the accounts of his journeys across the land and his meetings with its inhabitants were of even greater importance. "In the Land of Israel", a collection of his journalistic essays from the early 1980s, focusing on conversations with Israelis and Palestinians, became a pivotal documentary on life in Israel and the West Bank, mapping out the fault-lines that divided the different groups living in a contested land.

As the Israeli occupation of Palestinians continued unresolved, Mr Oz increasingly found himself harshly criticising his country at home, while defending it abroad—as did other liberal Israelis with prominent voices. On his 75th birthday in Tel Aviv, he warned of the presence of "Hebrew neo-Nazis" in Israel. However, he supported Israel's recent wars in Lebanon and Gaza as necessary acts of defence against "the dark shadows of Iran, Syria and fanatic Islam" and argued Israel's case with a historical comparison he had made in his memoir: "Out there, in the world, all the walls were covered with graffiti: 'Yids, go

back to Palestine’, so we came back to Palestine, and now the world at large shouts at us: ‘Yids, get out of Palestine.’”

His last novel, “Judas” (2014), marked his literary return to Jerusalem, to those young doomed academics, like his parents in Israel’s early years, struggling to make sense of Jewish history and of their own present. The characters tear themselves apart over questions of loyalty and treachery to each other, their nation and their ideals.

Like the Judas of his book, he never found peace. He had left the divided city 60 years earlier, but was never fully at home in the kibbutz. In 1985 he moved to the desert town of Arad, but lived his last years in liberal, secular Tel Aviv. He continued to write, publishing collections of essays on Jewish literature, fanaticism and love. In one of his last interviews, two months before his death, he called himself simply “an involved citizen who writes a lot”.

This article appeared in the Obituary section of the print edition under the headline “A torn Israeli”