



Fuel economy and CO2 results for the new BMW 7 Series Saloon range (including PHEV): mpg (I/100 km): Combined 20.8 (13.6) to 141.2 (2.0) CO2 fitted (post registration), variations in weather, driving styles and vehicle load. For plug-in hybrid vehicles they were obtained using a combination of battery power and fuel, for battery electric vehicles after the battery outgoing test (NEDC) and will be used to calculate vehicle tax on first registration. Only compare fuel consumption, CO2 and electric range figures with other cars tested to the same technical procedure.

emissions: 282 – 48 g/km. Figures are for comparison purposes and may not reflect real life driving results which depend on a number of factors including the starting charge of the battery, accessories had been fully charged. Plug-in hybrid and battery electric vehicles require mains electricity for charging. All figures were determined according to a new test (WLTP). The CO₂ figures were translated back to the



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'Now somebody's face [can be] used to track them as they move across locations'

The facial recognition revolution, p26



'Warm, sweet spicing, plenty of vegetables and good meat on the bone'

Honey & Co, p38



'When the sun shines, the beach becomes a democratic space'

Seaside photography, p32

FT Weekend Magazine



y @FTMag

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SIMON KUPER

OPENING SHOT

How Remain can win a second referendum



emainers are prepping for a second referendum on Brexit. Polls are being conducted, campaign volunteers trained. This is a long game. One plausible scenario is that days before the UK's next deadline to leave the EU, October 31, a stuck parliament reluctantly opts for a referendum as the only way forward. Then Brussels grants another delay, allowing a referendum to be held this winter.

Remain could easily lose again. However, many Leavers are open to persuasion. Eloise Todd, chief executive of the anti-Brexit campaign group Best for Britain, says: "For normal people, who have more interesting things to do than hang on to every last word of what's in the Cooper bill, the depth of feeling isn't that strong." I asked several campaignsavvy Remainers how to win over Leavers - which also means working out how to fix the UK.

• **Say sorry.** This time, Remainers mustn't lecture Leavers about Brexit, says Ian Leslie, a communications consultant and author who is writing a book on productive disagreement: "Never in the history of the world has anyone said, 'You're completely wrong,' and the other person replied, 'You know what? I am wrong.'" Remainers must also avoid talking about "Remainers" and "Leavers", because that hardens people in identities that didn't even exist before 2016.

Instead, Leslie says the Remain campaign should admit to having overlooked mass pain and resentment. It should tell Leave voters: "Your vote was basically right in 2016. You were right to kick the elite in the arse, to say the UK needs to change, that London ignores the rest." Metropolitan Remainers must drop their presumption that Leavers are ignorant. Todd says, "Actually, Leavers know things that we don't" - for instance, about malfunctioning hospitals in small towns. Only after finding common ground can Remainers broach the issue of disagreement: Europe.

• Make the case that a second referendum is democratic. The government has tried everything to deliver Brexit. But its deal with Brussels is unpopular, and though many Leavers want a no-deal Brexit, others don't, notes Femi Oluwole, who has travelled Britain for the young people's pro-Europe group Our Future Our Choice.

Even most Leave voters believe Brexit has been botched. Cornel Sandvoss, professor of media and journalism at Huddersfield University, suggests a slogan for Remain: "Make It Stop". If Brexit continues, the next stage is endless trade negotiations with the EU and umpteen other countries. Only voting Remain will end the stress and tedium (the national divide will remain whoever wins).

• Make the campaign about people's biggest grievances, not about the EU. Andrew Adonis, a Remainer peer who has addressed more than 150 meetings on Brexit, mostly in Leave-voting areas, says: "Those who want to go on about leaving the EU are a small group... For Leave voters, it's mostly

not about Europe." Adonis finds greater concern about austerity, homelessness and rule from London. He says that whereas Scotland, Wales and Northern Ireland have their own assemblies, England is "ruled like a colony" from Westminster and Whitehall: nobody in Hull, say, has much power to change Hull. "Massive devolution" is required, he adds.

Generally, Remain must campaign on improving Britain's future, rather than on erasing the previous referendum. Remain could offer one flagship policy that symbolises the idea of transfer

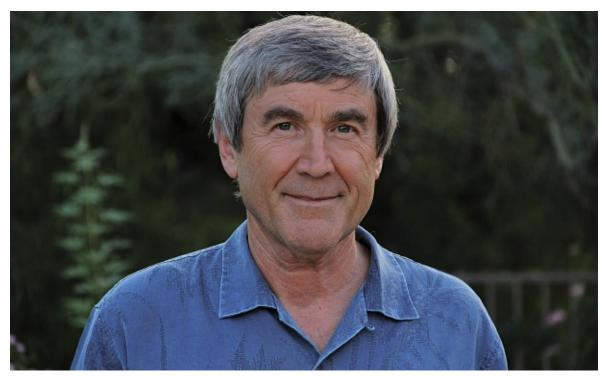
'Remain needs to sound as patriotic as Leave - to present the UK as a European power, not a sorry victim of Europe'

from London - for instance, a financial transaction tax with proceeds earmarked for Britain's poorest regions. But Remain mustn't drown in numbers. Hillary Clinton demonstrated that a campaign is not a school exam.

- Let ordinary people front the campaign. Doctors and nurses are the most trusted professions in Britain, says pollster Ipsos Mori. Plainly, they are the right spokespeople to explain the National Health Service's reliance on European immigrants. (Remain needs to confront the topic of immigration, instead of avoiding it as David Cameron did in 2016, especially since antimmigration sentiment has plummeted since 2011, according to Ipsos Mori.) Converts from Leave are good spokespeople too, and Remain's base should be outside London, says Leslie.
- Run different campaigns for different audiences. The UK now has probably the largest pro-European movement in the EU. An optimistic Europhile campaign could boost youth turnout in particular. By contrast, Cameron in 2016 tailored his appeal almost exclusively to Eurosceptic Tories: Peter Mandelson, Labour's campaign director in 1997 and a largely ignored figure in Remain's 2016 campaign, says the approach was "Hold your nose and vote for Europe." But Europhilia won't sway traditional Leavers. Remain needs to sound as patriotic as Leave. It must present the UK as a European power, not a sorry victim of Europe.
- Run an insurgent campaign, says Mandelson. Any campaign fronted by a Tory PM and using the word "Remain" is doomed to represent the status quo. In a second referendum, Remainers can borrow the anti-elitist language of Leave to inveigh against privileged Brexiters.
- **Be fun.** The Remain campaign must learn from Donald Trump, and from the young, pink-socked Operation Libero campaign that's fighting populism in Switzerland.

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'You can't be a great scientist without being slightly obsessed'



INVENTORY PAUL DAVIES, PHYSICIST

Paul Davies, 72, has made important contributions in the fields of theoretical physics and cosmology. He has garnered many awards and accolades, and has an asteroid named in his honour.

What was your childhood or earliest ambition?

I was born a physicist. I grew up in austerity-ridden north London in the 1950s. Being interested in science became a huge adventure. The world I could imagine, just beyond our senses, was a wonderland of exploration.

Private school or state school? University or straight into work?

Woodhouse Grammar School in Finchley. The quality of teaching was exemplary. Then University College London.

Who was or still is your mentor? Astronomer Fred Hoyle: slightly crazy, slightly brilliant. He gave me my first job when I completed my PhD. I liked the way he was ready to push the boundaries. Freeman Dyson's irreverent, iconoclastic way of looking at the world appealed to me. John Wheeler, the father of modern quantum gravity, again had a particular, quirky way of working. How physically fit are you?

The older I get the fitter I am, because I am convinced that exercise staves off old age. I run regularly and also do high-intensity interval training. You exercise in bursts and then collapse in a heap.

Ambition or talent: which matters more to success?

Probably ambition. I prefer the word dedication, or even obsession. You can't be a great scientist without being slightly obsessed – you have to elbow a lot of things aside and put in a lot of hours and thought.

How politically committed are you?

A colleague once described me as infuriatingly moderate.

What would you like to own that you don't currently possess?

A private plane. I'd need a pilot as well, of course.

What's your biggest extravagance? I've just acquired a Tesla Model 3.

I've never been a car person
- I've always had old, scruffylooking cars - but it has the most
astonishing features.

In what place are you happiest? In Sydney. We have a lovely house there, right on the harbourside.

there, right on the harbourside.
Australia is Britain with sunshine –
I feel completely at home. My job is
in Arizona, which is not a bad place
to be, but the US is a strange society.
I find it very strange that a country
enshrines the right to carry guns.

What ambitions do you still have?

To go to Antarctica. And it's always been my hope that I would be closely involved with the first detection of extraterrestrial life. I'm also involved with extraterrestrial intelligence - more of a long shot.

What drives you on?

My wife. She is a strong motivator. It would be very hard to turn away from the intellectual excitement of science. The progress in the past 50 years in the fields that interest me has been spectacular.

What is the greatest achievement of your life so far?

The Bunch-Davies vacuum turned out to be immensely influential.

What do you find most irritating in other people?

When they don't get to the point quickly.

If your 20-year-old self could see you now, what would he think?

There was an awful sense of insecurity at that age. If only I could communicate with my younger self and say, "Don't worry, it will all come good."

Which object that you've lost do you wish you still had?

Nothing of great significance. I'm always losing books.

What is the greatest challenge of our time?

Artificial intelligence - it's both an opportunity and a threat. The handover to machines and computers is happening very fast. I worry where it's going to end up. And I'm concerned about the future of democracy, which has been an extraordinary experiment but it's not clear it's working very well.

Do you believe in an afterlife?

Not in any usual sense. My existence in the first place is a mystery. What non-existence would mean is doubly hard.

If you had to rate your satisfaction with your life so far, out of 10, what would you score?

Nine. I'm not totally satisfied because I haven't discovered ET – yet. But I've had a fantastic time. It can be extraordinarily satisfying grappling with the secrets of nature – as I always tell young people.

Interview by Hester Lacey. "The Demon in the Machine" by Paul Davies is published by Allen Lane, £20



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TECH WORLD NOTES FROM A DIGITAL BUNKER

BY TIM BRADSHAW IN LONDON



ILLUSTRATION BY PÂTÉ

Alexa and Siri: from robo-servant to BFF?

efore Cortana was a virtual assistant in Microsoft's Windows PCs and Xbox consoles, "she" was a character in a video game called *Halo*. An all-powerful artificial intelligence that can fly spaceships and advise on combat situations, that Cortana is strong-willed, loyal and occasionally sarcastic.

Unlike the disembodied voices of Siri or Alexa, she also appears in the game as a hologram. For this, the *Halo* developers decided she should be young, female and pretty close to naked – a teenage boy's idea of what a fully fleshedout robo-servant should look like.

Much has been written about AI bias, where the world view of programmers is transferred to the algorithms they write. But *Halo*'s Cortana was the result of very human decisions rather than subconscious assumptions.

Her crossover from an Xboxexclusive game to Windows assistant was partly accidental: the AI's developers used Cortana as a codename but it stuck when the product launched in 2014. But Microsoft's move to turn videogame fiction into a functioning product is a taste of things to come. As machine learning and real-time computer graphics evolve, we are getting close to the point where Siri or Alexa too will be able to take on a visible form. Amazon, Google and Facebook have already devised "smart speakers" with screens, offering a blank canvas on which to bring their assistants to life.

At the same time, many Silicon Valley venture capitalists have become fascinated with the idea of virtual "influencers" - digital stars who attract real followings online. The best known of these is Lil Miquela, a 19-year-old from Los Angeles with 1.5 million Instagram followers and a growing fanbase for her music on Spotify.

Miquela is very obviously computer generated. She describes herself as a robot and celebrated her third 19th birthday in a row this month. Brud, the company that created her, has recently raised \$20m in venture funding at a valuation said to be about \$125m.

If fans can bond with Miquela, why not with Siri? So far, our virtual assistants have been pretty bland. Siri was originally programmed with some dark jokes (remember its tips for disposing of a dead body?) and Alexa is equipped with plenty of wisecracks if you know the right trigger, but they feel more like party tricks than personalities.

"The big tech companies are forced right now to drive right down the centre of the highway in terms of personality," says James Vlahos, author of *Talk to Me*, a new book about voice-controlled AI.

That will have to change, reckons Edward Saatchi, who runs what he calls a "virtual beings company" in San Francisco called Fable. "Companies are going to need to differentiate themselves. If I can see Alexa or Siri, and the way that those

We are getting close to the point where digital assistants will be able to take on a visible form

characters speak to me is more emotional, then I will feel a much deeper loyalty to those brands."

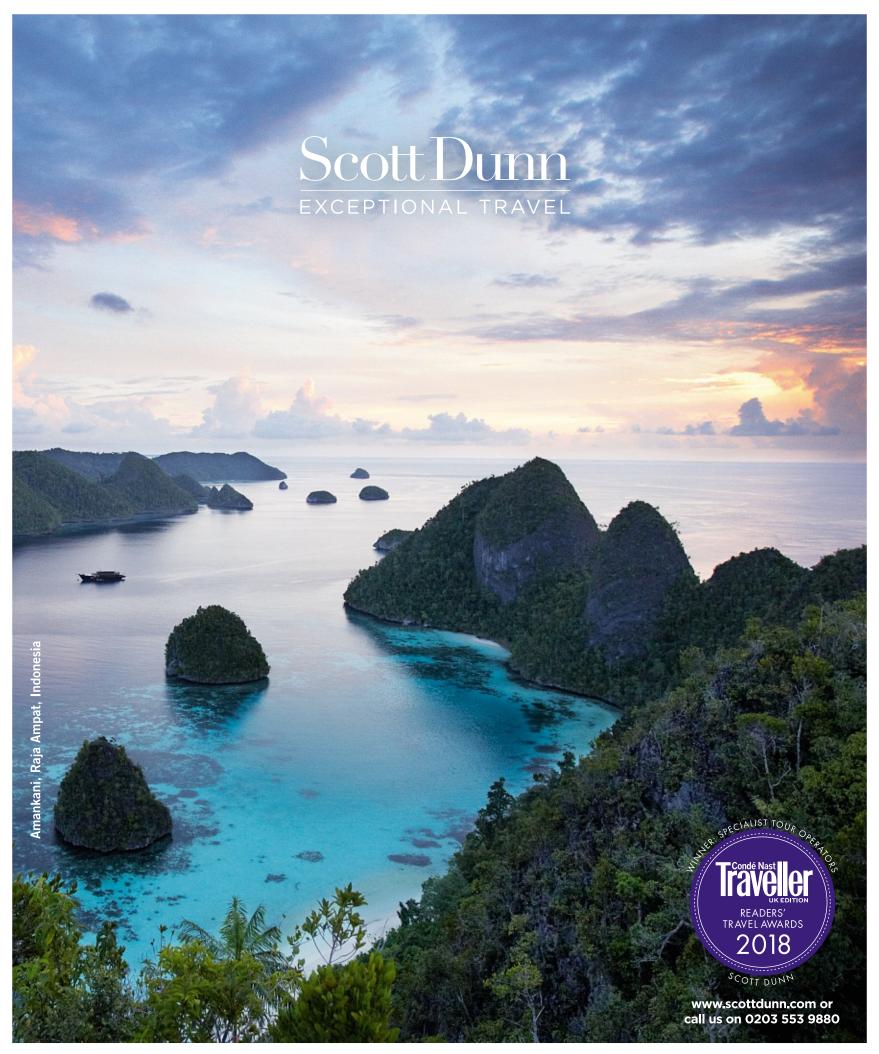
But that kind of bond will require more than a stylish front. We share conversations, experiences and memories with our real friends, says Saatchi. At a time when many of us worry about the information tech companies hold about us, the idea of entrusting their bots with memories may seem outlandish. Can any AI be sufficiently charming that we would reminisce with them about the contents of our cloud storage?

Achieving this would require Siri and Alexa to be radically reprogrammed. "The best characters are polarising in a way they have opinions, they have faults," says Vlahos. "In some ways, these mass-market personalities are failing because they are not allowed to have any kind of a fault."

Yet if we do end up befriending our AIs, will we still want to give them mundane tasks like setting a timer? "It's quite strange to mix a friend with a servant," says Saatchi.

Such questions still seem a way off but, as AI assistants evolve, it may not fall to programmers like the ones who sketched Cortana's curves to shape them. A truly intelligent bot might be able to decide for itself how it should look and what would appeal most to its users. Let's just hope we can trust the machines to make wiser choices on that than we humans tend to.

Tim Bradshaw is the FT's global technology correspondent



We know the most luxurious boats with the best private crews for exploring the pristine beauty of the Indonesian Seas.



ROBERT SHRIMSLEY THE NATIONAL CONVERSATION

These cultists at Extinction

Rebellion ("Rebels with a cause",

April 13/14) give environmental protection a bad name: this is yet

another "all-or-nothing" crusade

that bets on either converting the

majority to its messianic message

and socially acceptable steps to

sabotaging more politically realistic

protect the environment - because

those "will never be enough". Fear

may be a strong motivator but it is

rarely a basis for rational decisions.

or alienating it. It also risks

Brutto via FT.com

'Ordinary' Tories: the art of the backstory

t is the nature of politics that one does not wait for a vacancy before demanding the job. The Conservative leadership contest may not have started officially but, already, potential candidates are parading their credentials with all the delicacy of relatives at a wake putting stickers on the furniture.

It is almost impossible to open a weekend newspaper without stumbling across a 1,500-word interview in which some littleknown cabinet minister is buffing up their Brexitery and offering up their vague vision for Britain. In speeches, they amble like feral sheep on to any tempting political pasture. On Monday, Sajid Javid made a heart-rending speech on knife crime that almost made you wish he was home secretary.

The Conservatives may be heading into one of those phases where ideological purity is more important than those other tedious issues like, oh, I don't know, electability. But as many candidates are proving, ideological purity is something you can work on.

For others, the most important issue is the construction of their life story. Edifice and artifice meet as our would-be leaders fashion the touching tale not only of how they got here, but also why they are now perfectly placed to connect with the voters the party most needs right now. In political jargon, this is their "backstory", and it is especially valuable to those politicians who haven't actually done anything of note. In general, the greater the reliance on the backstory, the less impressive the frontstory.

In the Conservative party, the perfect backstory stresses the ordinariness of one's background. This does not work for all. Boris Johnson cannot really go on about his childhood, because "I went to the poshest public school in the world" scores low in the backstory stakes. This places Boris at a



Unfortunately for many Tories, all the contenders went to Oxford or Cambridge - Matt Hancock managed to go to both. Most were educated in private or grammar schools and can boast a comfortable middle-class background at best.

This is hopeless. A Tory leadership backstory needs a bit of hardship. Not too much, you understand, but a touch of not being able to afford things or triumphing over the limited expectations on offer and of therefore being a self-made man or woman. The odd moment of serious adversity is important. But you need to get it right. Rejection by All Souls will not quite do the job.

Some of the potential candidates show promise here. Liz Truss had a solidly middle-class upbringing but went to a comprehensive school because her parents were serious

lefties. Michael Gove also spent most of his days at state schools and gets extra points for being adopted; Sajid Javid trumps both as the son of an immigrant bus driver (a lineage he shares with Sadiq Khan, the mayor of London). His parents later ran a small shop and the family lived above it. Sajid worked hard and got to Exeter University.

uplifting power of a loving family, comprehensive school and a fight to get on. Alas, by his teenage years the backstory has gone badly off the rails. Young Sajid has got interested in financial markets, borrowing £500 at the age of 14 to invest in shares. By his early twenties all the good work has been undone as he joins Chase Manhattan and becomes an investment banker. It is a calamity. All those years of struggle wasted. If only he'd had better advisers in his twenties.

Not that this kind of backstory is enough on its own to win, but it will at least get you to the races. You can still be beaten by a posh and charismatic yet competent candidate. But that may be less of

...... robert.shrimsley@ft.com



.....

that history will remember

Further to "Can Brexit Britain still laugh at itself?" (April 13/14), it is noticeable how little true satire there is in the mainstream UK media now. I wonder whether this is the result of a conscious decision by people with power to decide what is broadcast/published. Or of the fact that a very divided society can no longer laugh at itself. Anonymous2 via FT.com

Re "Why the elite media are surviving in this populist age" (Simon Kuper, April 13/14): I believe people will pay for what they perceive to be quality journalism even if it doesn't confirm their viewpoint. We all like to be right, but I can accept being wrong if presented with well-researched work.

Read a Book, People! via FT.com

Whatever the truth about cat and dog owners (Gillian Tett, April 13/14), dogs have notable social skills and can read humans' moods well, while we humans have notable social skills and can read dogs' moods well. Is it any surprise we like each other?

Paul Munton's Potimarron via FT.com

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Please email magazineletters@ft.com. Include a daytime telephone number and full address



a problem this time round. **FT**

■ @robertshrimsley



This week, we meet the Canadian writer Sheila Heti at Tate Modern's Pierre Bonnard retrospective to discuss the unlikely parallels between their work, from the depiction of everyday life to the role of memory; ft.com/everything-else

12

(not for publication). Letters may be edited.

FT.COM/MAGAZINE APRIL 20/21 2019

s link was words associated with Easter 1. Christ's Hospital 2. Dixie Chicks (who had criticised President Bush over the Iraq war) 3. Green Eggs and Ham 4. Holiday Chocolate Factory 6. Jeremy Hunt 7. Bugs Bunny 8. Lady Caroline Lamb 9. King's Cross 10. The Resurrection Symphony Picture quiz Jack Lemmon + Jill Scott = Jack and Jill

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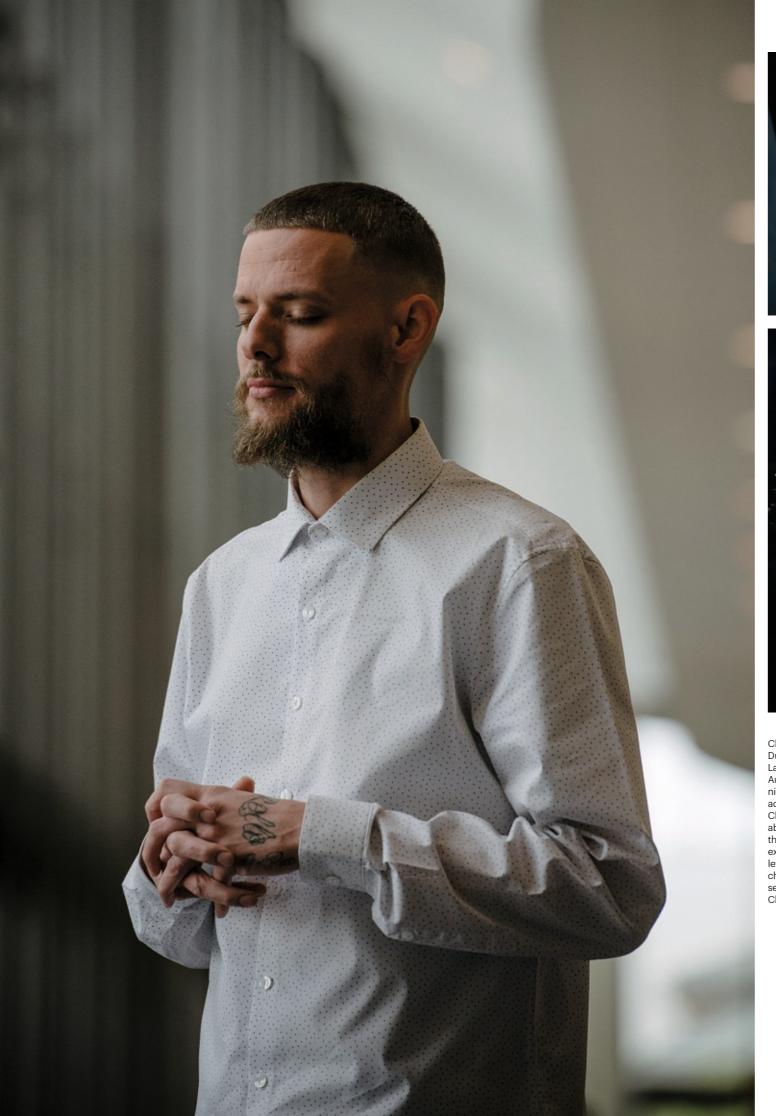
'Bring to the storehouse a full tenth of what you earn... I will open the windows of heaven for you and pour out all the blessings you need' Malachi 3:10

met Dustin Rollo one evening in Houston in an airless classroom at Ioel Osteen's Lakewood Church. About 25 men, mostly middle-aged, had gathered for their first session in the church's Quest for Authentic Manhood night class. Rollo, a 35-year-old warehouse supervisor with a wispy beard and calligraphic tattoos on each hand, was supervising. Tell us who you are, Rollo asked, motioning me to the front of the class. I am a journalist at a global business newspaper, I said. I was here at Lakewood to learn about the so-called prosperity gospel.

Most of the men were dressed in tracksuits, cargo pants or jeans and T-shirts. There was a faint hint of deracination. The only refreshment to be found was moderately caffeinated hot water in Styrofoam cups. My purpose, I went on, was to discover what drew people to Joel Osteen, the "smiling preacher", who runs the largest megachurch in America. There was a mildly quizzical look on some of the faces. Two elevator levels below us in this giant corporate building, more than 50,000 people stream each week into a converted basketball arena to hear Osteen's sermons. Millions more watch on TV or online. My hope was to gain insight into what drives Lakewood's allure: their help would be gratefully received. To my surprise, my conclusion was greeted with yells of "Yeah brother!" and "Right on!" I felt a stirring of optimism as I sat down.

Optimism, hope, destiny, harvest, bounty these are Lakewood's buzzwords. Prosperity too. Words that are rarely heard include guilt, shame, sin, penance and hell. Lakewood is not the kind of church that troubles your conscience. "If you want to feel bad, Lakewood is not the place for you," said Rollo. "Most people want to leave church feeling better than when they went in." Hardline evangelicals dismiss the prosperity gospel as unchristian. Some of Lakewood's more firebrand critics even label it "heresy". They point to the belief, which Osteen seems to personify, that God is a supernatural ally whom you can enlist to help enrich your life. There is scant mention of humanity's fallen condition in his motivational talks.

Yet the market share of US churches run by celebrity prosperity preachers such as Osteen, Creflo Dollar (sic), Kenneth Copeland and Paula White keeps growing. Three out of four of the largest megachurches in America subscribe to the prosperity gospel. Formal religion in the US has been waning for years. Almost a quarter of





'Preachers like **Osteen know** how to work the marketplace. They are like the mega mall of religion'

John Green, political scientist, Akron University



Clockwise from left: Dustin Rollo, who runs Lakewood's Quest for Authentic Manhood night class; a pamphlet advertising a History Channel TV production about Jesus Christ that Joel Osteen is executive producing, left on a seat in the church; a Sunday service at Lakewood Church Houston

Americans now profess to having none. Among the Christian brands, only "non-denominational charismatics" - a scholarly term for the prosperity preachers - are expanding. Though precise numbers are hard to find, one in five Americans is estimated to follow a prosperity gospel church. This offshoot of Christianity is quintessentially American - a blend of the Pentecostal tradition and faith healing. It is also expanding worldwide. Among its largest growth markets are South Korea, the Philippines and Brazil. "Preachers like Osteen know how to work the modern marketplace," says John Green, a political scientist specialising in religion at Ohio's University of Akron. "They are like the mega mall of religion with an Amazon account added on. They are at the cutting edge of consumer trends."

Joel Osteen is a maestro of high-tech religious marketing. I met him behind the scenes before one of his Nights of Hope - a two-and-a-half-hour,

all-singing-and-dancing show that he takes on the road every few weeks. Donald Trump is a big fan of Osteen's. The pastor has sold out New York's Mad-

ison Square Garden no fewer than seven times. This Night of Hope took place at the Giant Centre in Hershey, Pennsylvania - the home of American chocolate. The sermon he was about to give turned out to be as candied as anything the town produces.

The first thing that struck me was Osteen's jitters. Even on the 194th Night of Hope, his nervous energy was palpable. Thousands were queuing outside in the rain for the \$15 tickets to hear him preach. The second thing that struck me was his stature. Profiles list Osteen's height at anywhere between 5ft 9in, which is my height, and 5ft 11in. He was at least two inches shorter than me. The third thing was his hesitancy. Osteen, a youthful 56-yearold, is said to practise his sermon for days until he gets it pitch perfect - when to turn to which camera to deliver the money line; which part of the stage to occupy at any given moment; when to vary his cadence; how to make the most of all the bling. Had he chosen the life of a preacher, Trump would surely have designed his church like Osteen's Lakewood - with its curved stage, glitzy video screens and rotating golden globe. ▶

◆ Osteen's flawless performance and megawatt smile draw in seven million TV viewers a week and many more on satellite radio, podcasts and online streaming. Without a script, he seemed painfully shy. There were beads of sweat on his forehead. How did he manage to keep sin and redemption out of a Christian message, I asked. "Look, I am a preacher's son so I'm an optimist," Osteen said after a pause. "Life already makes us feel guilty every day. If you keep laying shame on people, they get turned off." But how does telling people to downplay their consciences tally with the New Testament? Osteen smiled awkwardly. "I preach the gospel but we are non-denominational," he replied. "It is not my aim to dwell on technicalities. I want to help people sleep at night."

Half an hour later, a divinely self-assured Osteen bestrode the stage, telling the packed stadium that each and every one of us was a "masterpiece". We should "shake off the shame" and open our hearts to God's bounties, he said. We were like the biblical prodigal son, who left home to indulge in a dissolute life, only to return to the welcoming arms of his father: "God is not interested in your past," Osteen assured us in his mild Texan twang. "The enemy will work overtime trying to remind you of all your mistakes, making you feel guilty and unworthy. Don't believe those lies." Yeah brother! I thought, along with 10,000 others.

Osteen knows his audience. We want fatted calves slaughtered in our honour. There was no hint in his message of the fire and brimstone of a Billy Graham or a Jerry Falwell - two of America's most celebrated 20th-century evangelists. Osteen is more like Oprah Winfrey in a suit. He is not peddling the opium of the masses. It is more like therapy for a broken middle class. If God had a refrigerator, Osteen said, your picture would be on it. If He had a computer, your face would be the screensaver.

t Lakewood's Quest for Authentic Manhood class a few weeks later, I saw the impact of Osteen's message. One man, a market day trader, had been to a Night of Hope in Cleveland. He packed his bags there and then and moved to Houston. He now attends Lakewood every day. "What's not to like about Texas?" he asked. "It's got Joel Osteen and zero taxes." Others nodded at the man's story.

Two years ago, in the midst of Hurricane Harvey, which pummelled the city, Osteen suffered a social-media backlash for having kept the doors of Lakewood closed. The multi-storey megachurch sits on elevated ground next to a freeway. Yet it stayed shuttered to the tens of thousands of Houstonians washed out of their homes. "Joel Osteen won't open his church that holds 16,000 to hurricane victims because it only provides shelter from taxes," said one tweet, which got more than 100,000 likes. Lakewood was shamed into opening its doors. It took in several hundred people until the biblical-scale flood receded. But it left an impression that Lakewood was more of a corporation than a church.

What did they think of that, I asked. My question triggered a mini-debate about Osteen's wealth. With a fortune estimated at \$60m and a mansion listed on Zillow at \$10.7m, Osteen is hardly living like a friar. His suburban Houston home has three elevators, a swimming pool and parking for 20 cars – including his \$230,000 Ferrari 458 Italia. "My dad says, 'How can you follow the sixth-richest

pastor in the world?" one of the men said. "You know what I tell him? 'We don't want to follow a loser. Osteen should be number one on that list." Everyone laughed. One or two shouted, "Hell, yeah" in affirmation - the only time I was to hear the word "hell". Another said: "He didn't become rich because of our tithes [the practice of giving a 10th of your income to the church]. He became rich because he makes good investments."

Everyone knows stories about profiteering televangelists. In the 1980s, when the prosperity gospel was starting to become big business. Jim and Tammy Bakker were jailed for embezzling millions of dollars. An early giant of the modern prosperity gospel, Oral Roberts, who died in 2009, famously said: "I tried poverty and I didn't like it". Osteen briefly attended Oral Roberts University in Tulsa, Oklahoma, where he studied broadcasting. He has put that skill to good use. The church boasts of its "visual literacy". Kenneth Copeland, Osteen's fellow preacher, says: "Financial prosperity is God's will for you," Paula White, whose Florida megachurch is almost as popular as Lakewood, says: "Anyone who tells you to deny yourself is Satan." White was chosen to say the invocation on Donald Trump's inauguration day. That makes Trump the prosperity gospel's most powerful fan - the first time it has netted a presidential soul.

About the only book that Trump is known to have read from cover to cover is *The Power of Positive Thinking* by Norman Vincent Peale, the grandfather of the prosperity gospel. It has sold five million copies since it was published in 1952. His message is that the more you give to God, the more he will give back in return. Oral Roberts talked of God returning your investment "sevenfold". The prosperity gospel is all about harvesting the seed. The more money you plant in God's church, the greater your heavenly bounty. Wealth is a mark of God's benevolence. Poverty is a sign of godlessness.

Peale, who was known as "God's salesman", and who died in 1993, used to preach from the Marble Collegiate Church in Manhattan. Every Sunday







Joel Osteen and his wife Victoria greet the 16,000-strong congregation; church staff gather offering buckets - many congregants give a tenth of their income to Lakewood; Osteen's congregants are racially and politically diverse - Nancy Pelosi, Democratic Speaker of the House of Representatives, has attended his Nights of Hope, and President Trump is a big fan

from the late 1940s onwards, Fred Trump would take the family, including the young Donald, to hear his sermons. Peale officiated at Trump's first marriage (to Ivana) at Marble Collegiate in 1977. It was where Trump's parents' funerals were held, and where his siblings also married. "You could listen to him [Peale] all day long," Trump told the 2015 Family Leadership Summit after he launched his presidential campaign. "And when you left the church, you were disappointed it was over. He was the greatest guy."

Osteen is very much Peale's heir. After one of his Madison Square Garden shows, Osteen and his wife Victoria were invited by Trump for a private meeting at Trump Tower. "Trump took out a box of gold watches and said to Victoria: 'Pick out any one you like," related a person who was present at that meeting, who asked to remain nameless. "Then he offered Joel any Trump tie he liked. He could not have been more charming." This was before Trump became president. Even then, however, Trump knew that any public association could damage Osteen. Though Osteen is politically conservative, he does not wear it on his sleeve. In contrast to most southern preachers, he keeps his thoughts to himself on abortion and homosexuality. His congregation is racially diverse. Among those spotted at his Nights of Hope is Nancy Pelosi, the Democratic Speaker of the House of Representatives. When Barack Obama was president, he pulled Osteen aside after a White House prayer breakfast to be photographed together. "Politicians like to associate with fame," says the University of Akron's John Green. "At the end of the day, they are all in the popularity business."

Wealthy people crave selfies with Osteen. Presidents may covet his blessing. But his business model is targeted at the struggling middle class. "Lakewood is like a hospital," says Dustin Rollo. "You have nothing but hurting people." Many are seeking to replace the community life they have lost. The America of neighbourhood churches and intimate congregations is as faded as the small towns of the 1950s. Instead of listening to your preacher at his pulpit, you can download Osteen on to your iPad. Sociologists talk of an increasingly lonely society. More Americans live in single-owner residences than ever before. More have to drive longer distances to reach their place of work.

Just a few miles from Hershey, where Osteen was preaching, the town of Lebanon, Pennsylvania, is suffering a crisis of loneliness. Last year a record number of people were found dead in their homes, having decomposed for days or longer. Neighbours had not thought to check on them. It caused a pang of conscience in the area. Just as Facebook "community pages" offer a simulacrum of togetherness, megachurches such as Lakewood fill a virtual hole. The online nation turns its lonely eyes to Osteen.

twas Dustin Rollo's wife Krystal who pushed him to join Lakewood Church. When Rollo was 13, he lost interest in God. That was the year his father died. Much of his childhood had been a boyish dream. His father, a guitar player in an Elvis impersonation band, would tour the US and often bring the young Dustin along. They stopped in North Dakota, New York, Niagara Falls, Las Vegas (of course), Atlantic City (ditto) and other places. The way Rollo tells it, his dad's itinerant life was an endless Simon & Garfunkelesque stream of cigarettes and magazines.

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◀ One evening, Rollo's father met a woman in a casino and cheated on his mother. Things were never the same. Rollo's parents had violent rows. His dad became an alcoholic. Shortly afterwards, he moved out. "I stopped going to church," says Rollo. Two years later, his father died.

Rollo's life went rapidly to pieces after that. Although he is white, he fell in with the Houston chapter of the Bloods, an African-American gang that used to fight with the Crips, which was mostly Hispanic in his area. He began to smoke mariiuana and take cocaine. He got in trouble with the law. Then he moved on to Xanax, the antianxiety prescription drug. Life was a blur. "I would do evil things," he says. In a bid to save their relationship, Krystal, who was his high-school sweetheart, and who is African-American, gave him an ultimatum to attend Lakewood. He was 26. Her gambit worked. For Rollo, Lakewood was an epiphany. "Here is a community that only offered love," he says. "Nobody told me that I was bad. The world already tells you that every day. They taught me how to be a man."

Among the classes Lakewood offers are Anger Management, Maximised Manhood, Men's Discipleship and Quest for Authentic Manhood. Rollo signed up to them all. A real man must be head of the household, he was taught. He must be a king, a warrior, a lover and a friend. One question on the form that Rollo hands out to his class asks which historical event explains "our present crisis of masculinity": a) the industrial revolution; b) the second world war; or c) feminism. The selection seems a tad rigged (they might as well add: "d) the Reagan-Gorbachev Reykjavik summit"). No prizes for guessing which box most men tick.

Most of those in Rollo's class give at least one-10th of their income to Lakewood. Many live in straitened circumstances. Given that Rollo has a family of six and a stay-at-home wife, his \$48,000 salary is hardly bounteous. But it is more than he has ever received. He happily donates \$4,800 a year to Osteen's ministry. When he started tithing, the returns were almost instant. "Pretty soon after that, I got a promotion and a pay raise," says Rollo. "I could see God working for me." One of his night students donated \$50 to Lakewood. Within weeks, he had landed a job. "Just like that I had a job with a \$55,000 salary," he told me. "God works fast when you work for him."

ccording to a Houston Chronicle breakdown of Lakewood's financial records, the church's income was \$89m in the year ending March 2017. More than 90 per cent of that was raised from church followers. Most of its money was spent on booking TV time, taking Nights of Hope on the road and weekly services. By contrast, Lakewood spent \$1.2m - barely 1 per cent of its budget - on charitable causes. Osteen's congregants may tithe. His church comes nowhere close.

The more you consider Lakewood's business model, the more it seems like a vehicle to redistribute money upwards – towards heaven, perhaps – rather than to those who most need it. Like all religious charities, Lakewood is exempt from taxes. All donations to it are tax deductible. It has never been audited by the Internal Revenue Service. In a bid to draw attention to religious tax boondoggles and the prosperity gospel in general, the comedian



From top: Victoria
Osteen greets
congregants in the
church lobby – up to
50,000 people flock here
every week to attend its
services; congregants
leaving Lakewood after
a service – the church's
income in 2017 was
\$89m but just 1 per cent
of that was spent on
charitable causes



John Oliver launched a foundation three years ago called "Our Lady of Perpetual Exemption". But Lakewood is by no means the most egregious monetiser among the megachurches. Osteen and his wife no longer draw their \$200,000 salaries from the church. Nor, unlike some televangelists, do they own a private jet. They leaned heavily on congregants, however, to fund the church's lavish \$115m renovation. In their appeal to followers, the Osteens wrote: "Remember these gifts are above and beyond your regular tithes."

In his latest book, Next Level Thinking, Osteen writes: "If you do your part, God will do His. He will promote you; He'll give you increase." Osteen writes from experience. The television broadcasts on which Lakewood spends tens of millions each year provide a lucrative platform for his books and a rolling investment in his global brand. He is reported to have received a \$13m advance on his second book, Become A Better You, which came out in 2007. He has written several since then. When I asked Don Iloff, Lakewood's spokesman and Ioel's brotherin-law, how Osteen's riches squared with Christian theology, he laughed. "Poverty isn't a qualification for heaven," he said. "Look at how wealthy Abraham was." Iloff pointed out that all royalties from Osteen's books that are sold at Lakewood's bookshop, or from its website, go to the church.

Lakewood's detractors are not confined to southern Baptists and the like. On the left, the prosperity gospel is attacked for encouraging reckless spending by those who can least afford it. Among Lakewood's night classes is Own Your Dream Home. Leaps of financial faith fit into Osteen's view that God will always underwrite true believers. "Trust God to provide what He lays on your heart to give, even if the amount is more than your current resources can readily identify," read one appeal to Lakewood's followers. Some of the home repossessions in the 2008 crash were blamed on irresponsible advice from the prosperity churches, which are concentrated in the Sun Belt. In her book Blessed: A History of the American Prosperity Gospel, Kate Bowler says the churches have created a "deification and ritualisation" of the American dream. "The virtuous would be richly compensated while the wicked would eventually stumble," she writes. This conforms with surveys of attitudes in the US. Almost a third of respondents told Pew Research Centre last year that people were poor because of "lack of effort". They get their just deserts.

t is a theme that runs through Osteen's sermons. One of his favourite stories is about his father, John Osteen, who, at 17, left the hardscrabble life of a cotton farm in Paris. Texas, to seek his calling as a preacher. He had "holes in his pants and holes in his shoes". All he had to eat was a biscuit in his pocket. "John, you better stay here on the farm with us," his parents warned him. "All you know how to do is pick cotton." Ignoring their advice, Osteen's father left home and became a highly soughtafter preacher. He married a woman called Dodie Pilgrim and moved to Humble, Texas, where Joel was raised. Osteen senior's rise is Lakewood's foundation miracle. Much as John Osteen refused to accept his lot, so people who are depressed should shun the company of other depressed people, says Joel. Addicts must steer clear of other addicts. The poor should avoid others who are poor.

"If you're struggling in your finances, get around blessed people, generous people, people who are well off," Osteen advises. Misery loves company, he says. Avoid miserable people. Osteen seals his message with a parable about Jesus. When he was on the cross, Jesus's last words were: "It is finished." The Son of God was not declaring his imminent death, Osteen explains. "In effect" what Jesus was saying was: "The guilt is finished. The depression is finished. The low self-esteem is finished. The mediocrity is finished. It is all finished."

Osteen has equally fecund insights into what other biblical characters were thinking. When the sinful Old Testament character Jacob was down on his luck, his divine creator told him: "Jacob, I like your boldness. I like the fact that you shook off the shame. You got rid of the guilt. Now you're ready to step up to who I've created you to be." Likewise, when Sarah, the nonagenarian wife of Abraham, was told to keep trying to have a baby, she said: "Me have a baby? I don't think so!" Jesus's siblings said: "Oh it's just Jesus. There's nothing special about him. We grew up with Him." And so on, My personal favourite is Osteen's idea of whether God would have hesitated before creating the universe. "He didn't check with accounting and say, 'I am about to create the stars, galaxies and planets," says Osteen. He just went ahead and did it. All that is holding the rest of us back is a lack of self-belief:

'Just like that, I had a job with a \$55,000 salary. God works fast when you work for him'

A man who donated \$50 to Lakewood

"God spoke worlds into creation," says Osteen. "He didn't google it to see if it was possible." We, too, can achieve anything we set our sights on.

The more one listens to Osteen, the harder it is to shut out Trump. Their mutual guru, Norman Vincent Peale, seduced a generation with his positive thoughts. He was the preacher-celebrity for the 1950s - the decade modern consumer branding took off. Believe in yourself like others believe in their product, was his message. "Stamp indelibly on your mind a mental picture of yourself as succeeding," wrote Peale, "Hold this picture tenaciously, Never permit it to fade." He added: "You're going to win so much you're going to get sick and tired of winning." Sorry, that was a typo - it was Trump who said that. But Peale's mark on America's president goes deep. Peale once said that Trump had a "profound streak of honesty and humility". It is a safe bet that Trump agreed. During the 2016 campaign. Trump was asked whether he had ever asked God for forgiveness. "I am not sure that I have," Trump replied. The audience laughed. Trump looked genuinely baffled. He was only distilling what he had been taught in his formative years.

People often ask why so many blue-collar Americans still support Trump in spite of his failure to transform their economic prospects. They might need to widen their aperture. To many Americans, Trump's wealth and power are proof of God's favour. That alone is a reason to support him. I asked Rollo the same question. He thought carefully – as he did with all my inquiries. Rollo is as honest and sincere as they come. He betrays no signs of prejudice. He is one of the "poorly educated" Americans whom Trump professes to love.

"Blessed are you who are poor, for yours is the kingdom of God," says Jesus in the Book of Luke. Rollo's gritty origins could hardly be further removed from Trump's privileged upbringing. Yet he shares a fundamental trait with the US president: neither of them believes in luck. They have faith in the Godly justice of the marketplace. "I look at the fruits of each individual's labour," Rollo replied, after some deliberation. "Trump is enjoying the fruits of his. I honour our president and I believe that God put him where he is today."

Edward Luce is the FT's US national editor. This is the first of a series of three features he is writing on Trump's America. Look out for the second in the summer and the last in the autumn

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Out of Office

Ian McEwan

I write to find where I'm going'

On a hike in the Cotswolds, the writer talks to *Mark Bailey* about the 'profound refreshment' he finds in walking, the moral issues raised in his latest novel and his Brexit obsession



Photographs by Jamie E Murray

an McEwan's days are spent crafting complex fiction about human morality and social change. But during our trek in the limestone hills near his home in the Cotswolds, his primary challenge is to stop his border collie Rab from slaloming after the scent of rabbits. "Rab, come here!" yells McEwan. We forgot to pack a lead so, at a road crossing, one of Britain's most celebrated novelists fashions a makeshift tether from his elasticated belt. "He has zero traffic sense and tries to bite the wheels of cars," says McEwan as Rab yanks him forward.

McEwan has hiked all over the world, including the Lake District, Dolomites, Atlas Mountains and Himalayas. He and his wife, the novelist Annalena McAfee, began 2019 with a snow hike in Bavaria. The North American tour for his new novel *Machines Like Me* – a riff on ethics, empathy and consciousness, refracted through a love tryst involving a couple and a darkly perfect synthetic human called Adam – has been structured around a four-day hiking break in Vancouver.

Sporting his German-made Meindl boots and Deuter backpack, McEwan looks, at 70, admirably fit. "I carry a sackful of essentials – two good penknives, some very strong but thin rope, two survival blankets – but I have never had a chance to use them in 25 years. I am still waiting to be snow hiking and find someone shivering on the ground so I can rescue them. I only use the penknives to cut cheese."

Hiking is a source of deep sensory pleasure for McEwan. At various moments he crouches to smell wild garlic, spots brook trout darting through a stream and pauses to admire the sunlight on the birch trees. As in his writing, he seeks to capture pinprick moments through precise observation. "It is the art of being in the present," he says, adding, "This is the closest you will ever get to childhood - that sense of just ambling and going off-piste, leaving the track behind, or seeing some ridge that would be fun to be up on and enjoying that sense of freedom."

Wandering also provides mental liberation. "When I get back to my desk I usually find that some profound refreshment has taken place," McEwan says, as we edge around a patchwork of corrugated fields. "Occasionally, the way ahead on something will just come from nowhere. It's like getting free advice."

The honey-coloured houses we are now strolling past are quintessentially English but McEwan grew up in East Asia, North Africa and Germany. His father David was a domineering army officer and his mother Rose a loving but timid housewife whose first husband died during the war. "That coastal strip of Libya imprinted me with a love of the Mediterranean landscape and even today if I take a train out of Paris heading south, when I see the olive trees, the vines, the skies, a certain kind of dustiness and a different light, my heart lifts," McEwan says.

He can also remember, as a boy, collecting a scorpion in a jam jar. "I used to feed it stag beetles but it didn't eat them – it was too traumatised, I think." His mother thought it was dangerous, so his father got someone to pickle it in formaldehyde. McEwan later sold it for two and sixpence in a Brighton junk shop. "I so regret that," he mourns.

Aged 11, he was sent to Woolverstone Hall, a state boarding school in Suffolk. "With my ▶

Facing page: Ian McEwan walking in the Cotswolds last month



Ian McEwan



'When hiking, you can have a range of moods, from joy to a sudden stream of the darkest thoughts'

◀ parents 2,000 miles away it was traumatic, but I sort of buried it," he says. "I didn't even cry. It might have been better if I had." As a teenager with thick Buddy Holly glasses and acne, McEwan discovered the writing of Iris Murdoch, Graham Greene and William Wordsworth, but he also experienced a deep urge to explore the oak forests, tidal rivers and salt creeks of Suffolk. "That was my awakening," he says. "We'd go off, climb trees, dig dangerous tunnels and crawl through them, with unsupported earth above. My heart sinks thinking about it even now."

After studying English at Sussex University in the late 1960s, he took an MA Creative Writing course at the University of East Anglia. But as his interest in literature and art grew, McEwan says he felt alienated from his parents, who had left school at 14. "That's a terrible feeling," he says. "You never forgive yourself."

Years later, when his first marriage ended, McEwan gained custody of his sons William and Greg. He remembers that he kept his study door ajar while writing. "I wanted to demystify my study for my children," he says. "Because it was always open to them, they would come in and [see it] wasn't such a big deal." Some of his most famous novels, such as *Enduring Love* (1997) and *Atonement* (2001), came during this period.

In a sheep-cropped meadow by a stream, he shows me a text from his four-year-old granddaughter, sent on her mother's phone. "I sent her a description of frogs and toads, then sent her a picture and she wrote: 'Dear Grandad, I think they are all toads.' Toads are knobbly and frogs are smooth, so she got it right."

We meander past a brook where McEwan says he often picnics with his grandchildren. He enjoys cooking at home but on hikes he prefers a hunk of cheese, bread and tomato, or some smoked salmon or sardines on bread soaked in lemon juice. He usually carries nested steel cups and a bottle of wine. "I do take pleasure being in some high, remote place, deep into conversation about literature, science, philosophy, consciousness, nationalism or whatever. But if you and I had a glass of wine in our hands in this moment, the landscape changes: suddenly it is your vast sitting room. There is an ease and comfort of being in it."

We pass stone houses where details of a meeting with the local Conservative MP are pinned to a notice board. McEwan is historically a centre-left voter who hopes Keir Starmer or David Miliband might lead Labour back to the centre ground. He is also an active campaigner against Brexit. "If you go back just five to six years, think how happy the country was in the afterglow of the Olympics in 2012. If you'd gone round then with a clipboard and said, 'Could you list all the problems Britain has?', how many people would have said the EU? They might have mentioned migration. The poverty gap. The state of education. Crime. Terrorism. Global warming. The housing shortage. Doctors' waiting lists. But not the EU... [People have] been persuaded that all their ills are down to the EU. It is a popular delusion. A delusional state, cynically managed."

McEwan's novels often excavate topical issues such as euthanasia (*Amsterdam*), climate change (*Solar*) and family courts (*The Children Act*), and the pattern is continued in his latest book. Though set in an alternative 1980s London, where Britain has lost the Falklands war and Tony Benn beats Margaret Thatcher in a landslide election victory, there are familiar elements: a Trotskyist left, far-right xenophobia, terrorism – and a push for Brexit. McEwan reminds readers that the present is the frailest of possible constructs, in which a kaleidoscope of options remains possible.

"I have been very obsessed about Brexit and it could have devoured my novel live, so I wanted to keep it in the zone of a reflection on the contingent, and how so much of what happens could have been otherwise," he explains.

It is a gritty subject for a spring day but McEwan admits that walking alone can also trigger dark reflections. "Solitude is interesting when you are hiking because you can have quite a range of moods, from joy to a sudden stream of the darkest thoughts or remembering a friend who died. You become more vulnerable to the freewheeling nature of your own thoughts. As one gets older, one's address book of the dead gets longer, which leads to larger thoughts of mortality. And sometimes it is not even a dark thought; it's a sort of neutral calculation: how long have I got? Ten years? Twelve? Fifteen?"

e stroll down a narrow country lane and arrive at St Mary's Church in Edgeworth. "Let me show you this," he says, opening the wooden gate. "It dates to the 11th century but there are some Saxon remains." We wander between the gravestones and encounter a roving church historian. What follows is a glimpse into the voracious mind of a novelist, as McEwan politely plunders him for information about crosses, pilasters, Saxon carvings, Norman timberwork and stone gargoyles.

We carry on into a luxurious green valley encircled by forests. McEwan clearly has eclectic interests but his love of science draws frowns from some literary circles. "People do ask with a certain amount of suspicion, as if you were confessing to being in the arms trade or running a brothel," he says. "If one thinks of science as organised curiosity, how could you not be interested in science? I don't know how you can get through life without loving fiction, art, music, landscapes, food and wine – and science can pitch in with the rest as one of the sensual, intellectual pleasures of life."

His fascination with science and morality collides in his latest novel. The presence of synthetic humans raises some profound questions. What does it mean to be human? Could you accept a form of artificial intelligence as a conscious being? Should you be able to sleep with them, or to kill them with impunity?

"I have always taken an interest in what used to be called the 'mind-body problem' and out of that whether machines could be conscious and

Ian McEwan on walking and writing









Eventful walks I was with Annalena in Arizona and came to a little gulch and saw in the distance a piece of A4 yellow-and-white legal paper nailed to a post and it said: "Mountain lions in this area. If you are reading this notice, get out immediately." It was the fastest we have ever hiked.

Inspiring walks We're passing the river Frome now, which will be familiar from the name of my character in Sweet Tooth [Serena Frome]. The opening to Enduring Love came from a walk in Ireland. That was a novel I began writing in the middle, not knowing how it started. It was a windy day and my hiking friend Ray Dolan [a

professor of neuropsychiatry at UCL] told me about a ballooning accident [in Bavaria, in which a father and son tried to hold it down, but when the son let go, the father fell to his death]. And I thought, "Ah that is just what I want: a microcosm of moral relations."

Writing as a journey There is a sense of this upriver journey with writing. It will take you two to three years and you don't know necessarily what you will find... As the work unfolds, it teaches you its own rules. I write to find where I'm going. But with both [writing and walking] I enjoy the total absorption in something that interests you.

whether synthetic humans could think," says McEwan. "When the narrator has a row with his girlfriend because she has made love with Adam, she says, 'You wouldn't complain if it had been a vibrator.' And he says, 'Yes, but a vibrator doesn't weed the garden.' Even though he feels betrayed, he is rather pleased with himself because he is on the cutting edge of a new problem: cuckolded by a machine. Or is it a machine?"

The narrator muses on whether the neurological impulses in his brain and optic nerves are any different from the electrical signals rushing through Adam's microprocessors. "I take the materialist view that if we could find equivalence to all those neurons and axons and synapses, those are clearly sufficient necessary conditions of a consciousness," says McEwan. "In other words, the mind is what the brain does from my point of view. And I am not really sure what other point of view there can be unless you are a vitalist, or you think that consciousness is the function of some being from heaven."

McEwan is less interested in the technology which he insists won't be mastered for centuries, if at all - but wants to ponder the moral questions AI raises. With AI controlling self-driving cars, conducting military simulations, issuing medical diagnoses and selling stocks, these questions are already relevant. He references the Moral Machine experiment in which millions of people worldwide were asked who a self-driving car should avoid in a split-second collision. In the west, most people opted to save a child. But in China, it was an old person. "I am coming round to the Chinese view," quips McEwan. "But that we are even having to discuss passing on ethical decisions to our car is already beginning to open up this whole new world of what our future relationships with these machines are going to be. That offers real insights into human thinking, which is of particular interest to a novelist."

It is a complex conundrum and Rab has passed his own judgment by disappearing into a sweetsmelling hedge. He is called back and we stroll down a farm track and arrive back at McEwan's home. He offers me a lunch of gravlax and salad, followed by cheese and biscuits.

I wonder how he feels about AI potentially encroaching into his own sphere of writing. The novel is, after all, one of the ultimate expressions of human empathy, requiring the ability in both writer and reader to imagine what it is like to be someone else. Could a machine ever master what McEwan has dedicated his life to achieving?

"That would be the ultimate Turing test for me," he says. "As language is an open system it requires a knowledge of the world to understand it, not just a knowledge of grammar. To write a good novel, you have to understand how people relate to each other and what it is to have subjective feelings and describe them over 100,000 words. If a machine could write a novel like *Anna Karenina*, then I would have to throw my hands up and say, 'Welcome to our world."

[&]quot;Machines Like Me" by Ian McEwan is out now

The face race

Images of our faces – 'scraped' from social media and CCTV footage – are being amassed by facial-recognition researchers, often without our consent. The resulting data is helping train AI surveillance technology for governments, police forces and private companies. *Madhumita Murgia* investigates. Illustrations by *Sébastien Thibault*. Photographs by *Mustafah Abdulaziz*

When Jillian York, a 36-year-old American activist, was on vacation in February, she received an unexpected text. Her friend Adam Harvey, another activist and researcher, had discovered photos of her in a US government database used to train facial-recognition algorithms, and wondered whether she knew about it

York, who works in Berlin for the Electronic Frontier Foundation, a digital rights non-profit group, did not. She was stunned to discover that the database contained nearly a dozen images of her, a mixture of photos and YouTube video stills, taken over a period of almost a decade. When she dug into what the database was used for, it dawned on her that her face had helped to build systems used by the federal government to recognise faces of interest, including suspected criminals, terrorists and illegal aliens.

"What struck me immediately was the range of times they cover,"

York says. "The first images were from 2008, all the way through to 2015." Two of the photos, by a photographer friend, had been scraped from Google. "They were taken at closed meetings. They were definitely private in the sense that it was me goofing around with friends, rather than me on stage," she adds. Another half-dozen photos had been clipped from YouTube videos of York speaking at events, on topics including freedom of expression, digital privacy and security. "It troubles me that someone was watching videos of me and clipping stills for this purpose," she says.

York is one of 3,500 subjects in this database, which is known as Iarpa Janus Benchmark-C (IJB-C). Iarpa is a US government body that funds innovative research aimed at giving the US intelligence community a competitive advantage; Janus - named after the two-faced Roman god - is its facial-recognition initiative. The dataset, which



Adam Harvey, technology researcher and privacy activist based in Berlin

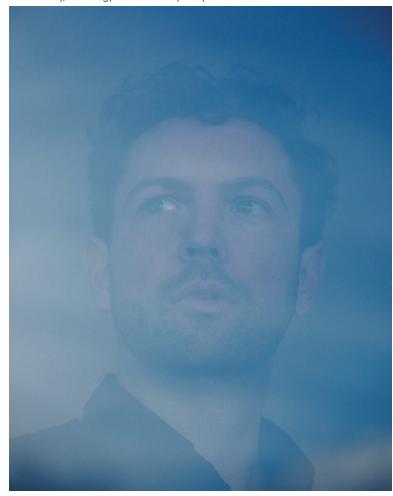
◀ was compiled by a government subcontractor called Noblis, includes a total of 21,294 images of faces (there are other body parts too), averaging six pictures and three videos per person, and is available on application to researchers in the field. By their own admission, its creators picked "subjects with diverse occupations, avoiding one pitfall of 'celebrity-only' media [which] may be less representative of the global population."

Other subjects in the dataset include three EFF board members, an Al Jazeera journalist, a technology futurist and at least three Middle Eastern political activists, including an Egyptian scientist who participated in the Tahrir Square protests in 2011, the FT can confirm. None of the people described above was aware of their inclusion in the database. Their images were obtained without their explicit consent, as they had been uploaded under the terms of Creative Commons licences, an online copyright agreement that allows images to be copied and reused for academic and commercial purposes by anyone.

The primary use of facial-recognition technology is in security and surveillance, whether by private companies, such as retailers and events venues, or by public bodies, such as police forces, to track criminals. Governments increasingly use it to identify people for national and border security.

The biggest technical obstacle to achieving accurate facial recognition thus far has been the inability of machines to identify human faces when they are only partially visible, shrouded in shadow or covered by clothing, as opposed to the high-resolution, front-facing portrait photos the computers were trained on.

To teach a machine how to better read and recognise a human face in these conditions, it has to be trained using hundreds of thousands of faces of all shapes, sizes, colours, ages and genders. The more natural, varied and unposed the faces are, the better they simulate real-life scenarios in which surveillance might take place, and the more accurate the resulting models for facial recognition.



In order to feed this hungry system, a plethora of face repositories - such as IJB-C - have sprung up, containing images manually culled and bound together from sources as varied as university campuses, town squares, markets, cafés, mugshots and social-media sites such as Flickr, Instagram and YouTube.

To understand what these faces have been helping to build, the FT worked with Adam Harvey, the researcher who first spotted Jillian York's face in IJB-C. An American based in Berlin, he has spent years amassing more than 300 face datasets and has identified some 5,000 academic papers that cite them.

The images, we found, are used to train and benchmark algorithms that serve a variety of biometric-related purposes - recognising faces at passport control, crowd surveillance, automated driving,

\$9bn

the amount the market for facial recognition will be worth by 2022 - it is growing at 20% annually

'Now somebody's face is used as a tracking number to watch them as they move across locations on video, which is a huge shift'

Dave Maass, senior investigative researcher at the Electronic Frontier Foundation

robotics, even emotion analysis for advertising. They have been cited in papers by commercial companies including Facebook, Microsoft, Baidu, SenseTime and IBM, as well as by academics around the world, from Japan to the United Arab Emirates and Israel.

"We've seen facial recognition shifting inpurpose," says Dave Maass, a senior investigative researcher at the EFF, who was shocked to discover that his own colleagues' faces were in the Iarpa database. "It was originally being used for identification purposes... Now somebody's face is used as a tracking number to watch them as they move across locations on video, which is a huge shift. [Researchers] don't have to pay people for consent, they don't have to find models, no firm has to pay to collect it, everyone gets it for free."

The dataset containing Jillian York's face is one of a series compiled on behalf of Iarpa (earlier iterations are IJB-A and -B), which have been cited by academics in 21 different countries, including China, Russia, Israel, Turkey and Australia. They have been used by companies such as the Chinese AI firm SenseTime, which sells facial-recognition products to the Chinese police, and the Japanese IT company NEC, which supplies software to law enforcement agencies in the US, UK and India.

The images in them have even been scraped by the National University of Defense Technology in China, which is controlled by China's top military body, the Central Military Commission. One of its academics collaborated last year in a project that used IJB-A, among other sets, to build a system that would, its architects wrote, "[enable] more detailed understanding of humans in crowded scenes", with applications including "group behaviour analysis" and "person re-identification".

In China, facial scanning software has played a significant role in the government's mass surveillance and detention of Muslim Uighurs in the far-western region of Xinjiang. Cameras made by Hikvision, one of the world's biggest CCTV companies, and Leon, a former partner of SenseTime, have been used to track Muslims all over Xinjiang, playing a part in what human-rights campaigners describe as the systematic repression of millions of people. Earlier this week, it emerged that SenseTime had sold its 51 per cent stake in a security joint venture with Leon in Xinjiang after the growing international outcry over the treatment of the Uighurs.

"That was the shocking part," York says, as she considers the ways multiple companies and agencies have used the database. "It's not that my image is being used, it's about how it's being used."



Harvey has been investigating face

datasets since 2010. The collection he has built up in that time comprises datasets that are readily accessible to researchers for academic and commercial purposes. The 37-year-old has been analysing where these faces come from, and where they've ended up. By mapping out these biometric trade routes, he has started to slowly piece together the scale of distribution of faces, which may have contributed to commercial products and surveillance technologies without any explicit permission from the individuals in question.

"There's an academic network of data-sharing, because it's considered publicly beneficial to collaborate. But researchers are ignoring the stark reality that once your face is in a dataset, it's impossible to get out of it because it's already been downloaded and re-used all over the world," he says over coffee in Berlin's Mitte neighbourhood.

Harvey likes being off the map; he prefers to pay in cash, uses the anonymous Tor browser and communicates through the encrypted app Signal, where messages disappear within a few hours. After studying engineering and photojournalism at Pennsylvania State University, he worked as a photographer at private events in New York. "At the time, more and more people were putting photos online, because digital cameras were relatively new. What bothered me was you couldn't get those photos offline once someone put them up there," he says. "People didn't have the expectation that a photo of them at a party would end up all over the world and would never be able to be removed. You lose control of your data, you lose control of your narrative."

His fascination with surveillance resulted in CV Dazzle, his first biometrics project in 2011, where he created a series of make-up and hairstyling designs to enable ordinary people to hide from automated facial-recognition systems. His latest project, MegaPixels, for which he has received funding from the Mozilla Foundation, a non-profit, is also aimed at empowering citizens to understand the new world they are inhabiting: it launched this week as a searchable database of all the papers citing every dataset he has unearthed. Over the following months, he plans to develop the search tool to allow people to type in their names and see if their faces have been used to train an artificial intelligence system in any part of the world. "When everyone talks about facial recognition and surveillance, they're usually talking about the implementation of it. But if you take a few steps back, none of that would exist without the faces, and this project looks at where that data comes from," he explains.

One of the first large-scale face databases was created by the US defence department in the 1990s, by paying military personnel to pose for photographs in studios. By 2007, researchers had started to realise that studio photos were too unrealistic to use as training sets, and that facial-recognition systems built on them would fail in the real world. What was needed were more images in "the wild" - natural, blurred and unposed. That year, a new set was released by the University of Massachusetts, Amherst, called Labeled Faces In The Wild (LFW), a set of images scraped from news stories, with each face named. These "wild" images showed subjects with different poses, under different lighting conditions, and researchers realised they had tapped a gold mine: the internet. Here was a fount of face data that was varied, unrestricted

1.700

the number of students at the University of Colorado photographed on 20 different days



and easy to come by. LFW has now become the most widely used facial recognition benchmark globally.

After 9/11, when defence and intelligence agencies were spurred on to invest further in facial recognition, millions of dollars were injected into labs with the explicit aim of collecting more photos in the wild, for more robust biometric profiles. Today, the default method if you need a training set is to go to search engines such as Google or Bing, or social networks such as Flickr and YouTube, where multimedia are often uploaded with a Creative Commons licence, and take what you need.

The market for facial recognition has grown 20 per cent annually over the past three years, and will be worth \$9bn by 2022, according to estimates by Market Research Future. The speed and accuracy of the software has advanced thanks to recent strides in machine learning, the technology by which computers can learn to recognise specific objects – such as faces – by training on large datasets such as IJB-C.

"In 2019, there are dozens of datasets created this way that have been passed all over the world, some of them funded by defence departments, others funded directly by commercial facial recognition companies, and some of those working with controversial cyber-authoritarian regimes like in China," Harvey says. "But no one ever stopped to think if it was ethical to collect images of people's weddings [and] family photo albums with children. or if people who uploaded the photos even knew what they were doing when they got the licence."



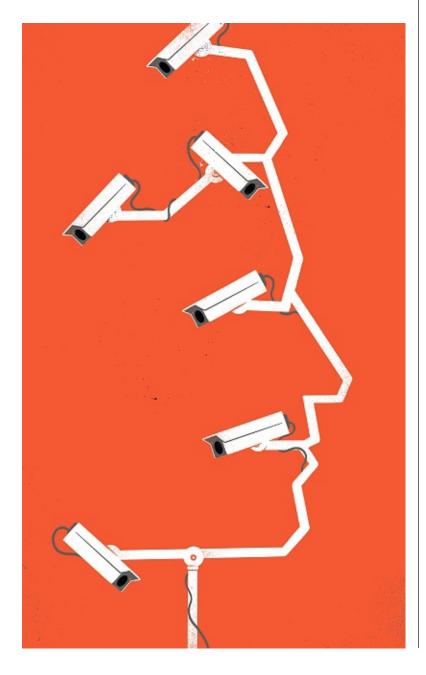
Today, as law enforcement bodies

and governments are keen to push the limits of facial recognition to lower the costs and time required to identify suspects, the consensus is that even internet faces aren't truly "wild" because people tend to put up edited photos. The appetite for more diverse face data has led down a rabbit hole of capturing people's images as naturally as possible, often without their knowledge.

Take the UnConstrained College Students Dataset. About 1,700 students at the University of Colorado, Colorado Springs, were photographed on 20 different days, between February 2012 and September 2013, using a "longrange high-resolution surveillance camera without their knowledge," according to the set's creator, Professor Terry Boult, a computer scientist at the university. ▶

3,500

the number of subjects on the US government's larpa Janus Benchmark-C database



◀ "Even [LFW] photos aren't that wild because people know they are being photographed and uploaded on the internet. But these are students walking on a sidewalk on campus, who are unaware they are part of a data collection," Boult tells me. "When you're watching students on a sidewalk, there's an awful lot of facing down looking at your phone. In Colorado, where it's cold and snowy, they cover up in a natural way with scarves and hats. Our goal is to make it the most realistic unconstrained video surveillance facial recognition dataset in the world."

Boult's lab has been funded by the US Navy, as well as by Iarpa, which has disseminated his facial recognition research to the Department of Homeland Security and other government bodies. Because Boult was filming students in a public place (although it is within the university), he says he did not need their permission as long as he does not know their identities, according to Colorado state law. "We didn't make it publicly available for anyone to download. They have to contact us through a website - we check if they're researchers," Boult says. "It's not for commercial use, but if corporate researchers are trying to make facial recognition better for their company's products, we are OK with them doing that as long as they publish."

This apparently porous relationship between an "academic" use of data that has been collected without consent, and the commercial exploitation of that same data, highlights the complex ethical questions surrounding face sets. The paper in which Boult introduced his dataset has been cited by six universities in Chile, Italy and the US and downloaded by at least four private companies based in Europe, China and the US, none of which seems to have published its work.

Another campus dataset, Duke-MTMC, was collected at Duke University in North Carolina. Funded partly by the US Army Research Office, it has become one of the most popular pedestrian recognition training sets, and has been cited by 96 institutions globally. Researchers

used eight cameras to film students walking on campus, and notified them through posters placed around the perimeter of the surveilled area. Ergys Ristani, one of the authors, said the work had been approved by an institutional review board, and, despite the signs, not a single student had asked to be excluded. From the video footage, it is unclear whether the students have seen the posters or are aware they are being filmed.

In a third case, footage of customers in a café called Brainwash in San Francisco's Lower Haight district, taken through a livestreaming camera, was turned into a pedestrian dataset - Brainwash - that has been cited by companies including Huawei and Qualcomm.

"When you're in urban space you have a reasonable expectation of anonymity; this is recognised in [US] jurisprudence, this is something so deeply a part of common sense that it interferes with our ability to understand [that] our tech companies are impacting our privacy, even in nominally private spaces," says Adam Greenfield, a technology writer and urbanist. Greenfield has recently discovered himself in a database of one million faces created by Microsoft called MSCeleb.



Researchers point out that facial

analysis technologies aren't just for surveillance - they could be used for health monitoring; for instance, scanning faces to see if someone is developing dementia or type 2 diabetes, or to check for drowsiness or inebriation in drivers.

If datasets weren't shareable, corporations such as Facebook and Google, which have billions of user photos and videos uploaded to their sites each day, would be the only organisations with access to an ocean of high-quality face data and so would have the best face recognition algorithms, some researchers argue. "I'm not worried about government, I'm worried about Google and Facebook," says Karl Ricanek, a professor at the University of North Carolina Wilmington who has built two publicly accessible face datasets. "In my opinion, they have more info on citizens than governments themselves, and we can't affect leadership at these companies. I think our government at least has a good mission. From an academic perspective we are trying to solve problems that we think will make life better in our world. Most of us aren't attempting to make money."

Despite commercial companies often having their own extensive data

'Our goal is to make it the most realistic unconstrained video surveillance facial recognition dataset in the world'

Terry Boult, professor at the University of Colorado, Colorado Springs

NATIONAL PORTRAIT GALLERY

pools, they too have increasingly turned to the internet to cull larger and more natural datasets used to benchmark and train algorithms. For instance, Facebook created a dataset called People in Photo Albums, consisting of more than 37,000 photos of 2,000 individuals, including children, from personal Flickr photo albums. "While a lot of progress has been made recently in recognition from a frontal face, nonfrontal views are a lot more common in photo albums than people might suspect," Facebook researchers wrote in their paper.

Their dataset specifically picks out photos with "large variations in pose, clothing, camera viewpoint, image resolution and illumination", and the paper describes a new algorithm that can recognise even these partially hidden faces with high accuracy. "We hope our dataset will steer the vision community towards the very important and largely unsolved problem of person recognition in the wild," the Facebook researchers conclude. This dataset has now been reused all over the world, including by the National University of Defense Technology in China to improve video surveillance technology.

"To be clear, we are not collaborating with the Chinese government on facial recognition and never have," a Facebook spokesperson said. "However, there will always be a question if advancements in technology should be shared widely or closely held. Facebook and other leading technology companies believe that the scientific community can share learnings to advance technology, while also working to prevent abuse."

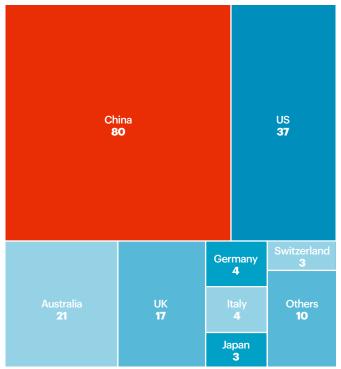
Maass, the Electronic Frontier Foundation researcher, says: "This is not a question of legality but of morals and ethics. I'm not sure where a research project like this would fall, but I wonder if creating a dataset to train surveillance tech is the same as conducting surveillance yourself."

Where images have been scraped off the internet, researchers - even at large companies such as Microsoft, IBM and Facebook-have relied on the Creative Commons licence to stand in for user consent. But the application of these photos as training data for surveillance and facial analysis is so far removed from what the licence was originally intended to cover that Creative Commons itself, a nonprofit, recently put out a statement to clarify the change. "CC licences were designed to address a specific constraint, which they do very well: unlocking restrictive copyright. But copyright is not a good tool to protect 37.000

the number of photos
taken from Flickr albums
to create Facebook's
People in Photo Albums



China dominates: a breakdown of the countries where academics have used the Duke MTMC database By number of citations



SOURCE: MEGAPIXELS

individual privacy, to address research ethics in AI development, or to regulate the use of surveillance tools employed online," chief executive Ryan Merkley wrote in March. "Those issues rightly belong in the public policy space... [we hope to] engage in discussion with those using our content in objectionable ways, and to speak out on... the important issues of privacy, surveillance, and AI that impact the sharing of works on the web."

Ultimately, experts believe it is too late to put the face data back in a box, or to restrict its movement across geographic borders. "We may trust the entity that gathers or captures that information, and we may have consented to an initial capture, but custody over that dataset leaks," says Greenfield, the tech writer who features in Microsoft's celebrity dataset. "It can leak through hacking, corporate acquisition, simple clumsiness, it can leak through regime change. Even if [creators] attempted to control access, there's no way they could stop it coming into the hands of the Israeli, American or Chinese state, or anyone who wants to train up facialrecognition algorithms."

For Harvey, who has spent almost a decade trying to illustrate the scale of the issue, there doesn't seem to be an end in sight. "There are so many egregious examples in these datasets that are just brazen abuses of privacy," he says. "Some of them come from public cameras pointed at the street, and there are even a few that came from cameras in cafés. After looking at these, you never know when you could walk in front of a camera that may one day be part of a training dataset."

In fact, recognising a face is only the first step of biometric surveillance, he suggests. "It's really like an entry-level term to much broader, deeper analysis of people's biometrics. There's jaw recognition - the width of your jaw can be used to infer success as CEO, for example. Companies such as Boston-based Affectiva are doing research that analyses faces in real time, to determine from a webcam or in-store camera if someone is going to buy something in your store."

Other analyses, he adds, can be used to determine people's tiredness, skin quality and heart rate, or even to lip-read what they are saying. "Face recognition is a very deceiving term, technically, because there's no limit," he concludes. "It ends ultimately only with your DNA."

Madhumita Murgia is the FT's European technology correspondent. Additional reporting by Max Harlow

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* CURRENT TARIFF* PER PERSON VA.T.INC.LUDED DOUBLE & TWIN ROOMS EN. SUITE EVEN.ING DINNER & BRIAKFAST DAILY TARIFF FROM & WEEKLY TARIFF & N.A DOUBLE & TWIN ROOMS EN. SUITE BREAKRAST ONLY DAILY TARIFF FROM & 45.50 CHILDS TARIFF! & 8.4 CHILDS



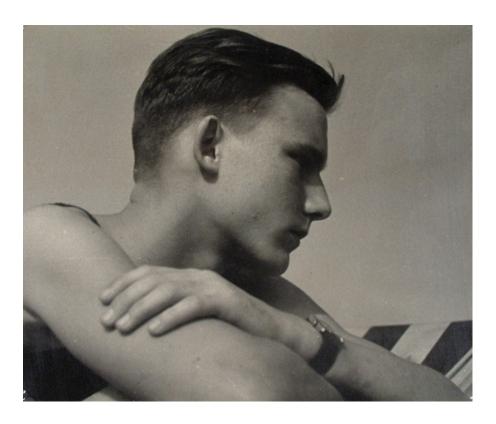
Top and above: Ocean Hotel, Blackpool, 2016, Henry Iddon Right: *Untitled*, Skegness, from the series "Day Out", 1974, Vanley Burke

DIDN'T WE HAVE A LOVELY TIME?

Rainy and rundown or teeming with sun-seeking day-trippers, British seaside resorts have long held a fascination for photographers, as a forthcoming exhibition in Margate reveals. Its curators, *Val Williams* and *Karen Shepherdson*, explain the lure of the coast



Ulli (below) and House Captain (bottom), both taken in Pagham, Sussex, late 1930s, from Dick's Book of Photographs, Keith Vaughan







anielle Peck was working on a project about the town of Margate, on the Kent coast, when she came across the Cecil Hotel and its last occupant, Ivy Gregory. Peck is a photographer with an eye for the joyfully marginal. The Cecil Hotel, at 12 Arthur Road, once fashionably modern, had become a relic, a repository of geometric wallpaper, patterned carpets, ancient Hoovers, portable televisions, slot machines and handwritten notices. Originally a late-Victorian private house, it had been remodelled as holiday flatlets in the 1960s, when the seaside resort was booming. Ivy, whose family had bought it in the 1950s, was the last owner; the hotel ceased trading in the 1980s.

Suspended in time, the interiors of the Cecil are subject to Peck's steady gaze. Ivy poses calmly in unoccupied flatlets, which are shabby and unused. Her sitting room is crowded and stacked, a receptacle for memories and the vestiges of the past. The seaside is a carnival, showy and impermanent; guests passed through the Cecil in its glory days, gazing into the art deco mirrors, marvelling at its modernity. Now those interiors too have gone: since Peck took her photographs in 2013, the Cecil has been transformed into an elegant holiday let, with, ironically, all its original features restored.

Photographers have always been drawn to the seaside. In the 19th century, with heavy equipment and a sense of adventure, they photographed roaring waves and extreme weather. Commercial photographers, sensing an opportunity, portrayed stiff family groups in burgeoning resorts, while documentarists looked out for bad behaviour. By the 1950s and 1960s, with wartime restrictions lifted, the British flocked to the beach, and editors of picture magazines sent their best photographers to report back. In the 1970s and 1980s, a new generation of documentarists peered at it with a critical eye.

But no one can tell it the way it is. We all have a vision of the seaside that is uniquely our own. Everything by the sea becomes frayed, by salt and wind, by melancholy and memories. Resorts are precarious, teetering on the edge of solvency, with shifting populations – visitors, incomers, retirees, long-time residents – and seasonal fluctuations. Architecturally, they are perplexing – elegant modernism stands beside the higgledy-piggledy of seasonal stalls, suburbs turn their backs to the sea. But when the sun shines and the crowds come, the ragged edges are less discernible and the beach becomes a democratic space where we eat, sleep, think, recover.

Though some resorts revive, colonised by the wealthy and the adventurous, decline is central to our imaginings of the British seaside. For photographers, dereliction is intriguing, a short cut to the strange and unusual, the comic and the melancholic. The disused shops that Hannah Blackmore has photographed in Ramsgate and along the Kent coast stir our imaginations, conjuring up the bustling trade of the past - outfitters, barbers, greengrocers, cafés. We are back, for a moment, in Walmington-on-Sea, fictional setting for *Dad's Army*. Nowadays even the ▶







Top: Ruth and Co, Pat Gwynne, 1967

Above left: *Untitled*, from the series "21st Century Types", Grace Lau, July/August 2005, Hastings

Above right: Hayling Island, Anna Fox, 1986













Above: Worthing Palms, July 2017, from the series "Time for Trees", Julia Horbaschk

Facing page: from Many Original Features, Danielle Peck's project on the Cecil Hotel, Margate, 2013. The bottom picture show's the hotel's last owner, lvy Gregory

◀ vegetation looks worn out: Julia Horbaschk's palm trees, photographed on the Worthing seafront every month for a year, endure the winds and the salt with weary elegance.

For a long time, portraiture was a mainstay of seaside photography. In the booming 19th century, photographers patrolled the beach to find subjects willing to pay a small amount for fragile and beautiful tintypes, often in elaborate gilt frames. The miracle of photography and the popularity of the seaside came together, and thousands of portraits were sold. Upmarket studios were also set up; though their proprietors saw the beach photographers as shysters, the seaside economy was big enough to support them all.

Eventually, that tide too receded, and professional portrait photography all but disappeared. Its aesthetic, however, continues to intrigue contemporary photographers such as Grace Lau, who moved to Hastings at the end of the 1990s, having made her name with portraits of London's fetish community and studies of 19th-century Chinese photography. In 2005, she opened a portrait studio on the seafront and invited everyone in. She made 400 portraits – of families, groups of friends, singles, couples, dogs, children – and everyone got a free print. The name of the resulting series, 21st Century Types, riffs pointedly on European photographers' practice of reducing their Chinese subjects to "types". But these images are also an archive of fleeting seaside moments – most of the children will now be grown up, most of the dogs dead. Friends may have drifted apart, singles may have coupled up.

As an aide-memoire, photography both comforts us and leaves us bereft, wondering where the time went. It captures an instant - Keith Vaughan's seductive young sunbathers in Sussex; Vanley Burke's exuberant day trippers in Skegness, Lincolnshire; Anna Fox's shabby diners on Hayling Island, off the south coast. Henry Iddon's remarkably preserved Ocean Hotel in Blackpool is a north-western counterpart to the Cecil in Margate - "no-frills accommodation with an odd depth of heritage," as Iddon put it. His photographs redeem this dated, threadbare place; it becomes a stage set of the past, of remembered holidays, the promise of saltwater and sand, the thrill of a hotel breakfast. The sense of an ending is acute.

Amateur photographers are part of the story too. Pat Gwynne was one of many who produced substantial bodies of work at the seaside. Brought up in a Dublin orphanage and placed in a Barnardo's home in London in the 1920s, Gwynne became a printer, working for a time with the St Dominic's Press in Ditchling, Sussex. Like many amateur photographers, he was attracted to the unpredictability of the beach, where weather dictated whether families wore swimsuits or macs. His pictures record the odd symmetry of a group of women lying in the sand, seen from above, or a child marooned in a pram. The mystique of the seaside crowds into these domestic photographs - a place where we undress and lie in the sun, celebrate rituals, feel that we are someone else, in some other reality. "That's me in the picture," we shout, until we can no longer recognise ourselves. FT •••••

Val Williams and Karen Shepherdson are the curators of "Seaside: Photographed", Turner Contemporary, Margate, May 25-September 8, turnercontemporary.org. A book of the same name will be published by Thames & Hudson on May 23







Honey & Co Recipes



Beef yourself up

recent bout of the lurgy caught us off guard with an empty medicine cabinet. The prospect of heading to the pharmacy and returning with a haul of pills and powders that never do anything only made us feel worse, but then we thought of something different. We remembered another kind of pharmacy we'd been to - a cavernous room in the medina of Marrakesh, the floor covered with rugs and the walls lined with bottles and jars filled with seeds, barks, roots and buds of dazzling colour and emitting a heady scent.

Before modern medicine and Big Pharma, you would head to a spice shop like this with your ailments and get your diagnosis and treatment from a spice master. A teaspoon of dried ginger added to your dinner to fight a cold; ground fennel seeds for bad digestion; sage tea to improve the memory. It was a menu of health. The term *ras el hanout* (head of the shop) has

become a generic name for a spice mix that's available everywhere but was originally devised as a cure-all. Each shop would have its own well-guarded recipe that boasted specific healing properties.

From aromatherapy to folk medicine, aromatics have long been considered - and in some cases shown - to have medicinal qualities. But for us, the well-judged use of spice in a dish is guaranteed to provide succour just by making it even more delicious.

So, under the weather, we turned to the spice rack instead of the medicine cabinet, and the result was this stew. It made us feel a whole lot better with its warm, sweet spicing, plenty of vegetables and good meat on the bone. We can wholly recommend it to everyone: there are no nasty side effects apart from, possibly, addiction.

By Sarit Packer and Itamar Srulovich honeyandco@ft.com

Spiced beef with rich tomato and pepper sauce

Serves four

1kg short rib on the bone cut into
4 ribs (or 4 thick slices of beef shank or
8 pieces of oxtail)

For the salt rub

- 1 tbs table salt
- ½ tsp each ground black pepper, cumin, ginger, cardamom, smoked paprika, turmeric and cinnamon
- Pinch of chilli flakes

For the cooking

- 3-4 sticks of celery, cut into large chunks (240g)
- 2-3 tomatoes, cut into large chunks (300g)
- 2-3 red peppers, seeded and cut into large chunks (300g)
- 2-3 onions, peeled and cut into large chunks (300g)
- 1 red chilli, sliced (keep seeds in for a spicy stew)
- 8 cloves of garlic, peeled
- Drizzle of oil and a sprinkle of salt
- 1 Mix the salt-rub ingredients together and sprinkle all over the meat. Cover and set in the fridge for at least 6 hours, but ideally up to 24 hours. When you are ready to cook, heat your oven to 200C and place the salted meat pieces (in one layer) in a deep castiron pan. Put in the oven and roast for 20 minutes to colour. Then flip and colour the other side for 10-12 minutes. Meanwhile, prepare the vegetables.
- 2 Remove the meat from the oven and top with all the vegetables; this should fill the pot. Drizzle with olive oil and sprinkle with a little salt - this will help liquids flow from the vegetables. Place back in the oven uncovered for 10 minutes. Remove from the oven. mix around a little, then return to the oven for another 10 minutes. Remove again, mix, then cover tightly. Reduce the oven temperature to 180C and roast for an hour. Then mix well and check the liquid level. The vegetables should let out enough water to create a little braising stock that you can use to baste the meat. If it seems dry, add a bit of water (just enough for easy basting).
- 3 Reduce the oven again, this time to 160C, cover and return to the oven for the last time. Cook for an hour. The meat should now be so soft it falls off the bone. When it does, serve hot.

Photographs by Patricia Niven



THE GIN BOOM

AND G&T PERFECTION

he gin craze looks set to stay.
Once, gin was the preserve of golf clubs and suburban living rooms: ice and a slice was all it took to create a not-very-good Gin & Tonic.

Now it's all changed. New gin brands, gin cocktails and gin experiences all thrive and cater to the tastes of people with a thirst for knowledge as well as a desire for a great drink.

Leading that change is Brockmans Gin, one of the fastest growing super-premium gins in the UK and now available in nearly 40 countries. Brockmans unique recipe combines 11 botanicals including blueberry and blackberry notes, Bulgarian coriander and dry, bitter-sweet peel of Valencian oranges giving Brockmans an exquisite, intensely smooth taste. Bottled in tactile black glass, this gin is a feast for the eyes as well as the taste-buds.







THE PERFECT G&T

Yet making a perfect serve G&T is not as simple as it looks. For a delectable cocktail, follow this recipe: The Brockmans Perfect Serve Gin & Tonic

Chill a large glass and fill with large ice cubes – this prevents the ice melting and diluting the cocktail. Pour 50ml of Brockmans Gin into the glass. Add quality, chilled tonic water by pouring it down a swizzle spoon to help preserve the effervescence. Add a twist of pink grapefruit peel. Finish with a garnish of fresh blueberries.



Find Brockmans - ASDA, Booths, Co-op, M&S, Morrisons, Ocado and selected speciality retailers including www.thewhiskyexchange.com & www.masterofmalt.com

www.brockmansgin.com



THE BLACK BOOK OF GIN COCKTAILS

The Brockmans G&T is one of a number of classic and contemporary recipes in an exclusive, limited edition book. You can't buy it but if you tell us your thoughts about @BrockmansGin on Twitter using hashtag #BrockmansFT you could win a copy and a bottle of Brockmans.



Jancis Robinson Wine

Acceptable revels

ne complaint often expressed on the letters page and comments section of this paper concerns the drinking habits of those featured in Lunch with the FT. With a few notable exceptions (such as Richard Desmond, then owner of the Daily Express, who ordered a £580 bottle of wine), the subjects seem uncannily abstemious. Readers tend to react with exasperation and disbelief at the lack of revelry.

Leafing through the notebook where I keep track of what I drink at my more bibulous meals, I realised my records of the past few months might go some way to compensate – so I thought that I would recount a few.

The first was a dinner for four in a London restaurant with Bertold and Gertrud Salomon, an Austrian couple who make wine in Austria in September and in South Australia in March. They wanted to test the quality and character of their top Australian Shiraz, Alttus, by blind tasting their 2012 and 2013 with the same vintages of Penfolds Grange, Australia's most famous Shiraz, and Hermitage, the top French example of the same grape.

Ever since the famous 1976 Judgment of Paris tasting put California wine on the map by serving it blind with bordeaux first growths and burgundy grands crus, blind comparisons with established icons have been a popular ploy by less well-known wine producers. I enjoy comparing similar wines without knowing what they are, but at this dinner the identity of the Grange was pretty obvious in both vintages. It's such a concentrated wine, with a telltale whiff that's rich and medicinal, that there was little disguising its identity.

More interesting was trying to disentangle the Alttus, grown in a relatively cool spot on the Fleurieu Peninsula, from the 2012 Delas Les Bessards Hermitage and the 2013 from Jean-Louis Chave (the most



As imagined by Leon Edler

Less expensive alternatives

With approximate price per bottle of the original mentioned in the article.

Salomon Fleurieu Shiraz (£110)

ALTERNATIVE

Salomon Baan Shiraz 2016 Fleurieu £12.95 Lea & Sandeman

Kumeu River Chardonnay (£38)

ALTERNATIVE

The Society's Exhibition New Zealand Chardonnay 2017 Kumeu £14.95 The Wine Society

Rayas-inspired Garnachas (1998 £500)

ALTERNATIVES

Frontonio, Supersónico Garnacha 2016 IGP Valdejalón £14.71 winebuyers.com Dani Landi, Uvas de la Ira 2015 Sierra de Gredos £23 Wine & Greene of Devon, £180 a dozen in bond BI Wines

Napa Valley Syrah (Colgin £350)

ALTERNATIVI

Lagier Meredith Syrah 2011 Mount Veeder £23.33 plus taxes Falcon Vintners



Tasting notes on JancisRobinson.com. Other stockists from Wine-searcher.com



respected producer of Hermitage). I have noticed that Delas seems to be making its Hermitage in an increasingly approachable style. Even the 2016 is already hugely enjoyable, despite traditionally being seen as one of the toughest, most tannic reds of all.

The Delas wine was the lightest of the three 2012s but the perfume of the Alttus was so convincingly herbal that I initially thought it could have been French. The only giveaway was the slightly greater sweetness on the palate.

The wine that turned out to be the Chave 2013 was the most obvious candidate as the French wine but, amazingly, I preferred the Alttus. It managed to be both

'We know each other so well that we can make complete fools of ourselves while blind tasting'

opulent and fresh, powerful yet not overdone. I think the Salomons were rather pleased with the exercise.

The next dinner in my notebook was for a group of 10, who regularly get together to indulge in blind tasting. Fortunately, we know each other so well that we can make complete fools of ourselves and there's no shame in wildly guessing.

The stars were two completely glorious vintages of the cult Châteauneuf-du-Pape, Château Rayas. The 1989 is particularly celebrated, along with the 1990, but the 1998 was looking even better at that west London dinner table.

My predecessor as FT wine correspondent, Edmund Penning-Rowsell, always said that once you've decided to pull a cork, you should banish any thought of how much the wine costs. Thank goodness the friend who so kindly donated these magnums follows Penning-Rowsell's advice. ▶

◀ The real bargain of the line-up was the wine many of us took for a white burgundy. It turned out to be the Kumeu River, Hunting Hill Chardonnay 2010 from New Zealand - selling last year at £38 a bottle. For those curious about our livers, the 10 of us shared five magnums and a bottle of Ch de Fargues 1971 Sauternes. Before such indulgent feasts, I take milk thistle, a plant-based dietary supplement that, I like to believe, helps process alcohol. If I ever forget, I certainly feel far worse the next morning.

The same London cellar was raided for an all-American dinner in January. We drank some relative rarities including Helen Turley's Marcassin, Three Sisters Vineyard Chardonnay from the Sonoma Coast, one of the original cult wines. I thought it was probably past its peak: the 2009 seemed much richer than most wines I come across from this cool part of California.

Two Napa Valley Syrahs followed, one rather sumptuous 2002 from Colgin (now part-owned by LVMH) that is still bearing up well and a Kongsgaard 2000 from the much cooler Carneros that was rather overwhelmed by the high-kicking Colgin. It may well have been flattered if it had been served with a more restrained example from the northern Rhône, Syrah's homeland.

Our host with the excellent cellar has a penchant for sweet wines, particularly Château d'Yquem. Mr K Gewürztraminer 1999 was a decidedly mature joint effort between the late Alois Kracher, Austria's king of sweet wines, and Sine Qua Non's Manfred Krankl.

At a family supper in Hong Kong last month, our host chose a numerical theme. The vintages on our three bottles of grand cru burgundy all ended in three. He omitted the heatwave vintage of 2003 but kicked off with a 2013 Corton-Charlemagne from Domaine Ponsot. I would have preferred the freshness of Kumeu River Chardonnay, at a fraction of the price.

A slightly dusty 1993 Clos Vougeot was from Domaine Haegelen-Jayer, a defunct domaine belonging to a distant cousin of the celebrated and much-missed Henri Jayer of Vosne-Romanée. (A great cache of his wines was auctioned four years ago in Hong Kong, where well-heeled collectors paid millions for them.)

The 1983 Griottes-Chambertin carried the name Edouard Delaunay, owned by negociant Boisset from 1992 to 2017. It was bought back and recently relaunched by Edouard's great-grandson Laurent Delaunay, who also makes wine in the Languedoc. This 1983 was delicious and showed none of the mouldy signs of rot often associated with this vintage.

So there you have it, a few leaves out of my tasting book. Fairly sodden, admittedly, and unashamedly so.

More columns at ft.com/ jancis-robinson

MY ADDRESSES — OCHO RIOS, JAMAICA

MATIN MIAH, RESTAURATEUR





Ocho Rios, or Ochi as it's known to the locals, is my home from home. We're lucky to have an old family place close to this modest-sized town on Jamaica's north coast. Apart from some great tourist attractions, there's another reason to visit this little gem: the food.

- Surrounded by unblemished beaches, **Jamaica Inn** (above right), where Marilyn Monroe and Arthur Miller toasted their honeymoon, is a must. Every Wednesday and Friday, the breakfast specials include an unforgettable version of Jamaica's national dish, ackee and saltfish (above left).
- For lunch, eating in a place popular with locals will give you a great experience of the island's culture and its people. Tucked away on Main Street is **Miss T's Kitchen**, serving some great Jamaican home cooking. Miss T's traditional oxtail stew is not to be missed.
- A trip to Jamaica should involve rum. If you can avoid the cruise-ship hordes, then visiting **Bamboo Blu** beach club on Mammee Bay is a perfect place to relax. The rum punch is infused with the famous Jamaican Wray & Nephew Overproof Rum (63% ABV) and packs a genuine punch.
- There are plenty of "jerk centres" in Jamaica but **Scotchies** in Drax Hall makes for a memorable feast with which to end your day. Scotchies has been a big influence on my own food and the rustic and inviting outdoor setting is unmatched. It is famed for its jerk pork, slow cooked and smoked over pimento and sweet wood.

Matin Miah is owner of Rudie's, a Jamaican restaurant in Dalston, London; rudieslondon.com





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FTWeekend

Restaurant Insider

Nicholas Lander



CARACTERE RESTAURANT INTERIOR AND ARLETTES MILLE-FEUILLE; PHOTOGRAPHS BY FIONA MACLEAN

Caractère, London

pening a restaurant in west London is not easy. Lured by cheaper rents and more interesting spaces, the city's restaurant population moved east decades ago.

On the other side of town, by contrast, new establishments face inevitable resistance and quieter custom. Yet six months ago, Emily Roux and her husband Diego Ferrari set up Caractère – an independent restaurant situated in Notting Hill.

They're not the first to make the move west, of course: Brett Graham's Ledbury got here years ago; more recently, there was Clare Smyth's Core. However, the location remains a challenge.

In the evening, there tends to be an 8pm rush when people get home from the office. But there is no theatre crowd and very little custom at lunchtime - although Roux explained that this was the case at The Ledbury for its first four years, and plans to persevere.

The space itself is not ideal either, with the kitchen in the basement. Down 13 steps with two nasty turns, it is visible to customers only when they are visiting the toilet. Every dish must be carried up this treacherous staircase, although the two young men responsible on the night we went did so with great expertise. I was told that Roux's mother, who helps out on particularly busy shifts, does this job just as willingly.

And yet there is something decidedly in Caractère's favour: the pedigree of its owners. Roux is the only child of Michel Roux Jr and the granddaughter of Albert Roux, who with his brother Michel opened Le Gavroche - where Ferrari was formerly head chef.

The menu clearly reflects the pair's French and Italian roots and is broken down into six (slightly oddly named) categories: Curious; Subtle; Delicate; Robust; Strong (consisting of a single plate of Gorgonzola with a salad); and Greedy. This last features three desserts, one of which provided a fantastic finale to our meal.

While we were considering the menu, a smart plate carrying three very distinguished *amuse-bouches* arrived: *gnocco fritto*, an Italian fried ball made of flour, yeast and a little lard and salt, topped with melted Red Leicester cheese; *tigella*, a small roll stuffed



'The best produce is fashioned into dishes so technical that even the most accomplished amateur chef could never replicate them at home'

Caractère

209 Westbourne Park Road, London W11 1EA 020 8181 3850 caractererestaurant.com Dishes £11.50-£34 Tasting menu £78pp 'Spontaneous' lunch £39pp with *coppa*; and a crisp filo pastry with smoked cod's roe.

From the Curious section, I chose a dish of confit chicken oyster meat from the underbelly of the bird with a smoked parsnip purée - while my wife chose the signature dish, described as celeriac "cacio e pepe", a version of the famous pasta dish but with strips of the root vegetable instead of tagliatelle. Both were excellent. They highlighted exactly why we should relish restaurants such as Caractère - the best produce fashioned into dishes so technical that even the most accomplished amateur chef could never replicate them at home.

My dish consisted of pieces of chicken around a mound of thinly sliced potatoes, all held together by an intensely reduced chicken jus. The celeriac, cut into long strips on a Japanese mandoline before being blanched, was then topped by our Italian waitress with a few drops of 25-year-old balsamic vinegar.

Our main courses presented an array of colours: the white of precisely roasted halibut alongside varying greens of cauliflower and parsley and red amaranth; dark yellow ravioli, stuffed with pale cipollini onions and an unctuous yeal jus.

We chose a 2016 Saint-Joseph from Maison Les Alexandrins that cost £52, taking our total bill to £162. And we finished with arlettes mille-feuille: three thin layers of puff pastry enriched with cinnamon, holding together pieces of succulent Yorkshire rhubarb and some diplomat cream (a combination of pastry cream and whipped cream), alongside rhubarb sorbet. This was a dish that showed off the kitchen's expert precision, with the pastry cooked to perfection. Even 10 more seconds would have left it burnt.

Other factors distinguish Caractère. One is Roux, who works in the kitchen during the day and acts as maîtresse d' in the evening. She combines the essential criteria for a restaurateur - a love of food, wine and people.

When I asked Roux about the origins of the restaurant's name, she explained: "Diego and I have often been told that we have a lot of character." Or, she adds, "that we are rather stubborn".

More columns at ft.com/lander



What if we could live beyond 100?

What could dramatically longer life expectancies mean for you, your family and your investments?

Humankind is on the cusp of halting the ageing process. Developments in stem cell research, tissue regeneration and gene therapy mean many more of us could soon be living beyond 100. This trend could have a range of implications for the way we live, work and invest.

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Discover more about the impact of living beyond 100 in our investigative series. Search 'See Beyond'.



Games



A Round on the Links

by James Walton

All the answers here are linked in some way. Once you've spotted the link, any you didn't know the first time around should become easier.

- 1. In 2010, 95 per cent of the pupils of which school in Horsham voted in favour of keeping their Tudor school uniform (right) of long blue coats, knee breeches and yellow socks?
- 2. In May 2003, the Colorado radio station KKCS suspended two of its DJs for playing records by which band?
- 3. Which Dr Seuss story begins, "That Sam-I-Am"?
- 4. Cliff Michelmore and Laurence Llewelyn-Bowen were the first and last presenters of which BBC TV show. which ran from 1969 to 2007?



- 5. In which 2005 film did Helena **Bonham Carter** play Mrs Bucket?
- 6. In June 2018, who became the longest serving health secretary in British political history?
- 7. Elmer Fudd (right) is the enemy of which cartoon character?
- 8. Who called Lord Byron "mad, bad and dangerous to know"?

- 9. Which London station was opened by Great Northern Railway in 1852?
 - 10. By what name is Mahler's Second Symphony known?



The Picture Round

by James Walton

Who or what do these pictures add up to?

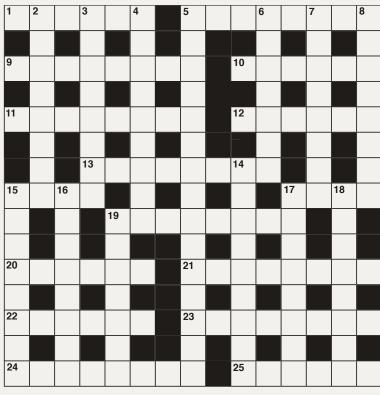






The Crossword

No 433. Set by Aldhelm



The Across clues are straightforward, while the Down clues are cryptic.

ACROSS

1 Finish a phone call (4, 2)

5 Unchanging (8)

9 Resort, remedy (8)

10 Ripen (6)

11 Long running race (8)

12 Aircraft without

an engine (6)

13 Viking vessel (8)

15 Lots of (4)

17 Poker stake (4) 19 Rouse once

more (8)

20 Sufficient (6)

21 Listed (8)

22 Amend again (6) 23 Soap, shampoo,

eg (8)

24 Meet (8)

25 Unsteady, dizzy (6)

2 One with leaders of Vatican eventually make song part of the Mass (3, 5) 3 Edited blog for everyone unknown number everywhere (8) 4 Place to rest with wobbly cane, maybe (9) 5 Reconditioned canal tile washes spotless (5, 2, 1, 7) 6 Request soaked bread surrounding seafood (7) 7 A number climbing - send out for

explorer (8)

8 Article on old rebel is conjecture (8) 14 Suitable landlord's job, we hear (2, 7)

15 Lightning or ice, perhaps, joined overhead (8) 16 One sent up post, working for old emperor (8) 17 Far from brave character's trembling heart - in love. perhaps (8) 18 Amphibian got up around underwater feature on river (4, 4) 19 Kid with period

Solution to Crossword No 432

for music (7)





GILLIAN Tett

PARTING SHOT

Do we need an IMF to regulate the internet?



eventy-five years ago, as the second world war was drawing to a close, delegates from the Allied nations met in Bretton Woods, New Hampshire, to create a framework for regulating the international monetary system.

They assumed back then that monitoring money was crucial for fostering peace and building growth. No surprise there, perhaps: after the war there was an urgent need to restart the global economy, via institutions such as the World Bank and the International Monetary Fund. And, for all the bumps in subsequent decades, that is what happened. When the IMF and World Bank held their spring meetings this month, downtown Washington was adorned with posters hailing "75 years of co-operation".

But amid the celebrations, it is worth asking: is it time for the IMF to think beyond money? Jim Balsillie, the former co-chief executive of Research in Motion, the Canadian company behind BlackBerry, thinks it is.

Last year, the IMF hosted a seminar to talk about the new digital economy. During the discussions (at which I also spoke), Balsillie made a novel appeal: he said it was time for the IMF to help co-ordinate global data rules and to forge a joint international strategy for dealing with the impact of technology. That idea may sound odd to economists, who are used to focusing on money. But today, Balsillie argued, the movement of data drives the global economy as much as finance – so much so that data is often described as the new oil, in terms of creating value. "In 1976, 16 per cent of the value of the S&P 500 was intangibles [but] today intangibles comprise almost 90 per cent of the S&P's total value." he noted.

That makes data governance a key policy issue. But the seemingly intractable splits between the US, Europe and China in this respect have the potential to rip the internet apart. Indeed, the risks are so high that Silicon Valley luminaries such as Eric Schmidt, former Google chief, have warned that we could be heading for a "splinternet", a network fragmented by national barriers.

So just as bodies such as the IMF tried to create growth-promoting rules for money, they should now do likewise for data. "Nothing less than a historic gathering of key decision makers will forge a new global framework... for the data-driven economy," Balsillie told IMF head Christine Lagarde as he called for "a new Bretton Woods moment".

I doubt that this idea will ever fly (although Lagarde herself was too tactful to say so at the time). The IMF already has its hands full with traditional financial and economic problems, and is staffed by economists rather than tech experts.

Also, it's not clear whether even the wily Lagarde would be able to bang heads together to forge a data accord - even if she wanted to. The original Bretton Woods initiative was created by 44 allies who were fighting a war together. Today,

geopolitical rivalries, notably between China and the US, are more likely to outweigh any sense of common purpose.

Nevertheless, I think it would be a mistake to dismiss Balsillie's appeal, for at least two reasons. First, we all need to recognise just how radically the digital revolution is changing our idea of what an economy is – and how value is created in an era where data is almost as important as money.

In its latest World Economic Outlook report, published this month, the IMF said it was alarmed about the monopoly power of big tech companies, since it feared this could undermine growth and innovation in the future.

'Splits between the US, Europe and China have the potential to rip the internet apart - or create a "splinternet"

Second, Balsillie's suggestion exposes much bigger questions about global governance. Maybe it seems weird to imagine the IMF setting global data standards. But what is even stranger - and more alarming - is that no other institution is really in a position to do this.

In theory, the UN is supposed to have some oversight of the web. But, in practice, it is fairly toothless and bureaucratic, aiming primarily to foster policy discussions. While there are smaller organisations valiantly fighting to preserve the underlying architecture of the internet – such as the Internet Corporation for Assigned Names and Numbers – these tend to focus on niche areas.

What the internet lacks, in other words, is anything like a network of central banks, or the Bretton Woods institutions, which might do for data what those bodies do for money - namely, fight to keep it flowing around the world in the face of geopolitical tensions. In part, this is by design: the techies behind the internet set out to build a decentralised network and were suspicious of government control. But it is also because our digital economy is still pretty young; thus far, there has not been the type of catastrophic shock (a complete collapse of the web, say, or a massive cyber hack) that might force competing countries to co-operate. Bretton Woods, after all, was a response to the second world war; the US Federal Reserve was born out of financial panics.

Can policy makers learn the lessons from financial history and create mechanisms for global co-ordination for the digital world before – not after – a shock hits? History suggests not. But unless that happens, the issue remains that data, like money, makes our world go round – but unlike with money, there are few global mechanisms for co-operation. The IMF might not be the obvious body for this; but if not it, then who?

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