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Politics this week

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Turkey's president, Recep Tayyip Erdogan, was humiliated by voters, as his attempt to reverse the mayoral election in Istanbul, which his party had lost, backfired spectacularly. At his behest, the electoral board ordered a re-run, but this week the opposition challenger, Ekrem Imamoglu, won by a much larger margin than in March: 54% to 45%. See article .

After three weeks of talks that followed an election, **Denmark's** Social Democrats won the backing of smaller parties on the left to form a minority government headed by Mette Frederiksen as prime minister. The smaller parties agreed to support Ms Frederiksen only after she promised to water down the hard-line policies on immigration that her party had touted during the election.

Ukraine responded angrily to the decision of the Council of Europe, which is separate from the EU, to restore **Russia's** voting rights. But supporters of the move said this would ensure that Russian citizens could lodge claims against their government at the European Court of Human Rights, a body of the council.

Dozens of schools were closed in France; **temperatures** there and other European countries have soared above 40°C.

Boris Johnson and Jeremy Hunt emerged as the final two in the race to lead **Britain's** Conservative Party and thus become prime minister. Mr Johnson is the favourite, but his bumbling style seems odd at a time of crisis. In an effort to revive his stumbling campaign he declared that Britain must leave the EU on October 31st, "do or die". That went down well with Tory party members. See article .

Still on the streets

Scattered protests, drawing as many as several thousand people, continued in **Hong Kong** over legislation that would allow the extradition of criminal suspects to mainland China. The government has shelved the bill, but protesters want it to be scrapped. See article .

Hong Kong's Supreme Court overturned the conviction of the territory's former chief executive, **Donald Tsang**, for misconduct. His original sentence in 2017 was 20 months in prison.

North Korean media reported that the country's dictator, Kim Jong Un, had received an "excellent" letter from Donald Trump. In mid-June Mr Trump said that he had received a "beautiful" letter from Mr Kim. The exchange suggests that talks between the pair on nuclear disarmament are making progress again.

The Australian Broadcasting Corporation said it would petition the courts to void a warrant that authorised the **Australian** police to raid its offices and seize documents related to a report it published in 2017 about abuses by Australian special forces in Afghanistan.

A shaky start

Jared Kushner unveiled the first half of the White House's peace plan for **Israel** and **Palestine**. It proposes $50bn worth of investment in Palestine and neighbouring countries, but offers no solutions to the underlying conflict (those are expected later). Neither the Israelis nor the Palestinians attended a conference in Bahrain showcasing the plan. See article .

Mr Trump imposed new sanctions on **Iran's** leadership. This came after he ordered and then called off air strikes on military installations in the country in response to Iran's downing of an American spy drone. Ali Khamenei, Iran's supreme leader, said the sanctions marked the "permanent closure of the path of diplomacy".

The chief of **Ethiopia's** army and the president of the Amhara region were killed along with several other people in two incidents in what the government called an attempted coup. The government blamed the head of security in Amhara for the attacks. He was subsequently killed by the army. See article .

Zimbabwe reintroduced its currency, the Zimbabwe dollar, amid a deepening economic crisis. It had abandoned the notes in 2009 after their value was destroyed by hyperinflation and instead adopted American dollars. The finance minister said the move would give the central bank more flexibility.

Back, with a vengeance?

Robert Mueller agreed to testify at an open session to Congress on July 17th. Evidence from the man who investigated Russian influence in the Trump campaign will make it the most eagerly awaited congressional hearing in years.

Republicans in **Oregon's** state Senate refused to show up for work, thus denying a quorum for a vote on a bill that would introduce a carbon cap-and-trade system. The Democratic governor asked state troopers to find the absconders.

A photograph of a father from Guatemala and his 23-month-old daughter who both drowned trying to cross the Rio Grande intensified America's debate on **illegal immigration**. Reports also emerged of 300 children being held in squalid conditions at a border station. The House of Representatives and the Senate passed competing packages on aid for the border to cope with the surge of migrants.

Border crisis

Mexico sent 15,000 troops to its border with the United States. It is the largest deployment to control migration that Mexico has ever undertaken. Donald Trump has demanded that Mexico do more to stop illegal immigration, mainly by Central Americans, or face export tariffs. Mexico had already sent 2,000 national guardsmen to help police its southern border.

At least three people were killed in protests against **Honduras's** president, Juan Orlando Hernández. Doctors and teachers are demonstrating against plans to restructure the ministries of education and health, which they say will lead to privatisation.

Authorities in Spain arrested a **Brazilian** sergeant who flew in on a presidential plane carrying 39kg of cocaine. The aircraft was on its way to the G20 summit in Japan. Brazil's president, Jair Bolsonaro, who was travelling on another aircraft, normally extols the armed forces. In this case he demanded "severe punishment" for the smuggler.

Business this week

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Tensions in the alliance between **Renault** and **Nissan** were on display at the latter's annual shareholders' meeting, the first since the arrest on financial-misconduct charges of Carlos Ghosn, who ran the alliance. Nissan's investors directed most of their ire at Jean-Dominique Senard, Renault's chairman, who has pushed for a full merger with Nissan and had threatened to scupper changes to its governance (Renault owns 43% of Nissan). At the meeting, Mr Senard admitted that the relationship between the two companies was in a bad state.

BMW said it would have 25 new fully electric or hybrid models on the market by 2023, two years earlier than expected. Europe's carmakers are accelerating their plans for cleaner vehicles in order to comply with stricter EU rules on car emissions.

A golden opportunity

Eldorado Resorts agreed to buy **Caesars Entertainment** in a $17.3bn deal that creates America's biggest casino company. Caesars, which counts Caesars Palace, Bally's and the Flamingo, all in Las Vegas, among its assets, is the bigger of the two. It had faced calls from Carl Icahn, an activist investor, to put itself up for sale to cut costs. Eldorado has no properties in Vegas, but it does own the Tropicana in Atlantic City.

The latest blockbuster deal in the drugs industry saw **AbbVie** stumping up $63bn for **Allergan**, best known for Botox, a skin-smoothing treatment popular with the more mature clientele. AbbVie is hunting for new sources of sales as the patent protection on Humira, its bestselling inflammatory treatment, will expire in America in 2023. Separately, **Bristol-Myers Squibb's** merger with **Celgene**, valued at $90bn when it was announced in January, was delayed until at least the end of this year as it works to overcome antitrust concerns.

In its first week as a publicly listed company, **Slack's** share price slipped below the $38.62 at which it closed on the first day of trading. The office-messaging service opted for a direct listing of its existing stock on the New York Stock Exchange rather than an IPO (through which new shares are issued), because it didn't need to raise fresh capital, according to Stewart Butterfield, Slack's chief executive.

Jerome Powell raised concerns about the world economy, warning that the "global risk picture has changed", and that there was "greater uncertainty" over trade. The comments from the chairman of the **Federal Reserve** bolstered those who are betting on the central bank reducing interest rates in July. Mr Powell also stressed that the Fed won't bow to pressure in its decision-making. In his latest outburst Donald Trump, who wanted the Fed to cut rates this month, tweeted that it "doesn't know what it is doing" and is behaving "like a stubborn child". See article .

Financial regulators responded coolly to Facebook's plan to launch a global digital currency, to be called **Libra**. Mark Carney, the governor of the Bank of England, said that Libra could become "systemic" and would "have to be subject to the highest standards of regulation". Randal Quarles, the head of the Financial Stability Board, which advises the G20, warned that the use of "cryptoassets" deserves "close scrutiny". Their comments, along with several others, suggest that Facebook will have to jump many hurdles to get Libra up and running.

The publicity surrounding Libra helped boost the price of **cryptocurrencies**. Bitcoin traded above $13,000, its highest level in 18 months, rekindling fears about a bubble in the market.

America's Supreme Court overturned a long-standing ban on **trademarks** that use "immoral" or "scandalous" words on the grounds that it violated the right to free speech and had been imposed unevenly. The case was brought by the owner of a clothing line he brands as FUCT (Friends U Can't Trust). See article .

Netflix is to lose the rights to broadcast the American version of "The Office" because NBCUniversal, the sitcom's producer, wants to run it on its new, yet-to-be-named streaming service from 2021. "The Office" is Netflix's most popular show in America. With rival streaming channels in the works from Disney, WarnerMedia and others, Netflix faces the prospect of losing more content made by other companies, which, despite the plaudits for the media it produces in-house, accounts for the bulk of users' viewing time.

A gripping yarn

An industry report suggested that the global market for **spandex** is expanding, with sales set to reach 1m tonnes by the end of 2020. The main reason is that demand for sports "shapewear" has stretched beyond the rich world to the emerging-market middle class. Invented in 1958 by a chemist in Virginia, the spandex industry is now highly elastic, with China accounting for 75% of the world's production.

KAL's cartoon

Print edition | The world this week Jun 27th 2019

Financial services

Can the City survive Brexit?

The world's biggest international financial centre faces its toughest test

Print edition | Leaders Jun 27th 2019

THE WORLD has a handful of great commercial hubs. Silicon Valley dominates technology. For electronics, head to Shenzhen. The home of luxury is Paris and the capital of outsourcing is Bangalore, in India. One of the mightiest clusters of all is London, which hosts the globe's largest international financial centre. Within a square mile on the Thames, a multinational firm can sell $5bn of shares in 20 minutes, or a European startup can raise seed finance from Asian pensioners. You can insure container ships or a pop star's vocal cords. Companies can hedge the risk that a factory anywhere on the planet will face a volatile currency or hurricanes and a rising sea level a decade from now.

This metropolis of money, known as the City, generates £120bn ($152bn) of output a year—as much as Germany's car industry. Because it allocates capital and distributes risk at a vast scale, its influence is global. But now, with a "no-deal" conclusion looking increasingly likely after a change of leader of the Conservative Party (see article), Brexit threatens to rupture Britain's financial links with the European Union. If Labour wins the next election under Jeremy Corbyn, Britain will also end up with its most left-wing government since 1945, one that is deeply hostile to capital and markets. Either outcome would make the EU poorer and damage London's position. Together, they could change the workings of the global financial system.

London's prowess is something to behold. It hosts 37% of the world's currency dealing and 18% of cross-border lending. It is a hub for derivatives, asset management, insurance and investment banks. Relations with Europe are particularly intimate. The City generates a quarter of its income from the continent, and Europe gets a quarter of its financial services from London, often the most sophisticated ones. French or Italian firms go to London to meet investors or organise a takeover. When the European Central Bank buys bonds as part of its monetary policy, the sellers are very often asset managers and banks domiciled in Britain. Some 90% of European interest-rate swaps are cleared through the City's plumbing.

The City's history is long but serpentine. In 1873 Walter Bagehot, *The Economist*'s then-editor, wrote of its "natural pre-eminence". In fact decades of decline lay ahead. A revival began in the 1960s when the offshore market for dollar lending boomed. Another lift came with the stockmarket deregulation of Big Bang in 1986 and again after 2000 when London became a centre for trading the euro and emerging markets. Even the financial crisis of 2008 did not do much damage to the City's standing abroad. Today the magic formula has many parts: openness to people and capital, the time zone, proximity to subsea data cables, and posh schools. But, above all, it relies on stable politics and regulation, close ties to America and seamless ones to Europe. Brexit and Mr Corbyn threaten this formula in three ways.

The first is by ripping up the legal framework, as the EU cancels the "passports" that let City firms operate across the continent. Activity may move in search of certainty. The second is by the remaining 27 EU members adopting an industrial policy that uses regulation to compel financial firms to move to the euro zone. As Amsterdam, Frankfurt and Paris jostle for business, this fight is turning ugly. And the last is from within Britain—if a Corbyn government takes the country back decades, with nationalisation at below-market prices, a financial-transactions tax, a tough line on mergers and acquisitions and possibly even capital controls. If a Labour government also attacks private schools and second homes, London's giant pools of capital will disappear faster than a trader's cocktail.

Given the sums at stake—London hosts $20trn of bank assets and securities—you might expect a grand bargain between the EU and its financial hub. Some chance (see article). Britain has spurned the option of staying in the single market. A bespoke deal for financial services is not on the table because the EU is loth to grant special favours to a departing country. It is as if New York and Wall Street were divorcing America without any agreement. Thanks to temporary licences, the risk of a financial crisis on Brexit day is slim. But these arrangements will not last long—the deal over derivatives, say, expires next year.

Behind the stand-off is a deep divide. The City could keep free access to the EU if it agreed to be regulated by it. But Britain rightly fears handing control of its largest industry to the bloc, particularly if the EU's unspoken goal is to shrink London. Europe's motives blend principle and greed. It wants to supervise its own financial system, but also to grab jobs and tax revenues from London. In the long run the most likely set-up is "equivalence", in which firms receive recognition from Europe. The catch is that, as Switzerland is discovering, this can be withdrawn at any time, leading to a state of permanent instability. That threat will lead to a drift of activity and people into the euro zone as EU authorities win full sovereignty over the euro zone's capital markets.

This sounds good for the EU, but it is likely to be a pyrrhic victory. The continent's financial system is balkanised and dominated by sluggish banks. New business will be spread across several cities, fragmenting activity further. Europe's heavy-handed regulation may prompt non-EU business to stay away. Ultimately the costs of a less efficient financial system are likely to outweigh the extra income from capturing business from London. The annual bill for every 0.1 percentage-point increase in euro-zone firms' cost of funding amounts to €32bn, or 0.3% of GDP.

And what of the City? It has a chance of prospering. Its links with America remain tight. It will have to try to keep Europe close, too, while increasing its non-EU international business from today's share of 25-30%, and developing new strengths in fintech and green finance. The biggest danger is that it has lost the battle of ideas at home. Many Britons, not just Mr Corbyn, resent the City's post-crisis bail-out—no matter that British banks have since tripled their capital buffers, and thus pose little threat to taxpayers. Even Margaret Thatcher, who oversaw Big Bang in the 1980s, disliked flash bankers. But Britons cannot ignore the £65bn, or 3% of GDP, of annual tax that the City pays towards hospitals and schools. For a country that is losing friends fast, having a global, sophisticated industry is a blessing, not a curse.

How to contain Iran

As America and Iran inch closer to war, new talks are needed

Negotiation, not confrontation, is the way to stop the mullahs from getting the bomb

Print edition | Leaders Jun 29th 2019

FOR NEARLY four years Iran's path to a nuclear weapon was blocked. The deal it signed with America and other powers in 2015 limited its nuclear programme to civilian uses, such as power-generation, and subjected them to the toughest inspection regime in history. The experts agreed that Iran was complying and that its nuclear activities were contained. But then President Donald Trump ditched the nuclear deal and Iran resumed stockpiling low-enriched uranium. It is now poised to breach the 300kg cap set by the agreement. Iran may hesitate before crossing that line, but it is also threatening to increase the enrichment level of its uranium, bringing it closer to the stuff that goes into a bomb.

Fortunately, Iran is not about to become a nuclear-weapons power. Its breakout time is over a year. But it is once again using its nuclear programme to heap pressure on America. That adds an explosive new element to an already-volatile mix. America accuses Iran of attacking six ships in the Strait of Hormuz since May. On June 20th Iran shot down an American spy drone. America insisted the aircraft was above international waters, not Iran's, and sent warplanes to strike back. Ten minutes before they were due to hit targets inside Iran Mr Trump called them off and contented himself with a cyber-attack instead.

Neither Mr Trump, nor America's allies, nor Iran wants a big new war in the Middle East. Yet Mr Trump's strategy of applying "maximum pressure" on Iran is making the prospect more likely—because each side, issuing ever-wilder threats, could end up misreading the other's red lines. The president's room for manoeuvre is shrinking. As Iran turns more belligerent, calls for action will grow, not least from his own party (see article). Before things escalate out of control, both sides need to begin talking. That is not as unlikely as it sounds.

Mr Trump's Iran strategy is based on the premise that Barack Obama gave too much away too easily when he negotiated the deal in 2015. Last year the president set out to get better terms by reneging on the agreement and reimposing the sanctions that have crippled Iran's economy. This, his advisers argue, will force a weakened Iran to accept a new deal that lasts longer than the old one, most of which expires by 2030. They also want curbs on Iran's missile programme and an end to its violent meddling in the region. Mike Pompeo, the secretary of state, sees recent Iranian aggression as a sign that the strategy is working.

Hard-hitting sanctions brought Iran to the negotiating table in 2015, but they are unlikely to lead to the transformation Mr Trump wants. One reason is that he has discredited Hassan Rouhani, Iran's president and a champion of the nuclear deal. Hardliners are now calling the shots. Another is that America is acting alone. In 2015, in a rare moment of international unity, it had the support of its European allies as well as Russia and China.

Maximum pressure comes with extra risks, to boot. The mullahs and their Islamic Revolutionary Guard Corps want to prove their mettle by showing that Mr Trump's actions have costs—for everyone. On top of the attacks on ships and drones, Iranian proxies have hit pipelines in Saudi Arabia and are suspected of having struck Iraqi bases hosting American troops. If sanctions are not lifted, Iranian officials may resort to closing the Strait of Hormuz, through which one-fifth of the world's oil passes.

Hawks like John Bolton, Mr Trump's national security adviser, retort that if Iran wants war, that is what it will get—especially if it shows signs of dashing for a nuclear bomb, which could trigger disastrous proliferation in the Middle East. But this is the riskiest calculation of all. Having pulled out of a working deal, America may not win the backing of European allies for strikes. China and Russia would vehemently oppose any action at all.

Perhaps sanctions or war will cause the regime to crumble. But that is hardly a strategy: Cuba has resisted sanctions for decades. More probably, a defeated Iran would heed the lesson of nuclear-armed North Korea and redouble its efforts to get a bomb. Attacking Iran's nuclear facilities would not destroy its know-how, as even Mr Bolton admits. If, as is likely, Iran barred international inspectors, its programme would move underground, literally and figuratively, making it very hard to stop.

The alternative to today's course is talks between America and Iran. Just now that looks far-fetched. Iran's foreign ministry says American sanctions imposed on Ayatollah Ali Khamenei, the supreme leader, and other top officials this week mark "the permanent closure of the path of diplomacy". Mr Rouhani has suggested that the White House is "mentally handicapped"—after which Mr Trump threatened "obliteration".

But optimists will remember similar clashes between America's president and Kim Jong Un, North Korea's despot, before they met in Singapore and "fell in love", as Mr Trump put it. When he is not threatening to annihilate the mullahs, Mr Trump is offering to talk without preconditions and to "make Iran great again". He does not want the prospect of war in the Middle East looming over his re-election campaign. Likewise, in Iran the economy is shrinking, prices are rising and people are becoming fed up. Pressure is growing on Mr Khamenei to justify his intransigence. Love could yet bloom.

America might coax Iran back to the table with a gesture of good faith, such as reinstating waivers that let some countries buy Iranian oil. Iran, in turn, could promise to comply with the nuclear deal again. Behind the scenes, its leaders have expressed a willingness to sign something like the old agreement with additions—such as extending parts of the deal beyond 2030. Negotiations would never be easy; the Iranians are infuriating to deal with. But that would let the president claim victory, as he did with the United States-Mexico-Canada Agreement, which his administration signed last year and which looks a lot like its predecessor, the North American Free Trade Agreement.

What of a deal that also curbs Iran's missile programme and restrains it in the region? As Mr Trump seems to realise, biting everything off in one go is unrealistic. A new deal cannot solve all the problems posed by Iran or normalise ties with America after decades of enmity. It may not even lift all America's sanctions. Neither did the first agreement. But, if done right, a deal would put Iran's nuclear programme back in a box, making it easier to tackle all those other problems without causing a war.

This article appeared in the Leaders section of the print edition under the headline "How to contain Iran"

States' rights

America is not such a laggard on climate change as it seems

A clutch of Democratic-led states are doing their best to make up for Washington's inaction

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IS AMERICAN INACTION on climate change going to render bits of the planet uninhabitable by 2100? Or will American grit and ingenuity lower the risks? There is evidence for both views. While the White House was issuing an edict seeking to offer relief to coal-fired power stations last week, New York's state legislature was passing a bill that called on the state to eliminate carbon emissions by 2050. America's political divide often creates split-screen moments. For the 7.3bn people who live beyond the country's borders, this one matters more than most.

America is often denounced as a laggard on climate change. The reality is less bad than that suggests. More than half of all Americans now live in states that have championed legislation to reduce greenhouse-gas emissions. In the past year California, Colorado, Maine, New Jersey, New Mexico and Washington have all joined the club of states with policies to decarbonise electricity generation. Oregon and New York look set to join them.

Those who think global warming is not man-made are, inevitably, opposed to states setting long-range targets to decarbonise the economy. Even some who accept the overwhelming scientific consensus have their doubts. Targets are not the best way to go about reductions, they argue. A carbon price would be better. Market forces are already reducing carbon emissions, as power stations switch to natural gas. There is no point in some states taking action if others do not bother, or if the federal government cannot get its act together, because energy markets do not respect state boundaries. Besides, the targets are too distant: they allow politicians to pose as green while pushing the costs of action onto their successors.

These objections are too gloomy. A carbon price is indeed the optimal way to reduce pollution, but getting people to pay for carbon has been a vote-loser in America and Europe. In a world of second- or third-best options, targets backed by credible plans to reach them are reasonable. Emissions are indeed coming down thanks to the fracking boom, but there is a limit to how far they can fall if natural gas is the primary material from which electricity is generated. Yes, the targets are far into the future, but in New York's case they come with a legal requirement to show progress in the next four years (see article).

Waiting for Washington to take the climate seriously is a counsel of despair. It also ignores the magnitude of states' plans. Pledges by states help set America on the path to a 17% cut in emissions by 2025, using 2005 as a baseline. Add a few more and the total would increase to nearly 25%, putting America within striking distance of the (albeit modest) commitment the previous White House made in Paris in 2016, even though the federal government has promised to withdraw from that agreement.

This matters for two reasons. First, because the world's largest economy is a significant source of pollution. America, like every other country, needs to be on a path to eliminate all emissions by mid-century or shortly thereafter if it is to reduce the risks posed by climate change. Second, because the assumption that America is a laggard gives other countries an excuse to do nothing, undermining international climate diplomacy.

States like California with ambitious laws on emissions can encourage the development of technologies that will then be used by others. And if America can stay on track through state actions, the nationwide politics of climate change might just change in the coming decades. Just over half of Americans aged 55 or over think climate change is man-made and worry about it, according to polling by Gallup. Among Americans aged 18-34, three-quarters do. America's economy has been through transformations before. It can go through another.

This article appeared in the Leaders section of the print edition under the headline "States' rights"

Istanbul stands up to a bully

Opponents of Turkey's erratic president should try harder

After an opposition victory in Istanbul, rumours swirl of a ruling-party split

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WHAT DID he think he was playing at? When Turkey's autocratic president, Recep Tayyip Erdogan, strong-armed his country's electoral watchdog into annulling the result of a mayoral election his party had lost in March, it looked like an obvious blunder. Surely, many observers thought, the people of Istanbul would furiously resent having their votes overruled, and flock in bigger numbers than before to support the opposition man, Ekrem Imamoglu? Unless, of course, Mr Erdogan had a sinister plan up his sleeve to rig the new election.

He did not—or at least not one bold enough to cope with how voters in Turkey's largest and richest city gave the challenger an emphatic victory on June 23rd, by 54% to 45%, far more than his earlier, slender margin of 0.2%. Democracy, though ailing in Turkey, is not yet dead.

Mr Imamoglu's fortitude is hard to overstate. Standing up to Mr Erdogan's repressive regime can be dangerous (see article). Dozens of Kurdish mayors have been locked up, as have tens of thousands of people, many of them innocent, whom Mr Erdogan suspects of involvement in, or support for, the failed coup of 2016, masterminded by members of the Gulenist movement.

The road ahead for Mr Imamoglu is strewn with obstacles. Mr Erdogan will no doubt fear that a successful mayor of Istanbul will attract support. People are already talking about the new man as a contender for the presidency, not least because Mr Erdogan himself once trod a similar path, using a stint as mayor of Istanbul in the 1990s as a stepping-stone to national power.

For Mr Erdogan those days are long gone. Istanbul's people have made it clear they want change. The president has become a liability to his country. His repression of dissidents has poisoned relations with the EU, and choked off opportunities for more trade and investment between Turkey and the giant, rich economy on its doorstep. His decision, confirmed again this month, to push ahead with the purchase of Russian air-defence technology has infuriated America, Turkey's most important NATO ally. Fearing that Russia will take advantage of the deal to test its tracking systems on American stealth fighters, thereby learning how to counter them, America has suspended delivery of its planes to Turkey and is no longer training Turkish pilots.

Unless President Donald Trump grants a waiver, further sanctions are likely. These will hurt the Turkish economy, which is already fragile, owing in large part to the president himself. It emerged earlier this year from a brief recession, but is expected to undergo a double-dip shortly. The Turkish lira has lost 40% of its value over the past two years, because of a credit boom that has been allowed to run out of control. The president insists that high interest rates would increase inflation—an eccentric view that economists dismiss out of hand. Inflation hovers near 20%. Mr Erdogan is unlikely to get robust advice from his finance minister, who happens to be his son-in-law.

The central government will probably make life tricky for Mr Imamoglu. As the ruling AK party controls 25 of Istanbul's 39 districts and has a majority on its municipal assembly, that will not be hard. Mr Erdogan could mess with Istanbul's funding, tie Mr Imamoglu up in red tape or even find some legal pretext to prosecute him. The president would be better advised to leave him alone. Anything that harms Istanbul, the centre of Turkish commerce and tourism, will harm the country as a whole.

The fact remains, though, that Mr Erdogan is in charge. He won his presidential election by a solid majority last year, and his AK party, together with its hardline nationalist allies, the MHP, has a lock on parliament. Another election is not due for four years. In the short term, change will have to come from within AK. There is some sign of it. Rumours swirl that Abdullah Gul, a former president, and Ahmet Davutoglu, a former prime minister, are considering setting up a breakaway party or parties. Mr Imamoglu's success ought to stiffen their resolve.

This article appeared in the Leaders section of the print edition under the headline "Democracy bites back"

Silly sausages

Europe heroically defends itself against veggie burgers

And there are plenty more misleading words it should ban

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THE EUROPEAN UNION gets a lot of flak. All right, it isn't literally blasted with anti-aircraft fire, but you know what we mean. One ongoing battle (OK, nobody died) involves the use of words. Earlier this year, the European Parliament's agriculture committee voted to prohibit the terms "burger", "sausage", "escalope" and "steak" to describe products that do not contain any meat. It was inspired by the European Court of Justice's decision in 2017 to ban the use of "milk", "butter" and "cream" for non-dairy products. Exceptions were made for "ice cream" and "almond milk", but "soya milk" went down the drain, lest consumers assume it had been extracted from the soya udder of a soya cow. The court has yet to rule on the milk of human kindness.

Greens are mounting a campaign against the committee's decision, which they suspect is supported not only by linguistic purists but also by the meat industry. This newspaper thinks the parliament is quite right to protect citizens from the confusion they would no doubt feel were they to find that no part of a "veggie burger" was made of the flesh of a dead animal. Indeed, this praiseworthy initiative needs to go further.

"Escalopes" pose a clear danger to consumers, who might well recoil in horror when, taking a mouthful of one, they discover that it is made not of the scallops from which it got its name but of chicken or veal. "Sausages" should refer only to heavily salted meat, whence the term derives; for clarity, consumers should be informed that the item is encased in animal intestine. Steaks should be sold only on a pointed stick, on the grounds that most shoppers will rely on the proto-Indo-European etymology. Any confusion could be avoided if kebabs were, as their Arabic root suggests, always sold burned. The production of burgers should be restricted to the butchers of Hamburg, long ago deprived of their intellectual property by a shocking failure of linguistic regulation. The same right should be extended to makers of Frankfurter sausages—sorry, meat-filled gut. And "meat" itself should apply to all food, sweet or savoury, which would make the term historically accurate, if useless.

Nor should the parliament's reforming zeal be restricted to food. Any reference to the European budget should be confined to the money that the commissioner for economic and monetary affairs, Valdis Dombrovskis, keeps on his person in a *bougette*, or leather purse. Only those banks which carry out their business on wooden benches (*banco*, in Italian) should be included in the banking union. Discussion of computers should be limited to clerks who do budgetary calculations, while that of the digital single market should apply only to sums that people can do on their fingers.

This linguistic rigour should be extended through both time and space. The Holy Roman Empire, as Voltaire pointed out, was neither holy, nor Roman, nor an empire; La Manche has no sartorial connections; the Mediterranean is not the centre of the Earth; there is no horticulture in the Big Apple. They need renaming.

Not all the union's governing structures are taking their linguistic responsibilities seriously enough. When earlier this year Donald Tusk, president of the European Council, spoke of "concrete measures" to extend the single market and a "level playing field", listeners might reasonably have looked forward to a multi-billion-euro infrastructure project to shift French and Italian mountaintops to the low-lying bits around Brussels.

The Treaty of Rome speaks of the need to respect member states' culture (no, nothing to do with yogurt) and bind them together (please put the string away). In view of those aspirations, Europe's leaders need to get on board with this reform. Not literally, obviously. It's not a ship. Never mind.

This article appeared in the Leaders section of the print edition under the headline "Silly sausages"

Letters to the editor
On investments, New York, pensions, English, Latin, the Conservatives

On investments, New York, pensions, English, Latin, the Conservatives

Letters to the editor

A selection of correspondence

Print edition | Letters Jun 29th 2019

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

Investment disputes in the EU

You appear to suggest that American and Swiss investors in central European member states of the EU may be worse off following a judgment by the European Court of Justice in a case concerning Achmea, a Dutch insurer, and Slovakia (" Treaty or rough treatment ", June 8th). However, this is not so, as that judgment only concerns cases by EU investors against EU member states. In such cases, the court held that EU law precludes arbitration before international tribunals.

The judgment was issued in March 2018. Since then more than a dozen arbitral decisions held that they were not bound by that judgment. This included a claim by Vattenfall, a Swedish energy company, against Germany over the objections of that country, which had argued that following the judgment the tribunal did not have jurisdiction. And while the European Commission supported efforts to end intra-EU bilateral investment treaties, ultimately all EU countries undertook to terminate these treaties by the end of this year.

If the ECJ judgment contributes to improving the functioning of national court systems in the EU, then the long-term benefits will vastly outweigh any perceived shortcomings in the near future. Full disclosure: I was lead counsel for Slovakia in the said proceedings before the ECJ.

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You described the International Centre for the Settlement of Investment Disputes as "an obscure court across the Atlantic". It is neither a court nor across the Atlantic; ICSID is an arbitration institution administering hearings across the globe. Nor is it the sole legal framework for investment-treaty disputes. A significant portion of cases are heard outside the ICSID regime, which makes disputes susceptible to domestic court supervision; the Achmea case is one example of this. Moreover, the evidence is decidedly mixed on a causal link between investment treaties and investment flows.

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Burying New York's poor

" Potters' fields " (June 15th), an article on burying New York's poor and unclaimed, said that there is only space for eight to ten more years at the City Cemetery on Hart Island. That pertains to land that has not yet been used. The city has recycled common graves on Hart Island for a long time, which is why over 1m bodies have been interred there since 1869 (private cemeteries cannot reuse graves, but common graves in public cemeteries can be re-employed). As a result of the recycling, which began in 1933, Hart Island is now the largest natural burial ground in the United States and offers a sustainable and ecological solution for burying unclaimed bodies, as required in New York state.

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Chile's pension returns

Notwithstanding the conceptual and practical merits of the Chilean pension system, there is a serious problem that has not received proper attention: the risk-reward profile of the investment options (" Will you still feed me? ", June 8th). One recent study showed that the risk-return profile of Chilean pension funds is completely at odds with the regulator's desire. In short, the most conservative investment option has outperformed the most risk-taking for most of the time.

Mexican pension funds, however, over a similar time period exhibited almost perfect risk-return profiles. The reason? The Mexican regulator incorporates the value-at-risk metric; the Chilean one relies only on asset-class limits. Regulators of the world, beware: you might be creating a monster.

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An English-speaking union?

Charlemagne thinks that promoting English as the European Union's sole official language would allow for "the sort of unity that is only possible with a common tongue" (June 15th). What is the evidence for such a claim? Britain and America share a common language and yet the present governments are far apart on reaching a consensus in many policy areas.

The EU has not needed to promote a single official language because the unique form of monolingual ideology that has taken hold in Western Anglo nations is internationally atypical. Switzerland (an example cited by Charlemagne) does indeed have German, French, Italian and Rumantsch strongholds, but official business can, and does, take place in all four.

Perhaps if we as a society were more understanding of the benefits inherent in multilingual operations, we would not be experiencing a national languages-skills gap that is estimated by the British Academy to be costing the economy £48bn ($61bn) a year.

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To Charlemagne's observations on the advantages of English in Europe can be added the long-standing acceptance by Anglophones of different groups who speak their language in different ways. The French and German languages are shaped by academies and committees that try to define from the top down what is or is not correct language. The Anglophone tradition relishes differences of region, register and class as a semantic stratum that conveys a wealth of meaning, not about what is said but about who is saying it.

In origin, English is simply French spoken by Germans. Let us look forward to a day when Geordie, Scouse, Received Pronunciation and Cockney can hold out a hand in friendship and understanding to Europeans speaking fluent Freutsch.

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Compact Latin

Latin is the parent of several languages, as pointed out by Johnson (June 8th), but none of them has matched its compact beauty. The gladiators' greeting as they entered the Coliseum: "Morituri te salutant" ("Those who are about to die salute thee") is but one memorable phrase. An even more notable example was "Speramus meliora; resurget cineribus" ("We hope for better things; it will rise from the ashes")—four words replacing 11.

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Political obliteration

To clarify Bagehot's contention that the Canadian conservative party was "wiped out" in the election of 1993 (June 15th), two conservatives survived that drubbing and were returned as members of Parliament: Mrs Elsie Wayne and Mr Jean Charest. Some wag observed the party was now an endangered species and perhaps faced extinction, given it had been reduced to but a single breeding pair.

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This article appeared in the Letters section of the print edition under the headline "On investments, New York, pensions, English, Latin, the Conservatives"

America and Iran
The narrowing gyre

Spinning out of control?

Breaking the nuclear deal ratchets up the conflict between Iran and America

An unwanted war is not necessarily an unlikely one

Print edition | Briefing Jun 29th 2019

THE FACILITY 30km (19 miles) north-west of the Iranian city of Natanz looks like a humdrum industrial site. Only the anti-aircraft guns hint at what goes on eight metres (26 feet) underground. For over a decade Iranian scientists there have fed uranium hexafluoride into centrifuges that spin at twice the speed of sound so as to sift out uranium-235, the isotope capable of sustaining a chain reaction in a nuclear power plant or bomb. The “raw” uranium that goes in is 0.7% 235U; the stuff that comes out is 4% 235U.

In 2015, as part of the nuclear deal between Iran, the permanent-five nations on the UN Security Council and Germany, Iran promised that it would not enrich any uranium beyond this 4% level, nor hold stocks of more than 300kg of such low-enriched uranium (LEU). But in May 2018 President Donald Trump walked away from that deal, reimposing old sanctions and adding a spate of new ones, too. America now imposes over 1,000 sanctions on Iran and parties that might trade with it. These sanctions have hurt Iran a lot: inflation is expected to reach 50% this year, and GDP to shrink by 6%.

Iran hopes that if it does, or threatens to do, things others would rather it did not, it might have its plight relieved. So in May it quadrupled the rate at which it was producing LEU. On June 27th, according to the International Atomic Energy Agency (IAEA), the LEU stocks at Natanz had not quite surpassed 300kg. But in just a few days the limit could be broken.

An imminent step beyond the limits of the deal is not a cause for immediate alarm. For one thing, no amount of LEU can in itself be used to make a bomb; that is typically done with uranium enriched to 90% or so. For another, the step is easily reversed. Enrichment is difficult, but dilution is a doddle.

At the point when it signed the deal, Iran had amassed a much larger stockpile of LEU—ten tonnes—and had many more centrifuges up and running. Its breakout time—the time it would take to produce enough fissile material for a single bomb—was a harrowing two to three months. With the stockpile and centrifuges it has working at Natanz today, the breakout time would be over a year.

Stepping over the LEU threshold is a signal that Iran is no longer willing to abide by the terms of the deal, despite encouragement to do so from the other five parties, unless it is offered new incentives. Further steps look sure to follow. Iran’s president, Hassan Rouhani, recently warned that if the deal’s other signatories did not set about easing the country’s economic pain by July 7th, the country would start enriching uranium beyond the 4% level. Another reversible move, but a more troubling one. Enrichment follows the rules of geometric growth, so uranium enriched to 20% is most of the way to 90%.

Other escalations might include: pulling mothballed centrifuges out of storage to increase the amount of enrichment it can do; restarting enrichment at Fordow, an even deeper-buried and thus harder-to-bomb plant. Perhaps the most ominous would be to expel the inspectors from the IAEA who closely monitor Iran’s nuclear facilities, leaving the world blind to any attempts at breakout.

For the time being, Iran is more interested in hinting at such options than dashing nuke-wards. Measured and reversible steps lessen the backlash from European states, which have some sympathy with Iran’s predicament, and make it harder for America or Israel to justify a preventive war. But they are still provocative, and speak of a certain desperation. “When we looked at scenarios in the past, we never assumed such a long and unbelievably aggressive US policy towards Iran,” says a former Pentagon official who participated in war games to understand how a conflict with Iran might play out. “Maximum pressure”, America’s term for the tightening vice of sanctions, “has left Iran as a wounded animal, up against a wall.”

Fissile brinkmanship is the most candid signal of Iran’s willingness to make its pain a concern to others, but there are more. On May 12th and June 13th several tankers were attacked off the coast of the United Arab Emirates and in the Gulf of Oman. America and some allies blamed Iran’s Islamic Revolutionary Guard Corps (IRGC). Rebels in Yemen, who have been armed by Iran in the past, have recently carried out several missile and drone attacks against targets in America’s ally, Saudi Arabia. And on June 20th Iran shot down a remotely piloted American spy-plane which it claimed was in its airspace.

Mr Trump quickly ordered an attack on the surface-to-air missile system that shot down that drone. He then called off the operation, reportedly with ten minutes to spare. He later said he had done so because he had learned that it could inflict up to 150 casualties, a death toll he described as “not proportionate” to the provocation.

Deals of choice

What Iran wants from all this is clear: relief from sanctions. What America wants is harder to say—not least because Mr Trump and his advisers may well not agree.

A couple of weeks after America pulled out of the deal, Mike Pompeo, the secretary of state, set out a dozen demands to be made of Iran in any negotiations. They included ceasing all enrichment, withdrawing all forces under Iranian command from Syria and ending support for militant groups such as Hizbullah and Hamas. These demands go far enough beyond what Iran might conceivably comply with as to suggest that the real aim is regime change brought on by economic collapse and, if necessary, military confrontation. John Bolton, Mr Trump's national security adviser, has called for attacks on Iran over many years.

Mr Trump seems less keen. Yes, he has chosen to employ hawks like Mr Pompeo and Mr Bolton. He is much closer to Iran's regional foes, Israel and Saudi Arabia, than was Barack Obama, under whom the deal was negotiated. But on the campaign trail he largely set himself against foreign interventions. His *volte face* over the retaliatory raid reportedly followed a conversation with Tucker Carlson, a Fox News host keen to be seen standing up for the promises of that campaign—pro-little-guy, anti-big-business, nigh-on-isolationist. And the president knows that he will soon be on the trail again. Any military outcomes short of prompt and decisive triumph would be a boon to his opponents.

Hence another interpretation of maximum pressure on Iran: that it is aimed at pushing the country into negotiations. "I think they want to negotiate," Mr Trump said on June 23rd. "And I think they want to make a deal. And my deal is nuclear." *Pace* Mr Pompeo's wide-ranging demands, Mr Trump stressed there were no preconditions for talks. The plan, to the extent that such a thing exists, would seem to follow the template he used with North Korea.

In that stand-off, too, Mr Trump was prepared to go to the rhetorical brink, alarming the world with talk of fire, fury and the size of his nuclear button, before taking part in a summit with Kim Jong Un, North Korea's leader, in Singapore. "He may believe that by targeting the supreme leader [with specific sanctions] he can push him into the same dialogue as he forced 'Little Rocket Man'," says John Smith, a former head of the US Treasury's sanctions enforcement.

Coercive diplomacy can work: indeed, it produced the deal of 2015. However William Burns, a diplomat who was involved in that effort and now heads the Carnegie Endowment for International Peace, a think-tank, points out that Mr Trump is trying the coercion without the diplomacy. Take the latest sanctions aimed at high-ranking individuals. Their first targets are Ali Khamenei, Iran's supreme leader, and eight military commanders. The next salvo is likely to include the foreign minister, Javad Zarif. Some of America's allies see this as making diplomacy very difficult. Iran's foreign ministry says it means "the permanent closure of the diplomatic path".

That said, there are always channels. Shinzo Abe, Japan's prime minister, recently visited Tehran bearing a message from Mr Trump. True, he is said to have left empty-handed. But the fact that Mr Khamenei, who rarely meets foreign leaders, was prepared to see him was perhaps a sign of openness. The question is what might America want him open to?

Any deal Mr Trump could countenance has to look like something tougher than the one he broke. Iran might expand the supreme leader's apparently long-standing *fatwa* outlawing nuclear weapons in effect turning religious law into secular law. It might also agree to tighten the IAEA inspections regime—already one of the toughest in existence—and to extend the amount of time for which certain nuclear activities are prohibited.

In return, Iran would need America to rejoin the deal, provide greater sanctions relief than it did in 2015 and decline to press Iran on some or all of the wider goals Mr Pompeo set out. America might also offer the surety of a deal which, unlike the original, would be enshrined in a treaty ratified by the Senate from which no president could withdraw off his own bat. Democratic senators want the deal restored, and the Republicans who opposed it under Mr Obama might now come round.

This might be presented as "more for more". Mr Trump could boast of a bigger, better deal—most importantly, one struck by him rather than Mr Obama. Iran could hail its success in seeing off sanctions and staring down American threats. However, such things take time and patience. Iran and America have a long record of mutual distrust (see timeline). Iranians point to America's part in the 1953 coup against their elected prime minister and its support for Saddam Hussein in the Iran-Iraq war of the 1980s. Americans recall the embassy hostage-taking of 1979-81 and promiscuous support for terrorism, some of which has cost American lives. There is now the added problem that America broke their last agreement.

Though Mr Trump would surely prefer the sort of meeting in front of the world's cameras that he had with Mr Kim, the countries' long history of bad blood, along with the fact that Iran's regime needs to keep various factions on board, would probably require normalisation to come about step by step—through the appointment of trusted envoys, waivers on some sanctions, confidence-building talks on Yemen, and so on. Mr Bolton would be unlikely to have any of it; he might decamp to the fields of punditry, criticising any reconciliation (though probably not on Mr Carlson's show, where he has been denounced as a "bureaucratic tapeworm").

What could go wrong?

In the meantime the risks of miscalculation rise. This does not mean all-out war is imminent. Iran spends just over $13bn on its armed forces each year—five times less than Saudi Arabia and about 50 times less than America. If the attack of June 20th had not been called off, Iran could not easily have escalated matters by means of a direct military response. But it might have launched further mine attacks in the Persian Gulf, or intensified the attacks against Saudi Arabia by rebels in Yemen.

It might also have launched cyber-attacks of its own. "Incidents involving Iran have been among the most sophisticated, costly, and consequential attacks in the history of the internet," noted Collin Anderson and Karim Sadjadpour, experts at the Carnegie Endowment, in a study in 2018. Marcus Willett, a former senior official at GCHQ, Britain's signals-intelligence agency, observes that Iranian cyber-operations have penetrated not only Saudi Arabia's national oil company but also critical national infrastructure in Western states.

America could respond in kind. It has devoted considerable resources to planting malware throughout Iran's nuclear sites, military and communication networks and power grid as part of a project called Nitro Zeus. After the air strikes of June 20th were called off, cyber-attacks on the IRGC and missile forces went ahead. America also disrupted the communications of Kata'ib Hizbullah, an Iran-backed militia group in Iraq, in the days afterwards. Persistent low-level cyber-skirmishing may be becoming normal.

If Iranian mines, missiles or malware provoked America to launch a much bigger strike—Mr Trump has tweeted that "any attack by Iran on anything American will be met with great and overwhelming force"—its armed forces would doubtless prevail. But they might well suffer some losses along the way. The IRGC has honed the art of asymmetric warfare, for instance operating small, zippy boats designed to swarm around and discombobulate big American warships. Iran has also built up a formidable array of projectiles, including the largest ballistic-missile force in the Middle East and sea-skimming anti-ship missiles that can be launched from the shore or from quiet submarines hidden in the murky waters of the Persian Gulf.

Nor would American warplanes have a free run of Iranian skies. Iran's air force may be dilapidated—it flies F-14 fighters from the "Top Gun" era—but since 2017 it has acquired four eight-launcher batteries of Russia's formidable S-300 air-defence system. Its home-grown missiles are not bad, either. One of them took down that sophisticated high-altitude American drone.

The IRGC's elite Quds Force would also be likely to draw on its region-wide network of proxy groups and allies to extend the conflict beyond its borders. Hizbullah in Lebanon has around 130,000 rockets and missiles. Predominantly Shia militia groups in Syria and Iraq could threaten thousands of American troops with guerrilla attacks.

Above the level of punitive strikes and regional repercussions there is little room for anything but a campaign to destroy Iranian nuclear sites or overthrow the regime. Neither is appealing. In 2012 a study by former diplomats and military officers concluded that air strikes on Iranian nuclear sites might delay Iran's programme by just four years. Only an invasion and occupation of Iran could durably quash such efforts. That, said the study, would require about a million troops for an extended period. Even the most bellicose of Mr Trump's advisers would blanch at that, you would hope. American voters certainly would.

Regime change sounds easier than occupation; but it has not proved a very productive strategy in recent years. And if the new regime inherits a nuclear programme, even a degraded one, any relief might prove short-lived.

Neither side is eager for war; but Iran is definitely eager to see sanctions relaxed, and has few ways of achieving that end which do not look warlike. What is more, ratcheting down is harder than ratcheting up. And if North Korea is indeed the template, it is not a terribly encouraging one. Yes, Mr Trump and Mr Kim are again exchanging warm letters. But Mr Kim shows no sign of being willing to denuclearise in the way America wants him to, and continues to churn out fissile material for bombs.

There is a deeper difference. With North Korea Mr Trump appeared to defuse, or at least defer, a serious crisis that predated him. With Iran, he faces an unnecessary crisis of his own making. That sad fact of authorship may make it harder for him even to appear to come out ahead.

Correction (July 4th 2019)*: This piece originally said that Iran had 32 S-300 air-defence batteries. We regret the error.*

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Environmental policy
The great divide

The great divide

Can American states slow global warming on their own?

A clutch of states with Democratic governments are having a go

Print edition | United States Jun 29th 2019

BRIAN BOQUIST, an Oregon state senator and fugitive of sorts, does not take his pursuers lightly. "Send bachelors and come heavily armed," he warned from his hideout, which is allegedly in Idaho. "I'm not going to be a political prisoner in the state of Oregon," he added. Since June 20th Mr Boquist and the rest of his Republican colleagues in the state Senate have fled from the capitol in Salem as part a final effort to derail a climate-change bill. Kate Brown, the Democratic governor, who is keen to sign the bill, has invoked her constitutional authority to haul the absentee lawmakers back, thus giving Democrats a quorum. Threats from armed militias then forced the closure of the capitol altogether.

When the western stand-off subsides, Oregon may emerge as the latest state to pass ambitious emissions-reductions legislation, in this case a cap-and-trade programme for carbon pollution. New York is poised to approve its own ambitious climate targets—carbon-free electricity by 2040 and a carbon-neutral economy by 2050. A long line of states, including Colorado, Washington and New Mexico, have already enacted clean-energy laws this year. All this as federal environmental policy languishes under an administration that denies climate change is a problem worth tackling and is keen to undo regulations aimed at slowing it down.

More and more states are following California, which began instituting stringent environmental rules decades ago. Rigorous efficiency standards for appliances, businesses and vehicles have brought the Golden State's emissions down. From 2000 to 2016, California's emissions fell by 9% even as its economy and population grew.

Since 2002 renewable-energy standards, which mandate that a steadily increasing percentage of electricity must come from renewable sources, have spurred innovations. And since 2013 the state has had a cap-and-trade programme, which prices carbon by capping maximum emissions. This scheme covers 85% of total greenhouse-gas emissions. The current price of a metric ton of carbon dioxide is $17.45—sizeable, but less than the total cost of carbon pollution, which is estimated to be about $50 per metric ton. So far the specific contribution of the cap-and-trade scheme to emissions reductions is hard to measure, says Dallas Burtraw of Resources for the Future, who chairs the programme's market advisory committee. But it should become more important as the cap tightens and prices rise.

For the newer members of the green-state coalition, policies vary greatly. On the west coast plans are fairly detailed. Jay Inslee, the governor of Washington state, who is running a long-shot bid for president on a climate-centred agenda, signed a bill in May which would make the state's energy supply coal-free by 2025. Washington, which already makes much use of hydroelectric power, plans to accomplish this by reorganising power generation. The plan goes further, though. The state's energy supplies must be 100% carbon-neutral by 2030—a year which is not so far away—and 100% carbon-free by 2045.

States like Washington, with Democratic legislatures and governors, have gravitated more towards renewable targets and clean-energy subsidies than to outright carbon-pricing. Twice during Mr Inslee's six years in office Washingtonians have rejected carbon taxes by referendum. Mr Inslee blames "the oil and gas industry, that had not yet come to terms with this need for transition". Carbon taxes, though much touted by economists, have never been popular with voters.

If not thwarted by fleeing Republican lawmakers, Oregon's plan would take account of that aversion. Its centrepiece is a cap-and-trade programme like California's, which could eventually be integrated into the same regional electricity market. It aims to reduce emissions levels to 45% below 1990 levels by 2035, and to 80% below by 2050. For a small state to implement a cap-and-trade scheme on its own is a tricky proposition. Businesses may find it hard to leave California if energy prices rise, but can more easily spurn smaller places. Administrative costs are higher for a smaller carbon market, as is the chance of major disruptions.

A Big green Apple

New York's approach is different—both because its targets are so ambitious and because the methods for achieving them are unclear. The state was already awash with regulations and programmes to support cleaner power, such as solar and offshore wind farms. The new bill, which Andrew Cuomo, the governor, is expected to sign into law, strengthens them. It includes a binding goal to achieve 70% of electricity generation through renewables by 2030; by 2040 all power would need to be emissions-free. By 2050 the entire New York economy would need to have emissions 85% below 1990 levels. The remaining 15% would need to be offset, for instance through carbon-capture technology.

Legislators declined to get into the details, bestowing that task on a new "climate action council" that must create recommendations. Kathryn Wylde, the head of the Partnership for New York City, a business group, says she supports efforts to fight climate change but is wary of the looming practical challenge supplying enough energy to New York City when a giant nuclear plant shuts down. Last month the state rejected a new natural-gas pipeline, which opponents had said would undermine New York's climate goals.

State efforts have speeded up in response to the intransigence of the Trump administration. Since *Massachusetts v EPA*, a Supreme Court ruling issued in 2007, the Environmental Protection Agency (EPA) has been legally required to regulate carbon-dioxide emissions, which the ruling classified as a dangerous pollutant. Under Barack Obama the agency adopted far-reaching regulation known as the Clean Power Plan, which targeted reductions in emissions from electricity generation by phasing out coal. The rule was tied up in the courts and never went into effect.

Last week President Donald Trump finalised its replacement, the strangely named Affordable Clean Energy (ACE) rule. This will not resuscitate the coal industry, as Mr Trump claims. But any future Democratic president would find that undoing it will require another lengthy rule-making process which will take several years. The ACE rule might also prove to be a headache for the owners of power stations, in part because of its poor drafting.

The Trump administration is also trying to delay fuel-economy standards for cars put in place by the Obama administration, and is tussling with California over its ability to set even higher standards. Carmakers, who are the alleged beneficiaries of the proposal, are lukewarm or outrightly opposed to the idea. Oil producers, however, are elated. This is despite frequent pronouncements from the current EPA on the virtues of "co-operative federalism" in environmental policy and the undesirability of "dictating one-size-fits-all mandates from Washington". That outlook seems to apply more when states are racing to get rid of regulations than when they are trying to add more.

America accounts for 15% of global emissions. The states and cities passing ambitious climate-change programmes account for a fraction of this fraction. Emissions have declined from historical levels in America due simply to costs—natural gas has become cheaper, and the cost of renewables has dropped significantly. In the past decade the cost of wind energy has fallen by 50%, while that of solar energy has dropped by more than 80%. States and cities can depress this national trajectory a bit further.

A bifurcated country, in which prosperous Democratic states with hefty environmental rules go one way and Republican-leaning states go another, is not ideal. But state programmes will generate valuable know-how before the rest of the country moves, says Severin Borenstein, an economist at the University of California, Berkeley. They will also provide an example for the rest of the world to study. China accounts for nearly twice as many greenhouse-gas emissions as America. Chinese bureaucrats have dropped in on California to inspect its programme many times.

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Elle accuse

The president stands accused of rape, again

Among the most gloomy things about E. Jean Carroll's accusation is how unsurprising it is

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A QUARTER OF a century ago a man is alleged to have raped a woman in the changing rooms of Bergdorf Goodman's lingerie department. It was not the first time this woman had been raped but it was the last, and she has not had sex since. She never went to the police, though she did tell two friends about the rape at the time. He denies the allegation. She is an agony aunt who dispenses upbeat advice to women, urging them to put troubles behind them and move on. He is the sitting president of the United States.

E. Jean Carroll is the 16th woman to credibly accuse the president of some kind of sexual molestation and the second to accuse him of rape. The first, Donald Trump's ex-wife Ivana, claimed during a divorce settlement in 1989 that he had raped her, but later recanted. Ms Carroll described her encounter with Mr Trump in a searing essay called "Hideous Men" for The Cut, a website. She explains her previous silence thus: "I am a member of the Silent Generation. We do not flap our gums. We laugh it off and get on with life."

Getting on with life is what most Washington politicians have been doing since the accusation was made. Republicans have hardly bothered to defend Mr Trump, nor Democrats to denounce him. Among the more gloomy things about Ms Carroll's accusation is how unsurprising it is. Whether they approve of him or not, only 35% of Americans say the president is a person they admire, according to Gallup. His defence—"She's not my type"—with its implication that had she been more attractive he might have done it, is a reminder of why that is so.

This article appeared in the United States section of the print edition under the headline "Elle accuse"

Never a bargain

Will transparent pricing make America's health care cheaper?

A new executive order requires hospitals and insurers to disclose their negotiated prices

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PRESIDENT DONALD TRUMP has been promising to bring down health-care costs ever since he announced his campaign for the White House. So far his policies have had the opposite effect. As contenders to stand against him in 2020 have begun to refine their pitches on health, he has at last done something to keep his promise. On June 24th Mr Trump signed an executive order requiring hospitals to disclose the (hitherto secret) prices they have negotiated with insurance companies. The idea is that transparent pricing will spur competition and force high-price hospitals to cut margins, or become more efficient.

The political urgency is glaring. In a survey earlier this year 61% of Americans said they would prefer a five-year freeze in their health-care costs to a 10% increase in income. One in eight had borrowed money to pay for health care in the past year. Even among households making $180,000 a year or more, a third fear that a health crisis could push them into bankruptcy.

The presence of fat for competition to trim is evident from the wide variation in negotiated prices (where those have been made available for research). Analysis of payments data from three big insurance companies found up to a 39-fold difference in the prices they paid for a given service in the same metropolitan area—even after outlier prices were excluded. Whether making this kind of information public will push prices down is doubtful.

One way it could do so is if people use it to price-shop. An estimated 30-40% of America's health-care spending goes on things considered "shoppable", meaning that the situation is not urgent (like a broken leg or a heart attack) and there is a choice of medical providers. But almost all this expenditure is paid by insurers, meaning patients have no incentive to shift to lower-price providers. Some patients may see high prices as a sign of quality, says Lynn Quincy of Altarum, a health-care consultancy—even though research in America shows that the two are not linked.

Pressure from insurance companies is a more likely way to reduce prices. Knowing what hospitals are charging their competitors may spur some insurers to bargain for better deals. Big employers who buy health-insurance plans in bulk will press them on that. The problem is that a recent boom of consolidation in America's hospital industry has left buyers of health care with fewer choices.

According to a study in 2017 by the Commonwealth Fund, a think-tank, 90% of metropolitan areas in America have hospital markets that federal competition authorities would call "highly concentrated", meaning that there is very little competition. Although the insurance market is also highly consolidated at local level, that rarely gives insurers the upper hand in bargaining with medical providers. The market concentration of insurers is higher than that of providers in only 6% of metropolitan areas, according to researchers at the Commonwealth Fund.

Nonetheless, experience with price transparency suggests that hospitals charging particularly high prices may blink first when there is a dispute over bargaining, says Ms Quincy. Until 2010 New Hampshire's most expensive hospital charged nearly 50% more than its competitors. That year, the state's biggest insurer used data made available by a price-transparency law to shame the hospital as a pricing outlier—getting public support which forced the hospital to lower its prices. After California's public-employee fund set a "reference price" for joint replacements, covering costs only up to that amount, its payments per patient fell considerably—mostly because hospitals lowered prices to the reference amount, rather than because patients shifted to lower-priced hospitals.

Hospital and health-insurance lobby groups claim that Mr Trump's price-transparency plan will backfire and prices will rise. What happens eventually may vary from place to place. But shedding light on what everyone pays might just infuse some reason into the seemingly random pricing of America's health care.

This article appeared in the United States section of the print edition under the headline "Never a bargain"

Boutique slammers

A jail in Denver offers some lessons for criminal-justice reformers

As New York's incarceration rate falls, the city is casting around for smaller jails to copy

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ON JUNE 7TH Layleen Polanco, a 27-year-old transgender woman, was found dead in her cell at Rikers Island Jail. She was being held on $500 bail for a misdemeanour prostitution offence and the lowest-level drug charge, and she was being kept in solitary confinement for fighting. The death was not unusual in a jail renowned for corruption and cruelty, where mostly poor defendants can languish for years while awaiting trial. Bill de Blasio, New York's mayor, plans to shut Rikers by 2026 and replace it with four smaller jails near courthouses in Brooklyn, the Bronx, Manhattan and Queens. Among other things, this fresh start offers a chance to rethink prison architecture in the city.

America's prison-builders have mostly wrestled with basic questions such as whether to house prisoners separately or together, and how to manage them with as few staff as possible. In the second half of the 20th century tough-on-crime laws sparked a boom in low-cost jail-building. By 2007 one in every 100 adults was typically housed in an isolated cinder-block compound surrounded by barbed wire. More recently there has been a fashion for high-rise prisons in the middle of struggling cities. Milwaukee has a 12-storey jail.

In New York, awareness of the high costs of incarceration has spurred demand for more humane spaces. "This is a watershed moment," says David Ziskind, a criminal-justice expert at STV, an architecture firm. The new jails are expected to emphasise rehabilitation over retribution and be used more sparingly. The goal is to house under 1,500 inmates at each facility, which means reducing the total prisoner population to under 5,000. This is far less than the nearly 8,000 housed at Rikers, but it is in line with current trends. New York's prisoner count has already fallen 30% since Mr de Blasio took office in 2014; jail admissions are down nearly 50%. Meanwhile, crime continues to fall.

Architects will submit proposals in 2020, but the city is already casting about for models. Officials have visited the 1,500-bed Van Cise-Simonet Detention Centre in Denver, Colorado. This building, which opened in 2010, offers some lessons. With its limestone façade, Van Cise-Simonet looks more like a museum or a university library. The interior is notable for its open spaces and the natural light from its bar-less windows. A booking area for new inmates resembles a bus terminal, with a few holding cells for those who misbehave.

Instead of long grey corridors lined with clanging metal-doored cells, inmates stay in smaller units that hold up to 64 people, plus a deputy. In theory this reduces violence among inmates and against staff because officers get to know the prisoners and can see problems before they arise. The pods have areas for meals, classes and recreation, which limits the risk that comes from taking inmates to and from their beds several times a day. The facility also has a full medical unit, a mental-health unit and two courtrooms to handle misdemeanours and preliminary hearings.

"Environments cue behaviour," says Ken Ricci of CGL, a consulting firm, who was a principal designer of Van Cise-Simonet and is a member of the mayor's taskforce to close Rikers. Sunlight and better acoustics improve life for the staff. The Denver jail suggests design has its limits, though. Overcrowding and short-staffing dogged the facility for years, and a report in the *Denver Post* in 2017 found that the number of assaults between inmates and against staff had started going up. The city spent around $12m to settle claims from the deaths of two inmates, in 2010 and 2015, one of whom was mentally ill.

Mr Ricci is quick to concede that the design of Van Cise-Simonet is not perfect. Zoning constraints on the height and width of the building left inmates and staff with less elbow room and made view-obscuring pillars structurally necessary—an architect's nightmare. Attracting and retaining staff is hard when the unemployment rate is so low, especially as the job now demands an ability to manage psychiatric emergencies and behave more like a social worker, rather than merely booting recalcitrant inmates in the stomach. "Our goal is to send these people back to the community in better shape than how they came to us," says Elias Diggins, the Denver Sheriff Department chief and the president of the American Jail Association. Better design is a good start, but only that.

This article appeared in the United States section of the print edition under the headline "Boutique slammers"

Better Play, Lesser Pay

Where female athletes are more popular than male ones

And still get paid less

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EXCITED FANS in bald eagle baseball caps watched as the United States women's football team beat Spain to progress to the quarter-finals of the World Cup on June 24th. This was no shock upset. The Stars and Stripes are the most successful side in the history of women's football, having won the World Cup three times and Olympic gold four. This year they romped through the group stages with an aggregate score of 18-0, a total inflated by their record-breaking 13-0 drubbing of lowly Thailand.

This on-pitch success, however, is marred by controversy in court. The members of the United States women's team marked International Women's Day on March 8th by filing a class-action suit against their employer, the United States Soccer Federation (USSF). The suit alleged that differences in pay and employment conditions between the women's and men's team violate the Equal Pay Act and Title VII of the Civil Rights Act. Despite engaging in "substantially equal work", the women's team is paid considerably less. If each team were to play 20 friendlies over the course of a year and win them all, the women would receive $99,000 whereas the men would net $263,320, according to the filing.

It is common for female athletes to be paid less than men. The combined salaries of the 1,693 women playing in the top seven football leagues add up to $41.6m, just slightly less than the $41.7m salary paid to Neymar, a Brazilian forward, by Paris Saint-Germain. But football in America is unusual because the women's team is paid less than the men, despite more people tuning in to watch them.

Such pay differences are permissible if the employer can prove that one of four "affirmative defences" apply: a seniority system, a merit system, a pay system based on quantity or quality of output or any other factor apart from sex. The burden of proof is on the USSF to prove that the disparity can be legitimately explained by one of these four. The federation has attributed the discrepancy to "differences in the aggregate revenue generated by the different teams and/or any other factor other than sex." The success of the lawsuit depends on whether this is true.

A *Wall Street Journal* investigation into audited financial reports from the USSF suggests that it is not. Between 2016 and 2018 women's games generated about $50.8m in revenue. The men took in about $49.9m. That alone is not enough to settle the case. This money came mostly from ticket sales, but that is not the only source of revenue attributable to the national teams. Much of it comes from broadcast rights and sponsorship deals. As these are bundled together, it is difficult to assess how much ought to be attributed to each team. It is, however, hard to believe that the men's team, whose best result has been third place in the 1930 World Cup and who failed to qualify last time round, is such a sought-after commodity as to justify the pay disparity.

Having qualified for the knockout stages of the World Cup, the 28 female players agreed to pursue mediation once the tournament ends. This is unlikely to resolve the matter. Legal disputes over equal pay have been going on since five players filed a complaint with the Equal Employment Opportunity Commission in March 2016. This has effectively been subsumed by the class-action suit. A previous effort at mediation fell apart in March. The team is now two matches away from the final at the Parc Olympique Lyonnais. Whether they make it there will be decided on the pitch. How they are compensated for their efforts is likely to be decided in court.

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Lexington

The idea of reparations for slavery is morally appealing but flawed

Democrats should drop it

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MITCH MCCONNELL is not known for his views on racial justice. But when asked last week whether he thought African-Americans should receive restitution for slavery and the decades of lawful discrimination that followed it, the Republican Senate leader's response was sound. He was against the idea, he said, in part for practical reasons—for how would the recipients of compensation be selected? He also objected in principle: if African-Americans received reparations, what about the other victims of discrimination, including America's many "waves of immigrants"? Continued, incremental improvements in the lives of black Americans seemed a more credible response to "our original sin", said Mr McConnell. "We've elected an African-American president. I think we're always a work in progress in this country."

Democrats, who were about to hold the first congressional hearing on slavery reparations in over a decade, hit the roof. Senator Cory Booker, one of at least seven candidates in the Democratic primary to have given their support for a bill to launch a congressional probe into the issue, slammed Mr McConnell's "ignorance". Another candidate, Marianne Williamson, a self-help guru who has proposed making reparations to African-Americans of up to half a trillion dollars, questioned his gradualist view of racial progress. "You can't have the future that you want until you're willing to clean up your past." Yet Mr McConnell's view of the matter was similar to that of the first black president he referred to.

Barack Obama considered the idea of reparations to be politically fantastical, because a majority of Americans would never agree to it, and otherwise flawed. That was not to downplay the terrible legacy of slavery and Jim Crow among black Americans, including persistent white-black wealth, income and education gaps. But as a policy prescription, Mr Obama told the writer Ta-Nehisi Coates, whose 2014 essay in favour of reparations, published in the *Atlantic*, had revived the issue, it was a distraction. "Why are we even having the abstract conversation when we've got a big fight on our hands just to get strong, universal anti-poverty programmes and social programmes in place, and we're still fighting to make sure that basic anti-discrimination laws are enforced?"

This also represented a belief in the hard slog of incremental improvement, ingrained in Mr Obama by his study of history as well as by the political moment. The New Deal and civil-rights era were rare explosions of liberal progress, in special circumstances, which his election alone did not augur. That many Democrats are nonetheless now embracing the reparations distraction shows how much the party has changed since Mr Obama last secured the White House in 2012. That should worry anyone who hopes it will repeat the feat against President Donald Trump next year.

The right's racially charged opposition to Mr Obama has helped encourage the shift. Blowhards such as Rush Limbaugh and Glenn Beck characterised his spending proposals as "reparations". Congressional Republicans, led by Mr McConnell, obstructed him to an unprecedented degree. Left-wing critics of Mr Obama, including black activists dismayed by his pragmatism, had previously warned that his attempts to meet Republicans in the centre ground would cause them to shift it to the right. The fact that this happened (when Mr Obama adopted a Republican health-care plan, Republicans called it socialism) is a reason many now cite for demanding a bolder agenda. Yet the idea that Mr Obama would have been more successful if he had tried to do the left-wing things his critics falsely accused him of defies reason. In the case of reparations, this would mean Democrats propounding an idea even more unpopular than Mr Trump's policy of tearing migrant children from their parents. Over 80% of whites oppose it.

Republicans are liable to dismiss any Democratic racial-justice scheme as identity politics. In this case they would be right. Mr Coates, who appeared alongside Mr Booker at the recent congressional hearing, argues that black Americans' legacy of injustice is incomparably worse than that of any other group. Yet native Americans, a smaller and less Democratic group, would beg to differ. And though some Democrats propose giving them reparations too—last week California's governor Gavin Newsom announced the launch of a commission to study the issue and Elizabeth Warren has said she might support it—that is less a solution than a warning against embarking on the endeavour at all. It would be liable to keep spreading—maybe to poor Hispanics next.

That such a clearly impractical and politically no-win scheme made it through the Democratic policy machine might seem amazing; but it did not. It flew more or less straight from Mr Coates's pen to Congress and the presidential primary, where Ms Williamson added noughts to it. No think-tank or policy unit appears to have given real thought to slavery reparations. Its sudden prominence reflects a lack of rigour characteristic of the party's activist fringe. The Green New Deal and Medicare-for-all, two other fashionable ideas on the left, received similarly scant consideration before being pushed by activists into the mainstream.

The colour of money

In their defence, Democratic candidates have mostly made far more measured commitments to all three ideas than the activists would like. Asked for his reparations policy, Mr Booker points to his proposal to fight wealth inequality by giving cash—in the form of “baby bonds”—to poor families. That is the sort of colour-blind anti-poverty measure which would have benefited African-Americans disproportionately and which Mr Obama would have approved of. Mr Booker should describe it as such. By flirting with reparations the Democrats have already provided Mr Trump with racially incendiary attack lines. And to what end? The issue is not even all that popular with African-Americans, only a small majority of whom support it. They tend to be as pragmatic as Mr Obama was, and so must know that it is a pipe-dream.

This article appeared in the United States section of the print edition under the headline ”Slave wages”

Canada
Trudeau prepares for a grilling

Getting ready for a grilling

Justin Trudeau starts Canada's election campaign as the underdog

Voters are doing well, but not feeling good

Print edition | The Americas Jun 29th 2019

JUSTIN TRUDEAU received the kind of welcome in Washington, DC, on June 20th that Canadian prime ministers dream of. President Donald Trump, who a year ago called him "dishonest" and "weak", now saluted him as a "friend" and treated him to lunch at the White House. He promised to help Canada in a diplomatic row with China, provoked in December when Canada arrested a prominent Chinese businesswoman to comply with an American extradition request. Nancy Pelosi, the Democratic Speaker of America's House of Representatives, said she was optimistic that Congress would eventually ratify a deal, which includes Mexico, to replace the North American Free Trade Agreement (NAFTA), a Canadian priority. She gave Mr Trudeau a basket of Californian wines, nuts and chocolates. Those were his winnings from their wager over the duel between the Toronto Raptors and the Golden State Warriors in a basketball championship. An auspicious rainbow appeared over Andrews Air Force Base as Mr Trudeau's motorcade arrived for the flight home.

The omen may have been misleading. On the day of his Washington visit, Canada's MPs dispersed from Ottawa and hit the barbecue circuit to begin the unofficial campaign for the general election due in October. In the opinion polls Mr Trudeau's Liberals have been trailing the opposition Conservatives, led by Andrew Scheer, since a controversy erupted in February over what looked like an attempt by the government to interfere with the justice system (see chart).

Canadians are not giving Mr Trudeau credit for steadying relations with the United States. They care more about matters at home. The top issues in the election will be health care, the economy, taxes, poverty and climate change, predicts Darrell Bricker of Ipsos, a polling firm. On issues that affect household finances, voters trust the Conservatives more, he says.

An additional challenge will come from unfriendly provincial governments. Left-leaning governments in Ontario, Quebec, Alberta and New Brunswick, which were sympathetic to Liberal spending policies during the campaign in 2015, have been replaced by conservative ones intent on thwarting them.

Those policies should be a Liberal strength. Early on the Trudeau government introduced a means-tested child benefit, which has helped lift 300,000 children out of poverty. The government also cut the income-tax rate for the middle class and raised it for Canadians with incomes of more than C$212,000 ($162,000) a year. Economic growth has been unspectacular but steady, despite uncertainty caused by the renegotiation of NAFTA and a drop in oil prices in 2014, which walloped Alberta. The unemployment rate of 5.4% is the lowest in 40 years. More than 1m new jobs have been created since 2015.

Yet many voters do not believe these cheery numbers. They are uneasy about job security and the cost of housing, though property prices in Toronto and Vancouver have dipped from record highs. Social media fan these anxieties. A survey this year by Edelman Canada, a consultancy, showed that just 24% of the "informed public", a group that comprises about a sixth of the population, and 16% of the "mass population" thought the system was working for them. Almost three-quarters of both groups think they are being treated unfairly and a majority want change.

The Conservatives have done a better job than the Liberals of showing that they care about these anxieties. Last month Mr Scheer, a bland but affable former Speaker of the House of Commons, laid out an economic plan that was light on ideas but heavy on empathy. "The economic indicators might say one thing. But the human indicators say something entirely different," he said. He would be the prime minister for "the people who just need a break". That will come from modest tax cuts. He also promised to make unspecified spending reductions to narrow the budget deficit (expected to be 0.9% of GDP this year).

On health care and the environment, the Liberals seem to have the electoral edge. They swiped from the New Democratic Party, a more leftish outfit, the notion that government should subsidise prescription drugs. A proposal for "pharmacare", made by a government-appointed commission this month, comes too late for Parliament to legislate before the election. But it is well in time for the Liberals to dangle the idea in front of voters. They have not yet made clear which drugs would be covered, how much the benefit would cost or who would pay for it.

In a battle between greens and supporters of the oil industry, which generates a fifth of Canada's exports, Mr Trudeau has tried to strike a balance. On June 18th the government approved an additional pipeline to run alongside the 1,150km (715-mile) Trans Mountain pipeline from Alberta to the west coast. The government bought the project last year for C$4.5bn after its owner tired of delays caused by opposition from environmental and indigenous groups. At the same time, it is trying to meet its commitments under the Paris climate agreement, in part by requiring provinces to set a price on carbon emissions.

Partisans on both sides have lambasted Mr Trudeau. After the government approved the pipeline expansion Elizabeth May, leader of the Green Party, which could win votes from the Liberals, called it a "cynical bait-and-switch". Albertans focus on the pipelines Mr Trudeau has blocked (one going east, the other west) rather than the one he approved. A few days after the Trans Mountain decision, Parliament passed a law changing the rules for assessing the environmental impact of such projects. Jason Kenney, the recently elected Conservative premier of Alberta, called the decision a "flagrant violation" of provincial rights and vowed to challenge it in court.

Both Mr Kenney and Doug Ford, Ontario's Progressive Conservative premier since June 2018, killed their provincial carbon-pricing schemes (in Ontario's case, a cap-and-trade system). They are fighting in court the national tax, which is imposed on provinces that do not have plans that pass muster with the federal government.

Conservative provincial governments will also attack the Liberals' pharmacare plan. They object in principle to expanding the role of government, especially in areas such as health care, in which provinces share responsibility with the federal government. Mr Ford made Ontario's pharmacare plan less generous as part of an austerity programme, which he says is needed to cut the province's debt and deficit.

The chaotic administration of Mr Ford, the brother of Toronto's late crack-smoking mayor, Rob Ford, may be Mr Trudeau's best hope of winning. Ontarians are enraged by Mr Ford's spending cuts, which include sacking 400 health-care workers. He even cancelled Canada Day (July 1st) celebrations at Queen's Park in Toronto, site of Ontario's legislature. His unpopularity is dimming Conservatives' prospects in the province, which elects 121 of the 338 MPs in the House of Commons. It will be the chief battleground in the election.

Early polls predict little. At this point in 2015 the New Democrats were ahead (they came third). Mr Trudeau is planning another come-from-behind victory. He is betting that most Canadians will understand the need for compromise on the environment and will give him credit for a strong jobs market, generous public benefits and avoiding a trade bust-up with the United States. He will be scanning the Canadian sky for rainbows.

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Lost llanos

A blocked road cuts Colombia in two

Mudslides isolate the productive plains from the rest of the country

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VILLAVICENCIO, A SHABBY city of half a million people, considers itself the gateway to *los llanos*, Colombia's eastern plains. Now and for the next few months few people will be passing through it. Mudslides since May have blocked the main highway, the Vía al Llano, which connects the city to Bogotá, Colombia's capital, 86km (53 miles) away (see map). More rocks and mud threaten workers trying to unblock the road, along which two-thirds of domestically produced goods are transported. Colombia's government says this could take up to three months.

This has cut off from the rest of the country a region of 1.7m people which produces much of Colombia's oil and food. Residents of Villavicencio and the surrounding plains are beginning to feel the consequences. Potatoes, garlic and eggs have become scarce in grocery stores. Shoppers hunt through produce bins to find the few tomatoes and carrots that have not rotted. More than 90% of hotel reservations in the plains region, newly popular with tourists, have been cancelled. Bistronomy, Villavicencio's fanciest restaurant, ran out of Club Colombia, its most popular beer, on a recent evening. The politicians and landowners who dine there had to settle for Andina, a new brew.

Goods can get through on two smaller toll roads, but these are not fully paved. Some farmers have sold their products at a loss to pay the cost of shipping to Bogotá, which has jumped by 40%. Rice growers fear they will lose their harvest in July, when about a sixth of the crop is picked. According to Villavicencio's chamber of commerce, the blocked road is costing the region more than $15m a day. State governors are asking the national government to declare a state of economic emergency and suspend sales and income taxes. Prices might rise in Bogotá, too.

Colombia is a road-builder's nightmare. The Andes split into three ranges at the southern border. The mountains can climb to 4,000 metres (13,000 feet) from sea level in less than 100km. Colombia gets more rain than any other country in the world, which makes maintenance difficult. Currently 12 major roads are blocked by mudslides. In a ranking of 137 national road networks by the World Economic Forum, Colombia's comes 110th.

Short of cash, the government has given private firms concessions to build roads. Vía al Llano, among the earliest projects built under concession, has been accident-prone. Recently a crater opened up in Guayabetal, near the site of the biggest mudslide. Under the terms of the contract the government, not the concessionaire, is responsible for carrying out the work needed to prevent mudslides. It will now have to do that, expensively.

To relieve *los llanos*'s isolation in the meantime, Satena, a state-owned airline, and EasyFly have announced more flights between Bogotá and Villavicencio. The government has suspended passenger fees on flights between the cities. Tolls on the two alternative roads will be halved. But what the plains need most is a road that can cope with Colombia's treacherous, rain-soaked topography. That goes for much of the rest of the country.

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Bello

Are amnesties in Latin America always a bad idea?

Countries must balance the demands of justice with the need for peace and reconciliation

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SOME ARE elderly and frail. Others are merely greying. Some thought they were untraceable, having invented new identities in other countries. Some were generals, others subalterns. Over the past few years executioners and torturers from Latin America's dictatorships of the 1970s and 1980s have at last been brought to account, despite amnesty laws that were the price of democracy. And that is producing a backlash.

Take El Salvador, where civil war between Marxist guerrillas and the army killed 75,000 people between 1980 and 1992. In one of the most heinous crimes of the cold war in Latin America, an American-trained army unit slaughtered almost a thousand unarmed civilians, mainly women and children, at the village of El Mozote in 1981. The perpetrators were protected by a blanket amnesty decreed in 1993 as part of a peace accord.

Since then international law has changed. It has moved towards the principle that crimes against humanity cannot be amnestied. In 2016 El Salvador's supreme court adopted that doctrine. A score of retired officers, including the former defence minister, are now on trial for the massacre. That has prompted an attempt to pass a law reimposing the amnesty, backed by both the main political parties, whose roots lie in the opposing sides in the war. They worry that reopening the past will aggravate political conflict.

The bill is likely to fail. El Salvador's new president, Nayib Bukele, who was born months before the massacre, has promised to veto it. Yet the issue of what to do about the crimes of Latin America's past dictatorships and guerrilla insurgencies is unlikely to go away until the last war criminal dies.

Any civilised society must try to punish such horrors. But in ending internal conflicts, peace, reconciliation and truth are as important as justice. There is often a trade-off. Rebels and dictators often refuse to give up unless they are promised amnesty. Moral imperative is thus tempered by political feasibility. And the politics is not getting much easier.

The most straightforward requirement is that perpetrators of crimes tell the truth, which allows victims' relatives some small relief. In this Latin America was a pioneer, with truth commissions in Argentina and El Salvador. Colombia's peace agreement of 2016 between the FARC guerrillas and a democratic government was also pioneering in applying current international law, but through restorative justice. Provided guerrilla commanders confess their crimes and offer at least symbolic reparation they will not face jail (though many Colombians think that too soft).

Attempts to achieve justice in older cases have been patchy. Self-bestowed amnesties by military regimes were repealed in Argentina and unpicked by the courts in Chile, but not in Brazil. Uruguayans twice voted for an amnesty in referendums. Argentina and Chile have jailed some military butchers. So has Guatemala, though conservatives there are now trying to free them by extending what was a partial amnesty.

To go back 30 years or so requires judges to strike down amnesty laws and a change in political conditions, notes José Miguel Vivanco of Human Rights Watch, a pressure group. "If these guys are still alive they should face justice and tell the truth," he says.

Retroactive justice is more problematic if it is seen to be one-sided. Under left-wing governments Argentina's judiciary convicted military leaders but left guerrilla crimes unexamined. With less cause, proponents of amnesty in Guatemala invoke political bias.

There are other reasons why undoing amnesties might be bad. Although El Salvador's peace process was successful, the country has not been. Like much of Central America, it suffers from criminal violence. Some citizens might argue that establishing the rule of law in the present should be the priority.

That some countries have torn up amnesties may make achieving peace or democracy harder in others. In Venezuela the opposition has offered amnesty to generals who turn against the dictatorship of Nicolás Maduro. But "most high-ranking officers…don't believe in the amnesty," according to Caracas Chronicles Political Risk Report, a newsletter.

Political debate in Latin America is too often focused on the past. A region that has fallen behind the rest of the world economically and technologically can ill afford that luxury. None of this is an argument against applying justice where possible. It is to recognise that it carries risks.

This article appeared in the The Americas section of the print edition under the headline "Peace or justice?"

The South Asian monsoon
The cloud messenger

A gamble on the rains

The South Asian monsoon, past, present and future

A story of famines and trade, science and cupidity

Print edition | Essay Jun 27th 2019

1 A gamble on the rains

WITH RHEUMY eyes and a face wizened by the sun, Narayanappa looks down to the ground and then, slowly, up to the skies. After weeks of harsh heat his land, one and a half hectares (four acres) of peanuts, chillies and mulberry bushes, has turned to dust. At the beginning of June, a dozen families local to Kuppam, a village in the Chittoor district of the south-eastern state of Andhra Pradesh, came together, as they do every year, to sacrifice a goat as a divine downpayment on a good monsoon. By mid-June the monsoon rains should be quenching the parched ground. Yet there is no sign of the livid clouds running up from the south-eastern horizon which serve as its evening harbingers, rising and roiling, filling the sky with their rumbling and the night with veiled lightning. The sky is as blank as the ground is dry. Narayanappa has his sacks of nuts ready to sow. But time is running out.

In his office at the India Meteorological Department in New Delhi, Madhavan Nair Rajeevan, the department's boss, looks at portents which are dry in a different way—figures and lines on paper and screens. Where once the oncoming monsoon was spotted through telescopes on the veranda of the observatory built by the Maharajah of Travancore on a hill above Thiruvananthapuram (formerly Trivandrum) in Kerala, now the signs of its coming are looked for through tracked radar and satellites. But they are still of intense interest to the country's rulers, and its people. The monsoon's arrival in Thiruvananthapuram at the beginning of June marks the official beginning of India's rainy season. The rains' subsequent movement is tracked on a daily basis by national television stations, rather like the advance of the spring cherry blossom in Japan but with far greater human consequence.

A century of meteorological progress means that Mr Rajeevan can say with much more confidence than his predecessors how fast the summer monsoon will sweep up the nation and how much rain, overall, it will bring. When the monsoon started late this year he could give a convincing non-goat-related reason; Cyclone Vayu, in the Arabian Sea, upset the flows on which the monsoon depends. But though meteorology has improved, it has a long way to go. On average the monsoon is a regular wave of rain, rising and falling over the months from June to September. In any given year, though, the smooth wave is overwritten by spikes and troughs, bursts of intense precipitation and weeks of odd dryness, variations known as "vagaries" which science still struggles to grasp.

There is a complex structure in space, as well as time. Some places may be almost completely skirted by the rains. Others see deluges violent enough to destroy crops and carry away soil, the water running off the land before it can be caught and stored. The flooding that goes with such rains is expected to become worse and wider-spread as the global climate warms. Agriculture remains the Indian economy's largest source of jobs, directly accounting for a sixth of its GDP and employing almost half of its working people. A bad monsoon can knock Indian economic growth by a third. The effects in Bangladesh, Bhutan, Nepal, Pakistan and Sri Lanka are on a similar scale. Almost a quarter of the world—1.76bn souls—lives with the South Asian monsoon.

As Guy Fleetwood Wilson, a finance minister, put it in 1909, the "budget of India is a gamble in rain." Thanks to Mr Rajeevan and his colleagues, the odds of each year's gamble are now better known. But obvious steps that might lower the stakes being played for are still not taken. Storage systems in cities have fallen into disuse; aquifers under farmland are depleted year by year faster than the monsoons can refill them. In a country where more people will face the risks of climate change in the decades to come than any other, the problems of the current climate are being ducked.

The metamorphosis brought by the burst of the monsoon is profound. Brown landscapes turn green, dusts become muds, cracks turn into mouths through which the earth slakes its thirst. The Ganges and the other great rivers fill then overflow, spreading silt-rich fertility across their floodplains. In the countryside the air takes up the petrichor aroma of fresh earth. In gardens, the scent of frangipani carries on the damp breeze; in cities, that unmistakably Indian blend of ordure, asphalt and spice.

It's a sea breeze

The people respond. The rains bring a sense of relief and a new sensuality. In "The Cloud Messenger" by Kalidasa, one of the greatest Sanskrit poets of north India, the meeting of earth and clouds is nothing less than a kind of lovemaking. In the Sangam literature of the deep south, the heroine waits for her lover, who is away seeking war, wealth and adventure, to return with the rains. People still tell stories of inhibitions cast aside and new lovers taken. The heart takes on the driving, unpredictable rhythms of the rain.

For all its complexity and importance, on every scale from that of smallholders to empires, at its heart the monsoon is something fairly simple: a season-long version of the sea breezes familiar to all those who live by coasts. Because land absorbs heat faster than water does, on a sunny day the land, and the air above it, warm faster than adjoining seas. The hot air rises; the cooler air from above the sea blows in to take its place.

A monsoon is the same sort of phenomenon on a continental scale. As winter turns to summer, the Indian subcontinent warms faster than the waters around it. Rising hot air means low pressure; moist maritime water is drawn in to fill the partial void. This moist water, too, rises, and as it does, its water vapour condenses, releasing both water, to fall as rain, and energy to drive further convection, pulling up yet more moist air from below.

The heroine waits for her lover, who is away seeking war, wealth and adventure, to return with the monsoon rains

There are other monsoonal circulations around the world—in Mexico and the American south-west and in west Africa, as well as in East Asia, to the circulation of which the South Asian monsoon is conjoined. But geography makes the South Asian monsoon particular in a number of ways. The Indian Ocean, unlike the Pacific and the Atlantic, does not stretch up into the Arctic. This means that water warmed in the tropical regions cannot just flow north, taking its heat with it. It stays in the Arabian Sea and the Bay of Bengal, lapping at India from the west and the east. And to the subcontinent's north sits the Tibetan plateau, the highest on the planet. The summer heat there draws the monsoon's moisture far higher into the atmosphere than it would otherwise be able to go, adding mountains of cloud to the Himalayan peaks.

The monsoon is thus a mixture of necessity and chance. Given the arrangement of sea and land and the flow of heat from equator to pole, such a season has to exist; given the vagaries of weather from year to year, and within the seasons themselves, it springs surprises for good and ill. It is also, and increasingly, a mixture of the natural and the human—as ever more humans depend on it, as humans learn new ways of anticipating it, and as humans face up to the climate change which will reshape it.

2 The winds that made Asia

THE RAINS for which Narayanappa waits are not the whole story. The word "monsoon" blew into English from Portuguese in the late 16th century not because European sailors cared about the rain on alien plains, but because when they followed Vasco da Gama around the tip of Africa they came across a type of wind they had never encountered, and for which they had no name.

The Portuguese monção comes in its turn from the Arabic, mawsim, which means "season". In the Atlantic Ocean, the only one to which the Portuguese were accustomed, winds in any given place tend to blow in pretty much the same direction throughout the year, though their intensities change with the season and their prevailing direction changes with the latitude. In the Indian Ocean, the prevailing winds flip back and forth.

This is because of the role played in the monsoon by the "intertropical convergence zone" (ITCZ) which encircles the world close to the equator. The ITCZ is a zone of low pressure over the warmest water. In all the oceans, this low pressure draws in steady winds from the south-east known as the southern trade winds.

During the northern hemisphere's winter, the ITCZ sits south of the equator in the Indian Ocean. As warmth creeps north, so does the ITCZ, becoming a dynamic part of the monsoon. It ends up nestled against the Himalayas, bringing the southern trades with it. But their move from the southern hemisphere to the northern, and the constraining effect of high pressure over Africa, sees them twisted from south-easterlies to south-westerlies. When these south-westerly trades pick up in late spring—wind speeds in the Arabian Sea can double over a few weeks—the rains are on their way to Thiruvananthapuram.

Turnabout is fair play

Just as coastal breezes turn around at set of sun, when the land cools fast and the sea stays warm, so monsoons reverse in winter. This is true both for the South Asian monsoon and the East Asian monsoon, which affects Indo-China, the Philippines, southern China, Taiwan, Korea and part of Japan. As the land cools in the autumn, north-easterly winds replace the south-westerlies (see map). Because the winds are mostly dry they are not so important to farmers, though they do bring rain to some parts of southern India. But they matter a great deal to navigation, and thus to human history. The monsoon rains feed what has always been the most populous part of the human world. It is the monsoon winds, though, which brought those people together to form Asia.

Winds which reverse with the seasons shaped a maritime world stretching from the Strait of Hormuz in the north-west to the island archipelagoes of South-East Asia, from Madagascar in the south-west to Japan. With patience, this whole world could be traversed in both directions, with vessels set fair for east and north in summer, west and south in the winter—and with layovers enforced by the tropical storms called hurricanes in the Atlantic, typhoons in East Asia and cyclones in the Indian Ocean (the term comes from the Greek kukloma, the coil of a serpent). The winds of the South Asian monsoon suppress the conditions needed for cyclones to form. When the monsoon is over, they come out to play.

It was a world of long-range trade where seafarers mingled quite freely. And India sat athwart it. Before any written record, the Bay of Bengal was the realm of floating communities of water nomads, with mastery of the seas and little sense of bounded space. Their boat-dwelling descendants live on as the Moken, Orang Suku Laut and Bajau Laut. Today they are marginalised, subjected to ever-tightening pressure by the state to respect borders and come ashore. Long ago, they showed others what lay over the horizon.

Had sailors, traders and holy men not followed their lead on the monsoon winds, Asia would not be the heterogenous place it has been through history—and remains today, despite the nationalist narratives and more strictly bordered lives its 20th-century states forced on their newly minted citizens. Tamil merchants from southern India put up inscribed stones in Burma (modern-day Myanmar) and Thailand around the seventh century AD. They seem to have reached the southern Chinese emporium of Canton (Guangzhou) not much later. India's influence is intense in the extraordinary ninth-century Buddhist temple of Borobudur on Java. Hindu kingdoms arose in the Indonesian archipelago. Bali represents surely the most embellished version of the Hindu faith today. Via India, Islam spread east, too, after Arab merchants carried their faith to the Malabar Coast of south-west India and, eventually, to Quanzhou on China's eastern seaboard, where 13th-century Muslims lie beneath gravestones inscribed in Arabic. Later, with the Portuguese, Roman Catholicism came to Goa and then, via the south China coast, to Japan.

Arabs, east Africans, Bengalis, Tamils, Parsis, Malays, Chinese, "Manila men" (Filipinos) and Okinawans met and traded, sometimes sojourning in each other's lands, sometimes returning on the next season's winds. When European merchant venturers—Portuguese, Dutch, French and British—came to the region they joined in these seasonal rhythms. The East India Company put the monsoon winds to the service of joint-stock capitalism, as "East Indiamen", heavily armed merchant ships, carried Indian silks and cottons, as well as Chinese tea, back to Europe once a year.

In the 19th century, with the coming of coal, steam and iron, the Europeans broke with seasonal rhythms, establishing colonial dominance over Asia by means of efficient weaponry and Suez-crossing steamships that could defy the wind to allow a constant flow of raw materials one way—cotton, jute, grain, timber, tin—and returned manufactures the other. The Asian ports established or greatly expanded at the time—Bombay (present-day Mumbai), Calcutta (Kolkata), Madras (Chennai), Batavia (Jakarta), Manila, Shanghai—marked the birth of a fossil-fuel age. The winds were forgotten; but they were not unchanged. As the build-up of atmospheric greenhouse gases which began back then traps ever more heat the monsoons will change; the vast clouds of pollutants created by Asia's now endemic use of coal and oil are affecting them too, in ways that meteorologists do not yet understand. And those great low-lying colonial ports will prove far more susceptible to sudden flooding and rises in sea level than older, more defensible ports farther up rivers were. The 90m inhabitants of Asia's great seaboard cities are among the most vulnerable to the Industrial Revolution's longest legacy.

3 Seeing like an empire

JUST A FEW hundred kilometres from Narayanappa's smallholding in Chittoor lie the deltas of the Godavari and the Krishna. India's second- and fourth-longest rivers, respectively, they rise in the Western Ghats and flow east into the Bay of Bengal. The contrast between straitened Chittoor, at the mercy of its own local rains, and the verdant deltas could not be starker. Water drawn from the rivers and spread across their deltas allows the lowland farmers to raise two crops a year, sometimes three. Satellite pictures show their lush paddy fields of the delta as emerald patches on the brown scrub of the Coromandel coast and the land behind. It is a lesson in the power of water to make or break, and the power of humans to command it.

The green of the deltas was not always so reliable. William Roxburgh was a surgeon who left Edinburgh in 1772 to join the East India Company. He settled in Samulcottah (modern-day Samalkota) in the Godavari delta. As Sunil Amrith writes in "Unruly Waters", a fascinating new history of the monsoon, Roxburgh was one of those who, through measured observation, laid the foundations of modern Indian meteorology. In so doing he came to believe that nature in India was capable of much "improvement". The Godavari's cultivators, he pointed out, depended entirely on the rains: "when they fail, a famine is, and must ever be the consequence." The solution was to harness the water that "passes annually unemployed into the sea", retaining it for farmers' year-round use.

The British were far from the first of the rulers of the Indian subcontinent to transform the hydraulic landscape. The water tank known as the Great Bath of Mohenjo-Daro is part of an urban complex built by rulers of the Indus valley civilisation in the third millennium BC. In 1568AD Akbar, the third Mughal emperor, had water brought to Delhi not only to "supply the wants of the poor" but also to "leave permanent marks of the greatness of my empire". He did so by restoring and enlarging a canal to the Yamuna river first cut two centuries earlier by a 14th-century sultan. Akbar's works, in turn, were restored and re-engineered by the British two and a half centuries later.

Yet no illustrious ruler had turned his attention to the Godavari. Its improvement fell instead to an unassuming engineer from Dorking in Surrey, Arthur Cotton. Thousands of Indian labourers working under his direction built a giant barrage at Dowleswaram, regulating the river's flow through the use of huge gates described at the time as "the noblest feat of engineering skill which has yet been accomplished in British India". To this day, local people lionise Cotton dora ("Boss" Cotton) for turning the delta into India's rice bowl. On his birthday farmers hang garlands on his statue.

But if India's Victorian rulers were happy to lay a restraining hand on the subcontinent's rivers, they were chillingly unwilling to interrupt the free markets they imposed on it. Growing cash crops for distant markets uprooted old community patterns of mutual obligation during periods of rain-starved stress. In the late 19th century terrible famines linked to failed monsoons took tens of millions of lives in Asia.

In 1876 and 1877, when the summer rains failed completely, India's administrators invoked the authority of Adam Smith to argue against intervening in the famine which began to spread across the dry land, eventually claiming 5.5m lives (some estimates say the total was far higher). A couple of years earlier, during a local drought in Bihar, a major catastrophe had been averted through imports of rice from Burma. Yet such expenditure on relief had met with much criticism, not least from The Economist. Such an approach, we wrote, would encourage lazy Indians to believe that "it is the duty of the Government to keep them alive."

When famine spread in 1877, the viceroy, Lord Lytton, was determined that such folly should not be repeated. He vehemently opposed district officers' attempts to stockpile grain, on the basis that it would distort the market. The railways, built with the help of taxes that had impoverished the now starving peasants, ensured that grain could get to where it would fetch the highest price—for example, by being exported to Britain—rather than stay in place, unprofitably saving lives. The administration cut both relief rations and the wage for a punishing day's work in the relief camps, limiting the victims' access to markets yet further.

A century later, Amartya Sen, a Nobel-winning economist, argued that what happened in the 1870s was the rule, not the exception: governments are the general cause of famine. Mass starvation is not brought about by a crop-disease- or climate-driven absolute lack of food but by policies and hierarchies which stop people from exchanging their primary "entitlement", in Mr Sen's terms—for instance, their labour—for what food there is. Such policies are a feature of autocracies; where the entitlements of the people include real political power, as they do in functioning democracies, they are normally untenable. It was an academic insight born of childhood witness. As a child Mr Sen lived through the Bengal famine of 1943, during which Indians died in the street in front of well-stocked shops guarded by the British state.

That famine, in which up to 3m Bengalis died, followed a devastating cyclone. But much of the damage was done by the scorched-earth policy of colonial officials who, fearing a Japanese invasion, burned the vessels that local cultivators used to ship rice. Britain sent no relief, in part, perhaps, because of Winston Churchill's active dislike of Indians agitating for independence. Jawaharlal Nehru, who would later become India's first prime minister, but was at the time imprisoned by the British, wrote from jail "that in any democratic or semi-democratic country, such a calamity would have swept away all the governments concerned with it." Though India has experienced plenty of droughts and food shortages since independence, it has suffered no tragedy on a scale to compare with those of the late 19th and early 20th centuries.

If the Raj was indifferent as to the human effects of failed monsoons, though, it did exhibit an interest in the failures' causes. In the early 20th century Gilbert Walker, a brilliant Cambridge mathematician who became director of the India Meteorological Department Mr Rajeevan now runs, set his large staff of Indian "computers" to analysing weather data from around the world in search of patterns. His breakthrough came when he perceived back-and-forths even grander than that of the winds over the Indian Ocean—co-ordinated changes in pressure in places many thousands of kilometres apart which he called "world weather".

ENSO it goes

One of these features was the "Southern oscillation". The usual pattern of air pressure over the Pacific features high pressure over Tahiti and low pressure over Darwin, in northern Australia. This dispensation helps drive the trade winds westward the better to feed the monsoon as the intertropical convergence zone sweeps north over India. But a few times a decade a reversal takes place; the pressure that was up goes down, and that which was down goes up. Low pressure over Tahiti and high pressure over Darwin disrupts the trade winds. The South Asian monsoon weakens.

Walker guessed that the flipping back and forth had to do with "variations in activity of the general oceanic circulation"; but he did not know what they were, and the atmospheric correlations, though real, proved insufficient to the task of improving forecasts of the monsoon. The rest of the puzzle was solved by Jacob Bjerknes, a Norwegian at the University of California, Los Angeles, in 1969. In the tropical Pacific the eastern waters, off South America, tend to be cooler than the western ones. Periodically, though, the waters of the east warm while those of the west get cooler. It is this which causes Walker's seesaw to tip. But the atmosphere in its turn influences the ocean. The strength of the easterly winds in the Pacific is one of the factors that governs distribution of warmth between the east and west. The winds and the oceans operate as a "coupled system", with heat and momentum shifting from one to the other and back again.

This coupled system has, since Bjerknes, been known as ENSO: EN for El Niño, the name that Peruvians give to warm waters around Christmas time; SO for the Southern oscillation. There are other regular oscillations in the planet's climate, but ENSO is by far the most important one. When ENSO shifts in the warm-water-off-Peru direction known as its positive phase—as it did, though not very strongly, this past winter—warmth stored in the waters of the Pacific flows into the atmosphere, warming the whole globe. The changes are felt not just in the Pacific and India, but around the tropics and to some extent beyond. When ENSO is in its positive phase, drought can be expected in parts of southern Africa and eastern Brazil, too, while the southern United States can expect things to be wet. In the negative phase—"La Niña"—the situation is largely reversed.

The advent of computerised global-climate models capable of capturing the effects of far-flung changes in sea-surface temperature at a reasonable level of detail has in the past decade given Walker's heirs more confidence in predicting the South Asian monsoon's relative strength. It has also underscored the complexity of the climate system and its interactions with human history. It is now clear that the failures of the monsoon which the British exacerbated in the late 19th century were due to very powerful "super El Niños". Some climate models suggest that these will occur more often in a warming world. Others, though, disagree. Climate modelling has improved understanding of the monsoon from year to year. But if you take the models which best capture the effects of ENSO in the 20th century and ask what they have to say about how it will work in the hotter 21st century, you find no consensus.

4 Breaks and vagaries

THERE IS ONE thing the locals do not talk about in the wettest place on Earth: the rain. What, ask the townsfolk of Mawsynram, is the point?

Their settlement sits on a hilltop plateau in the north-eastern state of Meghalaya—"Abode of the clouds". Immediately to the south, the hills fall away to Bangladesh's steaming plains nearly 1,500 metres (5,000 feet) below in a sharply picturesque way—"Danger: Selfie Zone" a road sign warns. To the north are the Khasi Hills, standing athwart the path of moisture-laden southerly winds eager to continue north. The hills scoop the wet air upwards, wringing out its rain.

The consequence, in Mawsynram, is daily rain for a good nine months of the year. The settlement sees 11.9 metres (467 inches) of rainfall in an average year, over a dozen times that seen in Manchester, say, or Seattle: in an exceptional year it can see 16 metres. Before the monsoon it comes in heavy night-time thunderstorms. From late May, it is nearly continuous, sometimes a steady drizzle, sometimes rods that rattle tin roofs too loudly for conversation. Why a tin roof? Dead wood rots quickly, so the locals often build with metal—or with wood that is still alive, training the aerial roots of Ficus elastica, the rubber fig, to form bridges over the rivers and streams by which the water flows down to the plains below.

The certainty of daily rain, though, marks Mawsynram out as unusual. In most places, there is a great deal of variation in rainfall over the course of the monsoon. The season is marked by prominent "active" spells, typically when depressions travel west along the monsoon front, followed by dry "breaks". Timing the sowing of a successful crop is a gamble on what breaks may come, and for how long. Yet today's meteorological models remain poor at predicting the monsoon's weather more than a few days out.

Then comes the need for more localised predictions. Knowing where storms will do their worst would save not just crops but lives: lightning kills more Indians than cyclones do, though cyclones do much more damage to property. Monsoon meteorology's big challenge, then, is to improve predictions of these intraseasonal shifts. That means combining its models of global climate with an understanding of local peculiarity. The source of much of that can be found in the source of the rains that roll down the Khasi Hills: the Bay of Bengal.

Thanks to satellite imagery and cloud-busting radar, R. Venkatesan of the National Institute of Ocean Technology in Chennai points out, people now know pretty well what is happening in the atmosphere. But "the ocean remains very murky." His high-roofed warehouse in Chennai is a treasure trove of toys dedicated to demurkifying it: instrument-laden, unmanned sea kayaks for taking surface measurements; buoys that anchor to the sea bed with sensors to measure temperature, salinity and current; autonomous floats that drift about collecting data at the surface and at depth; an engineless underwater "glider" that soars through the water column, surfacing every few days to tell satellites what it has gleaned. Many of them are about to be deployed in the Bay of Bengal.

The bay, the world's biggest, has a notable oddity. It boasts a distinct surface layer of light, comparatively fresh water floating atop its deep-sea salinity. This layer is maintained by two things. One is the Brahmaputra, the Ganges and the rest of the lesser rivers, such as the Godavari and the Krishna, that drain most of the subcontinent's rainfall into the sea to its east. The other is rain that falls onto the bay itself. This fresher water means the top few metres of the bay are much less well mixed than is the norm in oceans—and thus that the sea-surface temperature can vary more quickly. This thermodynamic skittishness is passed on to the air above.

In 2015 a joint American-Indian mission used Mr Venkatesan's hardware, among other tools, to study interactions between the bay and the weather in unprecedented detail. The study reinforced the scientists' belief that the bay's quick changes are the key to the breaks between monsoon rains. Rain falling onto the bay itself cools the surface layer enough to limit the convection that would produce more rain for a while before the surface heats back up again. This year's follow-on mission will try to refine the analysis by gathering real-time temperature, salinity, current and wind data to put together a better picture of how the Bay of Bengal makes the weather, propagating bursts and hiatuses.

The aerial roots of Ficus elastica, the rubber fig, are trained into bridges over the streams by which the water flows down to the plains

Meanwhile, in the Khasi Hills, pepper gardens and betel-leaf plots on the hillsides will go untended as the rain pours down. Instead, people will lend their hands to the rain's long-term project of dismantling the hills themselves. In recent years local kingpins have been putting the industrious locals to new work: felling the hills' forests to get at the coal, limestone, China clay and even gold underneath. An orgy of illegal quarrying and "rat-hole" mining is disfiguring the landscape and eroding the hillsides and stream-beds. Khasi men and women sit by roadsides with ball-peen hammers reducing boulders to pebbles the size of peas that will descend to the plains not by stream but by lorry, there to feed an infrastructure boom on the alluvial plains of Bangladesh.

Damaging and unsightly though it may be locally, the mining and quarrying is small beer compared to the work of nature. All the sediments in the plains where the Bangladeshis are building come from hills and mountains eroded away by winter ice, springtime melts and monsoon rains for tens of millions of years. But if humans are not all that impressive on the mountain-levelling plains-building side of things, they more than make up for it when it comes to inundating the plains with ever greater bursts of flooding and washing them away with sea-level rise—processes which will have consequences for that infrastructure boom in far less than a million years.

5 The decisive moment

IN 1976 Raghu Rai, the photographer whose picture of gathering clouds graces the beginning of this essay, took a picture of water, hope and daring. Modern towers in the background speak of India's future; ancient masonry in the foreground of its past. A lithe boy is on the cusp of flight, hanging above the deep waters below.

The setting of the picture (reproduced overleaf) is one Delhi's oldest structures. Agrasen ki Baoli—Agrasen's step well—was built (or perhaps rebuilt) in the 14th century AD by followers of a mythical king whose life is chronicled in the earliest Sanskrit epics. The country is covered with a vast number of water tanks and step wells, some of them stunningly elaborate, used variously for irrigation, drinking water and religious purification. Thus contained, water signifies political and religious power—as well as life itself.

Yet today the bottom of Agrasen ki Baoli, far below the soaring boy, is just dust. That might be read as testament to the heatwave and drought by which much of India has remained gripped as the monsoon stalls in the southern states of Kerala and Tamil Nadu. On a recent day when this correspondent climbed down to the step well's bottom, Delhi's temperature hit 48°C (118°F) in the shade.

But it is all too tempting to view the empty baoli as a metaphor for decades of human folly in which precious water in India has been squandered. At the time the photograph was taken, a farming transformation was under way—a "green revolution" marrying new seed varieties with artificial fertilisers and pesticides. Just add water. The baoli's builders would have been amazed at how crop yields soared. They would have been appalled at the green revolution's other consequences, which include soil erosion, a plundering of aquifers and toxic water in much depleted water tables.

The human stream

They would also have been appalled to see how urban development has outrun the wells and rivers. Just one instance: in late June, Chennai, India's sixth-biggest city, was officially declared to have run out of water. Its municipal authorities blamed the drought. Yet years ago they abandoned any coherent policy of water supply. Not only did they not factor in new water capacity or conservation measures. They allowed developers to fill in the water tanks and seasonal lakes for which the city was once famous. The towers of gated communities now rise on these lake beds. A giant billboard outside one such development, Golden Opulence, in Chennai's western exurbs, promises well-heeled buyers limitless water as a chief sales pitch. The supply is guaranteed by the tankers of a well-established "water mafia" whose thousands of soot-belching lorries are a continuous threat to the city's air, pedestrians and cyclists. Their cargo disgorged, they return to the countryside—specifically, to places where farmers lucky enough to sit atop an aquifer replenish them for city cash. For farmers wealthy enough to drill a bore hole and install an electric pump this is a doddle, not least because electricity for farmers is essentially free. Mining water beats farming crops.

Narayanappa, in Chittoor district, has no such scam to support him. The butterflies enjoying the shade of the well he dug in the 1990s flit over a stagnant puddle. He and his family have borrowed from local moneylenders to drill five bore holes across the smallholding. Four of them, including the one which goes down 460 metres (1,500 feet), are now dry. And even in better years than this one, bore-well water is not always sweet or safe to drink, given naturally occurring levels of arsenic. For the past five years, the water tankers have been coming to farms around Kuppam village too.

The gamble on the rains is not just for finance ministers. If, despite ENSO and Cyclone Vayu, the monsoon comes good, as Mr Rajeevan thinks it will, Narayanappa wins out, sells his crops, repays his debts. If not he goes deeper into hock. The desperation such debt drives has led to protests—some violent—and suicide. The misery is one example of how water and the want of water determine inequalities, and even fates. Another can be seen in attacks on people of lower caste using water tanks customarily monopolised by the upper castes. There are also water wars between states. These phenomena are not new—the bitter dispute between Karnataka and Tamil Nadu over extracting water from the Cauvery river dates back to the 1890s—but they speak poorly of modern India's ability to manage the stakes in its monsoonal roulette.

At the far end of Narayanappa's land runs the railway from Mumbai to the south. To the old folk of the village the crammed carriages rolling past are another world, one that fleetingly flows through theirs a few times a day. When the rains fail, their children and grandchildren join the flow, streaming into Bangalore in search of work as labourers or security guards. They throng the steps of Kuppam station, crowding the train well before it has even clanged to a halt. Only the old folk are left in the fields, looking up at the fierce, empty sky.

This article appeared in the Essay section of the print edition under the headline "The cloud messenger"

Rural Japan
Old, shrinking and broke

Old, shrivelling and broke

Rural areas bear the burden of Japan's ageing, shrinking population

Half the country's municipalities are expected to disappear by 2040

Print edition | Asia Jun 29th 2019

WHEN Hisaaki Nakajima ran for mayor of Imabetsu, on the northernmost tip of Honshu, Japan's main island, he said he had a vision of a town of 2,000 people. That may have sounded odd, given that Imabetsu had 2,700 inhabitants at the time (in 2017). But it is shrinking fast. Since Mr Nakajima took office, the population has declined by around 150, or some 6%. On a pleasant spring day the streets are almost empty; many buildings are disused. A big *pachinko* parlour at the entrance to the town lies in ruin.

Villages and towns across Japan have been shrinking for decades because of migration to big cities. Since 2011 the national population has been falling, too. Last year it shrank by 450,000. The two trends are emptying rural areas: whereas Japan as a whole is projected to lose 16% of its population between 2015 and 2045, the population of Aomori prefecture, where Imabetsu is located, will plunge 37%, reckons the National Institute of Population and Social Security Research (NIPSSR), a think-tank in Tokyo (see chart).

The numbers tell only part of the story. Locals who move away, who account for around two-thirds of the 150 people Imabetsu has lost since Mr Nakajima took office, are predominantly young people seeking education or work. (Jobs in Imabetsu are mainly in farming and fishing.) Youto Komura, a 27-year-old who works at the town hall, says only six of the 40 people he went to school with still live in Imabetsu. Only one of the four children of Mr Nakajima, who worked in a sewing shop and flower shop before becoming mayor, remains; the others are in Tokyo, Sapporo and Aomori city.

Women leave in greater numbers than men, says Hiroya Masuda, the author of an alarming report on rural depopulation. "There is a glass ceiling for women everywhere, but in rural areas it tends to be made of thick steel," he says. "In offices in rural areas they tend to be pouring tea, while in Tokyo there is more chance of fulfilling jobs." Young men who might otherwise stick around are put off by the lack of potential brides.

This movement of young people, and Japan's long and lengthening life expectancy, has led to an extraordinary preponderance of old people in far-flung places. Some 37% of those living in depopulated areas are over the age of 65, about ten percentage points more than the national rate, according to the government. Imabetsu has the accolade of being the town with the highest proportion of over-65s in Aomori: they are already around half the population.

Because baby-boomers are starting to die off, the depopulation of rural areas is set to spike, reckons Shiro Koike of the NIPSSR. In 2014 Mr Masuda predicted that 896 of Japan's 1,700 municipalities would be extinct by 2040. He has now revised that to 929. In the five years to 2016, by the government's count, 190 places disappeared from the map (although a handful of those were emptied by the earthquake, tsunami and nuclear disaster of 2011).

The impact of the dwindling population in rural areas is clear to see. Imabetsu has no supermarkets and no restaurants, cafés or snack bars, bar the *konbini* (convenience store) on the outskirts of the town. In the 1980s, residents say, there were dozens of lunch joints. Now the townsfolk must drive elsewhere or wait for occasional visits from trucks that sell vegetables.

The three schools have only 30 to 40 children each. From October one will stop accepting new pupils. "It is not good for the children," says Mr Nakajima. "They need company, competition, a healthy atmosphere." In depopulated areas primary schools have on average 118 pupils each; those in the rest of the country have 320. There are also fewer paediatricians and obstetricians than the national average.

The national government wants to raise the fertility rate from 1.4 children per woman to 1.8. To that end, it is trying to provide more support for families, such as making nursery free. It has also begun admitting more migrants, but not enough to compensate for the decline in the native population—and anyway, the government insists it will not let them settle permanently. What is more, immigrants, like Japanese themselves, prefer to live in cities.

Shrinking localities tend to focus on trying to get people from elsewhere in Japan to move there. They talk not just of encouraging people to return to the countryside from cities but also of persuading people to move from towns to rural areas. Many offer families free housing and other subsidies to attract younger people. Imabetsu offers free school lunches and free cancer treatment. But the number of people such incentives attract is very small (zero in Imabetsu's case). They "will never change the demographic dynamics of slow, steady decline", says Peter Matanle of Sheffield University in Britain.

There are some more successful campaigns, of course. Tokushima prefecture has attracted IT companies by setting up a fast internet connection. But as Karen Makishima, an MP for Kanagawa in eastern Japan, points out: "Many towns want to have people move there permanently. But Japan as a whole is losing people so if we shift people, other places lose out." She thinks the solution is to work on attracting domestic and especially international tourism, which is growing rapidly. To that end, she is trying to encourage people to buy holiday homes in her region, or to make regular visits, in part by creating relationships between visitors and locals. The depopulating islands of the Seto Inland Sea, in south-eastern Japan, are a model for this sort of initiative. Visitors flock there to see new art installations.

In the absence of such a lifeline, the local government in Imabetsu is struggling to pay for education, health care and other services. Its budget is 2.4bn yen ($223m) a year. Only half of that comes from the national government on a routine basis, although one-off grants and money funnelled via the prefectural government help make up the shortfall. Local tax revenue has been dwindling for years, and now brings in only 200m yen a year. The town has resorted at times to borrowing, Mr Nakajima says, but the cost of servicing the debt only adds to its fiscal problems in the long run.

The central government has tried to help places like Imabetsu, not only by upping the budget for "rural revitalisation", but also through a scheme called *furusato nozei*, which allows taxpayers to send a proportion of their taxes to a locality of their choice, instead of the one where they live (towns and villages compete for this cash by offering gifts in return, such as local sake or dried fish). The intention is for emigrants from rural areas to the cities to be able to funnel money to their hometowns.

Nonetheless, small towns are having to cut back. In some areas local authorities are trying to gather services in one town, from which they offer transport to other towns and villages in a sort of hub-and-spoke model. Others are looking at ride-sharing as a way to relieve the pressure on, or replace, public transport. Private businesses such as *konbini* and the post office, which by law has to have outposts in remote places, are also being used to offer public services. Technology could help. "It may be fun to get pizza by drone in Tokyo, but more important is getting milk and newspapers to elderly people in rural areas," says Ms Makishima. She also advocates online medical consultations.

Mr Nakajima's vision for Imabetsu is modest: to promote tourism, preserve existing industries rather than try to conjure up new ones, use remote instruction to keep schools going and create a single hub for people to obtain information and services. Yet even that is a struggle, he says. For example, the town government looked at taxi-sharing, but found it unfeasible since Imabetsu has only one taxi. Next time he runs, it may have to be with a vision of even fewer people.

This article appeared in the Asia section of the print edition under the headline "Old, shrinking and broke"

A Harley-hating ally

India presents America with a choice between geopolitics and trade

So far, geopolitics is winning—just

Print edition | Asia Jun 29th 2019

MIKE POMPEO, America's secretary of state, had two objectives during his trip to Delhi on June 25th. The first was to affirm India's importance to America, which envisages a grand Indo-Pacific alliance to counter China. The second was to soothe an increasingly heated row about trade. Achieving the first was easy enough, but the second is proving harder.

America and India have bickered about trade for years. India's average tariff is high, at around 13%. Its bureaucrats are also keen on other barriers to trade, from obscure rules on packaging to prohibitive red-tape on the import of dairy products. But over the past few years Narendra Modi, India's prime minister, has further inflamed these irritations. His government has increased tariffs on lots of American exports, including telecoms equipment, medical devices and nuts. It has also expanded rules favouring locally made goods in public procurement and has proposed a new law demanding that tech firms store data about Indian customers within India. And last year it abruptly announced rules on e-commerce that seemed to target two American firms, Amazon and Walmart, the latter through its purchase of Flipkart, a fast-growing local e-tailer.

The complaints of American trade negotiators about Indian protectionism, however, are typically drowned out by diplomats and soldiers, who see India as a natural and indispensable ally against China. The two countries established a new high-level diplomatic dialogue last year and have increased their military co-operation. America wants India to stop importing oil from Iran, which India recently and reluctantly agreed to do. (Oil is the biggest contributor to India's trade deficit and the Iranian oil comes at a discount to world prices.) America also wants India to reverse plans to purchase Russian anti-aircraft missiles and telecoms equipment made by Huawei, a Chinese company—steps that India is resisting.

The Indian government seems to have been pleased by what it perceived to be American support in its recent stand-off with Pakistan. In the days preceding Mr Pompeo's visit, it announced a large order of long-range patrol planes made by Boeing—a gesture that was presumably intended in part to mollify Mr Pompeo's boss, Donald Trump.

But even as the strategic co-operation between the two countries deepens, the row over trade is gathering strength, too. India was one of the countries America hit with tariffs on steel and aluminium last year. It is also the subject of several complaints America has made at the World Trade Organisation in the past year. And on June 5th America evicted India from a scheme that offers tariff-free access to certain goods from poor countries as a spur to development. India, Mr Trump complained, was not providing "equitable and reasonable access to its markets", a condition of the scheme. There are even mutterings in Washington about launching a formal investigation into India's unfair trade practices—the same step that initiated America's trade war with China.

Both sides would prefer to avoid a full-blown conflict. Since 2002, when America's ambassador to India called Indo-American trade and investment "as flat as a chapati", it has grown rapidly (see chart), making America India's biggest export market. Moreover, India's economy is slowing, which will presumably make the government even warier than it otherwise would be of a trade war.

Although India accounts for only a small fraction of America's trade, there are plenty of big American firms that would lobby against tit-for-tat tariffs. And hawkish American trade officials have their talons full at the moment. The fact that it was Mr Pompeo who visited, rather than Robert Lighthizer, America's top trade negotiator, suggests that the administration's geopoliticians have the upper hand for now.

Yet both countries have leaders with protectionist instincts. India also has a growing trade surplus with America—not something that will endear it to Mr Trump. He has called India the "tariff king" and often cites its 50% duty on Harley-Davidson motorbikes as a textbook example of the unfair treatment of American exports. Mr Pompeo and his Indian counterpart, Subrahmanyam Jaishankar, insist that the two countries will find a way to resolve their differences—but it is not up to them.

This article appeared in the Asia section of the print edition under the headline "A Harley-hating ally"

Black in business

Adani's giant Australian coal mine gets the go-ahead

Environmentalists insist they can still stop it

Print edition | Asia Jun 29th 2019

ENVIRONMENTALISTS HAVE been campaigning against it for the better part of a decade. For a time, it seemed they had won. But in mid-June the government of the state of Queensland cleared the way for construction to start on the Carmichael coal mine, owned by Adani, an Indian company. The project will open up the Galilee Basin, one of the world's largest untapped reserves of thermal coal, the type used in power plants. Adani has already started work. It claims it could export its first coal to India within two years.

Activists had expected a different outcome. At a federal election in May they tried to rally voters against the conservative coalition government, which has presided over rising emissions of greenhouse gases. To some extent they succeeded. Concerns about global warming played a big part in the defeat of Tony Abbott, a former prime minister and dogged opponent of curbs on emissions, who lost his seat in a posh part of Sydney. But even as well-to-do urbanites embraced greenery, voters in Queensland, where the economy has struggled since the end of the mining boom, warmed to the idea of the mine. Labor, the main opposition, shilly-shallied over its future, and was walloped in the surrounding marginal constituencies, delivering an unexpected victory to Scott Morrison, the prime minister, who once cradled a lump of coal in parliament.

The result terrified Queensland's Labor government, which faces its own election next year. It won the most recent state election after refusing to subsidise a railway which Adani will need to transport its coal 400km to the coast, and had since knocked back the firm's plans to conserve local fauna, notably the black-throated finch, an endangered species. But four days after the federal election the state's premier, Annastacia Palaszczuk, conceded that locals had "had a gutful" of delay and insisted that the necessary approvals should be hurried through. Within a month, the state had given its final assent to a plan to conserve a vast aquifer and a set of springs held sacred by local indigenous groups.

This is "a disgrace", complains David Ritter of Greenpeace, a pressure group, showing "Adani's unholy grip on our politicians". In its first phase, the group would dig up 10m tonnes of coal annually, a tiny fraction of global consumption. But the mine's full capacity is six times that amount. Moreover, six more mines are proposed in the Galilee Basin. With Adani's going ahead, the others may follow more easily. Together, their coal could produce more carbon dioxide each year than the rest of Australia, according to the Climate Council, a research group.

Many Australians feel queasy about exporting dirty fuel to poorer countries. They worry about the Great Barrier Reef, a national treasure which provides employment for more than 60,000 people through tourism. Warming waters have killed much of its coral since 2016. Adani would export its coal from a port on the reef's edge. Contaminants leaked from an adjacent facility have already harmed the surrounding wetlands, activists say. They fear that dredging and heavier maritime traffic will damage the reef, too.

But many towns along the coast of Queensland, although far from the coal seams, still benefit from mining because they are home to lots of fly-in-fly-out workers. Cavalcades of anti-Adani activists from other parts of Australia have not been well received in the state. Supporters of the mine argue that preachy greens from Sydney and Melbourne also benefit from the resource business. Last year coal overtook iron ore as Australia's biggest export.

Activists insist the mine can still be stopped and continue to demonstrate against it. Adani has yet to finalise a royalty agreement with Queensland's government, or obtain a licence to build its railway. They cite other big projects that were halted after work had started, such as a dam on the Gordon river in Tasmania which was stymied by protests in the 1980s.

Companies following Adani into the Galilee Basin may have trouble financing their investments, since banks are reluctant to support controversial mines. Adani is having to fund the first, A$2bn ($1.4bn) phase of the Carmichael mine itself. As countries try to cut their emissions, the market for thermal coal is shrinking. Even in Australia, which still relies on coal for most of its electricity, the three biggest power producers have cancelled plans for new coal-fired plants. In the end it may be economics, not activism, that stops the development of the basin.

This article appeared in the Asia section of the print edition under the headline "Black in business"

Banyan

"Us" v "them" in South Asia

Many politicians find it convenient to divide voters by religion or caste

Print edition | Asia Jun 29th 2019

"THEY," LIKE its cousin "them," sounds an innocent word. Given the wrong context, though, even a simple pronoun can turn insidious. Since a pack of suicide-bombers, claiming to act in the name of Islam, killed 261 people on Easter morning, Sri Lanka's 2m Muslims have collectively felt that turn. After a thousand peaceful years as a minority in the island country "they" have quite suddenly become aliens, perhaps to be tolerated, but not to be trusted.

The signs of rejection can be stark, such as when rioters have torched Muslim property. But mostly they appear by whisper and insinuation. Lists ripple across Facebook, detailing shops and businesses to avoid because they are Muslim-owned; rumours circulate that the free meals served by a Muslim-run charity at public hospitals are doctored to make non-Muslims infertile. On June 24th officials in the small town of Wennappuwa barred Muslims from trading at its weekly market because citizens objected to their presence. Lending sanction to the mood, a Buddhist monk noted on YouTube how some devotees had suggested that a Muslim obstetrician accused of secretly sterilising patients should be stoned to death. "Now I am not saying that that is what we should do," the Most Venerable Sri Gnanarathana Thero Mahanayake cautioned, "but I say that is the punishment they deserve."

Sri Lanka's current, acute intolerance is a reaction to a terrorist death cult. But it has older, deeper causes, too. Since independence in 1951 the country has struggled to replace the divide-and-rule of the colonial era with a more all-embracing notion of shared citizenship. One "unifying" political trend sought to impose the language of the dominant group, Sinhala-speaking Buddhists, on everyone else. The second-biggest group, Tamil-speaking Hindus, violently resisted, provoking 26 years of civil war. Partly as a result of this failure, what has prevailed is a tacit ghettoisation, where each of the main religious and ethnic groups lives largely in its own space.

This is compounded by a school system that perpetuates division. Most Christians and Muslims go to "their" schools, while Tamils and Sinhalese are naturally separated by the language of instruction. Sinhalese students learn that the great warrior-king Dutugemunu defeated a foreign ruler, Elara, protecting Buddhism and uniting the country. Tamil students read instead that Ellalan—as he is known in Tamil—was a wise and just king who ruled Sri Lanka from 205BC to 161BC. As a result, the inhabitants of a rather small island grow up knowing surprisingly little about their own neighbours. It is not just Muslims; there are many versions of "them".

The same may be said of Sri Lanka's immensely bigger, kaleidoscopically more diverse northern neighbour, India. Decades after establishing a secular constitution and abolishing caste—and with it such categories as the "criminal tribes" and "martial races" beloved of the British Raj, India remains addicted to its habit of othering others. A simple glance at recent headlines is revealing. A hit-and-run driver ploughs into a family at high speed when they stop him from dragging their daughter into his car. Surprise! They are Dalits, formerly known as untouchables. Five men are freed after spending 13 years on death row for murders they did not commit. Surprise! They belong to a nomadic group once categorised as a "criminal tribe". Villagers tie a suspected motorbike thief to a pole and beat him to a pulp as they force him to shout "Jai Sri Ram", a Hindu chant. The villagers film it all. He later dies. Surprise! The man is a Muslim, one of several score of "them" that similar mobs have lynched in recent years.

And as in Sri Lanka it is not just ignorant people who partition "us" from "them." When India's freshly elected parliament convened in mid-June, and one of its handful of Muslim MPs stood to take his oath, taunting cries of "Jai Sri Ram" rose from the ruling party's benches. Eroding the secular basis of citizenship, the government plans to speed the naturalisation of Hindu, Buddhist, Sikh, Jain and Christian refugees, but not Muslims. It also proposes prison terms for Muslim men who practise "triple *talaq*", a kind of instant divorce that the courts have banned. Lawyers argue that such cases represent a tiny fraction of the more than 2m Indian women—mostly Hindus—who have been abandoned by husbands without support. So why not a law to protect all Indian women, rather than to punish a few Muslim men? The answer, never stated, is that it is not a law for us, it is for them.

This article appeared in the Asia section of the print edition under the headline "Them v everyone"

Military reform
Army dreamers

Army dreamers

Xi Jinping wants China's armed forces to be "world-class" by 2050

He has done more to achieve this than any of his predecessors

Print edition | China Jun 27th 2019

OVER THE past decade, the People's Liberation Army (PLA) has been lavished with money and arms. China's military spending rose by 83% in real terms between 2009 and 2018, by far the largest growth spurt in any big country. The splurge has enabled China to deploy precision missiles and anti-satellite weapons that challenge American supremacy in the western Pacific. China's leader, Xi Jinping, says his "Chinese dream" includes a "dream of a strong armed forces". That, he says, involves "modernising" the PLA by 2035 and making it "world-class"—in other words, America-beating—by mid-century. He has been making a lot of progress.

Organisational reforms may be less eye-catching than missiles that fly at Mach 5, unmanned cargo planes and electromagnetically powered superguns (all of which China has tested in the past year). Yet Mr Xi has realised that there is little point in grafting fancy weapons onto an old-fashioned force. During the cold war the PLA evolved to repel the Soviet Union and America in big land wars on Chinese soil. Massed infantry would grind down the enemy in attritional battles. In the 1990s Chinese leaders, alarmed by American prowess in the Gulf war of 1991, decided to focus on enhancing the PLA's ability to fight "local wars under high-technology conditions". They were thinking of short, sharp conflicts on China's periphery, such as over Taiwan, in which air and naval power would be as important as ground forces. Mr Xi decided that winning such wars required changing the armed forces' structure. He has done more in the past three years to reform the PLA than any leader since Deng Xiaoping.

Mr Xi's principal aim is to increase "jointness". This term, borrowed from Western military jargon, refers to the ability of different services—army, navy and air force—to co-operate on the battlefield quickly and seamlessly. Jointness is especially important for fighting wars that break out abroad. It can be difficult for commanders at national headquarters to choreograph soldiers, sailors and pilots from a great distance. The different services must be able to work together without instruction from on high.

China's model is the United States, which—under the Goldwater-Nichols Act of 1986—drastically reformed its own armed forces in order to achieve this goal. The Pentagon carved up the globe into "combatant commands". No longer would services squabble among themselves. All soldiers, sailors and pilots in a given area, such as the Persian Gulf or the Pacific, would take orders from a single officer.

Mr Xi has followed suit. Before his reforms, army and navy commanders in the country's seven military regions would report to their respective service headquarters, with little or no co-ordination. In February 2016 Mr Xi replaced the regions with five "theatres", each under a single commander (see map). The eastern one based in Nanjing would prepare for war with Taiwan and Japan, for instance. The sprawling western theatre, in Chengdu, would handle India. The southern one in Guangzhou would manage the South China Sea.

As well as these geographic commands, two others were formed in 2015, each aimed at an American vulnerability. American forces depend on communications via satellites, computer networks and other high-tech channels. So Mr Xi created a new Strategic Support Force to target these systems. It directs space, cyber, electronic and psychological warfare. In 2018 it conducted exercises against five PLA units in what the Pentagon called a "complex electronic warfare environment". American military power in Asia also depends on a network of bases and aircraft carriers. Mr Xi took aim at these by establishing a new service called the PLA Rocket Force—an upgrade of what was previously known less rousingly as the Second Artillery Corps.

He has also been trimming the armed forces' bloated ranks, though they remain over 2m-strong. Since 2015 the PLA has shed 300,000 men, most of them from the land forces, which have lost one-third of their commissioned officers and shrunk from 70% of the PLA's total strength to less than half (though happily the army has kept its dance troupes, which it had been told it would lose). By contrast, the marines are tripling in size. Navy and air-force officers have gained more powerful posts, including leadership of two theatre commands. This reflects the PLA's tilt towards the seas—and the skies above them.

It is hard to tell whether the new PLA is more proficient on the battlefield. China has not fought a war in four decades. The last Chinese soldiers with experience of a large-scale conflict—a war with Vietnam in 1979—will retire shortly.

But there is evidence that the PLA is getting better at jointness. Some of China's growing number of forays beyond its borders, notably bomber flights around Taiwan and over the South China Sea, indicate increasing co-ordination between air and naval forces. "We see a lot of joint exercises to work out kinks in the system and get the services used to working with each other," says Phillip Saunders of the National Defence University in Washington, DC. Chinese war games were once highly scripted affairs. Now officers are assessed on the realism of their training, says Meia Nouwens of the International Institute for Strategic Studies in London. Before Mr Xi's reforms the "blue team", which simulates an adversary, would always ritually lose large-scale annual exercises known as "Stride" in Inner Mongolia. Now they usually win.

But China's troops may still be ill-prepared for complex warfare. In America promotions depend on officers' ability to work with other services. Their Chinese counterparts often spend their entire careers in one service, in one region and even doing the same job. Political culture is another problem. "The structures that China is trying to emulate are based on openness, on delegation of authority and collaboration," notes Admiral Scott Swift of MIT, who retired last year as commander of America's Pacific Fleet. He says modern warfare requires decentralised decision-making because cyber and electronic warfare can sever communications between commanders and units. "Militaries that are founded on democratic principles are going to be much more adept at adapting to that environment," Admiral Swift suggests.

Mr Xi is an authoritarian who strives for centralised control. His predecessor, Hu Jintao, did not have a tight grip on the PLA, says Mr Saunders. That is because Mr Hu's own predecessor, Jiang Zemin, had appointed the two vice-chairmen of the Central Military Commission, a powerful body that oversees the armed forces. They stayed throughout Mr Hu's tenure, frustrating any efforts to reform the PLA and curb its endemic corruption and ill-discipline.

Mr Xi is determined not to suffer the same fate. His anti-corruption purges have ensnared more than 13,000 officers (three serving generals were demoted in June, according to the *South China Morning Post*, a newspaper in Hong Kong). Mr Xi slimmed down the military commission from 11 to seven members, kicking off the service chiefs and adding an anti-graft officer. The body was also given control of the paramilitary People's Armed Police, which in turn absorbed the coast guard.

Predictably, the restructuring has generated resentment. Senior officers are irked at losing privileges. Demobilised soldiers sometimes take their grievances to the streets—one reason why Mr Xi founded a ministry of veterans' affairs in 2016. But, says Ms Nouwens, younger ranks benefit from merit-based promotion, take pride in the growing prominence of the PLA in Chinese film and television, and admire Mr Xi's "great rejuvenation of the Chinese nation". They will have an opportunity to show off on October 1st when a huge military parade will be staged in Beijing to mark the 70th anniversary of Communist rule. It will be the first such show in the capital since Mr Xi launched his reforms. Expect a world-class performance.

This article appeared in the China section of the print edition under the headline "Army dreamers"

Nominal confidence

China is waging war on Western names for buildings and places

It wants to put a stop to "worship of foreign things"

Print edition | China Jun 29th 2019

CHINA'S SOUTHERNMOST province of Hainan is a tropical tourist-magnet of white-sand beaches, mountains and rainforests. Posh resorts line the island's shore. It is also on the front lines of a culture war. In June Hainan's government published a list of 53 places and buildings, including many hotels, with names that "worship foreign things and toady to foreign powers". It said these names must be "cleaned up and rectified"—ie, changed.

Many of the offending names use Chinese characters that, put together, sound like foreign words: Kaisa for Caesar, for example (used in a hotel name), or Weiduoliya for Victoria (the name of a residential area in the capital, Haikou). Several of the buildings are hotels called Weiyena, or Vienna. They belong to the Jinjiang Group, a state-owned firm. The Vienna chain has publicly complained, saying its brand was legally registered in 2012.

That was the year Xi Jinping took over as China's leader. Since then Mr Xi has been waging a campaign against Western influence and to instil "cultural confidence". Hainan issued its directive in response to one published late last year by several central ministries on the "rectification" of foreign names as well as "strange" or "exaggerated" ones. Examples given by the ministries included the phonetic renderings in Chinese of foreign names as well as Chinese names using Roman letters. Provinces have been dutifully producing blacklists like Hainan's.

The campaign has triggered an outcry online. One blogger wondered whether a subway station in Shanghai called Dishini, or Disneyland, after a nearby theme park, would have to be renamed. Others worried that the new policy might harm firms with foreign-sounding names, or result in clumsy efforts to translate Western names into Chinese rather than using phonetic approximations. To restore calm, the Ministry of Civil Affairs warned against "random expansion" of the purge.

Mr Xi's efforts are unlikely to achieve much. Wang Yahuang, a columnist, put it well in an article published by China Business Online, a state-owned website: "Cultural confidence does not stem from restriction. Genuine cultural confidence presents fearlessness to external cultures."

This article appeared in the China section of the print edition under the headline "Nominal confidence"

Chaguan

Xi Jinping sees protests in Hong Kong as a threat to the party

Never mind that demonstrators in the territory avoid attacking him directly

Print edition | China Jun 29th 2019

STRIKINGLY OFTEN, campaigners for Western-style freedoms in Hong Kong pretend that they are not seeking a fight with the Communist Party of China. Rather, activists say that their goals and those of party chiefs in Beijing should be nicely aligned: both camps seek continued prosperity for Hong Kong, 22 years after the former British colony became a free-market enclave in China, under the slogan "one country, two systems". Instead, the campaigners sound crossest with Hong Kong's government, for failing to maintain a strict enough separation from the mainland.

Campaigners have mostly held to that don't-poke-the-Chinese-dragon stance during protests that have snarled central Hong Kong since June 9th. Two of the demonstrations have involved more than a million people demanding the withdrawal of a bill that would allow extraditions from the city to mainland China. At times, the contradictions have been a little dizzying. Some protesters defied baton-swinging police and tear-gas as they denounced the Hong Kong government—and above all its chief executive Carrie Lam—for exposing them to a Chinese justice system in which they have no confidence. Marchers waved blood-red banners adorned with images of handcuffs. They yelled obscene Cantonese insults aimed at Mrs Lam, at police officers and (Chaguan regrets to report) at the mothers of those officers. Protest signs depicted Mrs Lam as Gollum, a small and malevolent hobbit. But slogans targeting Xi Jinping, China's leader, have been rare.

Over a coffee grabbed between protests, Nathan Law, a leader in Hong Kong's democracy movement, concedes that when activists demand a freely elected, democratic government, they are, logically, defying Hong Kong's ultimate rulers in Beijing, who have interpreted Hong Kong's law to require loyalty tests for candidates for public office. But defying the central leadership is not the activists' primary objective, he says: "All our demands are directed to the Hong Kong government."

These are vertiginous times for campaigners like Mr Law, who at the age of 25 has already been elected to Hong Kong's Legislative Council (only to be expelled for incorrectly reciting his oath of office) and served jail time for his role in pro-democracy protests in 2014. After Mrs Lam suspended the extradition bill, some foreign media called her climb-down one of the biggest political setbacks that Mr Xi has faced in his years as China's leader. It feels very different to protesters, says Mr Law, as chanting comrades walk past. Activists want Mrs Lam to withdraw the bill entirely. They also want a committee to investigate heavy-handed policing, and an agreement not to prosecute marchers accused of assaulting police officers and other lawbreaking. To date, Mrs Lam has not budged. "Actually, we haven't gained anything," says Mr Law.

He has a message for the central government: that "keeping Hong Kong as a very vibrant and very competitive city is good for both of us". But in the short term he sounds more concerned by local opinion, guided by a lesson from the protests of 2014, that "we have to keep the public onside". He stresses small acts of restraint by the leaderless, digitally mobilised movement. He cites a new tactic of surrounding government offices during the day, rather than blocking roads first thing, so that civil servants can get to work but may (he hopes to their delight) be sent home early.

Rank-and-file protesters are also focused on local politics. Wayne, a 20-year-old student blockading the city's main tax offices, shrugs when asked about his chances of being heeded by Mr Xi. "He is a king," he says. His grievances are with Hong Kong officials for failing to keep the rest of China at a sufficient distance. Grumbling about "our money" being taken to build new connections to the mainland by rail and bridge, Wayne says—inaccurately—that under one country, two systems, which runs until 2047, Hong Kong is "not China, not yet".

Such talk would enrage most mainland Chinese—if strict censorship were ever to let them hear from Hong Kong's protesters directly. It certainly appals central government officials, who play an ever-more visible role in Hong Kong's politics.

Regina Ip, a prominent pro-establishment politician in Hong Kong, says the territory is unhappy. She blames economic mismanagement, including a housing crisis and a failure to seize the opportunities offered by a rising China. She also blames meddling by foreign powers. "My own conspiracy theory is there are people trying to manufacture June 4th crises in Hong Kong," she says darkly, referring to the date of the bloody end of the Tiananmen Square protests in 1989. Mrs Ip credits the central authorities with wisdom and pragmatism. But she fears that Hong Kong's "weakened" government will now "lie low", avoiding contentious bills.

Self-interest, yes, enlightenment, no

Western governments face a dilemma. They feel obliged to speak out on the extradition bill, amid cries of alarm from businesses in Hong Kong. But when democracy activists petition Western consulates in Hong Kong, as hundreds of them did on June 26th, it prompts the central government to weigh in, and fuels Chinese propaganda. The West's strongest argument is an appeal to enlightened self-interest. Western leaders urge Mr Xi to see the harm that his party's clumsy actions could do to Hong Kong, a valuable place. Alas, each year brings more evidence that Mr Xi sees things the other way round. He worries about what troublesome places like Hong Kong might do to the Communist Party.

After previous mass protests in Hong Kong, the central government staged tactical retreats. It allowed the territory to drop contentious laws, then quietly tightened its grip. The party stepped up funding for loyalists to run for local office. It leant on businessmen to support government plans. Tame tycoons bought up media outlets. Political veterans expect more such efforts. Hence the pro-democracy camp's caution. Its members may fear confronting Mr Xi. He does not fear confronting them.

This article appeared in the China section of the print edition under the headline "What next for Hong Kong?"

China and Africa
Beijing curbs its enthusiasm

Debt sum

China is thinking twice about lending to Africa

Too many past projects have been costly flops

Print edition | Middle East and Africa Jun 29th 2019

FOR TEN days in May Uhuru Kenyatta, Kenya's president, vanished from view. Kenyans feigned concern on Twitter, using the hashtag #FindPresidentUhuru. A missing-person poster appealed for information on the whereabouts of a five-foot-eight African male last seen in Beijing. A government spokeswoman sought to reassure the public: Mr Kenyatta had been in his office "meditating". But others speculate that the president was in a funk after his trip to China failed to yield a new loan for the next phase of Kenya's ambitious $10bn railway.

Mr Kenyatta could be forgiven for feeling piqued. Beijing's largesse to Africa has sometimes seemed limitless (see chart). In September China promised another $60bn in aid and loans to the continent. Xi Jinping, its president, promised the money would come with "no political strings attached". John Magufuli, Tanzania's strongman president, was delighted. The West, he griped, made its money dependent on "strange conditions", such as insisting that Tanzania should not lock up gay men. "China is a true friend," he enthused. Its assistance comes "free of charge".

Being chummy with China has served Tanzania well. It has received more than $2bn in loans since 2010, reckons the China-Africa Research Initiative at Johns Hopkins University. In 2013 China agreed to finance and build a $10bn port in Bagamoyo, once a big slave- and ivory-trading entrepôt but now a sleepy fishing village.

Kenya has done even better. It was an early African member of the Belt and Road Initiative, China's global infrastructure project. It scooped up at least $9.8bn between 2006 and 2017, making it Africa's third-largest recipient of Chinese loans.

Mr Kenyatta must have reckoned that his railway project, on which he has staked much political capital, was due another cut of Mr Xi's cash. Not only has it been one of China's highest-profile projects in Africa, but Beijing has already doled out $4.7bn to finance its first two sections. An almost 500km stretch between the port of Mombasa and the capital, Nairobi, is up and running. The second is nearly completed. Kenya had assumed that China would fork out the $3.5bn needed for the penultimate section, to Kisumu on Lake Victoria. If China's ultimate vision was a railway network connecting resource-rich inland states to Indian Ocean ports, why stop funding the project halfway through?

Some Africans suspect that China deliberately lends countries more than they can repay in order to seize strategic assets when they default. They point to the Chinese-financed port at Hambantota in Sri Lanka. After the project flopped commercially, a Chinese state-owned firm took control. Hambantota would be a handy place to park Chinese naval vessels seeking to patrol the Indian Ocean. "The situation that Sri Lanka got itself into may not turn out to be unusual," says Mutula Kilonzo, a prominent Kenyan senator. "It is going to happen to African countries, too. The conditions of many loans are...a debt trap."

Deborah Brautigam at Johns Hopkins argues that Hambantota is an exception. She looked at more than 3,000 projects overseas financed by China, and found that it was the only example of such an asset being seized to cover a debt.

Nonetheless, African leaders are spooked. Dialogue with the Chinese is becoming edgier. On June 7th Mr Magufuli indefinitely suspended construction at Bagamoyo, balking at demands from the project's Chinese partner for a 99-year lease and a ban on port development elsewhere in Tanzania. Moving smoothly from cheerleader to critic, he accused the firm of setting "tough conditions that can only be accepted by mad people". Last year Sierra Leone scrapped a Chinese-funded project to build a new international airport for fear that it would involve too much debt.

The perception of a plot to turn the Indian Ocean into a Chinese lake endangers the political capital China has amassed in Africa. Since Mr Kenyatta came to power in 2013, public debt has nearly tripled. Last year the IMF raised the country's risk of debt distress from low to moderate. If Kenya defaults, China risks being blamed.

China's hesitation also reflects the uneven performance of past projects. A railway between Djibouti and Addis Ababa, completed in 2017, cost China's state-owned insurer Sinosure $1bn in losses, its chief economist said last year. Corruption and mismanagement drive up costs. Sometimes plans smack of unreasonable optimism. Bagamoyo's port was expected to handle more containers than Rotterdam, Europe's biggest freight terminal.

Kenya's railway has had its critics from the outset. Corruption made it a ludicrously expensive venture, costing twice the international average per kilometre of track. The railway's freight-carrying capacity was miscalculated and has proved to be only 40% of what was predicted. It was meant to be cheaper to ship goods up the line than send them by road. Even though the opposite has proved true, Mr Kenyatta's government has forced all containers coming out of the port onto the railway. Hapless traders in Mombasa have to pay for goods arriving by sea to be sent to Nairobi and back again as a result. China seems to have belatedly realised that throwing good money after bad would be an error.

So it is embracing caution instead. When Mr Kenyatta and his delegation arrived in Beijing in May, they were treated to an unfamiliar experience, according to a presidential adviser. The Kenyans were questioned not only about their sums, but about corruption. Mr Kenyatta was asked how he would afford a census and a referendum on constitutional change. The Chinese even wanted to know if he planned to stand for office again (he is obliged to stand down in 2022). "It was like talking to the World Bank," grumbled another aide.

Mr Kenyatta did not return from Beijing empty-handed. He agreed to export avocados to China and won funds for a data centre and a road connecting Nairobi's suburbs to its airport. Such laudably modest deals should be celebrated. Mr Xi might not be about to champion human rights, but China's shift closer to Western lending standards is a step in the right direction.

This article appeared in the Middle East and Africa section of the print edition under the headline "Beijing curbs its enthusiasm"

Coups and contradictions

Killings and claims of an attempted putsch rock Ethiopia

The unrest shines a spotlight on opposition to Abiy Ahmed, the prime minister

Print edition | Middle East and Africa Jun 27th 2019

ON JUNE 23rd 2018 Abiy Ahmed, Ethiopia's newly inaugurated prime minister, took to the podium wearing a bright green T-shirt. Smiling and waving, he offered hope of democratic change to tens of thousands of supporters at a rally in the capital, Addis Ababa.

A year later, almost to the day, he again addressed the nation, this time in army uniform, to declare, stony-faced, that his government had thwarted a coup. It was a sharp reminder of the fragility of his democratic revolution.

Abiy said the putsch had originated in the northern region of Amhara, Ethiopia's second-most populous, and was the work of General Asamnew Tsige, Amhara's head of security. The prime minister's office claimed that General Asamnew's men attacked government offices in the regional capital, Bahir Dar, on June 22nd, killing the Amhara region's president, Ambachew Mekonnen, and other officials.

In a separate attack in Addis Ababa, the army's chief of staff, Seare Mekonnen, was killed in his home by a bodyguard. (Also murdered was a retired general who had been visiting.) The government said the attacks in Addis Ababa and Bahir Dar were linked. Since then, it has shut down the internet and released few details of the plot. But from what little information has emerged, the incidents look more like an unplanned outbreak of violence than a calculated attempt to seize power.

General Asamnew was a former political prisoner sentenced in 2009 for his alleged role in another failed coup. Abiy released him last year and gave him a powerful job as part of a campaign to embrace former opposition leaders. But General Asamnew provoked alarm with his strident talk of defending Amhara territory against other Ethiopians.

Ethnicity has been a central feature of Ethiopian politics since 1995, when the current constitution came into force. It carved up the country into nine ethnically based semi-autonomous regions. The Ethiopian People's Revolutionary Democratic Front, which has run the country with a heavy hand for almost three decades, kept a lid on tensions between ethnic groups for most of that time. But they are on the rise as Abiy has liberalised politics. Last year intercommunal fighting forced almost 3m people from their homes.

The Tigrayans, who are around a tenth of Ethiopia's population, have largely run things since the toppling of a Marxist dictatorship, the Derg, in 1991. The Oromo, Abiy's group, who are a third of the population, resented Tigrayan domination, which in part accounts for Abiy's rise. The Amhara, who are about a quarter of the population, ruled the roost under Ethiopia's last emperor, Haile Selassie, who was deposed in 1974.

As the Amhara region's security chief, General Asamnew strengthened its paramilitary forces, creating a special police unit that answered directly to him. Both the federal government and Ambachew were troubled by this. People familiar with the events on June 22nd say that Ambachew had called a meeting with his advisers to discuss ways of stopping General Asamnew from expanding his forces and possibly firing him. (Among those killed was Migbaru Kebede, the attorney-general of Amhara.)

General Asamnew is said to have sent men from his special police force to the meeting who shot and killed Ambachew. The general may have been outside the building at the time. It is not clear whether the murder was premeditated, or the general lost control. He fled immediately, which suggests this may not have been an organised putsch. The army killed him two days later.

There are many unanswered questions, including whether and how events in Bahir Dar were connected to the killing of the army chief. If the incidents were indeed linked, as the government claims, that would point to a wider conspiracy and suggest that Abiy faces a threat from elements of the national army.

The ramifications for a country that seemed on the path to reform are gloomy. Scores of journalists, politicians and activists linked to Amhara nationalists have already been arrested. Repression may, in turn, stoke further resentment in Amhara, a region in which many young people are beginning to feel discriminated against by Abiy and his Oromo faction. The euphoria that greeted Abiy's rise to power just over a year ago seems a distant memory.

***Correction (June 28th 2019)**: An earlier version of this article erroneously added a decade to the rule of the ERPDF. Sorry.*

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

“We’re not property”

A former beauty queen accuses Gambia’s former dictator of rape

Activists seek Yahya Jammeh’s extradition for a catalogue of horrors

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WHEN FATOU JALLOW was crowned Gambia’s beauty queen in 2014, it was one of the happiest days of her life. But it was the prelude to a nightmare. Soon afterwards Yahya Jammeh, then the country’s dictator, asked the 18-year-old to marry him. Ms Jallow refused, but Mr Jammeh’s aides kept calling. After accepting an invitation to his home to attend a religious event, Ms Jallow says she was drugged and raped by Mr Jammeh. “He asked me what made me think that I could deny him,” she recalls. “I kept screaming and he kept telling me no one could hear me.”

Ms Jallow’s torment was far from an isolated case. Human Rights Watch and TRIAL International, watchdogs based in New York and Geneva respectively, have detailed other allegations of sexual abuse by Mr Jammeh and his aides. Their report, released this week, includes disturbing accounts from two other women who allege that the former dictator sexually abused them. A spokesman for Mr Jammeh’s party denied the allegations in a written statement to the BBC.

Mr Jammeh, who had seized power in a coup in 1994, was ousted in early 2017. But public anger against him lives on, stoked by a stream of new revelations about the horrors of his rule. Many have emerged in testimony before a Truth, Reparations and Reconciliation Commission established by Gambia’s new president, Adama Barrow, to investigate the old regime’s crimes and recommend prosecutions.

Mr Jammeh’s henchmen allegedly killed and tortured thousands. Journalists and activists disappeared in the night, never to be seen again. Dissidents were thrown into an airless dungeon, known as the “crocodile hole”, beneath the headquarters of Mr Jammeh’s intelligence agency.

The longer he ruled, the more erratic he became. His men once detained and drugged an estimated 1,000 villagers with a powerful hallucinogen because he thought that witchcraft was responsible for the death of a family member. He also claimed to be able to cure HIV with his bare hands.

In a poor country of about 2m people, he allegedly stole energetically. When he fled into exile in Equatorial Guinea he did so in his Rolls-Royce, leaving the state’s coffers empty. Campaigners are pressing Equatorial Guinea’s president, Teodoro Obiang, to hand him over for trial.

Reed Brody, an American lawyer working with Human Rights Watch, notes that many of Mr Jammeh’s victims came from other west African countries, including Ghana and Ivory Coast. These included 56 migrants who were massacred by his men in 2005. Mr Brody thinks that the latest rape allegations will add pressure. “It’s going to be harder and harder for Obiang to keep protecting Jammeh,” he says.

Ms Jallow managed to escape from Gambia and now lives in Canada, where she is studying social care. Talking about what happened “is my duty to other girls”, she says. “I am willing to open the gate and make sure that this man will one day face justice. I want to send a message to men in our society, that we’re not property, that we’re not goats.”

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Half a plan

An underwhelming start to the "ultimate" Israeli-Palestinian deal

Neither side shows up to discuss Jared Kushner's plan

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IT COULD HAVE been Davos, or any other conference on the annual circuit for the world's wealthy. Jared Kushner, the son-in-law and adviser to America's president, took the stage in Manama to offer his vision for solving the Israeli-Palestinian conflict. The combatants, he lectured, were "trapped in an inefficient framework of the past". The IMF director suggested looking at best practices from Mozambique. During a surreal segment on property rights, which lie at the very heart of the conflict, the moderator mused about using blockchain for Palestinian land deeds.

Before he took office in 2017 Donald Trump vowed to broker the "ultimate deal" between Israelis and Palestinians. To oversee the effort he chose Mr Kushner, a property developer with no experience in diplomacy or the Middle East. The result has been roughly as expected. There is still no plan for resolving the underlying conflict and its many thorny issues: borders, refugees, the status of Jerusalem, or the very notion of Palestinian statehood. Its release has been repeatedly delayed. Diplomats hint that it may remain on the shelf until Mr Trump's second term, if he wins one.

Instead Mr Kushner organised this two-day confab in Bahrain. Dubbed the "Peace to Prosperity" workshop, the centrepiece was a 96-page plan that pledged $50bn-worth of investment in Palestine and neighbouring countries after a peace deal. The document is impressive in scope. It suggests projects to boost agriculture and tourism, fix Palestine's infrastructure and improve governance. All of this would be funded by a mix of grants, concessional loans and private money.

Missing amid all this detail was anything about the Israeli occupation, in its various forms, of the West Bank and Gaza, or about the schism between the Palestinian leaders in the two territories. The plan presupposes that the Holy Land's noxious politics have simply vanished. Mr Kushner would spend $5bn to connect the West Bank and Gaza, for example. Israel has promised to do this for years but never has, because the link is not simply a matter of building a monorail: it raises complex political and security questions. The $2bn plan to give Palestine 5G wireless infrastructure would thrill entrepreneurs, but there was no mention of how to overcome objections from the Israeli army, which let the West Bank have 3G only last year, a decade after the rest of the world.

None of the speakers in Bahrain commented on this dissonance, perhaps because few were familiar with the conflict, or even its geography. To estimate the cost of installing 5G in Palestine, the president of AT&T compared it with Mexico, which he said was five to ten times as big (it is in fact 316 times larger).

As it stands, the plan is thoroughly unrealistic. That is the point, Mr Kushner's supporters argue. It is meant to offer the Palestinians a peace dividend, an incentive to accept his (perhaps) forthcoming political vision. They certainly need the help. Unemployment in the West Bank is 17%. In Gaza it is more than 50%. Adjusted for inflation, GDP per person is almost unchanged from 20 years ago.

But to the Palestinians this smells like a bribe from a hostile president. Mr Trump cut all American aid to them. He overturned decades of precedent to recognise Jerusalem as Israel's capital. And aides hint that the political plan will give the Palestinians far less than the sovereign state along the pre-1967 borders that they demand.

So they decided to boycott the workshop. Their president, Mahmoud Abbas, refused to send anyone from his government. "The deal of shame will go to hell," he said in May. The private sector also declined invitations. Arab states were thus reluctant to share a stage with Israeli officials—who were not invited in the end, though some Israeli businessmen did come. Reporters from six Israeli outlets sent fawning dispatches. The country's largest newspaper, *Israel Hayom*, which backs both Mr Trump and the Israeli prime minister, Binyamin Netanyahu, dubbed Bahrain the "island of hope", an odd appellation for a kingdom that crushed a popular uprising in 2011.

And that, perhaps, points to the real outcome of the workshop. It was the most public manifestation of a long and mostly private rapprochement between Israel and the Gulf states, one the Trump administration is keen to promote. The event did nothing to end the Israeli-Palestinian conflict. But it was another sign that the Gulf states are looking to move past it. Though they are not quite ready to recognise Israel, they see it as an ally against a shared threat from Iran. The Palestinians have far less to offer. "All we have is our moral power," says Mkhaimer Abu Saada, a political analyst in Gaza. That still counts for something—but less and less each passing day.

This article appeared in the Middle East and Africa section of the print edition under the headline "Not even halfway there"

Where security is a misnomer

How airports explain the Arab world

Getting on a plane in the region is an exhausting—and revealing—process

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IN MOST AIRPORTS, going through security checks is a streamlined if soulless passage into a hermetically sealed, sanitised zone. Not so in much of the Arab world. Reaching your departure lounge is a mental as well as physical obstacle course which reveals much about the regime—or regimes—in charge.

Some airports have competing security services. Beirut's main airport is mostly controlled by Hizbullah, the Shia militia that dominates southern Lebanon. But as befits the country's tortuously sectarian system of government, various groups have a foothold. Security agencies controlled by Sunni Muslims and Maronite Christians have their own X-ray machines and lines of control. The ensuing duplication leads to one of the airport's hallmarks: gridlocked queues.

At Mitiga, the sole airport still serving Tripoli, Libya's capital, Islamist militiamen peruse Western passports with an air of contempt. But other competing security forces conduct checks, too. In their varying uniforms, the guards are more concerned to secure their bit of the airport than to protect passengers.

Iraq's airports also replicate the plethora of checkpoints that punctuate its roads. To reach Baghdad's main airport, you pass through a series of concentric rings, starting many kilometres before the terminal. Passengers offload their luggage numerous times, first onto airport buses, then onto trolleys. Sniffer dogs, x-ray machines and officials, all from different factions, scrutinise your contents several times over—and you feel none the safer.

Here and there across the Arab world, private VIP services, often in cahoots with official security chiefs, sell fast-track passage to bypass the rigmarole faced by hoi polloi. In Cairo *baksheesh* is the simplest way to cut through the airport's tangle of red tape. And the equipment is only as good as its operators, who often seem more focused on their mobile-phone screens than their x-ray monitors. Semi-literate police at Egypt's airports let passengers through only if they present a valid ticket—or something that looks like one. An old rental-car reservation recently sufficed.

At the airport serving Khartoum, Sudan's capital, notices recently said that no one could leave the terminal once he or she had passed through security checks. No one paid the slightest attention, happily walking in and out.

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

Turkey
Making him stronger

Erdogan rebuffed

Turkey's president fails to see off his most powerful rival yet

Annulling Istanbul's mayoral election looks like a grave error

Print edition | Europe Jun 29th 2019

CARS STREAMED down the main avenues of Turkey's biggest city on the night of June 23rd, music and horns blaring. Street parties erupted in several neighbourhoods. Young people danced into the small hours. Ekrem Imamoglu, the man responsible for the commotion, stood atop a double-decker bus near his home, surrounded by a sea of elated supporters, and spoke the words that had become the rallying cry of his campaign. "Everything", he said, "is going to be great."

Hours earlier Mr Imamoglu had coasted to victory in the re-run of the election for Istanbul mayor, defeating his opponent, a former prime minister, by nine points, and handing Turkey's president, Recep Tayyip Erdogan, the biggest setback of his career. It was the best showing by any opposition politician in decades, and left no room for the kind of stunt Mr Erdogan pulled to rob the new mayor of his first victory.

Three months ago, after Mr Imamoglu prevailed by a fraction of a percentage point, Mr Erdogan and the ruling Justice and Development (AK) party accused the opposition of stealing the vote and leaned on the country's election board to order a re-run. The move backfired spectacularly. In the re-run, Mr Imamoglu received 54% of the vote against 45% for AK's candidate, increasing his margin of victory from 13,000 to over 800,000 votes. Turnout reached 85%, boosted by thousands of people who cancelled or interrupted their holidays to be home on election day.

Mr Imamoglu forged a coalition that included his secular Republican People's Party (CHP), Kurdish voters, a breakaway nationalist group and some Islamists. But he also earned the sympathy of conservatives disenchanted with the ruling party and the state of the economy. A street vendor in Mr Erdogan's old neighbourhood said he was so appalled by the decision to re-run the election that he turned against AK. "What they did to Imamoglu was an injustice," he said. "There's been too much corruption," another former AK voter said. "They made too many mistakes."

One was to resort to the scaremongering Mr Erdogan uses to fire up his religious base. Over the years, Turkey's leader has convinced millions of pious voters that their fate depends on his, and that they will become second-class citizens as soon as he loses power. He has attacked the opposition as terrorists, foreign lackeys and atheists. Most recently, he compared Mr Imamoglu to Egypt's dictator, Abdel-Fattah al-Sisi. At a rare briefing with foreign journalists ahead of the re-run, he brought up the recent death of Muhammad Morsi, the ousted Egyptian leader, and compared it to the execution of a Turkish prime minister five decades ago, for which he blames the CHP. "Don't look for anything democratic in the CHP's mindset," he said. "They don't have that in their history."

Some hostility to religious conservatives survives in the CHP's DNA, but the party has evolved over the past decade. In Mr Imamoglu, it has found a figure who can embrace all segments of Turkish society and expose Mr Erdogan's narrative as a sham. The bespectacled mayor reads the Koran, fasts during Ramadan, and has the looks and demeanour of an overgrown schoolboy. He does not look like a threat to national security or Islamic values.

Opposition figures are used to attacking Mr Erdogan. Mr Imamoglu ignored him. By running an upbeat campaign, focusing on the rule of law, and being as inclusive as Turkey's leader has been divisive, he has made inroads with conservative voters, something his party has not done in decades. Assuming that he can reshape the CHP in his own image and run Istanbul as successfully as Mr Erdogan did in the 1990s, the new mayor may soon shine on the national stage, predicts Fehmi Koru, a newspaper columnist.

It may be too early to proclaim Mr Imamoglu's success a victory for Turkish democracy, or the beginning of the end of the Erdogan era. Turkey's prisons remain packed with thousands of people arrested on outrageously vague charges in the aftermath of a bloody coup attempt in 2016. They include over a hundred journalists, thousands of bureaucrats and ten MPs from the country's leading Kurdish party, including Selahattin Demirtas, a former presidential contender.

The media have been bought off or defanged. Criticism of Mr Erdogan is off limits. No big news outlet dares to touch reports of widespread corruption. Dissent is rare, and punished with tear gas or arrest when it spills onto the streets. Sixteen activists face "aggravated life sentences" (meaning they must in theory serve at least 36 years) for their role in mass protests six years ago. One of them was released on June 25th after seven months behind bars. Another, Osman Kavala, was remanded in custody. He has now spent nearly two years in prison.

Mr Erdogan himself remains popular and in charge. He enjoys sweeping powers, which he can use to undermine Mr Imamoglu, plus the support of the country's biggest nationalist party, which gives him control of the parliament. He does not have to face another election for four years.

But the ground beneath him is shifting. Emboldened by Mr Imamoglu's success, some estranged AK luminaries, including a former president, seem poised to launch one or more breakaway parties. The economy, which only recently emerged from recession, may turn down again this year. America may impose sanctions over Mr Erdogan's purchase of a Russian missile-defence system. It has already suspended Turkey's participation in the F-35 fighter programme. Unless Mr Erdogan convinces Donald Trump to grant Turkey a waiver, additional sanctions will kick in when the missile batteries arrive from Russia.

The opposition has the wind in its sails. Mr Imamoglu has a real chance to heal a divided society. "The era of partisanship is over," he said in his victory speech. "The era of rights, law and justice is here." Elsewhere, those words would sound bland. In today's Turkey, they are revolutionary.

This article appeared in the Europe section of the print edition under the headline "Making him stronger"

All blocked

Albania is a mess

Chaos on the streets and in parliament is blocking access to the European Union

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CHINESE LANTERNS painted with the word "Ik" drift across the evening sky. Waving red Albanian flags emblazoned with its double-headed black eagle, as well as European Union and American ones, the crowd chants "Rama Ik! Rama Ik! Rama Ik!" Since February, in a series of mass protests, the opposition has been demanding that Edi Rama, the prime minister, must—in one word—go. During such raucous demonstrations, firecrackers and paint bombs are regularly hurled at his office. Lulzim Basha, leader of the opposition Democratic Party, which has led the protests, tells his supporters: "I won't let this country slip into eastern despotic ways!" But as chaos in parliament and on the streets persists, Albania's chances of being embraced by the EU are dwindling.

A year ago the EU laid out a string of conditions before negotiations to join the club could begin. On May 29th a European Commission report recommended that they should go ahead. But on June 18th several EU countries slammed on the brakes. It was a bitter blow, though the Albanian government had expected it. Mr Rama insisted that his country's efforts to join the EU would continue, and blamed governments pandering to populist parties for keeping it out. North Macedonia, which has made better progress towards meeting the EU's requirements, was also rebuffed.

But its chaotic politics mean that Albania looks increasingly ill-qualified to join the club. On June 30th elections for mayors and municipal councils are meant to take place. Mr Rama says they will go ahead, though President Ilir Meta has said he has cancelled them because of the situation. The electoral college backs the government but Mr Basha says the elections are illegal and is boycotting them. Mr Basha had banked on international approval of his protests and boycott of parliament, but has failed to get it. Attacks by his supporters on places where the polls are due to be held have been met by rebukes from foreign governments.

If the elections do go ahead, Mr Basha's party will lose the jobs and patronage that local government confers. At the same time the parliament, in which Mr Rama's Socialist Party has a narrow majority, has begun moves to impeach President Meta. The law, says Erion Veliaj, the Socialist mayor of Tirana, the capital, is "very clear. If you try to stop people voting, you go to jail."

Mr Basha has been trying to prove that Mr Rama was helped by organised-crime bosses to win the last general election, in 2017. Mr Rama denies it and says he will sue the journalist who is making the allegations in a German paper. On June 17th Mr Basha was in his turn called to answer allegations about illegal party financing. Mr Basha says the charges are false.

In 1997 there was a complete collapse of law and order in Albania when citizens seized tanks and forced the then president, Sali Berisha, Mr Basha's mentor, to resign. Democracy has enough of a foothold to make this very unlikely to happen again; all the same, politics in Albania is a nasty business. The main parties are tied to clans with unsavoury connections. Mr Basha claims that the enemies of organised-crime bosses allied to the Socialists have made overtures to him, which he has rebuffed. "It is not the collusion of government and organised crime, it is a fusion," he says. But Mr Rama says that if such accusations were true the European Commission would not have recommended the opening of EU accession talks, albeit that EU leaders decided to postpone them.

However chaotic the current situation, at least Albania's courts, under the aegis of the European Commission, are being cleaned up a bit. Judges and prosecutors are being screened for unexplained wealth, links to organised crime and general proficiency. Out of 140 screened so far, only 53 have been given the all-clear.

This article appeared in the Europe section of the print edition under the headline "All blocked"

Into the wilderness

France's Republican party faces extinction

Tilting right did it no favours

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TWENTY YEARS ago an ambitious politician led the French centre-right into European Parliament elections and was humiliated. The 12.8% secured by the young Nicolas Sarkozy was so dismal that the party dispatched him into the political wilderness (he later staged a comeback and won the presidency). Today, however, the party has done even worse than it did in 1999. After scoring a pitiful 8.5% in May's European elections, the very survival of the once-mighty Republicans is in the balance.

The French centre-right is partly hostage to broader Europe-wide voting shifts towards nationalists, centrists and greens. But the Republicans, who failed to make it into the presidential run-off in 2017 for the first time under the Fifth Republic, thought they had a solution. The party picked François-Xavier Bellamy, a philosophy teacher from Versailles, to lead its European campaign and tilt to the conservative right. Having already lost its leading moderates to President Emmanuel Macron's centrist government—in the shape of the current prime minister, Edouard Philippe, and the finance minister, Bruno Le Maire—the party hoped to build a base on the cultural values of the traditional right.

To this end Mr Bellamy, with the clean-cut looks of a choirboy, was an apt choice. He promised to write "Europe's Judeo-Christian roots" into European Union treaties, and beat back immigration. Opposing abortion and gay marriage, Mr Bellamy declared that he was "not going to apologise" for being who he was. The young leader, concluded *Valeurs Actuelles*, a right-wing magazine, was an "exceptional man", ready to defend family and country. "Bellamy: the right is back" declared the cover of *Le Figaro Magazine*, a conservative weekly.

Voters thought otherwise. Remarkably, 27% of those who had voted Republican in the presidential election swung to Mr Macron's party, while 15% opted for Marine Le Pen's populist National Rally (formerly the National Front). Centre-right voters, in other words, now find Mr Macron's party palatable, while traditionalists flirt with Ms Le Pen. The Republican party is left with those who are not liberal enough to support Mr Macron but find Ms Le Pen's strident nationalism distasteful—and there do not seem to be enough of them.

This is the existential problem now facing the party. In 2017 Mr Macron all but eradicated the Socialists on the left. In 2019 he has done the same to the Republicans on the right. The upending of party politics, which some considered two years ago to be a blip, has instead been entrenched. French politics is now being played out between Mr Macron and Ms Le Pen, as it was in the 2017 run-off. "There's no space left between them," argues a former Republican now in Mr Macron's government, who insists that the Republicans have "no future" at all.

Laurent Wauquiez, architect of the failed rightward lurch, has resigned as leader. A caretaker, Christian Jacob, looks likely to take over. Party membership is down to just 70,000 or so—a fifth of the figure in 2007, when Mr Sarkozy was elected president. Many local Republican mayors, who face re-election next year, fret that the party is so damaged that they will lose their jobs. Mr Macron is courting them assiduously. As is Ms Le Pen, who recently launched an "appeal" to them to join her in an alliance instead.

Some moderates, including Valérie Pécresse, president of the greater Paris region, and Xavier Bertrand, regional president in northern France, reckon that there is nonetheless a gap for them on the right—but outside the Republicans. Both have quit the party. Watching this disarray, meanwhile, is the wily Mr Sarkozy. This week he published "Passions", a memoir, keeping himself in the public eye. With a corruption trial pending, however, Mr Sarkozy is unlikely to return to politics. And the party he revived now looks set for a long spell in the political wilderness he once knew so well.

This article appeared in the Europe section of the print edition under the headline "Into the wilderness"

The history of trash heaps

Rubbish is becoming a political problem in Russia

Will more recycling solve it?

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HEAPS OF PLASTIC bottles and containers fill bins reaching towards the ceiling in a warehouse on Moscow's southern outskirts. At weekends hundreds of people line up to offload carefully sorted rubbish at Sobirator, a non-profit centre, one of a handful of recycling sites in the Russian capital. "For more than 20 years, trash didn't worry anyone," says Valeria Korosteleva, Sobirator's head. "We have a lot of territory, so everything went straight to the dump."

That may be about to change. Last week Moscow city authorities announced a plan to introduce recycling bins in courtyards across the city by the end of the year. For Russia this would amount to a minor revolution: while EU member states recover an average of 60% of their waste, Russia recycles just 4%, a World Bank study found in 2012. That means that landfill has taken up the slack. Such dumps cover some 4m hectares in Russia, an area roughly the size of Switzerland.

Yet Moscow's leaders have hardly undergone a green awakening. Instead, rubbish has become a political hot potato. Landfill sites around the capital are full; Moscow plans to ship its rubbish to the provinces. Residents of those regions have, unsurprisingly, balked at being treated as Moscow's bin. "It's about dignity," says Elena Kalinina, an activist.

The fiercest resistance has come from Ms Kalinina's home region of Arkhangelsk. Protests have been bubbling there since late last year, drawing thousands. Activists have built a tent camp at the planned landfill site in Shiyes. "The Russian North is Not a Dump," they chant. Local authorities have detained dozens of them. Activists now demand not only an end to landfill construction but also the resignation of the local governor. On June 25th Russia's Supreme Court blocked activists' attempt to force a referendum on the issue.

If there is a silver lining to the garbage, this is it. Just as ecology became an outlet for civic activism in the late Soviet era, so too have today's rubbish problems. Moscow's junk, in short, may be civil society's treasure.

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Kinder surprise

Why Germany's birth rate is rising and Italy's isn't

The government is making it easier to look after kids

Print edition | Europe Jun 29th 2019

IN 1907 AN anxious Austrian, Emil Reich, predicted that Germany would have a population of 150m in 1980 and as many as 200m by the year 2000. It seemed plausible at the time. Germany had a high birth rate and a falling mortality rate. Reich's prediction, in his book "Germany's Swelled Head", turned out to be completely wrong. By the early 1980s East and West Germany had a combined fertility rate lower than anywhere in the world except Denmark and the Channel Islands. Far from exploding, Germany's population seemed doomed to rapid decline.

But in the past few years something unexpected has happened. The fertility rate, an estimate of the number of children each woman can expect to have in her lifetime, has climbed off the floor. Between 2006 and 2017 it rose from 1.33 to 1.57. The rate for 2018 has not yet been worked out, but more babies were born that year than in 2017. Germany's fertility rate has pulled away from Italy's and Spain's (see chart) and is now almost identical to the euro-area average. On June 17th the UN estimated that in 2050 Germany will have 58 people over the age of 65 for every 100 people aged 20-64. That is a lot, but comfortably less than Italy's predicted ratio of 74 to 100.

What has happened? It is partly a statistical quirk. The fertility rate is influenced by the timing of childbirth. If women move en masse to have children at older ages, the rate will fall, then rise again as the average age of childbearing stabilises. This has happened in Germany and other rich countries. But it does not explain the whole rise in the fertility rate. German women born in 1973 (who can be assumed to be done with babies by now) have more children than women born in 1968.

Another explanation is immigration. Germany has not only accepted a lot of people in the past decade—it has taken them from countries where large families are the norm. In 2017 Syrian women in Germany had 20,100 babies, up from just 2,300 three years earlier. Afghans and Iraqis had more than 5,000 each. Tomas Sobotka, a researcher at the Vienna Institute of Demography, estimates that about half the rise of Germany's fertility rate in the past few years is explained by immigration.

That boost will not last, because immigrants adjust quickly to native ways. Mona Shinar, a Palestinian woman in her mid-30s who fled Damascus for Potsdam, near Berlin, comes from an enormous family. Before Syria's civil war began, she had 12 brothers and sisters. She already has four children, including one who was born just two days after she arrived in Germany. She believes her children will have no more than one or two babies each. She has "an Arabic head", as she puts it. Her children have German heads.

The other explanation for the baby boomlet is that Germany has made it easier to raise children. What crushes birth rates, whether in Europe or East Asia, is opening higher education and attractive jobs to women while continuing to expect mothers to do the great majority of child care and housework. If a society forces women to choose between jobs and motherhood, many will keep working. Western Germany has a tradition of stigmatising working mothers, and a special slur for them: *Rabenmutter* ("raven mother").

This is gradually changing. In 2007 Germany's federal government introduced generous parental-leave laws and tweaked the rules to encourage fathers to take time off. In 2013 it declared that children over one year old had a right to nursery places. Although there are still not enough places to meet demand, supply is growing. Between 2006 and 2017 the number of children under three enrolled in nurseries rose from 286,000 to 762,000.

Unlike those in France, Scandinavia and eastern Europe, German politicians seldom talk explicitly about boosting the birth rate—probably because the Nazis did. Instead they talk about empowering women. Still, their policies seem to promote fecundity. Lena Reibstein of the Berlin Institute for Population and Development says they could do more if they changed the tax system. At present married couples are allowed to file joint income-tax returns. This encourages mothers to stay at home by reducing their husbands' tax bills if they do.

Compare all that to the situation in Italy. It has immigrants too—but many come from low-fertility countries like Romania and Albania. Its economy has stagnated, which puts people off having children. And Italian politicians have no idea how to raise the birth rate. Three years ago the government ran an advertising campaign informing women that their biological clocks were ticking, as though this had not occurred to them. The campaign was withdrawn amid heckling. Italy is now the world's second-oldest country, after Japan. And the truth is, says Maria Letizia Tanturri, a demographer at the University of Padova, that "people don't care".

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Charlemagne

Environmentalism is emerging as Europe's new culture war

Back to the barricades!

Print edition | Europe Jun 29th 2019

IN THREE DIRECTIONS pine forests, bone dry in the scorching weather, disappear into the horizon of the central Polish plain. To the south is the lunar landscape of a city-sized opencast lignite mine. A tangle of conveyors carries the coal up to Elektrownia Belchatow, Europe's largest thermal power station and its largest producer of carbon emissions, at a rate of one tonne a second. Pawel Koszek, a repairs specialist, surveys the scene with satisfaction. "Electricity", he says, "is our comfort and our security." Last weekend activists from Greenpeace projected the face of Mateusz Morawiecki, Poland's prime minister, with the caption "shame", onto one of Belchatow's seven cooling towers. "They don't understand the technology," scoffs Mr Koszek, who has worked at the plant since 1989 and met his wife there.

Downstairs, at a bank of computers, he radiates pride as he demonstrates how to regulate the flow of oxygen to its 13 furnaces. Together they produce about 20% of Poland's electricity. It is like flying a plane, he muses: the operators must be able to take control in an emergency. There has never been a major incident at Belchatow. Compare that with nuclear power plants like Chernobyl or Fukushima. (Happily, it is unlikely ever to be hit by a tsunami, as Fukushima was.) Wind energy? Solar energy? They come and go. Try charging your phone on a solar panel. Good old coal is reliable.

This puts Mr Koszek and his home town at the wildly unfashionable end of the environmental debate in Europe. The place, dubbed "Belcha" in the foreign press, serves as a symbol for Poland's foot-dragging on carbon emissions. The Greenpeace activists were angry at Mr Morawiecki's government for blocking a commitment to make the EU carbon-neutral by 2050. Yet to its 60,000 residents Belchatow is a pleasant place to live. Amid flowers and fountains in the newly renovated Narutowicza Square is a walk of fame for stars of the local volleyball team, which is sponsored by and named after the state-owned firm that runs the mine and plant. Many families have several members working at the two sites, which employ 8,000 people and many more indirectly.

So locals are understandably defensive in the face of Europe's environmentalist surge. Part of this impulse is straightforwardly economic. "Without the power station and the mine," says Marchin Nowak, Belchatow's development director, "the town will lose its economic raison d'être." Already EU-imposed carbon-emissions licences have increased the cost of generating electricity there. He warns that further EU measures will make Polish coal still less competitive and that generation will shift east to Belarus, Ukraine and Russia. The emissions and the jobs, he argues, will merely be displaced out of the EU.

But the defensiveness also goes beyond the bottom line. Belchatow is proud of its industry. Coalmining began there only in the 1970s and many residents moved to the town from other places, but they venerate St Barbara, the miners' saint, like residents of older Polish mining regions such as Silesia. The city's logo is an electrical "on" button and its slogan is: "Belchatow: always a good reaction". Law and Justice, the nationalist party that rules Poland and dominates local politics in Belchatow, has made the quality of Polish coal a patriotic cause (one critic refuses to give a quote for fear of reprisals). The party condemns western EU states for refusing Poland the chance to catch up with their living standards. Even those in Belchatow who accept the need to cut emissions, like Mr Nowak, say Poland is unfairly treated: "You can't expect Poland to leap to zero carbon in 30 years."

Being in Belchatow reminded Charlemagne of those European towns caught up in, or at least alarmed by, the migration crisis of four summers ago. In such places, too, the issue was cultural as well as purely economic. Locals worried about jobs and wages, and fretted that the costs and benefits of the change would be unfairly distributed. But they also worried about the character of their society and felt alienated from globally minded elites in the big cities. Fake news proliferated. Today immigration has faded as a political flashpoint, as the numbers arriving have collapsed. The environmental debate is taking its place.

It even has a similar geography. It was tempting to see the migration crisis as a struggle between the eastern and western halves of the EU. That is true of the environmental battle, too. But as with the immigration debates, it oversimplifies the matter. Zuzana Caputova, Slovakia's new president, and Robert Biedron, an insurgent Polish opposition leader, are both keen environmentalists. And climate change is just as divisive in the western EU. Green and greenish parties are rising and populist parties like the Alternative for Germany, as well as anti-establishment protesters like the *gilets jaunes* in France, are turning the environmental movement into their new enemy of choice in the culture war. The real divide, as with in immigration, is within societies: between big cities with their Fridays for Future marches, car-free days and liberal politics, and small towns where the old ways of doing things die less easily.

Learning from the past

Immigration has vanished from Europe's headlines because the populists won the battle. For all the optimism of the "refugees welcome" campaign in 2015, a broad consensus has now formed around much more restrictive, "Fortress Europe" policies. Environmentalists can learn some lessons from what the pro-immigration campaigners got wrong. First, do not split the difference with populists. Instead, take on their arguments with emotionally resonant facts. Europe's record-hot summers are powerful argumentative props. Second, do not pander to those who resist change, but do not patronise them either. Treat them as grown-ups, listen to their concerns and move faster to cushion the effects of change with transition funds and retraining schemes. Europe's liberals are entering a new culture war. They should avoid the mistakes of the last one.

This article appeared in the Europe section of the print edition under the headline "Back to the barricades"

The future of health care
What's up, doc?

What's up, doc?

The front line of England's NHS is being reinvented

A shortage of family doctors leaves little choice but to try something new

Print edition | Britain Jun 27th 2019

THE NATIONAL HEALTH SERVICE is free, so it is also rationed. Family doctors, known as general practitioners (GPs), act as the first port of call for patients; friendly gatekeepers to the rest of the service who refer people to specialists only if needed. But in some parts of the country, including St Austell on the Cornish coast, access to the rationers is itself now rationed. "You can't book an appointment to see me here," explains Stewart Smith, a 39-year-old GP, one of a team in charge of an innovative new medical centre. "You go on a list and then we triage you."

It is an approach that will soon be familiar to more patients. Simon Stevens, chief executive of NHS England, has said that being a GP is arguably the most important job in the country. There is, however, a severe shortage of them. According to the Nuffield Trust, a think-tank, there are 58 GPs per 100,000 people, down from 66 in 2009—the first sustained fall since the 1960s. Only half of patients say they almost always see their preferred doctor, down from 65% six years ago. The average consultation lasts just nine minutes, among the quickest in the rich world.

Although the NHS hopes to train and recruit new family doctors, the gap won't be plugged any time soon. A new five-year contract to fund GP practices will eventually include £891m ($1.1bn) a year for 20,000 extra clinical staff, such as pharmacists and physiotherapists, with the first cash for such roles arriving on July 1st. To access the money, practices will have to form networks which, it is hoped, will help them take advantage of economies of scale and do more to prevent illnesses rather than merely treating them.

When the four practices serving St Austell merged in 2015, it was an opportunity to reconsider how they did things. The GPs kept a diary, noting precisely what they got up to during the day. It turned out that lots could be done by others: administrators could take care of some communication with hospitals, physios could see people with bad backs and psychiatric nurses those with anxiety. So now they do. Only patients with the most complicated or urgent problems make it to a doctor. As a result, each GP is responsible for 3,800 locals, compared with an average of 2,000 in the rest of Cornwall.

Although few practices have made changes on the scale of St Austell Healthcare, across England the number of clinical staff other than GPs has grown by more than a third since 2015. The logic behind the introduction of these new roles is compelling, says Ben Gershlick of the Health Foundation, another think-tank. The NHS estimates that 30% of GPs' time is spent on musculoskeletal problems, for instance, which could often be handled by a physiotherapist. Another estimate suggests 11% of their day is taken up by paperwork. Doctors complain that they are overworked, and growing numbers retire early. They are also expensive: the starting salary for a GP is £57,655, whereas a physio costs around half as much.

NHS leaders hope the new workers will help practices play a more active role in their community, linking up with services provided by local authorities and charities. Each network will be responsible for a population of 30,000-50,000. The plan is that they will use data analysis to intervene early to prevent illness, and that practices will often share the new staff with others in their network.

Those that are further down the road sing the benefits of the new approach. Caroline Taylor of the Beechwood Medical Centre in Halifax says that new roles quickly show their worth. Her practice took in a "work wellness adviser" employed by the council. The adviser's goal was to help ten people over the age of 50 with poor mental health back to work in a year—a task which she completed in just six weeks. In St Austell two pharmacists last year helped to cut more than £140,000 from prescribing costs. Far fewer staff now report that they are burnt out.

Working in a team will nevertheless require a big shift in mindset for many doctors, particularly those in surgeries that have never before employed anyone else aside from the odd nurse. One worry is that practices will end up doing what they must to get the extra funding, but little more. There are also more practical problems. Seven in ten GPs say their practices are too cramped to provide new services, and it is not clear where some of the extra staff will be hired from.

Perhaps the biggest problem is that patients have grown used to having a doctor on demand. Although those who no longer have to queue for an appointment may be happy, others might feel fobbed off if diverted to another clinician. A study published last year by Charlotte Paddison of the Nuffield Trust, and colleagues, in the *British Medical Journal* found that patients had less trust in the care provided by a nurse if they initially expected to see a doctor. Patients who have a close relationship with their GP tend to be more satisfied and enjoy better health outcomes than others.

But other evidence suggests that, for some conditions, nurses provide care that is as good as or better than that provided by GPs. The aim, says Nav Chana of the National Association of Primary Care, which helped develop the new approach, is therefore to use small teams of doctors and other clinical staff to replicate the sort of relationship with patients that used to be more common. Just parachuting in “a lot of people who look like doctors” will not raise standards, he warns.

The shortage of GPs leaves the NHS with little choice but to try something new. “A lot of the world has either copied or is trying to copy English primary care,” in particular its openness to all and the continuity of care that it provides, says Dr Chana. Keeping these strengths, while changing how primary care works, is the task NHS officials are now facing up to. Even if they succeed, it will take time for the public to adjust. Having explained the benefits of the new way of doing things, one GP pauses, before adding: “I should say, though, patients don’t love it.”

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Monsieur Boris

Boris Johnson, Britain's first French prime minister?

His chances depend on how French the British have become in their attitude to privacy

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"ET ALORS?" So responded François Mitterrand, then president of France, when asked about a child from an extra-marital relationship. His curt "So what?" summed up the way in which the private lives of French politicians are generally off-limits to nosy journalists, and of little concern to French voters. Criticism of François Hollande, another president caught having an affair, focused on the fact that he had turned up to his illicit liaisons on an unpresidential scooter. How Boris Johnson must have wished that similar attitudes prevailed in Britain when an argument with his girlfriend became front-page news on June 21st, after the police were called to her flat in south London.

Mr Johnson is attempting to become Britain's first French prime minister, with an impregnable barrier between his public and (rather vibrant) private life. "I do not talk about stuff involving my family, my loved ones," he garbled this week. "And there's a very good reason for that. If you do, you drag them into things that, really, is, in a way that is not fair on them."

Unfortunately for Mr Johnson, the British take a keen interest in the personal lives of their politicians. More than half of voters think Mr Johnson's private life is relevant to his ability to be prime minister, according to a poll taken by Survation after last week's domestic row was splashed all over the press. One in three voters said the episode—in which Mr Johnson's partner, Carrie Symonds, was recorded screaming "Get off me!" and "Get out of my flat!" before labelling Mr Johnson "spoilt"—would make them less likely to support him. Happily for Team Johnson, half suggested it would make no difference.

It made for a chaotic start to the leadership race by Mr Johnson, who nonetheless remains the favourite. While noisily stating that he would not comment on Mr Johnson's private life, Jeremy Hunt, the foreign secretary, who is running against him, labelled his opponent a coward for ducking out of a head-to-head debate. Mr Johnson's team had attempted to launch a "submarine" assault on Downing Street, in which their gaffe-prone candidate would surface only occasionally. But following criticism of his invisibility Mr Johnson changed tactics, giving a flurry of interviews in which he discussed everything from his plan to leave the EU by October 31st ("come what may, do or die") to his hobby of painting buses on old wine boxes—anything other than his love life.

Yet the topic may re-emerge in the remaining month of the contest. Basic questions about Mr Johnson, such as how many children he has, are unanswered. Judges have, in general, upheld the right of journalists to stick their beaks in. When in 2013 the mother of one of Mr Johnson's children tried to stop newspapers from naming him as the father, the courts ruled against her, declaring that it was "a public interest matter which the electorate was entitled to know when considering [Mr Johnson's] fitness for high public office".

Following the latest fireworks, one poll suggested that Mr Johnson had lost his lead to Mr Hunt among the general public. His victory looks a little less certain than a week ago. But Conservative voters still prefer him—and the decision lies with party members, who are particularly enthusiastic backers of his hard line on Brexit. A majority say they would be willing to seriously damage the economy or even lose Scotland in order to leave the EU (see Bagehot). Just as Brexit has superseded the party's attitudes to business and the union, so too it may override its attitude to family values. Mr Johnson's team is banking on the hope that Conservative Party members will greet any topic other than Brexit with a Gallic *"Et alors?"*

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Back to the border

The search for ways to keep the Irish border open after Brexit

Alternative arrangements are worth exploring, but they cannot replace the Irish backstop

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THERESA MAY's Brexit deal was rejected by MPs because of the Irish backstop. This part of the withdrawal agreement would keep the United Kingdom in a customs union with the EU until another option was found that could avert the need for a hard border with Ireland. The government has convened an advisory group to study such options. And this week a commission set up by Prosperity UK, a think-tank, under the auspices of two Tory MPs, Greg Hands and Nicky Morgan, published a report on alternatives.

Scepticism about magical ways to avoid border controls is in order. Yet the report is based on work by experienced customs and border officials. It draws on international practice to advocate systems using trusted traders, authorised economic operators and exemptions for small businesses to minimise border friction. And although it stresses digital solutions, it does not rely on untested technology. Its timetable of putting alternative arrangements in place within three years may be unrealistic, but some ideas should still be considered.

The report disowns Mrs May's December 2017 promise of no checks anywhere on the island. Instead it suggests that inspection posts should be sited well away from the border. That is a hard sell for Brussels, given the region's history of smuggling. It is especially tricky in the agrifood business, which accounts for much cross-border trade. For this the report suggests a single all-island food-safety unit and proposes that the EU deems British food standards equivalent to its own. Neither proposal seems politically saleable.

The authors are clear that none of these suggestions could survive a no-deal Brexit, not least because they depend on trust. That, as the main author, Shanker Singham, concedes, is now almost entirely lacking. And it does not argue that the Irish backstop can simply be ditched altogether. There is something of a Brexiteers' paradox at work. If they really believed in alternative arrangements, they would not worry about the backstop, since it would never be needed. By the same token, the more they say the backstop is intolerable, the more a suspicious EU will see it as an essential insurance policy.

The EU's fears are not being eased by the willingness of the two rival Tory leadership candidates to accept no-deal. Both Boris Johnson and Jeremy Hunt claim they could renegotiate the Brexit deal to remove the Irish backstop before October 31st. They also invoke imaginary technology to avoid any border controls. Even more incredibly, Mr Johnson argues that the border problem can be sorted out during a standstill transition period that is not on offer from Brussels, especially since he is simultaneously threatening not to pay Britain's agreed exit bill of £39bn ($49bn).

Such contradictions fuel two other ideas. The first, promoted in a new Policy Exchange pamphlet by Lord Bew of Queen's University, Belfast, is to dispute the claims in Brussels and Dublin that the Good Friday peace agreement depends on there being no hard border. Echoing many in the Democratic Unionist Party (DUP), Lord Bew argues that Mrs May's Brexit deal itself is more of a threat to the peace process, and that smart border controls would be tolerable. Yet a majority of Northern Irish voters backed Remain in 2016 and support the backstop. That points to a strong preference for an invisible border with no checks or controls at all.

A second idea is to revert to the original December 2017 plan of a backstop covering Northern Ireland alone. This was scuppered because the DUP, on which Mrs May's government relies for its majority, opposed customs checks in the Irish Sea. Arlene Foster, the DUP leader, is still against, though she also opposes a no-deal Brexit. Yet animals arriving in Larne from the British mainland already undergo checks. Controls at sea are less intrusive than on land. A Northern Ireland-only backstop would allow Britain an independent trade policy. For now, the next Tory prime minister would struggle to get such a thing through Parliament. But do not be surprised if it is revived in future.

This article appeared in the Britain section of the print edition under the headline "Back to the border"

The rich v the rest

A rare peep at the finances of Britain's 0.01%

The richest of the rich are even richer than thought—which means inequality may be rising faster than imagined, too

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THEY ARE objects of both fascination and fury. But beyond the annual *Sunday Times* "Rich List", which estimates the fortunes of Britain's wealthiest, relatively little is known about the finances of the economic elite. Official statistics, which extrapolate from surveys of the general public, are good at guessing the incomes of middling sorts. But they find it harder to get an accurate picture of those with more unusual circumstances. The very richest are particularly elusive. As well as being frustrating for nosy parkers, this makes it harder to estimate inequality, which depends on an accurate understanding of the full extent of their loot.

In a paper published on June 17th, Mike Brewer and Claudia Samano-Robles of Essex University paint an unusually detailed portrait of Britain's very highest earners. Using data from the tax office up until 2015-16, they focus on the incomes of not just the top 1%—who earned a trifling £129,000 ($164,000) or more in that year—but the top 0.01%. The 5,000 or so individuals in that club each made at least £2.2m.

Who are they? Nearly all live in England, the majority in London. Scotland has about 200 of them, and Wales and Northern Ireland perhaps 50 between them. Only about one in ten is a woman; one in 20 is a millennial (roughly defined as the generation born between 1981 and 1996). Financial services, by far the biggest category, employ more than a third of them. Yet roughly 15% of Britain's super-high earners do not appear to work at all. In 2015 40% of the income of the top 0.01% was "unearned", meaning that it came from the returns to financial investments and the like.

The very rich have been getting a lot richer. Since 1995 the share of overall income accruing to the top 0.01% has roughly tripled (see chart). They had a turbulent time during the financial crisis of 2008-09, when many bankers were sacked and the value of financial investments plummeted. Yet they quickly bounced back. By 2015-16 the share of income accruing to the top 0.01% was at its second-highest level in decades. It is likely to have risen still further since then.

The paper is part of a recent trend among economists to improve estimates of the incomes of the rich. That work is much needed, since Britain's two official measures of overall inequality—one from the Office for National Statistics (ONS) and the other from the Department for Work and Pensions (DWP)—have limited success in guessing the incomes of the well-off. Both suffer from the problem that very rich people are particularly likely to under-report their income. Some evidence finds that the very well-off are less likely to answer surveys, since they believe they are too busy to do so. They may also have earnings from a variety of sources, which can make it hard to keep track of everything that is gushing in. An ONS study published in February suggests that survey data capture only about half the income of someone who has just made it into the richest 0.5%.

Since the rich command a disproportionately large share of overall income, getting them wrong is a disproportionately big problem. Both the ONS and DWP suggest that, somewhat surprisingly, since the early 1990s overall income inequality (as measured by the Gini coefficient) has not changed much. Could these conclusions be skewed by a poor understanding of just how rich the richest are?

In an effort to get to the bottom of this, academic researchers have sought to combine tax data with survey data. (Wonks at the DWP already do this, though their methodology is widely agreed to be flawed.) Calculations in a paper published earlier this year by Stephen Jenkins of the London School of Economics and the late Tony Atkinson, formerly of Oxford University, show a marked increase in overall inequality since the mid-1990s, in contrast to the stability shown by official statistics. Such work is at an early stage. But it suggests that a better understanding of the 0.01% may reveal that the gap between rich and poor has been widening more than many people thought.

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Degrees south

Seeking students and status, regional universities set up in London

At least 15 British universities now have outposts in the capital

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THE 13TH AND 17TH floors of the Shard, towering over south London, make an improbable home for the University of Warwick. Stranger still, a mile or so away, next to the Ministry of Sound nightclub, lies the University of the West of Scotland. In the east of the city Loughborough University, known for its sporting expertise, has established itself in the former press centre at the Olympic Park.

Since the early 2000s British university outposts have sprung up across the globe, from Lagos to Johor Bahru. But the most popular place is closer to home. At least 15 regional universities have campuses in the capital, compared with none a decade or so ago. University administrators expect more to arrive soon.

The reason for the rush is simple. For institutions in remote or unfashionable bits of the country, setting up shop in the capital "is a good way to get students who wouldn't normally consider you", explains Paul Woodgates of PA Consulting, whose clients include universities. That is especially true of foreign students who, if they are from outside the European Union, pay fees two or three times higher than their British peers. Many universities' London campuses offer English-language teaching alongside academic study. At Loughborough's outpost in the capital, 85% of students come from beyond the EU, with China the main source.

Opening an embassy in London also helps to raise the profile of the institution more broadly, says Tony Edwards, the Loughborough campus's incoming head. His university sometimes makes the top ten in British rankings, but suffers in international ones, which put more weight on the views of academics in other countries who may not have made it to the East Midlands.

London outposts typically offer courses in vocational subjects, like business or management, which are cheap to teach. In some cases they forge links with businesses that would be hard to replicate back at base. But not always. "It is quite striking how often the proximity to big, prestigious employers is flagged up, as if geographical proximity would be enough to improve employment outcomes," says Rachel Brooks, a sociologist at the University of Surrey (which does not yet have a London branch). She and Johanna Waters of UCL found that academics at London offshoots had fewer qualifications than those at their parent campuses, and often had professional rather than academic experience.

And though the bright lights of the city may appeal, an administrator at one university thinking of setting up a campus confesses he worries about the student experience. Facilities in the capital can be cramped and, with few students on campus, opportunities for sports teams and student unions are limited. Universities hope that the central location makes up for a somewhat stripped-back education. As more outposts open, that idea will be put to the test.

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Welsh beef

How Welshmen went from mining coal to pumping iron

Muscle-boosting steroids are no longer just for bodybuilders

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RHYS CALLOWAY first went on the juice seven years ago. At 21, he was fit but skinny—football training every day at college had seen to that. He envied the bulging muscles of his mates down the gym, and he knew their secret. To make progress, he needed to pinch the added ingredient of their regimes: steroids. "Your veins are out, your muscles are full, arms nice and tight, chest puffed out," he says. "All the compliments started coming in."

It is tricky to work out how many Britons take anabolic steroids, synthetic compounds derived from the male hormone testosterone that promote muscle growth. Users are often keen to imply that they sculpted their bodies with hard work alone. One user told a researcher from Teesside University that his girlfriend "wouldn't mind if I told her I did some crack [cocaine], but if I told her I took steroids she wouldn't even want to know me."

Another reason for their reticence is that steroids occupy a grey area between legitimate pharmaceuticals and banned drugs. They are legal to possess, but illegal to supply. Most steroid users don't see themselves as drug abusers, and shy away from health services. And since steroids are "class C" drugs (the least serious of three bands), they are not a priority for cops. So academics reckon the official finding that 310,000 Britons have taken steroids is a significant underestimate.

Few doubt that use of steroids is growing. They were first knocked back by Russian weightlifters in the 1950s and later taken by American athletes, generating a run of doping scandals. But in recent decades they have proliferated, first among amateur bodybuilders and powerlifters and now among large swathes of men keen, as one puts it, to "look like a beast". Official statistics suggest that the number who admit to ever having taken steroids has swelled by 70% in the past ten years. So common are "'roids" in some gyms that sharps bins for needles are provided.

Most users take steroids for cosmetic purposes. Some combine a short course of steroids with tanning drugs to get "jacked and tan" before going on holiday; others are keen to keep up with others at the gym or to look like their idols on Instagram. Social media fuel competition between rival gyms, or "meat houses". Some have posing rooms with floor-to-ceiling mirrors on every wall for selfie-snapping. Steroids are also popular among gay men and those who need to look beefy for work, such as prison guards and bouncers. One criminal's heavy told Georgios Antonopoulos, another Teesside academic, why he started taking steroids: "You have to look like a hard bastard."

Gym'll fix it

There are users everywhere, but some evidence suggests steroids are particularly prevalent in post-industrial places. Take the Valleys, once the industrial heartland of Wales. According to Public Health Wales, a government agency, 64% of patients at needle-exchange clinics there say they use steroids or other image- and performance-enhancing drugs (known as IPEDs), compared with 37% in Cardiff, the capital. "Many young working-class men were socialised to believe physical labour is the male activity," says Mr Antonopoulos. Now that they work in call centres and supermarkets rather than mines and steelworks, steroids offer a way to retain the traditional trappings of masculinity. "If you look at my job now, it's just sitting at a desk," says Mr Calloway, whose grandfather was a miner.

Like many users, Mr Calloway first bought his steroids from a dealer. These dealers are quite different from the crooks who push harder drugs, though. Small-scale user-dealers buy their gear from underground labs in Britain or import it from countries where it is cheaply and readily available, such as Turkey. They are often gym owners or personal trainers, for whom profit comes second to being seen as "brokers of masculinity", says Mr Antonopoulos. About a quarter of users buy online. Several forums allow people to compare the quality of different websites' products.

The Welsh authorities quickly recognised the problem. Two years ago the then public-health minister warned of the "worrying number" of young men buying the drugs for cosmetic reasons. Mike Mallett set up a specialist IPEDs clinic in Newport after noticing that more and more patients visiting his needle-exchange were using steroids. Staff at the clinic take blood samples and give advice on reducing the risks of injecting or swallowing steroids.

Studies suggest that steroid users risk less damage than smokers, drinkers or users of most illegal drugs. But they often experience side-effects like acne, shrinking testicles and low libido. Because of the extra pressure placed on their bodies, users also risk serious long-term complications such as cardiovascular disease and impaired liver function.

At Mr Calloway's first visit to the Newport clinic, he chats through his steroid regime with a doctor. "What dosage is safe?" he asks. He confirms that he never shares needles and the doctor tells him that his intake is "not that horrendous". He will have to wait a few weeks to get the results from his blood sample. Whatever it says, he seems unlikely to quit. "It has no limits," he says. "Every time you look in the mirror, you still think, 'I could be bigger,' so you just keep going."

This article appeared in the Britain section of the print edition under the headline "Welsh beef"

Bagehot

Leaving the EU is straining the union with Scotland

A government led by Boris Johnson would be even less appealing to Scots

Print edition | Britain Jun 29th 2019

GORDON BROWN is doing a much better job of being an elder statesman than he did of being prime minister. A man who was seen as a failure in office has transmogrified into a widely respected figure. In April he delivered an electrifying speech on the shame of anti-Semitism in his Labour Party. This week he was at it again. He warned that "the union is today more at risk than at any time in 300 years—and more in danger than when we had to fight for it in 2014 during a bitter Scottish referendum." He added that there was more at stake than just the unity and integrity of a country. Also on the line is a collection of values—"tolerance, respect for diversity, being outward-looking"—which are embodied in the United Kingdom and now threatened by various competing, narrow nationalisms. He is right on all counts.

England and Scotland have been drifting apart for decades. Scotland increasingly feels like a different country rather than just a distinctive part of a multinational kingdom. It has its own parliament, its own ruling party, its own tax rates, its own welfare arrangements (Scottish students go to university free of charge) and, if things go according to plan, will soon have its own Scottish National Investment Bank. The Scots wake up every morning to curse different politicians and chew over different political scandals. The country is currently obsessed by a scandal that has got little traction in the south but could shake the ruling Scottish National Party to its foundations: Alex Salmond, Scotland's first minister in 2007-14, is awaiting trial on multiple charges of sexual assault and two of attempted rape.

Britain's great political parties are also losing their Scottish dimensions. Historically the Labour Party has drawn on Scotland for a disproportionate share of its leaders: Keir Hardie, Ramsay MacDonald, John Smith, Tony Blair (just) and Mr Brown. The Conservatives had a strong tartan streak, albeit usually of the landowning variety. Today they are thoroughly Anglicised. Excluding the Scotland secretary and shadow-secretary, there are only three Scots on the front benches—Michael Gove and Liam Fox on the government side and Barry Gardiner on the Labour side—and none of them represents a Scottish seat. The transformation of Labour is particularly striking. What was a Tartan Raj in the days of Mr Blair and Mr Brown has become a London clique, with six members of the shadow cabinet representing London seats—and four of them, Jeremy Corbyn, Emily Thornberry, Diane Abbott and Sir Keir Starmer, representing adjacent constituencies. Chris Deerin, head of Reform Scotland, a think-tank, points out that the Scots have little time for Mr Corbyn's student-union brand of politics: "The Scots have historically been serious about their socialism. They know bullshit when they smell it."

Until recently it looked as if Scotland's drift could be held back. The result of the independence referendum was decisive enough, at 55%-45%, to force the nationalists back to the drawing board. The Brexit result further complicated the independence project. A third of people who voted for independence also voted to leave the European Union. And Britain's difficulties in extricating itself from a 46-year relationship with the EU have emphasised the difficulties that Scotland would face if it were to untangle its far more complex, 312-year-old tie with England. But now pressure for break-up is rising dramatically.

The Brexit debate in England is becoming increasingly radical and irresponsible. The Scots voted by 62% to stay in the EU, with every one of the country's 32 authorities backing Remain. Since then, all of Scotland's preferred options for a "soft Brexit", such as staying in a customs union or the single market, have been rejected. Many Scots feel that this is an omen of worse to come. If the English have been so unwilling to listen to them so far, why would they be more willing to listen to them when it comes to shaping a post-Brexit Britain?

The Conservatives are set on crowning Boris Johnson as prime minister. Yet north of the border, Mr Johnson is kryptonite: a bumbling Bertie Wooster who takes his privileges for granted and expects other people to clean up his messes and darn his socks. The Scottish Tories are so worried about the damage he will do to their brand that they organised a stop-Boris plot, code-named Operation Arse ("We called it that so we'd all be clear who we were talking about," one reportedly said). It is a measure of how desperate they are that they are pinning their hopes on Jeremy Hunt, a man who only has an approval rating of minus 24 in Scotland, compared with Mr Johnson's minus 37.

Take back control

Both Boris and do-or-die Brexit can be explained by something deeper: the rise of English nationalism. The Conservative Party is on its way to becoming an English nationalist party rather than a unionist one. A recent YouGov poll showed that 63% of Tory members would rather see Scotland independent than lose Brexit. Mr Johnson is surrounded by a clique of people such as Jacob Rees-Mogg and Iain Duncan Smith who exude Englishness and talk blithely about turning Britain into "Singapore-on-Thames". The party is now more worried about losing voters to another English nationalist outfit—Nigel Farage's Brexit Party—than it is about keeping the country in one piece.

The economic cost of a Brexit-induced break-up of Britain would be big enough. But Mr Brown is right that the cultural cost would be even bigger. British nationalism is a peculiarly capacious sort of nationalism that makes it easier for people from all sorts of backgrounds to identify as British. English nationalism, by contrast, has a tinge of narrowness about it that excludes not only the Welsh, Scottish and Northern Irish, but also English people from ethnic minorities. Mr Johnson's reckless approach to Brexit risks not just precipitating a no-deal exit from the EU, but also wrecking one of the most creative fudges in the history of nation-making.

This article appeared in the Britain section of the print edition under the headline "The other union"

Piracy
Crime waves

Crime waves

The Gulf of Guinea is now the world's worst piracy hotspot

The tricks that baffled buccaneers off Somalia and South-East Asia may not help in west Africa

Print edition | International Jun 29th 2019

DOCKED IN THE port of Lagos, Nigeria's commercial capital, floats a colossal oil tanker. Two layers of razor wire snake around its deck. Two life-sized human dummies in orange jumpsuits are perched on the ship's bridge, posing as crew members keeping watch. Serving as a reminder that such precautions are prudent in Africa are the mangled steel and concrete remains of a jetty. It was blown up a decade ago by militants with a sideline in piracy.

The Gulf of Guinea, on west Africa's southern coast, is the world's most pirate-infested sea. The International Maritime Bureau (IMB) reports 72 attacks last year on vessels at sea between Ivory Coast and Cameroon—up from 28 in 2014. This year so far it has recorded 30. Although some of the rise may reflect more complete reporting, Max Williams of Africa Risk Compliance (ARC), a security consultancy, says piracy remains chronically under-recorded. Ship-owners fear their vessels will be held up at port during an investigation. His firm estimates the real number of attacks last year was double the IMB's figure.

Elsewhere piracy is in decline. Between 2014 and 2018 the number of incidents each year in South-East Asia fell from 141 to 60, and to just three off Somalia, which in 2007-12 faced this century's worst piracy crisis. Under-reporting is also less of a problem in these regions. The authorities in South-East Asia are more trusted; incidents off Somalia are reported to the international navies deployed there since 2009.

Cyrus Mody of the IMB says that South-East Asian navies have curbed piracy by co-operating more effectively with each other. Mr Williams describes most of what remains as "marine mugging": a petty thief boards a ship to swipe some rope or a can of paint. At their peak, Somali pirates hijacked entire ships and their crew for seven-figure ransoms. But the foreign navies remain there, and many shipowners have hired private armed guards to protect their vessels. Shipping companies fear that pirates in the Gulf of Guinea are becoming more like Somalia's. Experts worry that neither of the solutions used in those two regions will work in west Africa.

For a while, Somali piracy attracted unprecedented public attention, displacing images of peglegs, eye patches and a dreadlocked Johnny Depp from the popular imagination. Whereas buccaneers in the Gulf of Guinea and South-East Asia stole cargo, the Somalis seized crews and often the ships themselves, hauling them back to the ungoverned coast of their lawless state. A fifth of the world's commercial shipping passes through the Gulf of Aden, a body of water flanked by failed states—Somalia and Yemen. In 2011 the IMBreported 236 attempted attacks. The pirates were raking in an average of almost $5m in ransom per ship, according to One Earth Future (OEF), an NGO.

Captain mug watch

The scale of the problem forced shippers and foreign governments to take drastic action. Somalia's government barely controlled its capital and was unable to help, so international navies began patrolling its waters. Western navies began doing so in 2009. Other countries, including India, China, Russia and Iran, soon joined in. Some countries began prosecuting Somali pirates arrested by their navies. Firms, often run by ex-soldiers, sprang up to meet the demand for armed guards. Floating arsenals deliver weapons to ships by speedboat in international waters, to get around gun controls on the land. On the Somali coast itself, aid pays local power-brokers to run sketchy coastguards, such as Puntland's Maritime Police Force.

None of this came cheap. OBP estimates that in 2012 the foreign naval presence cost $1bn and private armed guards and security equipment an additional $2bn. But it worked. By 2013 the number of attacks had shrivelled to 15.

As the threat of Somali piracy receded, South-East Asia's waters briefly regained their former status as the world's most perilous. Attacks surged in 2014 and 2015, when pirates hijacked 28 ships, mostly oil-tankers, to steal their cargo. Like Somalia, the region sits on a busy shipping lane: a third of the world's shipping passes through the Malacca Strait and South China Sea. But the littoral countries are all richer and far better-run. Historically, piracy had thrived because of their reluctance to work together. Joint patrols first started in 2004; after the surge in 2014 Malaysia and Indonesia sent a joint rapid-response team to the Malacca Strait. The two countries also agreed to joint patrols with the Philippines in the Sulu Sea, where Philippine separatist groups had made a foray into piracy. In 2015 Indonesia caught a ringleader with Malaysian help. Two years later it detained 15 other pirates following a tip-off from Singapore. Calm returned.

It's a plunderful life

Now west Africa's pirates have the wind in their sails. The number of attacks has ebbed and flowed this century, reaching an earlier peak in 2014. But the current wave of violence seems deadlier. As in South-East Asia, pirates in west Africa used to confine themselves to raiding oil-tankers, to sell their cargo on the black market. When the oil price fell in 2015, they began copying their Somali counterparts and focused on kidnapping crews (though oil theft made a comeback last year).

Unlike the Somalis, west African pirates never keep the vessels, as they have nowhere to hide them. Instead, armed with AK-47s and knives, they storm a ship, round up some of the crew and return to land, where they hide their hostages. Last year, says Mr Williams, they kidnapped 193 people. The pirates have struck across the region, but are primarily a Nigerian problem. They mostly operate out of the labyrinthine waterways in the Niger delta, near which most of west Africa's attacks occur.

Piracy is intertwined with the oil-rich delta's myriad other problems. Unemployment is at least 20%, and banditry and oil theft on land are widespread. Cormac McGarry of Control Risks, a consultancy, says many pirates have gained experience fighting for separatist groups. These groups typically resent how much oil money is stolen by politicians in the far-off capital, and would like to steal it for their own ethnic group, or themselves. Cult-like gangs also abound in the delta, with names like the Icelanders and the Vikings. Members moonlight as pirates to make extra cash. Piracy also rises during election years, notes the IMB's Mr Mody. Local politicians are said to pay and arm the gangs to attack rivals.

West African governments struggle to stifle piracy. To their credit, they have been trying to co-ordinate better. Several now exchange information about piracy. A handful are discussing joint patrols. But, since west African piracy stems mainly from one country, which is also where most attacks happen, regional co-ordination is likely to make only a small dent in the problem.

Shipping firms complain that the Nigerian government is failing to keep its waters safe. Its navy often performs admirably when it intercepts pirate attacks. But it is ill-equipped and spread too thin to prevent them. Some speculate that the pirates are in cahoots with military officials, citing incidents in which pirates flee before the navy arrives or know exactly how many crew members are aboard a ship they attack. Nigeria has yet to make piracy a specific criminal offence. Pirates captured by the navy are often quietly released. Around 300 people have been prosecuted in Somalia for piracy. By contrast, the UN Office on Drugs and Crime (UNODC) says it does not know of a single prosecution in Nigeria.

Some favour a Somali-style approach. BIMCO, the largest international association representing shipowners, issued a statement in January calling for the EU, America and China to deploy forces to the Gulf of Guinea. Ship-owners also want to be able to deploy private armed guards in Nigerian waters. For now, Nigeria only lets them hire escort vessels staffed by naval officers. "They have turned security into a business," grumbles one executive.

Others see such demands as a non-starter. Nigeria, a democracy whose government—for all its flaws—is far less impotent than Somalia's, is bound to resent foreign navies or mercenaries off its coast. Also, foreign governments would be reluctant to foot the bill. The Gulf of Guinea, unlike the Malacca Strait or the Gulf of Aden, is not a choke point for international trade. Mr Williams points to other constraints on the Nigerian government. Its armed forces have their hands full with a jihadist insurgency in the north-east, banditry in the north-west and clashes between farmers and herders in the "middle belt"—all of which are far deadlier than piracy.

Instead, he argues, firms themselves should do more to protect their crews. International shipping organisations have drawn up recommendations, based on what worked in Somalia. They include wrapping the deck in razor wire and building a "citadel" on board where the crew can barricade themselves and call for help. Among the ships docked in Lagos many display obviously shoddy security—large gaps in the razor wire, for example, rendering it useless. Mr Williams often finds citadels with doors that do not close; or crews with no training on what to do if attacked.

Pay rates of penance

These lapses hint at the awkward fact that many firms lack a financial incentive to take security more seriously in west Africa. Insurance companies offer lower premiums for ships that protect themselves. But the combined cost of insuring the ship, the cargo and the crew (for kidnapping and ransom) for a voyage to Nigeria is typically no more than the cost of half a day's fuel. It can be cheaper not to bother with armed guards. Premiums are so low in part because Nigerian pirates, unlike those in Somalia, have priced their ransoms just right: for many companies they can be written off as a cost of doing business.

That means the heaviest toll is borne by crews, most of whom are from poor countries like India and the Philippines. Afusat Eke, a social worker for the Nigerian Seafarers' Welfare Board, says sailors often suffer from anxiety, depression or post-traumatic stress disorder after being released from captivity. Companies say their growing criticism of the Nigerian government is proof that they care about their crews' welfare (although complaining costs them nothing). Thanks to the internet, more seamen are aware of the risks in west Africa and loth to go there.

Even if shipping firms did do more, it would not end piracy. The stark truth, says Mr Mody, is that it can only be stopped by fixing its underlying causes on land. In west Africa this means alleviating the Niger delta's chronic lawlessness. In Somalia pirates still scour the oceans, looking for unprotected ships, so the frigates and private guards will be needed as long as chaos reigns on land. Analysts are nervously watching Venezuela, whose economic collapse is believed to have caused an upsurge of offshore mugging. All this suggests it will be difficult to eradicate piracy for many years to come. But for the sake of the world's 1.6m seafarers, governments and shippers should not stop trying.

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Blackstone
Alternative reality

Alternative reality

Stephen Schwarzman says that Blackstone is not done growing

Can the boss of the world's biggest buy-out firm make it bigger while keeping it profitable?

Print edition | Business Jun 29th 2019

WHEN BUY-OUT firms first came to prominence in the 1980s, they were seen as wolves in fine Italian wool. Private-equity (PE) companies won a reputation for devouring companies, which they loaded with debt, stripped of assets and rid of workers. All to make a killing for their millionaire investors—and themselves.

In the past 30 years the industry has softened its image while maintaining a red-bloodedly capitalist devotion to returns. PE firms have diversified into a wider array of assets, from commercial property to corporate debt; anything not traded in public markets is fair game. They have also grown a bit cuddlier, collaborating with their targets rather than consuming them—and considerably bigger.

None more so than Blackstone, the world's largest "alternative asset manager", as it now calls itself. It manages $512bn in assets, as much as Apollo and Carlyle, its two nearest rivals, combined (see chart). Its funds have chalked up internal rates of return (a measure of performance) of 15% since the 1990s. Companies it controls employ around 400,000 workers, about as many as Kroger supermarkets and more than IBM. Since Blackstone listed its own shares in 2007 it has created around $41bn in value for shareholders.

Blackstone's ambitions, as its top brass tell it, do not stop there. "The old model of buying a slow-growth company, adding leverage and selling assets is dead," says Stephen Schwarzman, its boss. The new vision that emerges from a series of interviews with *The Economist* is of a firm that wants to dominate alternative investments much as publicly traded ones are dominated by BlackRock, whose $6trn in assets under management make it the biggest asset manager ever (and which was spun out of Blackstone in 1994). In its quest to stand among the giants of Wall Street, Blackstone is also becoming a more normal company. Can it preserve its abnormal profits?

Blackstone was founded in 1985 by Mr Schwarzman and Peter Peterson (who died last year, aged 91). On July 1st Mr Schwarzman, a 72-year-old with a penchant for pinstripes and a knack for networking, will oversee the biggest change to its structure since it floated on the New York Stock Exchange a dozen years ago.

Like many buy-out groups, however, Blackstone has maintained a complicated partnership structure. The principal reason, predictably, is tax. Partnerships, in theory, pay the American taxman little or nothing. Their shareholders do: they are subject to a capital-gains levy of up to 23.8% on distributed earnings. This was of enormous value at a time when corporate profits were taxed at 35%. But then, last year, President Donald Trump's tax reform took effect, cutting the corporate rate to just 21%.

Just as the benefits of partnerships have diminished, their costs have grown. The biggest is exclusion from equity indices, which are confined to funds invested in corporations. This put PE companies out of bounds for many big mutual funds. Of the $12trn deployed by American mutual and exchange-traded funds, just $4.5trn could be invested in partnerships. Many managers of the remaining $7.5trn would like a chance to do so: since Blackstone announced it would convert to a corporation in mid-April, its share price has risen by 24%, during which time theS&P 500 index has only risen 0.5%, adding $11bn to its market capitalisation. Ares, a mid-sized PE firm, was the first to turn its partnership into a corporation in March last year. KKR did so last July. Mr Schwarzman confesses that Blackstone might have been better off making the switch sooner.

Imminent incorporation has prompted investors to take a second look at Blackstone, says Michael Chae, the firm's chief financial officer. There is plenty to like. Blackstone has pushed into a wider range of asset types, starting with property in 1991. Today property accounts for one-third of its managed assets, as much as traditional PE. Most of the rest is spread across GSO, a private-credit business that the firm acquired in 2009, and a fund-of-funds operation that invests in a selection of hedge funds. Lastly, Blackstone has launched funds to invest in biotechnology firms and is offering insurers funds tailored to their desired return profile.

A greater number of funds has allowed Blackstone to finance bigger deals. In June two of its funds joined forces to buy 179m square feet (16.6m square metres) of warehouse space for e-commerce. A greater variety, meanwhile, means it can offer investors a bigger choice of time horizons. The lifetime of a typical PE fund is around a decade: the firm will deploy capital over five years and hold on to its investments roughly as long. Blackstone now offers property funds that invest over 20 or 30 years. In 2015 it paid $5.3bn for an apartment complex in New York on the condition, demanded by City Hall, that it does not sell it for a few decades. Some Blackstone funds hold capital in perpetuity.

These innovations have served Blackstone rather well, reckons Craig Siegenthaler of Credit Suisse, a bank. So well, in fact, that others are apeing it. Apollo, Carlyle and KKR all now invest in more asset classes. Half the capital managed by Apollo is now held in perpetuity—meaning only the returns earned will be given back to investors, not their initial investment.

Blackstone's early-mover advantage positions it well for what analysts see as a period of growth for the industry as a whole. An analysis published in March by Morgan Stanley, an investment bank, and Oliver Wyman, a consultancy, forecasts that alternative investments will rise from 7% of all assets in 2018 to 9% by 2023. Assume that the overall stock of assets will grow by 5% a year—possible if the world avoids a full-blown trade war or other economic shock—and total investments in private markets, like those offered by Blackstone, would rise from $5.6trn to $9.5trn.

In a world of low returns, where passive funds by definition do no better than the market and active managers do so less often than they like to think, alternatives look alluring. Mr Schwarzman boasts that Blackstone's best funds have historically recorded double the return of a typical index fund—as well they should given how, unlike liquid stockmarket funds, they lock up investors' money for a decade or more.

The analysis by Morgan Stanley and Oliver Wyman found that PE returned on average 6.2 percentage points a year more than a global public-equity index from 1997 to 2016. For the top half of funds the figure was 13.2 percentage points, even after factoring in the high fees. Private credit outperformed a high-yield credit index by a similar margin.

Whether it can keep this up is another matter. Academic studies find smaller differences, especially of late. Performance is down from the lofty heights at the turn of the century. Even buy-out advocates doubt double-digit returns can come back.

Retail investors, the super-rich and insurers, who currently keep just 1-5% of their portfolios in non-traditional assets, could nevertheless be persuaded to funnel more, given the opportunity. So could pension funds, which need returns of 7-8% to keep their promises to future pensioners, and have around 10% of their money stored in such investments, less than sovereign-wealth funds (15%) or endowments (25%).

But the competition for that money—and the assets it pays for—is heating up. And not just among Blackstone's old rivals. In April BlackRock raised $2.8bn for a new PE fund that charges a 1% management fee and a 10% performance fee. It hopes to raise $12bn. On June 23rd the *Wall Street Journal* reported that Vanguard, the world's second-biggest asset manager, is in talks to launch something similar. Goldman Sachs, an investment bank, has recently consolidated its own alternatives arm.

Mr Schwarzman welcomes the competition. "Capital should be drawn to sources of higher performance," he declares. Traditional asset managers' have had mixed success in the PE realm. Despite its lower fees, BlackRock's PE venture did not manage to close its fund last year, as planned. Expertise in private markets takes time to build, says Jon Gray, Blackstone's president. So does firepower. Blackstone has managed to raise $238bn over the past two years—almost doubling its assets under management. It has $133bn in cash ready to spend. This much "dry powder" is useful when markets tumble—as sooner or later they will—and cheap assets abound but new money to buy them does not.

Whether Mr Schwarzman joins the likes of John Pierpont Morgan, Marcus Goldman or Samuel Sachs in the Wall Street pantheon will be determined by how he handles two transitions. The first is the imminent one from partnership to corporation. This will require the financier to relax his lockjaw on the company, now that the firm will be held by a wider range of shareholders—while maintaining the discipline that has prevented Blackstone from blowing its money at the top of the cycle.

The second transition will be from Mr Schwarzman to his successor, probably Mr Gray. Mr Schwarzman says he has no plans to retire anytime soon. But the longer he stays in charge, the louder the question of whether his firm's success can outlive him. Mr Gray says that Mr Schwarzman has built an investment firm that rivals Wall Street greats. When the time comes, Mr Schwarzman would be wise to let him prove it.

This article appeared in the Business section of the print edition under the headline "Alternative reality"

Bartleby

The American exception

Workaholism is a recent development

Print edition | Business Jun 27th 2019

AMERICANS LIKE to work hard whereas Europeans prefer a more leisurely life. That is the widely held perception of the continental divide in business culture. But it has not always been the case; 40 years ago, there was precious little difference between the two.

In his new book, "Spending Time: The Most Valuable Resource", Daniel Hamermesh, an economist, examines how work and leisure patterns in America differ from those in the rest of the developed world. In the first half of the 20th century the American working week fell sharply from nearly 60 hours to around 40. By 1979 the average worker in America put in around 38.2 hours a week, similar to the number in Europe.

That is where the figures started to diverge. For a while, the American workweek got longer, reaching 39.4 hours in 2000, before falling back to 38.6 in 2016. The main difference, however, is holidays. In the 1980s Europeans began to take more annual leave but Americans did not. Over the year as a whole, Americans average 34 hours a week, six more than the French and eight more than the Germans.

What explains this gap? Some point to cultural factors but, as Mr Hamermesh points out, it is hard to see why American culture suddenly diverged from that of the rest of the world in the past 40 years. Others point to lower taxes, which raise the value of putting in the extra hour. Yet American taxes were lower than European rates back in the 1960s, when working hours were similar. Another potential explanation is that a decline in trade union membership has weakened American workers' bargaining power—except that unionisation rates in France and America are not far apart.

A more plausible reason is policy. There is no legal requirement to offer paid holiday in America, whereas France mandates a minimum of 25 days, and Germany, 24. Famously, France also limits the working week to 35 hours. Mr Hamermesh finds similar examples in Asia. In the 1980s and 1990s Japan passed laws reducing the standard working week from 48 hours to 40. Beyond that, workers were entitled to overtime pay. A similar process occurred in South Korea between 2004 and 2008. Employers responded by cutting hours; workers earned less as a result but surveys found they were happier.

In America, by contrast, champions of workers' rights have recently focused on raising the minimum wage (so far to little avail at the federal level, though some states have enacted more generous wage floors). Wage gains have certainly skewed toward the better-off. The median American worker makes about $20 an hour while the worker at the 95th percentile makes $62. That is a ratio of 3.1. Back in 1979, the ratio was 2.2.

These higher wages do seem to have had an incentive effect. High-paid employees work eight or nine more hours a week than the lowest-paid. In part, this may reflect the low earnings of part-time workers, who have grown as a share of the workforce. Either way, the gap has widened since the late 1970s.

But don't shed too many tears for the wealthy. They may work more hours, but the poor often work more inconvenient ones. It is a myth that well-paid workers put in more hours at the weekends or at night, Mr Hamermesh says. Cleaners and food-delivery people tend to work when it is dark, not bankers.

So what is going on? John Maynard Keynes, an economist, dreamed that his grandchildren would be working only 15 hours a week. But the decline in hours he predicted slowed after the 1970s. This may hint that 35-40 hours is close to the most efficient working period. Any more and workers become too stressed; any less and companies lose too much production. But it is also a sign that Keynes was wrong to think that society would place a high value on extra leisure.

In the developed world most workers have more than enough to feed themselves and their families. But they still want "positional" goods—homes in a nice part of town, holidays in sun-drenched resorts and possessions that demonstrate their social status. Prices of these goods will be pushed higher, driving status-seeking employees to work more hours to earn them.

So whatever labour-saving gadgets Silicon Valley dreams up, future generations will probably still have to put in a long shift. But Americans could enjoy a bit more holiday. Those who agree ought to ask their politicians why those pesky Europeans deserve more rest.

Ousted from the throne

Japanese AGMs are getting more boisterous

Companies are also becoming a bit more receptive to shareholders' gripes

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IF CORPORATE governance were measured by the boisterousness of annual meetings, then things in Japan are looking up—a bit. Activist investors are eyeing ever more companies. This week Lixil, which makes toilets among other things, had its board flushed out in favour of an alternative one which backed its recently ousted former boss. The head of Nissan got an earful over low profits (among other gripes). Shareholders want more cash, which is piling up in corporate Japan, returned to them. Companies are obliging.

Magical thinking

Netflix tries to jinn up its prospects in the Arab world

It has its work cut out

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SHAPE-SHIFTING *jinn* have been part of Arab culture since before the Koran described how Allah wrought them from smokeless fire. They have inspired poets and the tale of Aladdin and his genie, popularised in the 18th century—and now Netflix, which started streaming “Jinn”, a supernatural teen drama, this month. Like its other upcoming series in Arabic, “Al Rawabi School for Girls”, it is set in a Jordanian high school. A third, “Paranormal”, will be its first Egyptian show.

The streaming business in the Arab world is small, with 1.8m paying subscribers, according to IHS Markit, a research firm. But it grew by 45% last year. It now seems big enough for Netflix, which has offered mostly foreign fare in the region since 2016, to invest in original programming. The new shows aim to lure Arab binge-watchers and increase its market share from a quarter or so.

Will “Jinn” make this wish come true? Not necessarily. A dearth of Arabic shows is not the only reason why Netflix finds itself, unusually, having to catch up with others. It has been slower than it has elsewhere to forge deals with broadband and mobile providers, which market its service to customers. STARZ Play Arabia, the regional leader part-owned by Lionsgate, an American entertainment company, has made these left and right, as well as licensing lots of Arabic-language shows.

Netflix is now busily buying more local content and sealing new partnerships. It is testing cheaper mobile-only packages in Egypt. But outside the Gulf, where it competes with STARZ, digital infrastructure is mostly too shoddy, incomes too low and mobile data too pricey for similar schemes.

The region’s prickly authorities raise hurdles, too. Even in relatively permissive Jordan, state-run media reported that officials want to censor “Jinn” for “lewd scenes” that offend public morals. In January Netflix took down an episode of “Patriot Act with Hasan Minhaj”, a current-affairs comedy show, in Saudi Arabia after its government accused the show of violating an anti-cybercrime law. The episode discussed the murder in Turkey of a Saudi journalist by Saudi security forces. Such constraints are unlikely magically to disappear.

This article appeared in the Business section of the print edition under the headline ”Magical thinking”

Something good

The European steel industry is being clobbered

But an Austrian firm shows that it is possible to make money making steel—even in Europe

Print edition | Business Jun 29th 2019

LUSH FORESTS, cowbells ringing and a fairy-tale castle make the alpine foothills above Linz seem alive with "The Sound of Music". Down in the valley, however, the Austrian city's skyline is dotted with piles of coal, smoke-belching funnels and the blackened silhouettes of blast furnaces, the home of Voestalpine, an Austrian steelmaker. High-wage, prealpine Linz is not a cheap place to smelt steel. Yet the firm has been adduced as proof that Europe's steel industry has a future—even as this future once again looks in doubt.

On June 26th steel executives gathered in Brussels to discuss their mounting challenges. Mills around the world are enjoying rising profits. Except in Europe. A 10% rise in the cost of coking coal and a doubling of iron-ore prices in the past 12 months have crimped already thin margins. So has the price of European emissions-trading permits, triple what it was at the start of 2018.

The price of steel is going in the opposite direction. Rebar is down by a fifth on the London Metal Exchange. Blame American steel tariffs imposed last March. Two-thirds of the steel imports that would once have gone to America have flooded Europe instead, laments Axel Eggert, director-general of Eurofer, a trade body. The EU imposed a tariff of 25% on imports in February to try to stem the flow. Demands for more protection and bail-outs for ailing steel works are growing.

Not at Voestalpine. "Politics ruined this group from the first," says Wolfgang Eder, its chief executive. Mr Eder's scepticism of state intervention is long-standing. He recalls how in the 1980s, shortly after he joined the firm as a junior lawyer, politicians who dominated the company's board refused to lay off workers made redundant by labour-saving technologies. Idle hands were kept busy with ill-considered forays into shipbuilding (in a landlocked country), making weapons (that neither NATO nor the Warsaw Pact wanted) and trading oil (which nearly bankrupted the firm in 1985). By the time Austria joined the EU in 1995, the newly privatised Voestalpine looked in no position to compete with the bloc's lower-cost plants.

Compete it has. Over the past decade its post-tax margins have topped 4%, compared with 2% for ArcelorMittal, 1.8% for Thyssenkrupp and -7.5% for Tata Steel Europe, its largest local rivals. Christian Obst of Baader Bank, an investment bank, credits Mr Eder's push in the 2000s to focus on quality over quantity.

That was an unorthodox move. In 2005 Aditya Mittal, now president of ArcelorMittal, the world's biggest steelmaker, mused that companies would need to smelt at least 100m tonnes a year to survive. Voestalpine was too puny to compete with the Mittals of this world when it came to exporting cheap, bog-standard steel to feed China's construction boom, Mr Eder reasoned. But it could profit from rising demand for high-margin speciality steel from Europe's growing car and aircraft industries—and itself produce some of the even more lucrative rail equipment, car and aircraft components.

Some sheen has come off Voestalpine's performance. In October it issued its first profit warning since February 2014. Then, in January, it issued another. Investors fret about potential fines relating to an anti-cartel investigation launched by German regulators in 2017. The company's share price has lost nearly 40% in the past year—not quite as bad as ArcelorMittal and ThyssenKrupp, but nearly.

Voestalpine's profits could bounce back faster than those of rivals. Last year they were corroded by cost overruns at new steel plants in America and problems in the German car industry, its biggest customer. The first was a one-off and the second may prove temporary, thinks Ingo Schachel of Commerzbank. And Mr Eder's firm looks better placed to withstand the EU's impending climate-friendly rules on carbon emissions. These would hit bigger steelmakers, which use more carbon-intensive methods. This year Voestalpine plans to open its first plant in Linz to experiment with making the stuff with clean hydrogen instead of dirty coking coal. Mr Eder is due to retire on July 3rd. It is up to his successor to ensure that the few scrapes and dents he leaves behind do not turn to rust.

This article appeared in the Business section of the print edition under the headline "Something good"

The balance of processing power

An American ban hits China's supercomputer industry

It may not knock it out

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IN 2000 CHINA had two supercomputers ranked among the world's fastest 500. Ten years later a machine named Tianhe-1A topped the global league table. It was, though, based on Intel chips. So when in 2015 America barred its giant chipmaker from selling to four Chinese supercomputer labs—fearing that the machines were being used to simulate nuclear blasts—it might have expected China's progress in the field to slow. Instead, China unveiled another supercomputer, Sunway TaihuLight, that led that ranking in 2016 and 2017—this time powered entirely by home-grown microprocessors. The latest American sanctions will nevertheless bite.

On June 21st America's Commerce Department blacklisted another five Chinese supercomputing entities on the grounds that they too pose a threat to national security. The export ban prohibits American firms from selling them chips and "interconnects" that allow chips to talk to each other. An army-led institute that designed chips for the latest world-beating machine is on the list, as is Sugon, which has built a third of China's 100 fastest ones.

So is Hygon, born of a joint venture in 2016 between Sugon and Advanced Micro Devices (AMD), an American semiconductor firm. Intel chips dominate high-powered computing in desktops, servers and supercomputers. But AMD makes advanced ones compatible with Intel's technology. The $293m arrangement gave Hygon the ability to make slightly slower near-replicas of AMD's designs—and China a domestic manufacturer of crucial components.

The latest ban chokes off practically all of AMD's dealings with Hygon. Transfer of intellectual property and technical support are proscribed. The manufacturer of the copycat chips, GlobalFoundries, is American, so it too is banned from working with Hygon. Finding an alternative foundry would require onerous tweaks to the chips' design. AMD has carefully transferred only as much knowledge as Hygon needs to copy but not reverse-engineer them.

A blow, for sure—but perhaps not a knockout. Last year new American computers ended China's dominance; it will be pouring money into reclaiming it. Jack Dongarra, a supercomputing expert at the University of Tennessee who has scrutinised Sunway's chip, calls it "very impressive". Rumours have spread of a big new supercomputer powered by AMD's licensed chips whirring in a Chinese lab.

To China the blacklisting, days before President Donald Trump is to meet his Chinese counterpart, Xi Jinping, at the G20 summit in Japan, smacks of a negotiating ploy in the two countries' trade war. In May Mr Trump said he could ease export restrictions that had been placed the previous week on Huawei, a Chinese telecoms giant. Even if he doesn't, Intel and Micron, another chipmaker, are already circumventing the Huawei ban in ways they claim are legal, according to the *New York Times*.FedEx is suing America's government over the "impossible" job of inspecting parcels to blacklisted Chinese firms. Chipping away at Chinese computing progress is tough.

This article appeared in the Business section of the print edition under the headline "The balance of processing power"

From Prague, with cash

Metro is fighting for its independence

Two oligarchs might succeed in their stingy bid for the big German retailer

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FOR A MAN who apparently likes to keep a low profile, Daniel Kretinsky makes a lot of headlines. In March journalists of *Le Monde* battled to prevent the inscrutable Czech oligarch from taking control of the prestigious French daily. On June 23rd the management of Metro, a German retail behemoth based in Düsseldorf, rejected a €5.8bn ($6.6bn) takeover offer from EP Global Commerce, an investment vehicle controlled by Mr Kretinsky and Patrik Tkac, his Slovak business partner, arguing that it "substantially undervalues" the company. The offer of €16 a share is a measly 3% above the previous closing price on June 21st.

In a statement EP Global Commerce said it has the "full support" of the Haniel family, an important shareholder, and that it holds call options for 9% of Metro shares owned by Ceconomy, a consumer-electronics business that used to be part of the group. One of Germany's oldest industrial clans, the Haniels owned a big chunk of Metro for more than half a century.

After years of poor returns, the Haniels decided last August to cut their losses by selling 7.3% of Metro to Messrs Kretinsky and Tkac. They also gave the duo an option to buy the family's remaining 15.2% stake. Metro has two other big shareholders: the Meridian Stiftung, which owns 14.2% of shares, and the Beisheim Holding, which holds 6.6%. Meridian reportedly said it will not sell; Beisheim has not yet announced its decision.

What does the Francophile Mr Kretinsky, who made his money in the energy industry, want with a struggling German retailer? According to Bruno Monteyne at AB Bernstein, a research firm, he saw an opportunity to buy—on the cheap and with outside finance—a retailer still in the process of transformation. Metro was once a retail conglomerate with activities stretching from consumer electronics to department stores. Under Olaf Koch, its chief executive, it has been shedding businesses to focus on food wholesalers. Mr Koch is not done. He is about to sell Real, a loss-making chain of hypermarkets, as well as Metro's China business. EP Global Commerce says it backs the decision to flog these businesses provided Mr Koch can get a good price.

Messrs Kretinsky and Tkac have four weeks to submit their offer to German regulators and Metro's board. They can either stick to their stingy bid or increase it in the hope of winning over Meridian and other shareholders. EP Global Commerce will only buy the rest of the Haniel shares if this gets it across a threshold of 75% of votes at the annual meeting. This would trigger a "domination agreement" that lets it exercise full control of the group's cashflow without owning 100% of the company.

If they fail, Metro will have two large, unhappy shareholders: the eastern Europeans, with 7.3% plus options to buy Ceconomy's 9%, and the Haniels, with 15.2%. Mr Koch may struggle to find a taker for their stakes at a time when traditional retail is threatened by e-commerce. Metro's annual sales of €36bn remain hefty. But they are in decline, as are profits. A counter-bid could come from farther east—an Asian buyer interested in more than Metro's Chinese arm. If it does, Mr Kretinsky and Mr Tkac may walk away with a profit. If it doesn't, they will own one of the world's top ten retailers. Either way, expect more headlines.

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Schumpeter

Will a robot really take your job?

A notorious forecast about the automation of jobs has been hugely misunderstood, says one of its authors

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IT IS ONE of the most widely quoted statistics of recent years. No report or conference presentation on the future of work is complete without it. Think-tanks, consultancies, government agencies and news outlets have pointed to it as evidence of an imminent jobs apocalypse. The finding—that 47% of American jobs are at high risk of automation by the mid-2030s—comes from a paper published in 2013 by two Oxford academics, Carl Benedikt Frey and Michael Osborne. It has since been cited in more than 4,000 other academic articles. Meet Mr Frey, a Swedish economic historian, in person, however, and he seems no prophet of doom. Indeed, Mr 47% turns out not to be gloomy at all. "Lots of people actually think I believe that half of all jobs are going to be automated in a decade or two," he says, leaving half the population unemployed. That is, Mr Frey stresses, "definitely not what the paper says".

So what does it say? Its authors modelled the characteristics of 702 occupations and classified them according to their "susceptibility to computerisation". This classification was, ironically, itself automated—using a machine-learning system built by Mr Osborne, which was trained using 70 hand-labelled examples. After crunching the numbers, the model concluded that occupations accounting for 47% of current American jobs (including those in office administration, sales and various service industries) fell into the "high risk" category. But, the paper goes on, this simply means that, compared with other professions, they are the most vulnerable to automation. "We make no attempt to estimate how many jobs will actually be automated," the authors write. That, they underscore, will depend on many other things, such as cost, regulatory concerns, political pressure and social resistance.

The paper was intended for an academic audience, says Mr Frey, and got "more attention than we would ever have expected". Chinese whispers and exaggerated headlines meant the carefully caveated, theoretical and highly unlikely upper bound of 47% came to be seen by some as a firm prediction—sometimes even a target. In April one striking dockworker in Los Angeles carried a placard that read "47% of American jobs are planned to be automated by 2034". Needless to say, they are not.

Such misperceptions, irksome as they are to Mr Frey, are also telling. For, he says, they reflect the polarised nature of the debate about the nature of automation and the future of jobs.

At one extreme are the doom-mongers. They warn of mass technological joblessness just around the corner. One advocate of this position, Martin Ford, has written two bestselling books on the dangers of automation. Mr Ford worries that middle-class jobs will vanish, economic mobility will cease and a wealthy plutocracy could "shut itself away in gated communities or in elite cities, perhaps guarded by autonomous military robots and drones". The unemployed masses will subsist on a universal basic income. At the sanguine end of the spectrum, classical economists argue that in the past new technology has always ended up creating more jobs than it destroyed. Everything will work out fine in the long run, these optimists reckon, though the short term is likely to be bumpy, as it was during the Industrial Revolution, unless governments take action to smooth the transition.

Mr Frey is often assumed to be in the first camp. So plenty of people are stunned to discover that he is, in fact, closer to the second. He has now laid out his position in more detail in a new book, "The Technology Trap". This has allowed him, he says, to put the 47% figure in "the right context". That context is largely historical. Building on his original paper, he revisits the history of industrialisation and asks what lessons it provides today.

One is that new technologies take time to produce productivity and wage gains. It was several decades before industrialisation led to significantly higher wages for British workers in the early 1800s, a delay known as Engels's pause, after the theorist of communism who observed it. Another lesson is that, even though it eventually increases the overall size of the economic pie, automation is also likely to boost inequality in the short run, by pushing some people into lower-paid jobs. Mr Frey is concerned that automation will leave many people worse off in the short term, leading to unrest and opposition, which could in turn slow the pace of automation and productivity growth. Everyone would then be worse off in the long run. This is the titular "technology trap". Whereas many people assume he worries about a world with too many robots, Mr Frey is in reality more concerned about a future with too few.

To avoid the trap, Mr Frey argues, today's policymakers should take advantage of the fact that this time around it is possible to see how things might play out, and manage the transition accordingly. In particular that means making greater use of wage insurance, to compensate workers who have to move to jobs with a lower salary; reforming education systems to boost early-childhood education and support retraining and lifelong learning; extending income tax credit to improve incentives to work and reduce inequality; removing regulations that hinder job-switching; providing "mobility vouchers" to subsidise relocation as the distribution of jobs changes; and changing zoning rules to allow more people to live in the cities where jobs are being created.

Boom or gloom

These are all sensible suggestions. Will anyone pay attention? Messrs Frey and Osborne had an unexpected smash hit with their study. But the bestselling books on artificial intelligence, robots and automation are the bleak ones, like Mr Ford's. In part that is because fear sells, particularly if stoked by misunderstanding, whereas pragmatic expositions of policy proposals do not—or not nearly as well. "The Technology Trap" may well ensnare doom-seekers' attention with its ominous-sounding title. But it should ultimately hearten anyone who reads it. Provided, that is, they read it more carefully than they read Mr Frey's earlier work.

This article appeared in the Business section of the print edition under the headline "Not even halfway there"

Financial centres after Brexit
City under siege

The City and Brexit

London's reign as the world's capital of capital is at risk

Rival European financial centres are seeking to steal its crown

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A WELL-KNOWN stockmarket sell signal is a company splurging on flashy new headquarters. It might then be time to go short the City of London. From the Shard, the tallest building in the European Union, the view is of a crowded skyline of fellow concept skyscrapers. There is the Gherkin, the Cheesegrater, the Walkie Talkie and, rising in their midst, 22 Bishopsgate, which will be the Square Mile's tallest and most capacious tower. The building frenzy is even accelerating. Londoners are waiting to hear if the 1,000-foot Tulip—with a design that many contend is more phallic than floral—will be approved.

None of this suggests a financial centre bracing for Britain's departure from the European Union. But as soon as Theresa May, the prime minister, made leaving the single market a "red line" after the Brexit referendum in 2016, it seemed likely that the City would be sundered from its biggest foreign market. Regulators on both sides of the Channel scrambled to ensure business continuity and financial stability. British firms were asked to draw up contingency plans, including opening hubs in the EU27 (the EU minus Britain). For much of the City, Brexit happened sometime last year.

According to New Financial, a think-tank in London, 291 big financial firms have moved some activities or people to the EU27, or opened legal entities there. Many contingency plans were triggered before March 29th, when Brexit was supposed to have happened. About £1trn ($1.27trn) of the City's assets has gone, says EY, a consultancy. That compares with perhaps £16trn of bank assets and securities. To London's EU rivals, Brexit looks like a once-in-a-lifetime opportunity to grab business. A repatriated French banker says so many people have moved to central Paris that she often bumps into London friends. In the run-up to the extended deadline of October 31st, another wave of staff and their families will head off to new digs, offices and schools.

Some financial infrastructure is moving, as are whole classes of EU27 business. The London Stock Exchange has moved trading in European government bonds worth £2.4bn daily to Milan, for example. Amsterdam has gained more government-bond trading as well as trading in euro-denominated repurchase agreements.

The moves do not seem hasty. Though Brexit's final form is unclear, only the softest of departures would keep Britain in the single market. And nothing short of that would safeguard "passporting" rights for City firms. These allow financial firms in any EU country to sell in any other and matter hugely in banking and asset management (and a bit less in insurance). In 2016, 5,476 firms based in Britain used 336,421 passports to sell in the EU. Around 8,000 firms in the European Economic Area, where much of the EU's writ runs, used 23,535 of them to offer services in Britain.

Including asset managers, insurers and so on as well as banks, Britain provides a quarter of all financial services in the EU27. Scores of financial firms run their Europe, Middle East and Africa operations from London. American investment banks have as much as 90% of their European staff in London. In 2016, before the referendum, the City of London's trajectory was better than that of New York as gravity shifted eastward to Asia, says William Wright of New Financial. "London is London as we know it, the world's number-one or number-two financial centre, because the EU allowed it to become the financial centre of the euro zone," says an EU27 official.

Now that status is at risk. "Before the [Brexit] debate began in 2015 it never crossed anyone's mind that we would have to move financial services for Europe out of London," says Bernard Mensah, president of Europe and the Middle East at Bank of America Merrill Lynch. "It was as if the British court system suddenly stopped working." For the hundreds of small companies doing business with the EU27, the removal of passporting and uncertainty over what will replace it is an existential threat, says John Liver, global head of regulation at EY.

Financial services account for 6.5% of Britain's economic output and 11% of its tax revenue. The sector and its ecosystem of lawyers, consultants, lobbyists and the like employ 2.2m people, not only in the wealthy centres of the Square Mile, Canary Wharf and Edinburgh but also in places like Cardiff and Bournemouth.

Yet Britain's negotiators have treated the industry as a sideshow. The government took the view that the City is strong enough to cope, and made little effort to keep passporting, which would have meant blurring Mrs May's red lines. Nor did it press hard for "mutual recognition", in which the EU would accept Britain's rules as a basis for future trading as long as they did not diverge too much. The City is likely instead to be left with "equivalence", a piecemeal status that the EU sometimes grants to third countries.

About half of the City's business is domestic, a quarter from the EU27 and a quarter with the rest of the world. At worst the City could lose a quarter of its business and some of its non-EU international activity. Few City veterans expect things to get that bad. If regulators work together, equivalence could be made to function well.

Yet the obstacles are not merely technocratic. The EU would like to use Brexit to force much City activity to relocate to the European mainland. A row has broken out over plans from the European Securities and Markets Authority (ESMA) to stop EU investors trading stocks in London—a blatant land grab, say City folk. In May the Bank of England fulminated against "EU colleagues" who, it said, were scaremongering about Brexit in meetings with a foreign bank to lure it to the continent.

But EU regulators had become concerned that London's clout impinged on the bloc's financial and economic sovereignty well before the Brexit referendum. In 2011 the European Central Bank (ECB) tried to force British clearing houses handling huge volumes of euro-denominated financial products to move into the euro zone, only to be defeated four years later when the EU General Court said it lacked powers to make them do so. In the middle of the ECB's gambit, the decision by LCH.Clearnet, Europe's dominant, London-based clearing house, to raise margin requirements on some Italian and Spanish government bonds was seen by some in the EU27 as a hostile act.

Monetary sovereignty

A paper by economists at the Bank for International Settlements underlines the City's centrality to EU financial operations. About half of all the €2.6trn ($3trn) of euro-area bonds bought by the ECB's asset-purchase programme came from institutions outside the euro zone. Banks in Britain were the main facilitators of bond sales. That EU regulators have spotty control over activities core to the bloc's banking stability becomes troubling post-Brexit, they say. "If I have one heart I rely on and it's inside me, that's fine," explains Olivier Guersent, director-general of the European Commission's unit for financial stability, financial services and capital markets union. "But if I am reliant on a mechanical heart outside me, I become shaky."

"How do you manage a financial crisis if the bulk of your financial services are provided by a third country?" adds Robert Ophèle, chairman of the Autorité des marchés financiers, France's stockmarket regulator. Suppose the EU wanted to impose a blanket ban on shorting the shares of banks, he says (some countries restricted shorts during the crisis in 2008-09). In the EU, Britain could not easily refuse.

For its part, once it has left the EU Britain will no longer be able to block the forced relocation of financial activities to the euro zone. City folk fret about four areas in particular: clearing; share trading; risk management; and "delegation", in which firms set up office in one EU country while their funds are managed in another.

Few rule out a fresh attempt to force euro-denominated clearing to relocate. In the meantime Eurex Clearing, LCH's main EU27 rival, is trying the carrot rather than the stick. A new revenue-sharing model has helped increase its market share in euro-denominated interest-rate swap clearing (measured in notional amount outstanding) to 15%, from under 1% at the start of 2018. "Banks have flicked a switch in our favour where they easily can," says Erik Müller, the firm's boss.

As for share trading, in late May ESMA partially backed down and said that EU fund managers could continue to trade 14 stocks in London that trade overwhelmingly there now. But that leaves 6,186 more that, in the event of a no-deal Brexit, EU-registered investors will be able to trade only on exchanges in the EU27.

Regarding delegation, in 2017 ESMA published guidelines aimed at stopping European financial centres making "sweetheart" deals to lure financial firms from the City. It warned national regulators to watch out for firms that follow EU rules and locate there but keep managing their portfolios from Britain. Stopping EU funds from being run by City-based stockpickers would strike at the heart of the active asset-management model. Though ESMA appears to have backed off for now, risk management is still in regulators' sights. The ECB sees "back-to-back" operations—doing business in the EU27 but shifting the risk to London using internal trades—as a ruse to minimise relocations.

After the referendum global banks made grids to help them decide where in the EU27 they might open new offices or expand their business, says a lawyer in London. Criteria such as size, tax and regulation were colour-coded red, green and amber. Then they examined the red and orange squares—and ruled everywhere out. "Frankfurt was seen as boring; Amsterdam, Luxembourg and Dublin were too small; Madrid and Milan had tax and regulation problems; and Paris was a nightmare for employment law," says the lawyer.

Nevertheless, London's rivals are doing their utmost. Paris is touting its size, cultural richness, financial-markets tradition, derivatives talent and proximity to London. François Hollande, France's president until 2017, had declared in campaigning that his "true enemy" was finance. But Emmanuel Macron is more welcoming. Labour-market reforms and the abolition of the wealth tax have helped. And dinner with him is a big lure, bankers say.

Frankfurt, for its part, emphasises its banking clout—it is home to the ECB and has long been Germany's banking capital—plus regulatory and political predictability. It lies tenth in the Global Financial Centres Index (GFCI), a ranking of competitiveness. That is well above Paris, at 23rd. Germany's government has chipped in by allowing banks to hire and fire far more readily.

To some banks Frankfurt's refusal to make "crazy" deals is preferable to Paris's newfound flexibility. As the head of Brexit preparations for an American investment bank tells it, French officials asked "what would you like?" and offered to change national law. The bank thought they might reverse things for someone else and went elsewhere. Though it has made strides, France has still to establish a long record as a reliable home for international finance, acknowledges a government adviser.

Staff have been mutinous about leaving London. For its way of life, Paris is the clear winner. In some of Frankfurt's elegant suburbs the population is so elderly that "you're the youth policy", quips the European head of an American investment bank. All the same the German city has won the most banking business, attracting 44% of bank moves, according to New Financial. Paris has attracted a wide range of financial firms; Dublin and Luxembourg are popular with asset managers; Amsterdam is favoured by trading firms and market-infrastructure providers.

Sell signals

The shifts that have happened so far are just the start, however. According to the French government adviser, banks are placing smallish bets across Europe, and are likely to reconcentrate their EU27 activities once the dust settles. For London, the harm could be substantial.

Warning signs are already in evidence. The number of initial public offerings in London has fallen of late, with the total value in 2018 down 23% compared with 2017. Frankfurt, by contrast, had one of its best years in terms of issue volume since the turn of the century. London kept its top spot in the GFCI in March 2018 but was beaten by New York this year.

Catherine McGuinness of the City of London Corporation, the municipal body that governs the Square Mile, says that more business is moving away than is visible in banks' announcements. She fears more will leave than are legally required to. Asian institutions in particular are flummoxed by the Brexit chaos. Nomura, a Japanese investment bank, no longer counts London as its global wholesale hub and will soon slash staff there. American investment banks, which particularly value passporting, are among the most critical of Brexit's harm to financial services. In a decade, under even a soft Brexit, London will no longer be the financial centre it once was, Jamie Dimon, the boss of JPMorgan Chase, recently said.

"How much of the City's international position relies on single-market access to the EU has not yet been tested," says Mr Wright. Capital flows can quickly shift course if market infrastructure or regulation change. A case in point are so-called venues, where fixed income, currencies and commodities (FICC) trade. MiFID 2, a huge piece of new European regulation, regulates venues for the first time, creating greater scope for European regulators to try to bring FICC liquidity onshore.

Over the next decade London could see business trickle away to EU27 capitals, New York and, increasingly, Asian financial centres. The situation is highly unpredictable, says Mr Mensah of Bank of America Merrill Lynch. "The City grew organically over a long period of time, so there is no blueprint to dismantle bits of it while avoiding unintended consequences."

Yet the City is not a passive observer of its fate. Britain's time zone, between New York and Asia, and common-law system are powerful advantages—as are a willingness to experiment, global approach, cultural allure and deep hiring pool. And even if it loses some of its EU-related business, optimists think that revenues from the rest of the world will grow faster.

One way to safeguard the City would be for Britain to become a rule-taker, hewing to European financial regulation. But British regulators (and especially the large insurance industry, which has less EU27 business) reckon it is too big and important to be lashed to the EU. Following the EU's more dirigiste and inflexible rule book after Brexit could hobble it relative to New York and Asian financial centres, they say. What is more, in future EU regulators could set out to harm London deliberately. European officials know where the compromises are between British priorities and, say, French ones, says Jonathan Hill, Britain's former EU commissioner in charge of financial services. "They know precisely how to send Exocets into London."

Hence another possibility: to embrace a buccaneering future. Brexiteer politicians' conception of "Singapore-on-Thames"—slashing regulation, lowering capital standards and corporate taxes, and prioritising competitiveness—is often compared to the 1980s Big Bang. Though it is unclear how Britain could emulate a city state, EU negotiators take the risk seriously.

The Bank of England and the FCA are pressing for a compromise. Under "stylish regulation" Britain would return to a more outcomes-based system, guided by six principles, including openness to the rest of the world, sensitivity to business models and promoting competition.

As for equivalence, Andrew Bailey, the FCA's chief executive, says Britain will need to see what framework the EU27 offers. "We are a global financial centre so we need to see if the price is worth paying." Mr Bailey reckons that unless the EU27 follow Britain towards principles-based regulation, they will have little chance of developing more vibrant capital markets or bigger financial centres. And in private, officials express doubts as to whether EU27 countries really want outsized quantities of financial risk shifting to European capitals.

Such confident views are typical of the City. Yet there is more than a whiff of complacency. Passporting is not all the City is losing: also gone is its reputation for political stability and predictability. British governments of all stripes have long supported financial services. But Brexit's toxic politics changed that. Mrs May earned a reputation for being hostile to the City. Boris Johnson, her probable successor, said "fuck business" in pursuit of a hard exit.

The shadow chancellor, John McDonnell, has recently begun courting the City. But the Labour Party's plans, which include heavy taxes on the rich, giving a tenth of big firms' equity to workers and nationalising utilities and rail, are viewed with dread. Mr McDonnell is rumoured to be plotting retroactive capital controls and clawbacks of bankers' compensation from the crisis—though he insists that strong economic growth under a Labour government would mean no need for capital controls.

Some hear echoes from history. In the 18th century Amsterdam's financiers used to lead the world, but they lost faith in the city's future under Napoleon and moved to London. For a financial hub facing the twin threats of an acrimonious Brexit and a hard-left government, that is a lesson worth heeding.

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Buttonwood

Russia is heaven for bondholders and hell for stockpickers

Never mind the property rights, enjoy the fiscal discipline

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A VISITOR TO Moscow inquiring about the outlook for Russia's economy will often be met with answers that take a detour into the country's past. Ask, for instance, why Russia runs such conservative budgetary and interest-rate policies and you may be told that the trauma of default in 1998 bred a strong desire for low debt and low inflation. Ask why property rights are weak and you may be taken further back, to the end of serfdom in 1861. Until then many Russians did not even own their own souls.

Not all investors are history buffs. But looking at Russia through the lens of risk and reward they see a dichotomy. On the one hand, the emphasis the authorities place on controlling public debt and curbing inflation makes it an attractive place for bond investors. Russia is fixed-income heaven. On the other, the economy lacks dynamism, in large part because the venturesome cannot lay secure claim to their investments. For equity investors, Russia can be hellish.

Start with its charms for bond investors. Their aim for their money is to get it back with interest. They would also like it to retain its purchasing power. Their big concerns, aside from default, are inflation and (unless they are buying hard-currency bonds) devaluation. So there is much to like about Russia. The public-debt burden is light, at below 20% of GDP. True, a lot of tax revenue is tied to the vagaries of oil prices. But Russia now has a fiscal rule. Its budget is based on an oil price of $40 a barrel. Any excess revenue goes into a reserve fund. Last year the budget was in comfortable surplus.

By stopping the government from overspending, the fiscal rule also helps keep a lid on inflation. The Kremlin allows the central bank to set monetary policy without meddling, to meet a goal of inflation of 4%. The bank's governor, Elvira Nabiullina, is admired for her professional competence—and also for persuading Vladimir Putin, Russia's president, to allow the rouble to drop in 2014. Inflation has since come under control. She has cut interest rates slowly, to 7.5%.

For bondholders this is wonderful: decent yields, low debt and stable inflation. The rouble is steady. American sanctions, imposed after 2014 in response to Russia's military intervention in Ukraine, led many affected Russian firms to pay down foreign debt. Sanctions act like a global-capital quarantine. And Russia runs a biggish current-account surplus.

But Russia is a more hazardous place for equity investors. A stock ought to be a claim on a company's assets. A quick survey of modern history throws up reasons to doubt that such claims are secure. In 2003-04 the state seized Yukos, a giant oil company. More recently a dispute over oil assets between Rosneft, the state-backed firm that absorbed Yukos's assets, and Sistema, a big conglomerate, rattled investors and gutted Sistema's share price.

Yet for the intrepid, Russian stocks still have appeal. For a start, they are cheap. MSCI's Russia index has a price-to-earnings ratio of six, compared with 12 for its broader emerging-market index. That kind of value is bait for stockpickers, who hope to sort good long-term bets from the ones that might turn ugly. They cautiously avoid firms such as Gazprom, a state-owned gas producer, that are instruments of the Kremlin's strategic goals. (American sanctions have made it unwise to hold such stocks in any event.) Instead they go for well-run firms with strong consumer brands, such as Sberbank, Russia's biggest bank, or Yandex, its internet-search firm. The state is unlikely to mess with firms on which the economy's day-to-day stability depends.

Give Russia some credit, say boosters. Macro-stability is not a given. Central banks have come under political attack in other emerging markets—India, South Africa and Turkey—and now in America, too. Optimists say that plans to cut red tape and increase public investment will lift Russia's GDP growth potential.

Still, for the unwary investor, Russia is a snare. Even old hands can be caught out. Michael Calvey, the American boss of Baring Vostok, a private-equity firm, was arrested in February amid a conflict with an investment partner who has connections to the security services. Despite testimonials from the boss of Sberbank and the founder of Yandex, Mr Calvey remains under house arrest.

Realists say it is the big-picture stuff that holds the economy back. Establishing the rule of law and property takes political will. But it takes time, too. In the early 1990s a prominent Western economist was asked how Russia could become a thriving market economy. His advice? "Get yourselves another history."

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Funny money

An idea for a parallel currency resurfaces in Italy

Matteo Salvini says he wants to press ahead with "mini-BOTs"

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GOVERNMENTS IN FISCAL distress sometimes find creative ways to pay the bills. Revolutionary France sold bonds secured against land confiscated from the Catholic church; America used paper bills to fund its war of independence. In 2001 Argentina issued IOUs, as did California in 2009. During Greece's sovereign-debt crisis Yanis Varoufakis, then its finance minister, toyed with plans for a parallel currency.

Not the most desirable of clubs, then, yet some in Italy are eager to join. So-called mini-BOTs, originally hatched by eurosceptics to replace the euro, made it onto the ruling coalition's manifesto last year. Mini-BOTs (*Buoni Ordinari del Tesoro*, or ordinary treasury bonds) would be used to settle the government's bills with commercial suppliers. Recipients could use them to pay taxes, or for public services. Devised by Claudio Borghi, an economist of the Northern League, one of Italy's ruling parties, they would be low-denomination bills (up to €500, or $569) that bear no interest.

They would not be legal tender—that would break EU law. But Mr Borghi would like them to circulate widely, eventually being used in shops to price goods. He has written that mini-BOTs would enable a quick exit from the euro, though ministers say they have no such plan.

On May 28th the lower house of parliament passed a non-binding motion calling on the government to bring down arrears, and to study mini-BOTs in detail. The latter clause was reportedly tagged on at the last minute: some lawmakers did not realise what they were voting for. As investors became uneasy Giovanni Tria, the finance minister, said mini-BOTs were not an option. But Matteo Salvini, the League's leader, says he will press ahead with mini-BOTs in the absence of "a smarter way".

In truth, they would bring little gain. Though the government's stock of unpaid bills is the euro area's largest, at around €50bn, or 3% of GDP, the Bank of Italy reckons this has halved since 2012. And Mr Tria says the government is now settling bills more quickly. Mario Draghi, the boss of the European Central Bank, has opined that as mini-BOTs are not legal tender, they would add to Italy's stock of debt. So the government might as well resort to conventional bonds. Though the spread between Italian and German yields has widened since the populist coalition was formed, it is far lower than in countries that have issued temporary IOUs, or "scrip" (see chart). Italy is nowhere near shut out of bond markets. In fact, ultra-loose monetary policy means bond yields are low in historical terms.

History suggests such dire measures are not generally successful. Governments are tempted to over-issue scrip, as in 18th-century America. As they are less trusted and less liquid than official currency, their value slumps. In California banks eventually refused to accept IOUs. Argentines hoarded pesos, spending scrip as fast as possible (an illustration of Gresham's law, that bad money drives out good). If much of their income becomes denominated in scrip, the government and private sector would struggle to pay back debt, which is still denominated in the official currency.

The danger is compounded by Italy's membership of a currency union. If mini-BOTs' sole purpose were to pay off arrears, investors would worry that the true intention was to leave the euro overnight. On June 6th Moody's, a credit-rating agency, said it would consider them as the first step towards preparing for an exit; even Mr Varoufakis concurs. Investors would sell off government bonds and residents would pull their euros out of banks, destabilising the public finances and banking system.

That explains why the technocratic Mr Tria wants to squash the idea, and opposition lawmakers say they would not support it. But Mr Salvini is reluctant to take it off the table just yet. A confrontation with the European Commission over Italy's public debt is looming. He might hope that considering mini-BOTs signals the country's willingness to take drastic steps to introduce fiscal stimulus. If it is a threat, the gun is pointing the wrong way.

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Qualified opinion

The Big Four may be blocked from doing Indian audits for years to come

They are under fire after scandals, most recently the collapse of IL&FS

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GLOBAL AUDITORS have had a torrid time of late. KPMG is haemorrhaging clients in South Africa after allegations of fraud linked to its work for the powerful Gupta family; Deloitte is under investigation in both America and Malaysia relating to scandal at 1MDB, a Malaysian state-development fund. In Britain the Big Four face threats of break-up after the failure last year of Carillion, a big government contractor for which all four had done work. Now Indian prosecutors have the auditors in their sights.

The most serious case concerns the collapse last year of IL&FS, a monstrously complex financial firm with deep state ties. On July 15th the corporate-affairs ministry will argue before a commercial court to have Deloitte's and KPMG's local affiliates suspended from doing audits for five years because of flaws in their work for an IL&FS subsidiary. Ernst & Young (EY) is under fire, too: its local affiliate audited IL&FS and another subsidiary. It had already been suspended for a year from doing bank audits because of its work for Yes Bank, India's fourth-biggest private lender. PwC, meanwhile, faces a two-year suspension relating to work for Satyam, a computer-services firm that went bust a decade ago.

These legal travails could bring to an end an odd exception to India's localism. In most areas, lobby groups and nationalism have relegated global legal and financial players to bit parts. Global banks, with few exceptions, serve only cross-border transactions and business; global law firms run Indian practices—from anywhere but India. By contrast the Big Four's local offices—which, like those elsewhere, are owned and largely managed by local partners—handle most multinationals' Indian subsidiaries and 58% of the companies in India's benchmark BSE 500 index, or 65% excluding public-sector banks.

Losing international auditors would be a heavy blow for Indian businesses. The country has thousands of auditing firms, but only a handful with more than two dozen partners. Indian executives regard having one of the Big Four on the job as a big comfort when they act as independent directors. Foreign investors and multinationals say they are essential if India is to attract foreign direct investment. Such arguments were no doubt advanced by Punit Renjen, Deloitte's Indian-born, American-resident chief executive, who recently braved the brutal summer heat to visit family—and took the opportunity to do the rounds of government offices in Delhi.

IL&FS defaulted in the summer of 2018, leaving $14bn in debt. At first late payments by local governments for infrastructure projects were blamed for a cash squeeze. But since then official investigators have alleged gross misconduct. There have been four arrests to date, with charges yet to be made public.

Why are global auditors carrying the can when others were surely more culpable? IL&FS's complicated structure made a comprehensive view of its position all but impossible. One of its two main subsidiaries had more than 300 subsidiaries itself. These typically had other investors, often municipalities. State entities served as owners, managers, debtors and creditors. More than 50 firms audited various parts, under local laws that often barred independent oversight.

Responsibility for overseeing such an opaque structure goes beyond employees and external advisers. Two of IL&FS's largest shareholders, until recently represented on the board, are LIC, a huge life insurer, and Central Bank of India, a commercial bank. Both are state-owned. Some suspect that the auditors have come under fire because they make the easiest target.

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Cracking the shells

The war on money-launderers’ vehicle of choice intensifies

Some of the biggest offshore centres are increasing transparency about ownership

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FINANCIAL CRIMES come in all shapes and sizes, from politicians siphoning off state wealth and officials taking bungs to terrorists buying arms and gangs laundering drug profits. A common element is the use of shell companies, partnerships or foundations to hide the identities of those moving dirty money. Such brass-plate entities, whose ownership is typically hard if not impossible to trace, were at the heart of the theft from 1MDB, a Malaysian state fund, and a $230bn money-rinsing scandal at Danske Bank. They have been dubbed the “getaway cars” of financial crime.

NGOs such as Global Witness and Transparency International have long highlighted shells’ pernicious role, picking up support from government investigators sick of trails going cold. Their biggest success was to persuade Britain, in 2016, to become the first G20 country to set up a public register of company owners. The rest of the European Union is set to follow once a new money-laundering directive takes effect. That leaves plenty of gaps. But two of the biggest, Britain’s offshore territories and America, are also moving in the direction of ditching secrecy.

Earlier this month Britain’s three Crown Dependencies—Jersey, Guernsey and the Isle of Man—issued a surprise joint statement pledging to table legislation to introduce public registers by 2023. They had long insisted that efforts by British MPs to force such a move could trigger a constitutional crisis. But the growing clout of the transparency movement persuaded them to jump rather than wait to be pushed.

Were three of the biggest offshore financial centres to end secrecy, it would make it harder for others—including Britain’s Caribbean territories, such as the British Virgin Islands and the Cayman Islands—to keep owners in the shadows. But campaigners’ optimism is tinged with caution. The Crown Dependencies envisage a staged implementation, with access first for police, then for financial firms doing due diligence, and only later for everyone else. Some fear a ruse to buy time.

Shell companies in America, where incorporation is at state level, are among the world’s most secretive. A recent study found that in all 50 states more personal information is needed to get a library card than to register a company. In some, such as Kentucky, registration can be done without giving contact details. A study of international corruption cases in 2012 found that more of the shells involved were from America than from anywhere else.

In every congressional session since the financial crisis, a group of federal lawmakers has proposed corporate-transparency legislation, only to see it fail. This time looks different. On June 12th a bill was approved by the House Financial Services Committee—the first time such a law had reached that stage. A similar bill has been introduced in the Senate. Campaigners are hopeful that a merged version will become law by the end of the year.

If it does, America would not get a public register but its companies would be required to disclose their beneficial owners to the Financial Crimes Enforcement Network, a federal agency, and to keep their ownership information up-to-date. There is still opposition, including some from a small-business association that worries about red tape. But Delaware, the biggest state for incorporation, is on board, as is America’s treasury secretary, Steven Mnuchin. (His boss, Donald Trump, whose businesses have sold many a property to anonymously owned companies over the years, has not made his views known.)

If the bill passes, anti-graft activists would then push America to adopt a public register. But Britain’s experience shows that transparency alone is not enough. Investigations by campaigners suggest that the information provided to its register is of mixed quality, to put it mildly. With enforcement lax, ne’er-do-wells are seemingly tempted to lie about who owns a firm and hope to get away with it. The government has promised an overhaul, with more money to police submissions. It will be some time before robbers’ cars are forced off the world’s financial highways.

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Mismatch point

Another European fund manager runs into concerns over liquidity

H2O's sideline in lending to smaller businesses has alarmed investors

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COMPANIES AND governments need to borrow money for years or decades. But ordinary savers often want instant access to their nest-egg. That age-old mismatch is the origin of many of modern finance's intermediaries, from banks to fund managers. They promise to lend money for long periods, backed by money they must return to their own creditors and investors at the drop of a hat. Aided by regulation, the arrangement usually helps savers to save and borrowers to borrow. The trouble is, it does not always work so seamlessly.

Fears over the "liquidity mismatch" created by such intermediaries have recurred in recent months, notably in Europe. They resurfaced on June 18th, when an article in the *Financial Times* highlighted how H2O, a fund manager based in London that invests mainly in government and big-company bonds, had a sideline lending money to smaller businesses. Their bonds are far less liquid, meaning that it may be hard to find a buyer quickly and at a reasonable price should the need arise. In theory, that might result in the fund being unable to repay its own customers immediately, should many of them demand the on-the-spot access they had been promised.

Investors took fright. It hardly helped that the illiquid bonds in question (worth €1.4bn, or $1.6bn, out of about €30bn in assets under management) were issued by a slew of companies connected to Lars Windhorst, a flamboyant German financier famed for past blow-ups. Assets managed by H2O melted faster than an ice cube in a heatwave, down over €5bn as investors headed for the exit. Shares in Natixis, a French bank that owns half of H2O, fell 12% on June 20th after Morningstar, a fund-research adviser, raised its own concerns.

Banks usually benefit from central banks acting as lenders of last resort if large numbers of depositors suddenly demand their money back. Not so fund managers. Their mismatches used not to matter much. Funds like H2O mostly invested in mainstream bonds and shares, for which sufficient buyers could be found in a pinch. But the past decade's low interest rates have seen fund managers take on greater risk, in more obscure corners of finance. Investing in less liquid securities boosts returns—and management fees.

H2O is not the first to be caught out. Last summer GAM, a Swiss fund manager, suspended a star trader who had loaded up on esoteric paper. Its shares have since lost over 60% of their value. Neil Woodford, once a star stockpicker, ran into similar trouble earlier this month. When the big-company shares he was famed for investing in started to offer ho-hum returns, he turned to taking stakes in small unlisted companies. These stakes are far trickier to unload in a hurry. But investors were still entitled to money back on demand.

Or not. GAM and Woodford had to "gate" their clients' money as client redemptions threatened to overwhelm their ability to generate cash by selling their funds' assets. That annoyed investors, but helped ensure the funds are not forced to sell illiquid assets at fire-sale prices. H2O's funds include provisions whereby investors pulling their money amid a wider outflow have to accept a small discount. So far it has proved capable of meeting hefty redemptions.

There are other reasons to worry about liquidity in the bond market. Investment banks that match buyers and sellers of securities used to grease the system by holding troves of bonds on their own balance-sheets. Rules curtailing that practice since the financial crisis may have worsened liquidity mismatches elsewhere. Regulators seem aware of the problem. On June 26th Mark Carney, the Bank of England's governor, denounced funds promising daily redemptions while investing in hard-to-shift paper as "built on a lie". Too true.

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Museum piece

Displays dedicated to explaining economics offer marginal returns

Citéco suggests that the dismal science may not belong in a museum at all

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ECONOMICS IS THE study of how societies allocate scarce resources. But why let eggheads have all the fun? A museum aiming to bring the discipline to the masses opened in Paris on June 14th. A visit to Citéco offers both seasoned and neophyte dismal scientists a chance to reflect on the field's importance.

Plenty of central banks run museums of coins and banknotes. The Banque de France, looking to repurpose a branch closed in 2006, had higher ambitions. It aims to "reconcile the French with economics", as if a lovers' tiff had driven them apart. That it is housed in a neo-gothic mansion, complete with a moat defending what used to be its underground vault, adds to the mystique.

But it turns out there is a reason why only one other economics museum exists (in Mexico City). Though books in the "Freakonomics" mould have pitched economics as an endeavour that goes beyond GDP estimates and inflation targeting, bringing it to life is hard. Barbs that economics is but the "painful elaboration of the obvious" will resonate with visitors traipsing through gallery after gallery running the gamut of economic actors, from firms to consumers and governments. Exhibits on the Basel Committee and TARGET2 payments will strain to excite the hordes of school pupils Citéco aims to attract.

French statist biases are on display: the stockmarket is presented as little more than a glorified casino. But the private sector is also celebrated. The curators are keener on globalisation than are most French policymakers, cheering global trade's ability to boost incomes across the world.

Does trade create domestic winners and losers, exacerbating inequality? On this, and just about anything contentious, Citéco is frustratingly silent. Perhaps its biggest shortcoming is its technocrat's vision. There is only the vaguest sense that economists and policymakers do not all agree. The biases and political framing that define economics in real life are set aside rather than taken on. The juiciest debates are absent.

But it does not dumb down complicated subjects. An explainer on how money is created by commercial banks issuing loans goes beyond the simplifications of most textbooks. A game that allows players to set what they think is the correct interest rate is fun (try to visit before Jens Weidmann, a hawkish German in the running to lead the European Central Bank, pulls the lever out of the wall). A photo booth that prints banknotes with visitors' faces in a watermark is a witty prompt to ponder what it is that makes currency worth its face value.

But presenting economics as a settled discipline allowing for a dispassionate display of its various facets, as Citéco tries to do, turns out to be beyond the wit of *homo economicus*. There is too much for a mere building, no matter how grand. Perhaps the best reason to visit is the impression it conveys that economics might not belong in a museum at all.

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Free exchange

The global economy is on a knife-edge

Mistakes by policymakers could topple it into trouble

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THE GLOBAL economic mood has taken to whipsawing between gloom and optimism. It can be hard to keep pace. This newspaper warned readers to prepare for "the next recession" in 2015 and 2018, pausing in 2017 to hail "the world economy's surprising rise". Lately, the periods of alarm and alacrity seem to have shortened. Markets began 2019 on the rebound and then took fright—only to surge in recent weeks. It is tempting to see the swings as mistaken attempts to find narratives in noise. But they have been accompanied by very real economic wobbles. Trade growth slumped in 2015, rebounded and is now decelerating. Global output, as reflected in measures of purchasing managers' activity, bounced along with market gyrations, sinking in 2015 and lurching upward in 2017 before falling this year to levels not seen since the depths of the euro-area crisis. Rather than noise, the mood swings reflect investors' attempts to work out which of two very different equilibria an unsettled global economy will land on.

You might suppose that such uncertainty would be the norm. Though highly integrated, the global economy lacks a centralised, stabilising hand, like a national Treasury or central bank. During the financial crisis, the members of the G20 managed an impressive degree of policy co-ordination. But the desire to co-operate has rather waned since then. America's Federal Reserve has some ability to call a global tune; Silvia Miranda-Agrippino of Northwestern University and Hélène Rey of the London Business School argue that American monetary policy strongly influences the global financial cycle. Similarly Emine Boz and Gita Gopinath of the IMF and Mikkel Plagborg-Moller of Princeton University reckon that fluctuations in the dollar have an enormous influence on the volume of global trade. But in a world of flexible exchange rates countries should still enjoy plenty of room to go their own way.

The world's problem, however, seems less that national governments are working at cross-purposes, and more that policymakers are torn between incompatible aims. Take central banks. The world's monetary maestros are eager to leave behind the near-zero interest rates that have prevailed since the financial crisis. But the soft spots into which the global economy keeps stumbling suggest that this desire may be inconsistent with steady, robust growth. Last year the Fed raised its benchmark interest rate by a percentage point, to around 2.4%, and reckoned it would rise above 3% by the end of 2019. After its meeting on June 19th and again on June 25th, however, Jerome Powell, its chairman, hinted that markets should expect rate cuts later this year, "to sustain the expansion". Other central banks have also chosen to beat a hasty retreat. The European Central Bank (ECB) ended stimulative asset purchases in December 2018 and suggested that policy rates could rise in 2019. But at its June meeting it too abandoned talk of impending rate rises for discussions of the need for more stimulus.

Governments are likewise conflicted. China's leaders want to rebalance their economy away from excessive investment and to shrink the role of state-owned firms. They keenly feel the need to depend less on rapid growth in credit. Yet both domestic tranquillity and the ability to project power abroad depend on economic growth. Whenever steps towards economic reform cause too rapid a slowdown, China's government quickly returns to stimulus. In response to the sudden slowing late last year it has boosted spending on infrastructure, cut taxes and loosened reserve requirements for banks. The stimulus has given China's economy, and the world's, a shot in the arm. But it sits uneasily with the government's aim of reducing debt.

Meanwhile President Donald Trump is trying to harangue the Fed into a more accommodative monetary policy in the run-up to next year's elections. But he is unwilling to abandon his belligerent approach to trade relations. At a meeting of the G20 on June 28th and 29th he and Xi Jinping, his Chinese counterpart, are expected to hold talks regarding their intensifying trade war. Unless they resolve a number of significant disputes America will probably extend its tariffs to an additional $300bn of Chinese imports. So far America's tariffs have probably had only modest macroeconomic effects, though their impact is growing. But markets' tendency to reel in the face of trade-war escalations suggests a growing concern that the present is prologue.

Stick a fork in it

World leaders must always manage trade-offs between competing aims. So why are policy conflicts unsettling markets just now? Except during financial crises (and none appears imminent), economic growth is rarely so balanced on a knife-edge. But interest rates around the world remain very low, leaving little tolerance for policy correction. In the euro area both short-term and long-term interest rates are close to or even below zero. New ECB easing, if it occurs, will mostly help the economy by pushing down the value of the euro and boosting European exporters, at the expense of firms elsewhere. America's position is not much better. When markets were expecting rate increases, the Fed could give a sagging economy a boost simply by delaying them. But markets now expect the Fed to cut rates by at least 0.75 percentage points during the next year. It can either disappoint them and risk adding to pessimism, or move rates much of the way back to zero.

Any misstep by Mr Trump or Mr Xi thus leaves central banks hard-pressed to keep economies on an even keel. And a central-bank slip-up, such as one interest-rate rise too many, increases the strain on already-conflicted governments. As slackening global demand crimps purchases of Chinese exports, for instance, the trade-off between domestic deleveraging and robust growth in Beijing becomes much starker. The global mood has not yet settled, meaning that a happy outcome remains possible. But if policymakers do not decide soon to put growth ahead of their other goals, the next turn towards pessimism could be decisive.

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The war on cancer
Big is beautiful

Oncology

In fighting cancer, look to what other animals do

Big species have fewer tumours than small ones

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IN 1977 RICHARD PETO, an epidemiologist at Oxford University, observed a contradiction. Cancer begins as a mutation in a single cell. Organisms with more cells should therefore have a higher risk of developing it. Elephants, which have 100 times as many cells as human beings do, should swarm with malignancies. Whales, with ten times more again, should be barnacled with tumours. In fact, the planet's behemoths are blessed with extremely low rates of cancer. Titanic bodies and tumour resistance have evolved in tandem. The secret of suppressing cancer may therefore be hidden in the genes of giants.

Inspired by Peto's paradox, as this contradiction has come to be known, researchers are exploring rates of cancer and resistance to cancer in thousands of animal species, with an emphasis on heavyweights. Their hope is to translate the animals' cancer-fighting talents into treatments for people.

In one recent study, published in *Molecular Biology and Evolution* and entitled "Return to the sea, get huge, beat cancer", Marc Tollis of Northern Arizona University and his colleagues sequenced the genome of the humpback whale and began trawling through it for tumour-suppressor genes. Previous research had revealed that, around 50m years ago, creatures which looked something like a cross between a rat and a wolf dog-paddled into the sea and eventually evolved into whales. These animals remained fairly small until about 3m years ago. Then they rapidly ballooned into whoppers the size of buses.

The benefits of growth

Dr Tollis found that as ancestral whales grew, numerous alterations to their tumour-suppressor genes hopped on board. He and his colleagues identified 33 known tumour-suppressing genes in humpback whales that showed evidence of advantageous changes. These included *ATR*, which detects damage to DNA and halts the cycle of cell division that cancer-promoting mutations encourage; *AMER1*, which stifles cell growth; and *RECK*, which reins in metastasis, the tendency of cancer cells to peel off their natal tumour and wander around the body looking for other sites to colonise. Humpback whales also have duplications in genes that promote apoptosis, the process that commands mutated cells to commit suicide. All this suggests that the evolution of gigantism in cetaceans is associated with strong selective pressure in favour of genes that conquer cancer.

Cancer biologists are familiar with *ATR*, *AMER1* and *RECK* because people have them too. But whales may also harbour tumour-fighting genes unknown to science. The next step is therefore to irradiate laboratory-grown lines of whale cells, in order to encourage cancer-causing mutations and thus find out which genes become active in an attempt to clamp down on those mutations. The eventual goal is to discover which strategies whale genes use to combat cancer. Researchers will do this by transferring whale genes into human cell lines, zapping those cells with radiation, then seeing if the whale genes attempt to repair the DNA damage—as human genes often do—or opt for the often more effective method of triggering apoptosis.

Similar studies are already being done using cancer-fighting proteins from another group of giants—elephants. These have a cancer-mortality rate of about 5%, compared with 11-25% in human populations. Some participants in the whale study were previously involved in sequencing African and Asian elephant genomes. They found that an important weapon in the elephants' arsenal is *TP53*, a gene that encodes an apoptosis-inducing protein called p53. This protein is known colloquially as "the guardian of the genome".

Human beings have two copies of *TP53* in their chromosomes—one from each parent. Those in whom one of these does not work manifest a condition called Li-Fraumeni syndrome, and are almost certain to develop cancer. Elephants' chromosomes, by contrast, sport 40 versions of *TP53*—part of the explanation, surely, of why elephant tumours are so rare.

Joshua Schiffman, a paediatric oncologist at the Huntsman Cancer Institute in Utah who was involved in the elephant study, is investigating how elephants' multiple copies of *TP53* co-ordinate an attack on mutated cells. He is also studying how slight differences in the composition of elephant p53 make it a more efficient mutant-cell killer than its human counterpart. The power of elephant p53 led Dr Schiffman to co-found PEEL Therapeutics, based in Utah and Israel (the firm's name is derived from the Hebrew word for elephant). PEEL's purpose is to translate discoveries in comparative oncology into human patients. The firm's researchers are experimenting with minuscule lipid spheres loaded with proteins, including synthetic elephant p53. Their most promising experimental drug is designed to deliver this directly to a patient's tumour cells. Details are still under wraps, but Dr Schiffman says that, in a laboratory, introducing synthetic elephant p53 to human cancer cells induces "incredibly rapid and robust cell death".

Compare and contrast

These studies on elephants and whales are part of a larger effort in comparative oncology—some of it based at Arizona State University's Arizona Cancer Evolution Centre (ACE). Researchers at ACE, including Dr Tollis and the centre's director, Carlo Maley, are looking at cancer rates in 13,000 animal species, using more than 170,000 records of individual animals. This study is the first of its kind, and is intended to search for patterns that might explain resistance and susceptibility to tumours. To this end the researchers are casting their net wide. They have, for example, attempted to induce tumours in sponges that have no reported incidence of cancer.

Dr Tollis, Dr Maley and their colleagues will also search for tumour-suppressing genes in previously sequenced genomes available in public databases. These include about 65 species of mammal—some of which, such as naked mole rats, are noted for low cancer rates even though they are small compared with elephants and whales, and so do not seem to conform to Peto's paradox. The search will also look at non-mammalian exceptions to the paradox, such as crocodiles and birds. Dr Tollis and Dr Maley speculate that birds, at least, inherited their cancer resistance from dinosaur ancestors which were much larger. They are working on computational models to test this hypothesis.

One novel aspect of all this research is its willingness to take the animals under study on their own terms. Medical science uses animals a lot—but almost always they are there to act as stand-ins for human beings, a role encapsulated in the word "model" that is often applied to such laboratory organisms. Comparative oncology explicitly rejects this idea. Instead, it studies a phenomenon, namely cancer and the body's response to it, without prejudice, and only then attempts to draw medically useful lessons. Whether that approach might be extended to other fields of medicine is surely worth consideration.

This article appeared in the Science and technology section of the print edition under the headline "Big is beautiful"

Palaeontology

Vegetarian crocodiles once roamed the world

A lesson in not stereotyping on the basis of modern examples

Print edition | Science and technology Jun 29th 2019

COMPARED WITH mammals, living members of the crocodile clan have exceptionally boring dentition. From the slender-snouted gharials of India and the nocturnal caimans of South America to the saltwater behemoths of the South Pacific, crocodile teeth vary little in morphology. All are conical and pointed. Each tooth in an animal's mouth is almost identical to its neighbours—as befits a group of that feed on a mixture of fish and the occasional careless beast that strays too close to the shore, or even into the water itself.

This predilection for pointed fangs is not, however, how it has always been. During the days of the dinosaurs, the Jurassic and Cretaceous periods, crocodile-clan members showed extraordinary dental diversity. Many of their teeth have proved so bizarre that some palaeontologists have theorised that, far from being carnivorous, these ancient species might have been eating plants. A study published this week in *Current Biology*, by Keegan Melstrom and Randall Irmis at the University of Utah, confirms this. It also suggests that herbivory evolved in the crocodile clan on several occasions.

When trying to work out what ancient animals ate, palaeontologists usually look to modern analogues. If teeth from an extinct beast match those of a modern species, the two are quite likely to have had similar diets. With extinct crocodilians, however, this palaeontological tactic has routinely been stymied because their teeth, which are adorned with many rows of cusps and wrinkled enamel, look nothing like what is found in the mouths of animals alive today. This has left the topic of what ancient crocodilians ate very much up for grabs. Some palaeontologists argue that certain species, such as *Simosuchus clarki* (illustrated below in an artist's impression) were vegetarian.

To solve the puzzle Mr Melstrom and Dr Irmis turned to Orientation Patch Count Rotated (OPCR) analysis. This technique scans a tooth and measures the complexity of its surfaces. Use of OPCR has demonstrated, in a quantifiable manner, that diet is closely related to tooth complexity. Carnivores tend to have simple teeth. Omnivores have more complex teeth. Herbivores have the most complex teeth of all.

Until now, however, the technique has been used mostly on the molars of living mammals. Indeed, Mr Melstrom and Dr Irmis knew of no studies that had tested it extensively on crocodiles and their kin. This lack of testing made sense, because living crocodilians have no complex tooth morphologies to analyse—so why bother? However, the strange teeth of ancient crocodiles, they reasoned, might give OPCR something to work with.

In total, they threw 146 teeth from 16 extinct crocodilians at OPCR. For comparison, they also added teeth from a modern caiman into the mix. The analysis revealed that two of the extinct species were, like the caiman, carnivorous. But even these were notably different from modern animals in that one had serrated steak-knife-like teeth and the other had triangular teeth that made contact with one another when the animal closed its mouth (something not seen in modern crocodilians). The system identified two of the species as "durophagus", meaning that their teeth looked as if they would be good at crushing the shells of clams, crabs and other armoured invertebrates. One species was identified as omnivorous. And eight, including *Simosuchus*, were identified by OPCR as obligate herbivores. (The other three were hard to classify, but may have been insectivores.)

What particularly surprised Mr Melstrom and Dr Irmis, though, was the way herbivory mapped onto the crocodile family tree. Rather than evolving once at some point long ago and then appearing in all later species on that branch, it came into existence at least three times during the history of these reptiles. Herbivorous crocodiles of the Jurassic and Cretaceous, then, were capable of competing successfully with their dinosaur counterparts in a way that a modern herbivorous crocodile presumably could not with the plethora of herbivorous mammals that now exists.

This article appeared in the Science and technology section of the print edition under the headline "Vegetarian crocodiles"

Animal archaeology

Capuchin monkeys have been using stone tools for around 3,000 years

Bang the rocks together, guys

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ONE OF THE most famous edits in cinematic history comes early in “2001: A Space Odyssey”. A primitive hominid hurls a bone club into the air, and a match cut to a spacecraft instantaneously tells the millennia-long story of human ingenuity. Tools maketh man. But there was never a human monopoly on tool use, as a new paper in *Nature Ecology & Evolution* shows. A team led by Tiago Falótico of the University of São Paulo, in Brazil, and Tomos Proffitt of University College, London, has demonstrated that a species of monkey called the wild bearded capuchin has been employing stone tools for perhaps 3,000 years, and that their use of the technology has changed over the course of time.

Capuchins, chimpanzees and sea otters, among others, are known to use rocks to crack open, respectively, nuts and shellfish. And an earlier dig by Dr Falótico found evidence that, in capuchins, this habit goes back at least 600 years. Though some may question whether bashing a nut with a rock truly qualifies as “tool use”, capuchins (as the picture shows) use both hammerstones and anvils—which demonstrates quite a high level of sophistication.

They also demonstrate sophistication in the wielding of their tools, because not damaging the soft kernel of a nut while breaking the shell takes skill. Cracking open a cashew, the favourite for this treatment, requires the tool-wielder to employ a single, practised motion. First, the animal brings the hammerstone down two-handed for a glancing blow on the nut’s far side. It then rolls the stone towards itself, over the nut. Youngsters take around eight years of mimicking their parents to get the knack of all this. And although the stones used are not actually modified for the task, monkeys are assiduous in searching for and selecting those of the perfect shape. (They do, however, lack the insight to keep such stones for future use.)

Dr Falótico and Dr Proffitt returned to the site of the previous excavation—a part of Serra da Capivara National Park in the Brazilian Amazon. They dug into an area of 67 square metres, to which the monkeys bring stones from a nearby stream bed. The site’s capuchins use quartzite cobbles as hammerstones, and tree limbs and loose stones as anvils.

By excavating 1,699 stones, pebbles and flakes, and working out the age of 122 hammerstones from the radiocarbon dates of charcoal buried alongside them, the team split the site’s history into four phases. Capuchins first swung a rock in the area somewhere between 3,000 and 2,400 years ago—the beginning of a period the researchers call Phase IV. This is the oldest known instance of non-ape tool use. Phase IV hammerstones are light and have many impact marks. This suggests they were used mainly on seeds (possibly from cassava) smaller than the cashews which today’s monkeys pound, meaning hammerstone and anvil often came into contact with one another.

Phase III, between 640 and 565 years ago, featured transitional behaviours that led to Phase II, from about 257 years ago, when hammerstones were heavier and are associated with many large anvils, suggesting a food source bigger and harder than cashews (the hard-shelled jatoba fruit is a possibility). More recently, in Phase I (from 27 years ago), cashew residue on stones suggests the monkeys were moving towards their present-day alimentary focus. What Dr Falótico and Dr Proffitt do not yet know is whether the variation they saw is a result of different groups of capuchins, with different habits, occupying the site at different times—or, alternatively, whether a single lineage of the animals has changed its nutritional culture over the years.

Until Dr Falótico’s original dig, chimps were the only species other than human beings for which an archaeological record of tool use had been found. (In 2007 researchers discovered chimpanzee-modified stones that were 4,300 years old.) There is no reason, though, not to expect the finding of further, and perhaps older, sites in future. Moreover, studying how capuchins and chimps have used tools may give an inkling of how the process happened in people. One thing Dr Falótico and Dr Proffitt have noticed is that some of the sharp flakes that fly off when hammer meets anvil look identical to Stone Age blades made by human beings. Capuchins have not yet—so far as is known—thought to use such flakes as knives. But perhaps their own “2001” moment awaits them in the future.

This article appeared in the Science and technology section of the print edition under the headline ”Bang the rocks together, guys”

Electrifying flight

Hybrid airliners could come to dominate the skies

They use both orthodox engines and electric motors in an optimum mix

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STEADY IMPROVEMENTS in battery technology, driven along by the electrification of road transport, are helping air taxis and other small electric aircraft get airborne. But even the best lithium-ion cells are still far from being able to power the workhorses of civil aviation: short-haul airliners carrying 150 or so passengers. An electric version would not be able to rise from the ground, because of the weight of the batteries required to drive its engines. Nevertheless, many aerospace experts continue to think that electric flight is the future, at least in hybrid form.

This could be achieved by starting with smaller hybrid airliners, such as those carrying 50 or so passengers on regional routes, and then scaling the technology up. Details of one such effort, called Project 804, illustrate how the airborne equivalent of a hybrid Toyota Prius might work.

As the crow flies, 804 is the distance in miles (1,294km) between a Pratt & Whitney facility in Montreal, Quebec, and a Collins Aerospace centre in Rockford, Illinois. That the two firms are both parts of United Technologies Corp (UTC), which hopes to merge with Raytheon to form America's second-biggest aerospace and defence company after Boeing, suggests that the idea is more than a flight of fantasy. Indeed, the experimental hybrid which Project 804 plans to fly in 2022 could slash fuel costs on regional routes.

Charged with potential

As with cars, there are different ways to build a hybrid plane. Collins, which makes aircraft electrical systems, and Pratt & Whitney, which produces jet engines, have chosen a "parallel" hybrid. That means it will use a combustion engine augmented by a battery-powered electric motor, as opposed to a "serial" hybrid in which propulsion is provided purely by an electric motor, but with the electricity for this motor either drawn from a battery or produced by a combustion engine running a generator, depending on the circumstances. Both sorts of hybrid limit use of the batteries, meaning the battery packs can be smaller and thus lighter.

For its flight tests, Project 804 is converting a Bombardier Dash 8-100, a 40-seat aircraft powered by a pair of turboprops. These are jet turbines that turn a propeller at the front of the engine via a gearbox.

Each turboprop produces two megawatts of power. Typically, the engines run at full power during the 20 minutes of take-off and climb, and are then throttled back for the cruise and descent. In the conversion, the jet turbine driving the propeller on one side of the aircraft will be replaced with a downsized version producing about 1MW. An electric motor attached to the turbine's gearbox will provide another 1MW.

The idea, explains Paul Eremenko, UTC's chief technology officer, is that during a full-power take-off and climb the combination of electric motor and jet turbine would produce the necessary 2MW. Then, during cruise, the electric motor would be switched off. As the aircraft descends, which can also take around 20 minutes, the electric motor would run in reverse to act as a generator, turned by the windmilling propeller. This would top up the battery for a subsequent full-power take-off, or an emergency "go-around" in case the landing had to be aborted.

Project 804's flight trials will help work out both how such hybrid engines could replace turboprops on existing aircraft and how they might be used by entirely new models. As the downsized turbines would be optimised for cruising, they would themselves have better fuel economy. Working with the electric motor, the hybrid combination on a regional turboprop airliner, which typically flies routes of around one hour's duration, would result in fuel savings of at least 30%, says Mr Eremenko.

Other sorts of hybrid are in development. Earlier this month Ampaire, an electric-aircraft firm in Los Angeles, undertook the virgin flight of a six-seat Cessna Skymaster converted into a hybrid. Skymasters have a propeller engine at the front and another engine driving a "pusher" prop at the rear. Ampaire replaced the rear engine with a battery-powered electric motor. On its own, this engine would be a series hybrid, except that as it works in conjunction with the combustion engine at the front, Ampaire calls it a parallel hybrid.

Zunum Aero, based near Seattle, is working on a 12-seat series hybrid which it hopes to deliver in 2022. This aircraft will be powered by two rear-mounted 500kW electric turbofans (which turn a fan inside a shroud and so look a bit like jet engines). The turbofans will be supplied with electricity by a small jet-powered generator in the rear of the fuselage, which will also top up batteries contained in the wings.

For larger aircraft, electric turbofans that are vastly more powerful—perhaps up 20MW—will be needed. Much will depend on what Boeing and Airbus decide to do with their future models, and how radical their designs will be. An alternative to large engines is lots of small ones. Giant flying wings with many electric thrusters are one idea. But these would require a number of technological leaps, not just in batteries but also in aerodynamics and electricity distribution.

Power up

More conventional-looking hybrid aircraft are possible. Airbus has teamed up with Rolls-Royce, a British jet-engine manufacturer, and Siemens, a German electricals giant, to electrify an example of a 100-seater regional aircraft called the BAe146. This plane is powered by four conventional jet turbofans, albeit small ones. To start with, one of the 146's four engines will be replaced with a 2MW electric turbofan powered by a combination of battery and generator. If all goes well, a second engine will be replaced with a similar unit. Again, the idea is that a combination of combustion engines and electrical power will produce a cleaner, more efficient aircraft. Spurred on by environmental concerns and stricter controls on emissions, for larger passenger aircraft going hybrid seems to be the most likely flight plan.

This article appeared in the Science and technology section of the print edition under the headline "Hybrid vigour"

Art and politics in Israel
Fault lines

Fault lines

On the borders of art in Israel

An exhibition on walls and frontiers has reached a fitting audience

Print edition | Books and arts Jun 29th 2019

IN THE BEGINNING it seems to be an ordinary nature documentary. Two gazelles, a male and a female, seek each other out in the mating season. But as the background comes into focus, it becomes clear that this a political scene, too. The viewer sees the shiny white apartment blocks of a Jewish suburb of Jerusalem, built across the "green line" in the occupied West Bank. The two gazelles are close, yet they are kept apart by the security barrier, which on one side Israelis refer to as "the separation fence", and the Palestinians on the other call "the wall".

A muted group of young people watch the film in the art gallery of Tel Aviv University. "Hey, we had a case like that," one of them says, breaking the silence. "We opened the gate so they could get it on together." The others chuckle; there is an air of transgression. Their uniforms disclose that these are not routine visitors. In Tel Aviv on a cultural excursion, they are soldiers of Israel's Border Police, under instruction from their officers to be quiet in the gallery. This is the last place they expected to see the barrier they know so well.

To the surprise of its curators, "Defence Lines: Maginot, Bar-Lev and Beyond", an exhibition that includes the film, has turned out to be very popular with security personnel, both serving and retired. "We didn't originally think we'd get so many," says Tamar Mayer, the gallery's chief curator. But her team did aim to draw a crowd beyond "the usual suspects". In the event, entire military units have come on organised tours, as have peace activists. One officer says he has been twice, in uniform and then off-duty. "Coming as a civilian, you're a different person from the officer whose job it is to guard these lines," he says. "I saw things differently the second time and began to grasp that every wall I've ever guarded will one day become obsolete."

Israeli galleries are stuffed with subversive and radical art, but it is rarely seen by such a wide audience. "Defence Lines" has raised thorny old questions about the relationship between art and politics, but its reception has posed them in a novel way: an instant feedback loop has developed between the visions of walls and borders on display, and the people responsible for guarding them in real life.

The first exhibit in the show—a tall border fence in a rugged desert—seemed familiar to the visitors, too. Only upon closer inspection did many realise that they were not looking at the Negev, but at a prototype for Donald Trump's proposed wall on the Mexican border, in pictures by Assaf Evron, an Israeli photographer. The disorientation is intentional—a bid to disconcert an audience in a place preoccupied with defining its own frontiers. Next comes "The Line", a series of photographs by Alexandre Guirkinger (first shown in his native France), which focus on the mouldering fortifications of the Maginot Line. The immense construction, built in the 1930s, failed to protect France from the Wehrmacht, which bypassed the defences by advancing through Belgium and the Netherlands. But it is still standing, abandoned.

The traumatic folly of the Bar-Lev line was Israel's version of the Maginot. It, too, was built at great cost and named after a general. It, too, failed to stop an onslaught (by the Egyptians at the start of the Yom Kippur war in 1973). The pictures of it by Micha Bar-Am, an Israeli photographer, which appear in "Defence Lines", begin with the barrier's construction in the late 1960s; move on to the placid routine of soldiers on the banks of the Suez canal; and culminate in the carnage of war. The images have a special poignancy for Israelis. Unlike the Maginot, which sits on French territory, the Bar-Lev line was built to defend the Sinai Peninsula, from which Israel ultimately withdrew, returning it to Egypt in the Camp David peace accords.

"It brings home the fact that while we feel invincible, building walls and fences and standing guard over them, there's always an aspect of weakness and vulnerability to them," observes Commander Ronen Bar-Shalom of the Border Police, as he peruses the exhibition with his troops. "It's a reminder that every wall can be breached." A retired combat pilot at the gallery recalls how he was taken on a tour of the Bar-Lev line's construction and assured of its impregnability, only to be ordered—after the Egyptians had overrun it—to bomb the fortified positions Israel had established at such expense.

Walls have ears

The most sensitive defence lines in the show, and in the country—the ones that demarcate the current Israeli-Palestinian conflict—are represented by "Gazelles, Separation Fence Herd, Jerusalem", a film by Amir Balaban, an Israeli nature conservationist and documentary-maker (pictured), and by "25FT", a collage of video and stills. Netta Laufer, an Israeli artist, put "25FT" together from military surveillance footage taken in the West Bank. Ms Laufer tries to recreate the experience of an Israeli soldier operating one of the cameras. As with Mr Balaban's film, the images, in black-and-white night-vision, are not of humans, but the outlines of small animals moving across the contested landscape.

A critic for *Haaretz*, Israel's liberal daily, questioned whether all these snapshots really counted as art (another hoary talking-point). Others have complained that the treatment of the controversial barrier is too mild. The occupation of the West Bank has lasted 52 years and counting; this is not the exhibition to dispel the widespread Israeli complacency over its effects.

But the intention was less grand and more subtle than that. "At first I thought the exhibition would be more political," says Sefy Hendler, head of the university's art department and the gallery's director. But "we decided to try and escape the good guys-bad guys dichotomy": in other words, to depict barriers, not erect them. Art "shouldn't belong to the liberal crowd who come to gallery openings in Tel Aviv with a glass of wine," Mr Hendler insists. "I'd much prefer to have military officers come here and perhaps leave with a more nuanced perspective."

This article appeared in the Books and arts section of the print edition under the headline "Fault lines"

Cactus spirit

A mind-bending history of mescaline

For Aldous Huxley, the cactus-derived drug opened the doors of perception

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Mescaline: A Global History of the First Psychedelic. By Mike Jay. *Yale University Press; 304 pages; $26 and £18.99.*

MESCALINE IS THE drug that launched the modern fascination with hallucinogens. It is also the hallucinogen for which there is the earliest evidence of human use. At Chavin de Huantar, a temple complex in the Peruvian Andes thought to date to as early as 1200BC, stone carvings show grimacing figures—part human, part jaguar—clutching the oblong San Pedro cactus, one of a few plants known to contain the chemical. Another natural source of mescaline, the squat peyote cactus, has been used in rituals in northern Mexico since pre-Colombian times. Anthropologists studying Amerindian culture, along with botanists and chemists, turned white people on to the stuff, eventually kicking off the psychedelic revolution that is still unfolding at spiritual retreats in California and dance clubs in Ibiza.

Mike Jay's history of mescaline use is a bit of a mind-altering experience itself, both rollicking and intellectually rigorous. Readers may know the drug as the inspiration for Aldous Huxley's "Doors of Perception" in the 1950s. Mr Jay grounds his story a century earlier in the white encounter with (and near-extermination of) Native-American culture.

In the 1890s James Mooney, an anthropologist at the Smithsonian Institution, befriended a Comanche chief named Quanah Parker who embraced the religious use of peyote, which had spread from Mexico in the cultural maelstrom accompanying the genocide of Native Americans. Quanah and Mooney saw peyote rituals as a peaceful alternative to the Ghost Dance, an apocalyptic cult that had inspired a series of doomed uprisings. They incorporated the Native American church, which blended Indian and Christian elements. Its right to use peyote was enshrined in law in 1994.

Meanwhile the pharmaceutical industry, on the hunt for profitable plant-derived compounds like cocaine, was eager to experiment with the cactus. A Detroit-based drug company marketed a powdered form as an Indian panacea. In Berlin a celebrity pharmacologist named Louis Lewin failed to isolate the psychoactive ingredient because he was unwilling to test it on himself. A less squeamish chemist, Arthur Heffter, worked it out after swallowing an alkaloid derived from the cactus and finding himself immersed in classic mescaline hallucinations: carpet patterns, ribbed vaults, intricate architectural phantasms.

Mr Jay takes seriously mescaline's ability to produce such visual and emotional revelations. But he also wants to demystify the heroic accounts of some of its evangelists, who have imagined it as a delivery system for their own aesthetic or spiritual obsessions. Genteel Edwardian experimenters like Havelock Ellis and W.B. Yeats saw it as a pathway to the symbolist worlds of that period's art. Jazz-age eccentrics like Aleister Crowley took it as a direct line to the occult. Antonin Artaud worked mescaline's effects into surrealism, Jean-Paul Sartre into existentialism. Huxley, who had studied with a Hindu swami, thought it promised mystical experiences for all. In a darker vein, Hunter Thompson turned a mescaline trip into the lunatic climax of "Fear and Loathing in Las Vegas". For Mr Jay, this marks a moment when the drug culture was "leaving the utopian dreams of the Sixties in its dust".

Doctors' hopes for mescaline have foundered too—a fact worth remembering as hallucinogens draw renewed medical interest. Some 20th-century psychiatrists thought mescaline might unlock the mechanism of schizophrenia. It didn't. Its effects are too unpredictable for clinical applications: it can produce elation or paranoia, elaborate visions or none. The let-down spurred a search for related compounds such as LSD and ecstasy, which have more reliable effects at lower doses.

For Mr Jay, the most rewarding way to take the drug remains the Native American "half moon" peyote ceremony, guided by an experienced shaman and surrounded by fellow travellers on their own spiritual roads. When consuming mescaline, as with many things in life, it is a mistake to focus too much on the commodity, and too little on the company.

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Family affairs

The most scandalous popes in history

Cesare Borgia, the illegitimate son of a pontiff, was the hero of "The Prince"

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The Borgias. By Paul Strathern.*Pegasus Books; 400 pages; $28.95. Atlantic Books; £25.*

THE BORGIAS achieved many remarkable things. They reformed and rebuilt Rome; they were patrons of geniuses such as Leonardo da Vinci; and they influenced the course of world events for centuries. It is, for example, thanks to a single Borgia ruling in 1494 that Brazil now speaks Portuguese, whereas most of South America uses Spanish. But perhaps the most noteworthy accomplishment of this noble Aragonese dynasty, which during the Renaissance produced two popes and many legends, is that it managed to bring disgrace upon the Catholic church. Then, as now, this was no mean feat; after all, previous bishops of Rome had rarely been as infallible as later dogma insisted.

Take Pope Formosus. In the ninth century he was exhumed, dressed in full papal regalia, put on trial as a corpse—and found guilty of perjury and violating the laws of the church. Or consider the exuberant Pope Paul II, who in 1471 expired from apoplexy apparently brought on by "immoderate feasting on melons", followed by "the excessive effect of being sodomised by one of his favourite boys". Or Pope Innocent VIII, who in 1492 is said to have spent his final days drinking blood drawn from three ten-year-old boys (who all died), and supping milk from a young woman's breast. For health reasons, naturally.

Long before the rise of the Borgias, therefore, this was an institution well-acquainted with embarrassment. Yet as Paul Strathern shows in his new book, the family eclipsed them all. As a result, the 11-year reign of Rodrigo Borgia (Pope Alexander VI) is still, to many, "the most notorious in papal history". Although not everyone agreed. When, some decades later, Sixtus V was asked to name his greatest predecessors, he offered St Peter—and Borgia.

Mr Strathern's even-handed book shows how this rosy judgment was possible—if not, now, entirely plausible. The Borgias, he writes, "were often better than they appeared". The first Borgia pope, Callixtus III, did the job for only three years, from 1455 to 1458. When his nephew, Alexander VI, came to power in 1492 the Eternal City was suffering from the eternal problems of banditry, corruption and violence. Punctilious in his work, Alexander expelled mercenaries, created an armed watch and overhauled the justice system.

Few readers will pick up a book on the Borgias hoping for details of city administration, however—and Mr Strathern does not stint on the depravity. Alexander had what Mr Strathern discreetly calls an "evident enjoyment of life". Take a party that Cesare, his illegitimate son (and a sometime cardinal), held in the Vatican. It was attended by the pope and 50 courtesans, who after dinner danced "fully dressed and then naked". Chestnuts were thrown onto the floor which the courtesans "had to pick up [with their vaginas]". Cesare, somewhat unsurprisingly, caught syphilis.

This is a book rich in such telling details—if sometimes also in less compelling ones. Characters and aristocratic titles proliferate, to such a degree that readers may struggle to keep up. But it is worth persisting. The Borgias, Mr Strathern explains, did not merely acquire their reputation through roistering and making the bureaucracy run on time. They also earned it through the ruthless elimination of their enemies—and friends. Cesare's own brother turned up in the Tiber, brutally stabbed. A disliked brother-in-law was also dispatched. A trusted ally was cut in two.

The Borgias' ambition was boundless; their legacy proved to be enormous. Not without reason did Machiavelli make Cesare the hero of his masterpiece of sinister machination, "The Prince". That book in turn became the companion of some of the world's most overweening leaders. Napoleon travelled with it; Mussolini quoted from it; Saddam Hussein kept it by his bedside. Few pontiffs before or since can claim to have had such influence.

This article appeared in the Books and arts section of the print edition under the headline "Family affairs"

Mamma mia

The story of a lost girl

Donatella Di Pietrantonio's new novel is a shrewd examination of identity

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A Girl Returned. By Donatella Di Pietrantonio. Translated by Ann Goldstein. *Europa Editions; 160 pages; $16 and £12.99.*

"I WAS THE *arminuta*, the one who was returned." So says the narrator of Donatella Di Pietrantonio's third novel (entitled "L'Arminuta" in Italy), her first published in English. The return—or the "transfer" as one character terms it—takes place one afternoon in August 1975. An unnamed 13-year-old girl is wrenched from the people she assumed were her parents and deposited with a group of unfriendly strangers who, she is told, are her birth family. What follows is a captivating tale about the trials of settling down, fitting in and battling on amid emotional upheaval.

During the girl's prolonged adjustment, she is both a fish out of water and a cuckoo in the nest. No longer an only child with ample urban comforts, she must get used to a hardscrabble life in the Abruzzo countryside, with taciturn parents who beat their offspring and cruel brothers who torment her. After some time in "the family that was mine against my will", she finds allies in her younger sister Adriana and older brother Vincenzo—who each crave her company for reasons of their own.

This new life is a rollercoaster. The girl excels at school and reconnects with an old friend in the city whom she was forced to leave behind. But eventually tragedy strikes, rocking and nearly rupturing the family. Meanwhile, for all her progress, she is constantly afflicted by a feeling of rootlessness: "I was a child of separations, false or unspoken kinships, distances. I no longer knew who I came from."

And she doesn't know why she was returned. Did the woman she still calls "Mamma" give her up because she was ill, even dying, or did her supposedly "real" parents want her back? For most of the novel Ms Di Pietrantonio keeps both her protagonist and her readers in the dark. All their questions are answered by way of shock truths in the final act, in which the girl and her mamma are brought together for a powerful showdown.

Expertly translated by Ann Goldstein, "A Girl Returned" is as heart-warming as it is heart-rending. Both the heroine's resilience and her confusion are poignant—as is her naive belief that her loved ones will realise their error and come to collect her. In this shrewd examination of identity and belonging, Ms Di Pietrantonio ensures that her character's loss is her reader's gain.

This article appeared in the Books and arts section of the print edition under the headline "Mamma mia"

Bard of Britain

Modern British television has found its Dickens

Along with his acclaimed social realism, Jack Thorne has a sideline in fantasy

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JACK THORNE'S phone flashes with messages and alerts; he turns it face-down, swearing under his breath. With five BAFTAs, an Olivier and a Tony award to his name, Mr Thorne is Britain's most sought-after scriptwriter. He is juggling several projects at once: his new play is in rehearsal ahead of its premiere at the Royal Court theatre in London on June 27th, while three television series that he wrote are in production. He is becoming to modern British TV what Charles Dickens was to the Victorian novel—a chronicler of the country's untold stories and social ills, and the domestic dramas that encapsulate them.

Much of Mr Thorne's work is concerned with the challenges faced by ordinary Britons. The main character in "When You Cure Me", his first major stage play, was a young woman incapacitated after a brutal sexual assault. Elsewhere he has written about the impact of local-council cuts, a couple mourning a stillborn child and the creation of a community playground out of scrap materials. His new play, "the end of history...", is about tensions between the generations. Mr Thorne says it both "celebrates and castigates" baby-boomers.

A keen interest in the travails of Everyman has defined his television career, too. It began in 2007 on the writing team of "Shameless", a black comedy set in a working-class area of Manchester, and "Skins" (2007-09), a grim teen drama set in his home town of Bristol. He collaborated with Shane Meadows on the three seasons of "This is England" (2010-15), about skinhead, mod and rave subcultures in the late 1980s and early 1990s, and more recently on "The Virtues" (2019), which follows a man coming to terms with childhood abuse.

His biggest solo project to date came about when Channel 4 asked him to write a trilogy of shows about modern Britain. "National Treasure" (2016) was inspired by Operation Yewtree, a police investigation into sexual misconduct by media personalities; the smash hit "Kiri" (2018) explored transracial adoption. Caroline Hollick, the channel's head of drama, praises the balance in Mr Thorne's writing between brutal honesty and warmth, even humour: "That's why he can dig into these huge state-of-the-nation ideas and make them so appealing to watch." The trilogy's final instalment will be a mini-series about corporate manslaughter, which will draw on real-life incidents including the Grenfell Tower fire of 2017.

Mr Thorne, who is 40, tends to anchor his stories in families (sometimes unconventional ones), scrutinising the relationships between siblings or between parents and their children. These families have a veneer of unity but, underneath, they tend to be fractured by lies and betrayals. Much is left unsaid. In "National Treasure" Dee (Andrea Riseborough) wonders whether her drug-addiction and memory loss is linked to the predatory behaviour of which her father is accused. In "The Virtues", to mask his slide back into the bottle, Joseph (Stephen Graham, pictured left) spins a story about a workplace accident to his son. Mr Graham, who also starred in "This is England", reckons that "no one catches truth and reality the way Jack does". Mr Thorne's shows do "more than make you look at pretty pictures," Mr Graham says; they come "into your living room and make you think".

Other threads knit the writer's disparate subjects into a coherent oeuvre. Many of his stories feature loss or violence, exploring how such experiences calcify into trauma; several of his characters are dependent on booze or sex. He is an acute observer of nuances of affluence and class, that eternal British theme. Typically, Mr Thorne avoids the temptation to provide easy moralising and neat conclusions, considering those unrealistic and therefore dishonest. He says he wants his work to lead "to people asking questions rather than giving them answers".

That interrogatory bent is, he thinks, why he enjoys another, contrasting genre, which he has honed alongside the social realism: fantasy. That is also a means to ask "fascinating questions about the world", he says. "The Fades", a supernatural drama broadcast in 2011, which followed two nerdy teenagers battling the evil spirits of the dead, was really about pacifism, Mr Thorne suggests. A few years ago he adapted Dickens's moralistic ghost story "A Christmas Carol" for the stage.

He also wrote the script for "Harry Potter and the Cursed Child", based on an original tale by J.K. Rowling. The play won more Olivier awards (Britain's most prestigious theatrical gongs) than any previous West End production. He wanted it to capture the predicament of outsiders; it follows Albus Severus Potter, Harry's son, as he is bullied at Hogwarts and struggles to live up to his father's legacy. And he has adapted Philip Pullman's "His Dark Materials" for a forthcoming serialisation. Lyra, the protagonist, struggles to assert her free will in the face of unpleasant parents, while trying to set the world to rights.

Harry Potter and the state of the nation

Perhaps inevitably, details from Mr Thorne's own life have found their way into his locations, scenes and characters. For "the end of history...", his most personal piece of writing to date, he mined his childhood in a politically active household where—like some of his creations—he felt he was constantly falling short of his parents' ideals and expectations. His father, a union representative, took him and his siblings to rallies and protests from an early age; Mr Thorne has been a member of the Labour Party since he was 16.

"My politics are very important to me," he acknowledges. He resists the seepage of those views into his work, but all the same they "infect the stories I tell". He dislikes speechifying, but says that, as he writes, he constantly questions "what right we have to try and change the world and how we can, if indeed we can". A motto is tattooed on the inside of his wrist: "Be good".

This article appeared in the Books and arts section of the print edition under the headline "Bard of Britain"

Residential property
As safe as houses

As safe as houses

For now, residential-property prices are likely to keep rising

Our statistical model would have predicted a correction by mid-2006

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INVESTORS FOCUS on shares and bonds, but one asset class is bigger than the two combined. Put together, the world's homes are worth over $200trn. House prices are crucial harbingers of economic trends: the last time they fell across the rich world, it set off the deepest downturn in decades.

Ten years have passed since the Great Recession, and home values have made back most of their losses. In Canada and New Zealand they are 40% above the pre-crisis peak. Does another crash loom?

None of the main international institutions, such as the IMF or OECD, includes residential property in its standard battery of economic forecasts. That may be because home values depend on local factors. However, *The Economist* has kept a database of house prices for decades, using figures from the OECD and national agencies. And even an inexact forecast provides more insight than no forecast at all. As a result, we have designed a model to predict changes in real home values at the national level.

Our system relies on three types of data. First come economic figures such as GDP growth and interest rates. Next are market fundamentals, like the ratios of home prices to rents and incomes. Last come historical prices, to take into account momentum and mean reversion.

The impact of each of these variables often depends on the others. To combine them, we used a machine-learning algorithm called a random forest. This method creates a "forest" of "decision trees", each containing a series of yes/no choices such as "Has GDP been rising?" or "Are price-to-rent ratios below the long-run average?", and averages the output of each tree.

The model fares well in back-testing. On average, its forecasts with 18 months' lead time came within three percentage points of actual yearly price changes. These errors are larger during booms or busts—but still small enough for the model to be useful.

For example, in the year to March 2006 American house prices rose by 8%. Our model expected growth would slow to 0.3% in the year to September 2007. That was too sanguine: prices actually fell by 4.7%. But it still would have served as an early warning.

According to our model, conditions today are not similar to those of 2006. Across ten countries, the average of its median estimates for the year to June 2020 is an appreciation of 2.3%. The model does not rule out a downturn: there is a one-in-seven chance that Italian prices will fall by at least 5%. But the most likely scenario is that the rally has room left to run. ■

Sources: OECD; BIS; IMF; national statistics; *The Economist*

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David Esterly
Master and apprentice

Master and apprentice

Obituary: David Esterly died on June 15th

The master wood-carver, devoted to the style of Grinling Gibbons, was 75

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IT MIGHT HAPPEN at any time of day. David Esterly would be at his workbench, gouge in hand, when he felt the breath on his shoulder. The voice would say: "I wouldn't do it like that," or "I've made a leaf curl that way before. Why are you bothering?"

He did not need to ask who it was. The man's portraits at three different stages of his life, the last plump, bewigged and comfortable, hung round his workshop in a converted barn at Barneveld, in upstate New York. Grinling Gibbons, England's 17th-century genius of woodcarving, was the god of the place. For ten years his admirer had been labouring to emulate his astonishingly meticulous chains and cascades of foliage, fruit, flowers, feathers and shells in the same white lime or linden wood. The tradition of such carving was long-lost. Mr Esterly, whose studies as a Fulbright scholar at Cambridge had been in Yeats and the philosopher Plotinus, hoped he had found a way to combine intellectual, moral and sensory experience into what Yeats called "unity of being".

There were many satisfactions in working as Gibbons had done. Standing at his workbench—not sitting, for carving involved the whole body—he would take up, with a quick flip of the hand, one of the dozens of tools spread before him. He could have done it blindfolded, knowing just where each one was. The multiplicity of blades reflected the fecundity of nature, which he would strive to reproduce with ever-more-delicate gouging.

He began each piece by stabbing down the outline on a sawn board a few inches thick, then wasting away the wood around it and modelling the form. The rearward hand, and that half of his body, propelled the tool; the forward hand, on the wood, resisted. This opposition gave him exquisite control over the blade edge. It reminded him of the empowering contrast between Dionysian impulse and Apollonian restraint; and of Hamlet, too, torn between action and thought, whose tension drove through the play.

For him, as for Gibbon, the limewood responded beautifully, as only limewood could. It was soft, almost oily, with a nutty smell that filled the workshop and a crisp zip under the gouge; pliable, kindly, magically white and forgiving of mistreatment, such as his necessary cutting across the short grain to mould the shape of an apple or a grape. (He had tried other woods, but found ash too hard, beech and birch thuggish.) Its tolerance allowed it to be drastically undercut in Gibbons's style, with a gouge held like a pencil, until the wood was scarcely thicker than a petal or a feather and the piece filled with shadow and air. At that point he would add the selective exaggerations, a curl here, a bulge there, that would make a leaf look real, even though carved in wood. And then, leaving the piece bare except for gentle abrading with Dutch rush, as Gibbons would have done, he would set it aside to shine like ghostly marble with its own independent life.

He never kept anything he made. Ever since he had sold a small mirror frame for £100 at a village fair, he had worked only to commission. He could not afford to do otherwise, for though his pieces eventually sold for six figures they were so time-consuming that he made only about 50 in his life. Carvers were starvers, he often said: an existence his comfortably middle-class parents in Akron, Ohio would have struggled to understand.

And it had begun in a moment: that moment in 1974 when his girlfriend Marietta, later his wife, took him to see the Gibbons carvings behind the altar in St James's Church, Piccadilly. He was thunderstruck, and his reaction was physical: hairs rising on his neck, his skin tingling, and his tongue seeming to move over ivory's coolness and smoothness. ("The thinking of the body", Yeats would have called it.) His first, academic, thought was to write a book about Gibbons; his second was just to pick up tools and teach himself to carve. The minute his chisel struck the wood, he was in thrall. Ensconced in a cottage in Sussex for eight years, then at Barneveld, he became a ghost's apprentice. But no, that put it too lightly: by the end of a decade, he was a slave. Enslaved not only to his carvings, which about halfway through would start to impose their own ideas on him, but also to the long-dead master he so revered, beside whose work he could only despair about his own.

There was a way out. That, too, was completely unexpected. In 1986 he was asked to replace a seven-foot Gibbons drop at Hampton Court Palace, south-west of London, which had been destroyed by fire. He hesitated over it. Exact reproduction, which he had never done, was surely the most slavish tutelage of all. Yet the closer he got to Gibbons—first touching a single stem, then whole pieces, scrutinising his technique, following the movements of his gouges and his thought—the more his own workbench seemed transported to 1698, and the more he saw the larval forms of the half-modelled wood with Gibbons's eyes. When after a year the drop was made, with its exhausting ropes of crocuses and trefoil, he was no longer a slave, but a colleague. The spell was broken.

iPhones in limewood

He was now a master in his own right and one for his own age. Freed from Gibbons's riotous acanthus, he let other influences crowd boldly in: the peonies, roses and lilies of Dutch Old Masters, the vegetable heads of Arcimboldo and a touch of modern cynicism in insect-blighted leaves. Letter-rack trompe-l'oeils became a favourite theme, as they were for 17th-century painters, but his racks contained cameras, car keys, film spools and iPhones, as well as delicate hibiscus, holly or sprays of oak. He became Gibbons's confident ambassador, curating an exhibition and writing books.

Strolling into his workshop for a day of meditative carving, still in his bathrobe and carrying his tea, he would go straight to Adobe Illustrator to map out his designs in many overlapping layers. As well as daylight, halogen spotlights illuminated his bench. Between defining the edges of his peony leaves and excavating tiny florets of lilac, he would check his emails. The portraits of Gibbons were still on the walls, but the voice no longer bothered him. He might have sensed, from time to time, an approving nod.

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Economic data, commodities and markets

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