

Oh Miriam! The making of a bona fide national treasure.

Parasocial relationships matter, but should you be worried?

Quantum leap: how magnets could rewrite superconductor laws.



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Editor

Mira Katbamna

Managing editor

Steve McGrath

Design and art direction

Rob Flanagan

University of Cambridge

Elizabeth Warr
Clare Monaghan
Charis Goodyear
Matt Norton

Publisher

The University of Cambridge
Development & Alumni Relations
1 Quayside, Bridge Street
Cambridge CB5 8AB

Editorial enquiries

Tel +44 (0)1223 332288
cameditor@alumni.cam.ac.uk

Alumni enquiries

Tel +44 (0)1223 332288
contact@alumni.cam.ac.uk
alumni.cam.ac.uk
facebook.com/cambridgealumni
@Cambridge_Uni
#camalumni

Advertising enquiries

Tel +44 (0)1727 739196
paul.heitzman@cplone.co.uk

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Megan Taylor

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Welcome to the Michaelmas edition

of CAM. Speed, accuracy and... no data storage to speak of. Quantum computing holds immense potential. But while quantum memory can store vast amounts of data, that storage only lasts 100 milliseconds... at -273°C . So it is lucky that Professor Chiara Ciccarelli thinks she may have the solution, on page 20.

Meanwhile, some of us are too busy building deeply intense bonds with people we've never met – but that doesn't mean those feelings are meaningless. Welcome to the world of the parasocial relationship, on page 36.

Elsewhere, on page 8, Miriam Margolyes (Newnham 1960) returns to her old room, and on page 45 we find out why the blue plaque outside The Eagle keeps being graffitied.

Finally, as I write, Cambridge appears overwhelmed by freshers: getting lost, making friends, attending the squash of an obscure society we know they'll never join. And wondering whether their new neighbour, or lab partner, or that girl who asked all the questions in the seminar, is it: the next BNOC – Big Name On Campus. Because, come Easter, that is going to be the question on everyone's lips. Read all about it on page 14.

On these topics – and on all things Cambridge-related – we look forward to your contribution to the debate, online at magazine.alumni.cam.ac.uk, by post and email or on social media.

Mira Katbamna
(Caius 1995)



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Inbox

Education

✉ It was great to read about the impact of social inequality on educational attainment (School of Thought, CAM 102); it was one of the most stimulating and thought-provoking things I've ever read in CAM. Kat Brown puts her finger on the problem when she writes, "for meaningful change to occur, policies should address the structural reasons that cause some students from lower socio-economic backgrounds to underperform". It gives the lie to the view that it's just hard work that counts in education and that it's all down to the individual's effort so that people get what they deserve, and clearly highlights the importance of investment and social background, aka class. One might say that this is a conclusion that's been hiding in plain sight for decades, but it's good that Cambridge research has backed up what most of us knew all along.

Tim Evans (Fitzwilliam 1983)

The Bumps

✉ Your article on the Bumps (CAM 102) brought back many happy memories. I was a member of the Fitzwilliam 5th boat in the 1973 May Bumps, a scratch crew of first-year friends who had never rowed before. The first day of the Bumps arrived and we had only

just arrived at our station when the gun sounded. Eventually we got the boat moving, and with our cox screaming encouragement, we bumped the boat that started five in front of us just before the railway bridge – a double over-bump! As head of the division we went again and were able to catch the boat three in front and bumped right in front of the massed crowds at the Plough. The next three days we got bumps pretty quickly off the start. The oar still hangs in my dining room as a record of our row although the signwriter couldn't fit all the over-bumps on, so it understates our true achievement.

Peter Mather (Fitzwilliam 1972)

✉ The excellent article on Bumps racing commented: "The Bumps might seem slightly mad" and this reminds some of us that one mad aspect that added to the excitement has now gone. Before laws banning hand guns were passed, all boat clubs owned .455 Webley revolvers, and bicycling coaches communicated to their racing crews by firing revolver blanks. If a boat went up half a length, one round was fired, then two rounds for a full length, and three for overlapping the boat in front. A frenzied coach wobbling at full speed on a crowded towpath and firing a heavy service revolver was something

the old heavies will never forget, and probably accounts for their deafness – and that of many shell-shocked spectators who were closer to the muzzle than we were in the boat.

Andrew MacTavish (Downing 1958)

✉ Your Bumps article brought back memories. In 1950 there were no Bumps for women but, since the doctor commented on my slow heartbeat, I thought I should try rowing – a sport new to all of us. I rowed Five in the Blue Boat of 1953, and I remember two moments of that day: the elation when we knew we had won, and the pain laughing at the Marx Brothers film later that evening, when I discovered waist muscles, hitherto unknown!

Daphne Pollard (Newnham 1950)

Soundtrack

✉ Although *Too Marvellous For Words* was a flop theatrically (Soundtrack, CAM 102), it was quite an experience to perform at the Edinburgh Fringe. I was the choreographer (and played various female parts) and attempted to get out of the show before we went up, but a replacement could not be found. The irony is I performed, choreographed or directed almost 20 shows at Cambridge and this was the only one my parents ever saw me in!

Fiona Davidson (Homerton 1981)

My Room Your Room

✉ Older alumni of Downing will have been amused to read the article (My room, your room, CAM 102) which refers to two aspects of recent College life: the radiator and the microwave oven. In the winter of 1963, when the Cam froze over (enabling an ice-hockey match between American and Canadian students on the river), my roommate and I had no heating whatsoever in our bedroom on N staircase in Downing. Our bedding was supplemented by the inevitable duffel coat, and microwave ovens were then the subject of development projects in electrical appliance manufacturers.

Roger Payne (Downing 1960)

Kettle's Yard

✉ In 1954 I was assigned to College digs near Parker's Piece during my freshman year at Emmanuel. My gloomy bedsitter was dominated by a huge pre-Raphaelite gold-framed print depicting a romantic encounter between a rosy-cheeked shepherd and an equally rosy-cheeked shepherdess at a very convenient stile. Unfortunately, in those days, there was no Kettle's Yard available, so my only choice was to quickly rotate the Edward Burne-Jones classic to face the wall!

Kenneth Lee (Emmanuel 1954)



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The Student Support Initiative target has been reached, enabling the brightest students from all backgrounds to thrive at Cambridge.

cam.ac.uk/ssi-target-reached



Children's health

Cambridge Children's Hospital to deliver integrated healthcare

Ministers have given the go-ahead for Cambridge Children's Hospital – the UK's first hospital designed to bring mental and physical health together for young people.

"This is fantastic news and an exciting moment in our journey to build a truly integrated children's hospital for the East of England," says Professor Isobel Heyman, Clinical Lead for Mental Health at Cambridge Children's Hospital.

Approval from the Chief Secretary to the Treasury and the Secretary of State for Health and Social Care recognises that the hospital will meet the needs of patients and staff across the East of England, and that the appropriate funding streams are in place to deliver the specialist facility.

The process of appointing a contractor to build the groundbreaking new facility in 2026 has now

begun. Groundworks are already complete, access roads have been installed, and hoardings have gone up around the five-storey, 35,000m² hospital site on Robinson Way and Dame Mary Archer Way.

Work now continues to reach the hospital's philanthropic target of £100m, £50m of which has already been raised.

Dr Rob Heuschkel, Clinical Lead for Physical Health at Cambridge Children's Hospital, says: "I want to thank our healthcare staff, young people and their families from across the region who have been contributing valuable feedback and helping us shape our plans, right from the very start. The East of England is the only region in the UK without a specialist children's hospital, and we look forward to changing that very soon."

Sustainability

Researchers have developed a low-cost, energy-efficient 'sponge' made of activated charcoal that can soak up CO₂ from the air. Dr Alexander Forse at the Yusuf Hamied Department of Chemistry and his team say their discovery could have potential for carbon capture and beyond.

cam.ac.uk/chemistry-carbon-capture



Deconstructed

Cambridge spinout's ultra-fast charging electric battery hits the road

Cambridge University spinout Nyobolt, from Professor Dame Clare Grey's lab, has demonstrated its ultra-fast batteries in an electric sportscar.

Initial in-vehicle testing confirmed that the Nyobolt EV's battery can be charged from 10 per cent to 80 per cent in four minutes 37 seconds.



The compact battery-pack size enables energy-efficient electric vehicles that are cheaper to buy and run, and – crucially – use fewer resources to manufacture.

Nyobolt co-founder Dr Sai Shivareddy says the company's research has unlocked "a new battery technology that is ready and scalable right now."

Three-minute Tripos

THERE'S MORE TO THE DIARIST SAMUEL PEPYS THAN MEETS THE EYE. DISCUSS.

Mr Pepys! You go a little handsomer than you have hitherto.

Ah yes. I was up betimes, called up by my tailor, and there first put on a summer suit this year – but it was not my fine one of flowered tabby vest and coloured camelott tunic, because it was too fine with the gold lace at the hands, that I was afeard to be seen in it – but put on the stuff-suit I made the last year, which is now repaired.

But why should you be afeard of such a suit, very rich and fine?

Povey told me of my gold-lace sleeves in the Park yesterday so as to resolve never to appear in Court with them, but presently to have them taken off, as it is fit I should.

So, while you cherish your ability to afford fine accessories and textiles, you remain perpetually respectful of your social status.

Why, yes; these conflicting attitudes foster an inherent tension between my dual personas of sophisticated and fashionable urbanite and humble civil servant. So writes my lady Marlo Avidon in the journal The Seventeenth Century; she is a PhD student and the first to mightily peruse my beloved French fashion engravings, which now do reside in my library at Magdalene College, and have been for her objects of great interest.

From this day, I will see a plain Pepys, yes?

Certainly, I find myself lately under a great expense of money upon myself in clothes. Now, come to my office, there to see my new shagg purple gowne, with gold buttons and loop lace...

cam.ac.uk/history-pepys-fashion



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From left: Lucy Hennessy, Trinity Hall, Third Year Computer Science; Sam Spencer, Downing, Third Year Computer Science; and Amy Dunn, Emmanuel, Third Year NatSci.

Ding!



on high!

Merrily



Dong!



The Guild of Change Ringers makes sure everyone is ready to pull their weight.

WORDS **LUCY JOLIN**

PHOTOGRAPHY **ADAM LAWRENCE**

Next time you're unexpectedly sweltering in a British summer, spare a thought for a somewhat overlooked group of sufferers: bellringers. Because it turns out that in the 12th century, churches were not built for heatwaves. "I don't mind the cold in ringing rooms, but when it's hot and stuffy it can be a problem!" says Jadd Virji (Trinity 2020), a member of the Cambridge University Guild of Change Ringers (CUGCR). "But you never know what to expect, especially when you're ringing in a church you haven't been to before. We had a competition in Somerset recently where I brought three changes of clothes, as I didn't want to be freezing in a T-shirt..."

But icy or boiling churches are all just part of the joyous experience of bellringing, he says – and that, plus the camaraderie in the Guild, more than makes up for any inclement conditions. Founded in 1879, CUGCR welcomes both experienced change ringers and those who don't know their garter holes from their gudgeons. They hold regular ringing sessions at the churches of

Great St Mary's (12 bells), St Bene't's (six bells) and St Andrew the Great (eight bells), as well as teaching sessions for new ringers to learn the basics of physically handling a bell. "In fact, one of my favourite things is to see people improving," says Virji. "It just feels good when you make progress, and I include myself in that, of course."

The activity is inherently social, Virji points out – it's impossible to ring a touch (a short piece of ringing) by yourself – and the Guild is also often joined by local bellringers and Guild alumni. "If you've got six bells, say, and there are 14 people, only six people are ringing the bells at a time, and each change lasts about ten minutes. So, there is plenty of time to chat while you're not ringing." It makes sense, therefore, that bellringing isn't the only ancient ritual that the Guild enjoys: friendly post-ringing pub gatherings and dinners are also vital.

"I really enjoy the black-tie dinners we hold every year, which are attended by members from years back," says Virji. "Usually, one of

them will make a speech and it's fascinating to hear about what it was like ringing in past decades. We also have a lovely tradition where the Master of the Guild – currently Sam Spencer (Downing, Third Year) – and five other less experienced ringers will ring a handbell touch in the middle of the dinner. They practice that for months beforehand."

As a former chorister, Virji has a longstanding interest in church music. But, he points out, you don't need to be a musician to be a great bellringer. "Of course, you need to be aware of what's happening rhythmically, and you need to be accurate. I like trying to get as accurate as I can. So, I guess that's kind of a musical aspect. But it's fascinating to think about what other skills bellringing calls upon."

"I enjoy maths and there are mathematical rules involved in working out a composition, as there are rules you need to follow – I've also dabbled in computer programming to generate valid compositions. Though, of course, you also don't need to know anything about maths to ring, either. It just becomes part of your muscle memory, your subconscious. But there are so many different people who love it. You might say bellringing is a broad church!"

To find out where the CUGCR will be ringing next, visit cugcr.org.uk

301, Newnham College

BAFTA-winning actor Miriam Margolyes meets third year historian Amelia Bell to discuss books, biscuits and... well, you'll see.

WORDS LUCY JOLIN PHOTOGRAPHY MEGAN TAYLOR



I never knew there were so many lesbians at Newnham!" announces certified national treasure Miriam Margolyes (Newnham 1960), fresh from a meet-and-greet with her many fans at the College. She's on tremendous form, gazing wide-eyed around Room 301: "I don't think I ever fucked in here...", reminiscing about the bright blue fur coat she brought to Cambridge, ("I wore it because I was a natural show-off. I got stares! Some things never change...") and gleefully sharing an X-rated anecdote involving an American soldier and a bicycle.

But as she sits down in the light-filled room's big bay window, looking out onto Newnham's gardens, she falls silent for a moment. "It feels overwhelming," she says. "It feels emotional. And it feels a touch sad, because so many of my friends have died. And when I look around the College and

these rooms, I see the shadows of those who've died. And I remember them. But it's such a wonderful place, isn't it?"

The room's current inhabitant, Amelia Bell (History and German, Third Year), agrees. "I think Newnham in particular is such a special community," she says. "It feels so lovely to be here in this beautiful room. I have felt like I've become myself here, and I've met people I really care about. I feel very lucky." "And you'll have those friends for life," says Margolyes. "How old are you? 20? Well, I'm 83, and my love of College has lasted. It just shows: some things can last."

The two then fall into a detailed discussion about the books they brought to Room 301. Margolyes came with the works of Charles Dickens, Bell with "far too many books in a great big box. I think I imagined that I'd have a lot more time for reading for pleasure

than I actually do." They both enjoy holding a book: Kindles, they agree, are strictly for planes only.

Not that Margolyes got much reading done, she admits. "Everybody makes their own Cambridge world, and mine was the world of the theatre: rehearsing, talking about plays, being jealous of people who were cast." Bell's Cambridge, by contrast, is rather mixed. "I've tried rowing, with little success! Rather bizarrely, I'm in the Ancient Literature Society, which is mostly just because I knew some people in it."

While today's Newnham students have the Iris bar and café to meet and chat – "I think there was a cocktail named after you once!" says Bell, to Margolyes' delight – in Margolyes' day, the room was where you met. "We would gather, put the fire on and make cocoa and pass around the chocolate

Everybody makes their own Cambridge world – mine was theatre: rehearsing, talking about plays, being jealous of people who were cast



McVities. And we would sit and talk. And so I primarily think of this room as a room where I talked and listened to my friends. And all the rooms were like that. It was lovely.”

But there were darker times, too. “We were all very vulnerable, because we didn’t know how to live our lives. We were finding out and sometimes it was very painful. I think we were very young for our ages.”

She remembers a student who took her own life at the end of Margolyes’ first year. “We all knew she was unhappy. But she was in the third year, and I was in the first year, and you did not speak to people in years which weren’t your own. After that, I decided that I was going to speak to people in other years, and that in future, if I knew someone was unhappy, I must never just walk on by.”

Bell nods. “I think there is a lot more support for people these days,” she says. “It must have been a lot harder for you and your peers, especially when it wasn’t as normal for there to be women in Cambridge.”

The shadows are lengthening across the lawns: it’s time for Margolyes to make the long trip down Newnham’s stairs. “I feel that I’m trespassing in a world that is no longer mine,” she says. “But when I was here, it belonged to me. It’s where I became me.”

Amelia Bell is studying History and German. Miriam Margolyes’ book *Oh Miriam!* was released in July.



Artificial intelligence

AI outperforms clinical tests at predicting Alzheimer’s

A new AI tool developed by Cambridge scientists is better at predicting the course of dementia than clinical tests, a team led by scientists from the Department of Psychology has found.

This new approach can work out – in four cases out of five – whether people with early signs of dementia will remain stable or develop Alzheimer’s disease. It could reduce the need for invasive and expensive tests and enable patients to make lifestyle changes or start medication early.

The team used real-world, routinely collected patient data from the US, UK and Singapore to build and test their model. “This shows our model will be generalisable to a real-world setting,” says senior author Professor Zoe Kourtzi.

Their algorithm was around three times more accurate at predicting the progression to Alzheimer’s than the current standard of care – demonstrating that it could significantly reduce misdiagnosis.

“This has the potential to significantly improve patient wellbeing, showing us which people need closest care, while removing the anxiety for those patients we predict will remain stable,” says Kourtzi.

In brief

EMBRYO MODELS

The first ever UK guidelines for the generation and use of stem cell-based embryo models in research have been released, created by the University in partnership with the Progress Educational Trust. Embryo model work could revolutionise treatments for recurrent miscarriage and improve IVF success rates.

LAB-GROWN ‘MINI-GUTS’

‘Mini-guts’ grown in the lab by Cambridge scientists using cells donated by patients at Addenbrooke’s Hospital are shining new light on Crohn’s disease. These ‘organoids’ – 3D cell cultures which mimic key functions of an organ – could help identify the best treatment for an individual patient.

JELLY BATTERIES

Inspired by electric eels, researchers at the Yusuf Hamied Department of Chemistry have created soft and stretchable ‘jelly batteries’ which could be used for wearable devices or soft robotics – or even implanted in the brain to deliver drugs or treat conditions including epilepsy. They can stretch to more than 10 times their original length without affecting their conductivity – the first time such stretchability and conductivity has been combined in a single material.

What does it take to be an outstanding Chancellor? As the University says goodbye to Lord Sainsbury of Turville, we celebrate the man behind the gown.

WORDS LUCY JOLIN PHOTOGRAPHY CHRIS LOADES

Champion, advocate and an essential part of the University's governance. As the constitutional head, the Chancellor presides over the most important public occasions, and supports the University's mission and strategic interests. But as the University says goodbye to Lord Sainsbury of Turville, what are the unique qualities he has brought to the post during 13 years of unwavering commitment?

An advocate and ambassador at the highest levels

With high-level experience in government and industry alike, Lord Sainsbury has been a highly effective advocate for the best interests of the University on both the national and global stage. "He's a man of great ability and thoughtfulness," says Professor Mike Proctor, 2013-2023 Provost of King's College, Lord Sainsbury's alma mater. "He's very well connected in both the public and private sectors. And that's been very helpful to the University at large." Professor Stephen Toope, the 346th Vice-Chancellor, says that although the role is technically ceremonial, Lord Sainsbury was always willing to go above and beyond. "If I asked him to do something for the University – connect me with the right person, give me a piece of advice – he always did it. He was very generous in making introductions, and saw his role as trying to strengthen the University where he could. And that was largely by supporting the people who'd been asked to do the big jobs – on the Council and in the leadership of Cambridge."

A passion for knowledge

As a former Minister of Science and Innovation, Lord Sainsbury has brought a wealth of experience to the University. But he has also brought his own love of research and innovation to bear, as Rebecca Simmons, the VC's former Chief of Staff and now COO of quantum computing company Riverlane, saw first-hand. "He liked to get into the detail beforehand, so he could make good connections with people," she remembers. "And sometimes, he would come back to see the same people over several years. For example, he stayed in touch with the CEO of Endomag, a cancer diagnostics spinout, and made a point of going back to meet them at key moments. In fact, accompanying him on visits was one of the most fun parts of my job." Dr Regina Sachers, former Head of the Vice-Chancellor's Office and now Director of Governance and Compliance, agrees. "He found it easy to connect with academics because he was genuinely interested in the work. He would always ask very informed questions, and would frequently offer his card and put people in touch with his own connections. It felt like a very genuine and low-key approach."

An invaluable sounding board

The role of Vice-Chancellor can be lonely, says Sir Leszek Borysiewicz, Vice-Chancellor 2010-17: often, the only person you can talk to is the Chancellor. "And Lord Sainsbury always made himself available. He was a friend, a mentor, an adviser. We had differences of opinion, but we could always talk. Having that open debate meant you could road-test the strength of an argument – and, sometimes, backpedal, because he'd made some very valid points that were critical for the University. And I can attest that during my time as Vice-Chancellor, he was always there for the difficult issues. He was quiet and understated, but very thoughtful and very wise – and never interfered with the executive functions that the Vice-Chancellor has to exercise."





An attention to detail

Among the Chancellor's most important ceremonial duties is the awarding of honorary degrees: one of the University's most significant traditions and an immensely proud moment for the recipient. As current Head of the Vice-Chancellor's Office, Angel Gurría Quintana assists with speech writing for these occasions: every year, he sends the Chancellor a draft speech. "And every year, Lord Sainsbury rewrites it and comes back with something far better and far more suited to the occasion!" he says. "His years of being a minister and his work in public affairs means that he is hugely experienced. His speeches always hit the right notes. And I can confirm that he writes them all himself."

He was a friend, a mentor, an adviser. And I can attest that during my time as Vice-Chancellor, he was always there for the difficult issues

A commitment to public service

"Lord Sainsbury does not have an agenda of his own: he seeks to do what the University needs, and always has its best interests at heart," says current Vice-Chancellor Professor Deborah Prentice. "He approaches the job with selflessness and the mentality of a public servant. I like the fact that sometimes he just turns up to things; he's such a curious and interested person. I think he very much embodies the values of the University." Toope says that he has always been struck by Lord Sainsbury's "complete lack of pomposity. Some people think they are the role. He always understood that the role is the role: he just happened to be occupying it for a period. And he brought a personal and political integrity to it."

**For more information, visit
cam.ac.uk/chancellor-voting-explained**

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Xavier Moya is Professor of Materials Physics in the Department of Materials Science and Metallurgy.

What's behind the revolution in heating and cooling? No gas.

INTERVIEW PAMELA EVANS ILLUSTRATION KATE COPELAND

Heating and cooling are the elephants in the room when it comes to global warming. They account for 50 per cent of all CO₂ emissions – yet few of us are as aware of them as we are of the impact of aviation, for example, which accounts for just 2 per cent. Perhaps this lack of awareness explains why there has been little focus on challenging the status quo – until now.

Why do heating and cooling systems emit so much CO₂? The answer lies in the outdated technologies that we continue to rely on. Gas boilers for heating, and air conditioners and fridges for cooling that run on vapour compression, have been around for over a century. These technologies are inefficient and problematic, and efforts to solve one issue often lead to new challenges.

Take CFCs, for instance: they were phased out after it became clear they were depleting the ozone layer. Their replacements – HCFCs and HFCs – do not harm the ozone but are significant contributors to global warming. Today, there is a push towards so-called natural refrigerants, such as butane, CO₂, and ammonia, which have a much lower global-warming potential. However, these come with their own risks, as many are toxic, flammable, or even explosive.

Decarbonising heating and cooling involves more than just eliminating harmful gases. Refrigerant leakage accounts for only a third of emissions from vapour-compression systems. The other two-thirds come from energy use, and the energy efficiency of these systems is notoriously low.

That is why my research focuses on entirely cutting out gases and developing new technologies based on solid materials, known as caloric materials. Eliminating gases instantly reduces one-third of emissions, but the real potential lies in creating a system that is two to three times more energy efficient than vapour compression. It would be transformative.

Caloric materials have been around for a long time – NASA developed the first magnetocaloric cooling prototype

in the 1970s. However, solids have always underperformed compared to fluids, which, due to the free movement of their molecules in the gas state, release a lot of heat when compressed. By contrast, it is much harder to manipulate solid materials in a way that produces similar results. Most research has focused on magnetocaloric materials, which release heat when exposed to a magnetic field. But after 50 years of research, the best magnetocaloric materials only achieve a temperature change of three degrees Celsius under magnetic fields generated by permanent magnets. By comparison, refrigerant gases in vapour-compression systems can easily achieve 40 degrees on compression.

In 2013, we began exploring alternatives and identified new families of organic solids, where molecules sit in a crystalline lattice. Under normal atmospheric pressure, these molecules rotate freely. Two years later, we demonstrated that when applying pressure, the molecules stop rotating – and this achieves the same thermal changes as the gases that we use in vapour compression. This was a big breakthrough.

Our spinout company, Barocal, has already developed its second-generation prototypes based on our barocaloric solid refrigerants, which perform on par with the vapour-compression systems currently on the market. We are now working on the third generation, which will surpass these conventional systems. Developing a completely new cooling and heating system is both challenging and exciting: we developed new materials and tools, made mistakes, and learned from them.

The second law of thermodynamics tells us that you can't achieve cooling without heating something else. The hotter the planet gets, the more people will install air-conditioning systems, which warm the planet further – so we need a solution, fast. My hope is that we will have these systems in your home, in your car, and in your fridge in five to ten years' time.

The real potential lies in creating a system that is two to three times more energy efficient than vapour compression

CONB

BNOC *(bruhk)*
noun, adjective
abbr. 1. Big Name on Campus: used
to refer to or describe a person
who is well known among their
peers, especially at Cambridge
University. 2. The annual popularity
contest held by The Tab since 2012.





Behind the shifty nominations, bizarre stunts, attempts to rig the results and a lot – a lot! – of peacocking, the process of becoming a Big Name On Campus is a serious business. But where did this annual celebration of everything Cambridge come from, and how has it evolved to assume its now legendary status?

WORDS **PETER WATTS**

PHOTOGRAPHY **JAKIE DRUE**

If it's inspiration you're after, where better to start than a Cambridge pub. DNA has its links to The Eagle, Tolkien's Green Dragon in *The Lord of the Rings* is supposedly named after the Chesterton local, and now there's BNOC – Big Name On Campus – the annual list of Cambridge's movers and shakers, the result of a 2012 brainstorming session at... The Maypole.

BNOC – pronounced BEE-NOCK – is the possibly genius, definitely cheeky creation of *The Tab*, the online student newspaper launched in 2009 to compete with the august *Varsity*. *Tab* Editor at the time, Jonny Singer (Sidney Sussex 2010), recalls gathering his troops in the pub with a view to finally answering a question that had occupied students for years – who really was the biggest name on campus?

"After the call for nominations, we came up with a list of 100 people that eventually went online," recalls Singer, who is now an adviser on the Laws of Cricket at Lord's. "We spoke to a cross-section of students to make sure we covered all bases – a good spread of Colleges and extra-curricular. If anybody got more than two nominations, they were on the list. We then created an online quiz, listing the reason the person was nominated and their College, but not their name, and asked people to enter that ›

The BNOC list is one of those things that everybody will want to read but nobody takes too seriously. Some people do try their hardest to get on it and chase clout, but it generally rewards people who are well known for more organic reasons – and that’s what makes it interesting

name if they knew who it was. You might be able to name about 30 of the people on the list, but everybody would have a different 30.”

Thus was born the 2012 BNOC Top Ten – a definitive Who’s Who of Cambridge life, and the first time anyone had thought of applying ‘scientific analysis’ (ahem) to the much-debated issue of University-wide celebrity (or perhaps, notoriety). Singer had a feeling he might be on to something and, sure enough, BNOC has become an essential part of Lent Term gossip. Students pore over the list looking for friends or rivals, there are regular rumours of scandals and rigged votes, while some wonder if those on the longlist have been trying too hard or even, god forbid, secretly canvassing for votes.

And for those on the list? That depends on the student. Some embrace the honour and even stick it on their LinkedIn profile; others delete their social media accounts and hope it blows over. It’s a fine line, says *Sunday Times* columnist Charlotte Ivers (Pembroke 2013), No 1 BNOC in 2016 with 1,662 votes and 92 per cent recognition (and described at the time as “Woman about town, social justice warrior... leggy blonde”).

“It was all extremely fun and extremely silly,” she says, attributing her victory to having been editor of *The Tab* the previous year, resulting in her name and face appearing in every Cambridge inbox. “At the time I joked that whoever won it would probably be a terrible person, and then, when I was named, realised I was right. But the main impact it has on my life now is that every now and then somebody will find it after a Google search and be extremely amused – while I am mortified.”

While the names on the BNOC list change each year, some things remain constant. Cambridge Union members and student journalists are usually well represented – although current *Tab* staff are excluded – and there is usually

a smattering of sports people, thespians, comics and party animals. And the winner will generally cut across these cliques.

Sometimes a winner might not really want the accolade – 2020’s BNOC No 1 became campus-famous after he was inadvertently embroiled in a controversy that drew national media attention and tweets from John Cleese (Downing 1960). Other students actively court notoriety by making controversial speeches. And sometimes noses are knocked out of joint by an unexpected or unfashionable winner.

That was the case for the very first BNOC, 2012’s No 1 Johnathan Zemlik (Corpus 2011), who threw himself into university life with zeal, joining sports and political societies, clubbing and attending formals. “When I got to Cambridge, I realised I wasn’t the smartest person in the room any more. That meant I had to be something else instead,” he says. “I was probably trying a bit too hard. I dressed up a bit, like a showman. I looked like Alan Partridge, blue blazer with brass buttons paired with chinos. I was one of those people who got to Cambridge and realised that now was the moment to experiment.”

As someone known to a number of social constituencies, albeit as self-described “comic relief”, Zemlik had precisely the broad name recognition required of a BNOC. Nonetheless, incredibly, outsider Zemlik defeated more recognisable Big Names, including future singer Tom Rasmussen (Queens’ 2010), future Conservative MP Katie Lam (Trinity 2009), and Charlie Gilmour (Girton 2009), son of Pink Floyd’s David Gilmour. Future England cricketer Zafar Ansari (Trinity Hall 2010) was nowhere to be seen. Singer says that he still wonders about the result.

Indeed, Charlotte Ivers remembers a whiff of scandal when she was named No 1 four years later. ›





A student from Trinity wrote a programme to bombard the quiz with thousands of votes for a friend – much to the displeasure of the recipient, who had no desire whatsoever to be a BNOC. Fortunately for them, they were eliminated when the bots clocked up something in the range of 100,000 votes – 10 times the usual number. Ivers was free to take her crown.

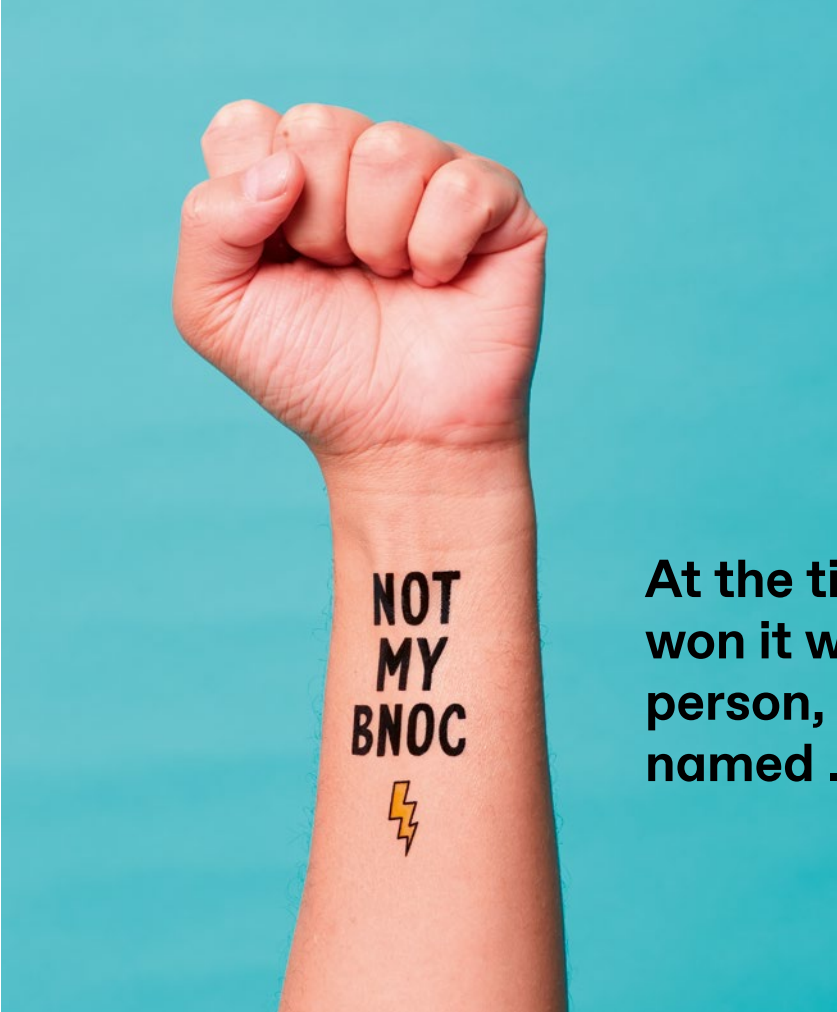
In recent years, the list has skewed towards those who are active on social media. 2024's BNOC is Sal Widdicombe (Homerton 2021), who developed a following after creating skits on a now deleted Instagram account. He also attended numerous societies and debates, but having a viral video can be a deal clincher when it comes to name recognition.

Like most people outside Cambridge, he had no idea BNOC existed until he started university. "I only heard about BNOC in the first term, and it starts to hype up a bit as you get towards spring," he says. "The BNOC list is one of those things that everybody will want to read but nobody takes too seriously. Some people do try their hardest to get on it and chase clout, but it rewards people who are well known for more organic reasons. That's what makes it interesting."

Although the BNOC list was expressly intended not to be a popularity contest – it's about recognition and nothing more – unsurprisingly this isn't always how it pans out. When *Tab* co-editors Zac Copeland-Greene (Girton 2020) and Hannah Huang (Christ's 2020) issued 2021's BNOC first round longlist, Copeland-Greene discovered students were only voting for people they liked – or sometimes, those they disliked – rather than, as the rules set out, everybody whose name they recognised. Similarly, people would nominate friends or enemies out of a sense of mischief, a desire to embarrass or, very occasionally, through genuine loyalty.

This being a (mostly) consequence-free, student online poll, Huang and Copeland-Greene were also



A close-up of a person's raised fist against a solid teal background. On the inner side of the forearm, there is a black tattoo that reads "NOT MY BNOC" in a bold, sans-serif font. Below the text is a small, stylized yellow lightning bolt.

NOT
MY
BNOC



At the time I joked that whoever won it would probably be a terrible person, and then, when I was named ... realised I was right

unable to remain unrocked by scandal: a member of *The Tab* claimed the pair were rigging the vote – in truth, the only change they made was to remove their own names from the longlist, as per the rules set down by Jonny Singer a decade before.

"We took some offence to that because we'd ended up with all these Union hacks and were actually hoping for something a bit more exciting," says Copeland-Greene. "A lot of people had nominated a guy who was famous for punching a wall. We hoped he'd win, but we ended up with Union presidents who spend so much time messaging to ask for votes that we have all seen their names."

"Running *The Tab* was a lot of work," says Huang. "Much more than people might realise. We had a team of 70 and there's loads of admin, so BNOC made a nice change. We saw all the reasons why people were nominated and knew the result a few days before it was published, so we felt we had a really cool secret."

However the last word must go to BNOC's first and most recent winners, who reflect on the meaning of BNOC in 2012 and 2024. "It was a bit of fun, but after I won, I think it became much more competitive," says Zemlik. "Cambridge is a competitive environment, and students can take the whole thing far too seriously. I have friends from Cambridge who are starting to have kids and quietly getting on with their lives. They seem to be happier people than those seeking accolades – and I say that as somebody who still seeks accolades even now."

Sal Widdicombe is adamant he is having fun, as he heads into his third year at Cambridge with the BNOC crown firmly upon his head. "It's definitely the best time of my life," he says. "I love meeting lots of different types of people and expanding my world view. For me, the BNOC list represents a microcosm of the Cambridge spirit. It's very diverse and it's very inclusive, with people from all the different groups and cliques. It's a real mix, a medley of the social life of Cambridge University. ☺



COLD STORAGE

Mind-bending speed. Extraordinary accuracy. And... no data storage to speak of. Quantum computing holds immense potential, but while quantum memory can store vast amounts of data, that storage is 'non-persistent' – it can only hang on to it for around 100 milliseconds. Oh, and did we mention it will only work below -273°C ?

WORDS MARK FRARY PHOTOGRAPHY KATE PETERS

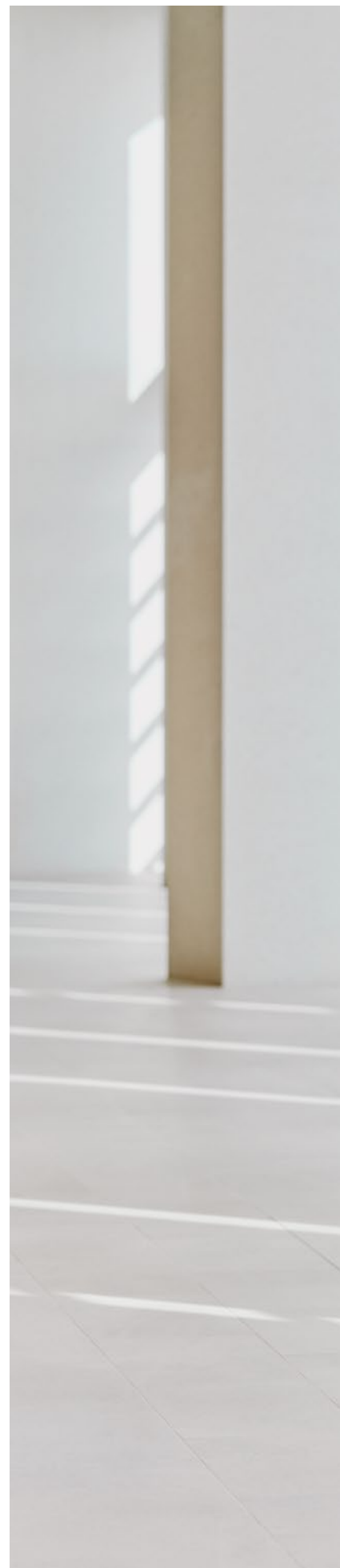
The year is 1900, and visitors to the Paris Exposition are charmed by a wonderful machine: the magnetic wire recorder. Its inventor, Danish engineer Valdemar Poulsen, uses his 'telegraphone' to record the Emperor Franz Josef saying: "*Erfindung hat mich sehr interessiert, und ich danke sehr für die Vorführung derselben* [I was very interested in the invention, and I thank you very much for demonstrating it]." This simple sentence heralds one of our age's most revolutionary inventions: the magnetic storage system which made modern computers possible.

"And we still haven't found anything else as cheap and stable as magnets for storing information for the longest period of time possible," says Professor Chiara Ciccarelli of the Department of Physics. "There are, of course, other technologies that allow you to save information. But magnets can store it for decades without changing their magnetic state and therefore without losing the information."

That's why, more than 120 years later, Ciccarelli and her team at the Cavendish Laboratory have just been awarded a €2.1m (£1.75m) Consolidator Grant from the European Research Council which aims to push this extraordinary characteristic ›

PROFESSOR CHIARA CICCARELLI

The Ciccarelli Group's research focuses on the study of quantum spin-effects in magnetically ordered materials, from ferromagnets to anti-ferromagnets to chiral magnets.





**DR OBED ALVES
SANTOS, RHIANNON
FLETCHER-STONES
& SHIVANGI SHUKLA**

The group uses different techniques with a bandwidth that ranges from DC up to terahertz frequencies. Their experiments often involve the patterning of nanometre-scale devices and the use of low temperatures.



I wanted to contribute something to the scientific community which very few people can do. I realised that there was a gap in the research. Nobody has yet studied the proximity structures between magnets and superconductors at fast timescales



of magnets to its very limit. Her PICaSSO (Picosecond superconductivity-driven spin-torques) project will investigate one of the biggest conundrums facing the next great tech leap forward: why can't quantum computers have a memory?

Of course, Ciccarelli explains, quantum computers are capable of incredible speeds and extraordinary accuracy. But while they can store vast amounts of data, they can only hold on to it for around 100 milliseconds. Then, it disappears. That's because quantum computers are built with superconductors. These materials can perfectly conduct electricity without any energy loss – but only when they are cooled below -273°C , right above absolute zero. Therefore, quantum computers can only operate in these very cold temperatures. And as yet, nobody has worked out an efficient way to give quantum computers a magnetic memory that doesn't involve heat.

"Just the act of a computer writing and reading magnetic information by controlling the direction of a magnet requires electrical currents," says Ciccarelli. "These currents, in turn, produce heat. The computer can't be connected to a magnetic memory storage device at room temperature, such as a server, because the act of connection – using a cable – would also transfer heat, rendering the quantum computer unusable. Right now, that's why quantum computers are very small. To do anything meaningful with them, they need to be scaled up. For this to be possible, they need a memory."

And there's another problem: superconductors just don't like magnets. In fact, they hate them so much that when they are brought into proximity, they will generate their own equal and opposite magnetic fields to push the magnet away – a phenomenon known as the Meissner effect. This disrupts the pairs of electrons – known as Cooper pairs – which carry electrical current in the superconductor. "Magnetism and superconductivity have long been regarded as two very incompatible states of matter: if you try to magnetise, you destroy superconductivity," says Ciccarelli.

But, she points out, there is a lot more going on than scientists initially thought. Recent work has shown that in some cases, you don't only rip apart Cooper pairs by introducing magnets. In fact, you can also create Cooper pairs that have aligned spins. The electrons continue to be superconducting and to be paired – and that means we can have magnetisation inside the superconductor.

So, synergy between magnetism and superconductivity is actually possible. That's what the PICaSSO project will examine: how well magnets

and superconductors can 'talk' to each other, at incredibly fast timescales.

"If you put a magnet and a superconductor in contact and bring them together, their mutual energy is affected," says Ciccarelli. "My idea is something new: to use this proximity to study the forces on the magnets which are generated directly at the interface with the superconductor, and therefore find new ways to read and write magnetic memories at low temperatures by using superconductors as active elements."

How did she come up with the idea? It was a long, slightly messy process, she says. "For me, creativity begins with accessing a huge amount of information, and letting it sit throughout a period of absolute confusion. And at some point, you emerge from this confusion and in a moment everything seems to be in place again. It's a pattern I've noticed throughout my life."

Ciccarelli's fascination with magnets came with her own moment of clarity after she completed her MSc at the University of Rome Tor Vergata and was looking for a PhD subject. Her professor gave her a paper on spintronics – spin electronics, the study of magnets. "I liked the word," she says. "And the physics behind magnets is really nice: there is a lot of quantum mechanics involved. I started looking for a group, which I found in Cambridge, and I have been here ever since."

"It was a shock when I arrived, though, as my background was in purely theoretical physics, and I had to learn to use my hands in the lab for the first time. You have to make magnetic devices that are pretty small." How small? "About a millionth of a metre. Or, if you like, a thousand times smaller than a millimetre. You have to practise a lot with the tweezers. It's a bit like cooking: you follow a recipe but also develop intuition on what needs to be done to make something better."

Her interest in superconductors came later, thanks to a collaboration with Professor Mark Blamire and Professor Jason Robinson at the Department of Materials Science and Metallurgy. "This is where we found out about how Cooper pairs could align. And I saw the potential for this to merge with my other interest: terahertz spintronics – essentially, studying magnets at much faster timescales. We want to know how fast we can read and write the magnetic state, to have faster memories." (We are, incidentally, talking very fast timescales here: right now, it takes around 10^{-9} seconds to write a magnetic unit of memory: Ciccarelli wants it to take 10^{-12} seconds. "I wanted to contribute something to the scientific community which only I can do – or very few people can do," >

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Photograph ©Ben Ealovega



Quantum mechanics brings a level of free will, if you like: it allows for infinite possibilities living together in the same state, and you pick one of these possibilities via interaction

**ZHUONAN WANG
& AJINKYA PUJAL**

Ciccarelli Group projects include: spin-orbitronics; superconducting spintronics; ultra-fast spintronics; and coupling between magnons and microwave phonons.

she says. “I realised that there was a gap in the research. Nobody has yet studied the proximity structures between magnets and superconductors at fast time scales.”

The PICaSSO project officially started in June and will last for five years. “We can suppress superconductivity very quickly by sending a terahertz pulse – a very rapid electric field pulse. When this happens, the superconductor becomes a normal metal very rapidly. It then returns to its superconducting state, and this process takes tens of picoseconds. I would love to see the magnet near it flip or change its magnetic direction as we do this, because this tells us that we can do what we had in mind – use superconductors as active elements to control the magnet.”

The potential impact is as extraordinary as the imperceptible quantum forces that surround us: computers of incredible power, with the capacity to store infinite amounts of information. “Quantum mechanics brings a level of free will, if you like: it allows for infinite possibilities living together in the same state, and you pick one of these possibilities via interaction,” says Ciccarelli.

This still-mysterious realm is something she thinks about a lot. “It’s interesting to consider that our brains, too, are a superposition of possibilities, and we get to choose. A normal computer is deterministic: once you have the inputs, an algorithm gives you the answers. But we are not deterministic: perhaps we are closer to a quantum computer.” She laughs. “This is too philosophical. But who knows what impacts quantum laws might have on us in the future? Right now, we only perceive the macroscopic physics around us. But that has nothing to do with true physics, governed by quantum laws.” ☺

To learn more about supporting these projects, please contact amy.bleasdale@admin.cam.ac.uk

Art

The Women's Art Collection, held at Murray Edwards, is Europe's largest collection of art by women. Here is the world through women's eyes.

WORDS ANNA FIELDING ARTWORKS THE WOMEN'S ART COLLECTION

without

~~men~~

The woman in the picture wears a dark dress with a simple white cap and a ruff, the clothing of Dutch Renaissance paintings. Holding a palette, she is typical of an artist of that Golden Age movement, even though she would become mostly forgotten after her death. Meet Judith Leyster, shown here in a copy of her self-portrait done by the artist Rose Garrard in 1982.

But Garrard's artwork goes further, gets messier. The painting is incomplete and the frame, featuring plaster casts of the Virgin and child, has melted away, arcing in a stalactite to the floor, echoing the curve of the surrounding staircase. In the negative space created you can see the fabric of the building of Murray Edwards College.

"Garrard is very interested in frames, frames that break and frames that fall off the wall," says Harriet Loffler, Curator of The Women's Art Collection at the College. "I feel that she talks about the frames, the boundaries, that women have to break through, both politically and socially, to take up space in the world. So this piece shows the work of Rose Garrard, the work of Judith Leyster and beyond that you can see the real bricks and mortar of the College, a support structure for women artists across the generations."

For more than 40 years, Murray Edwards, formerly New Hall, has been supporting women artists in a very tangible way. The Women's Art Collection is the biggest group of works by female painters, sculptors, photographers and performance artists in Europe. There are more than 600 works, including pieces by Barbara Hepworth, Tracey Emin and Cindy Sherman, and the vast majority is on permanent display ›

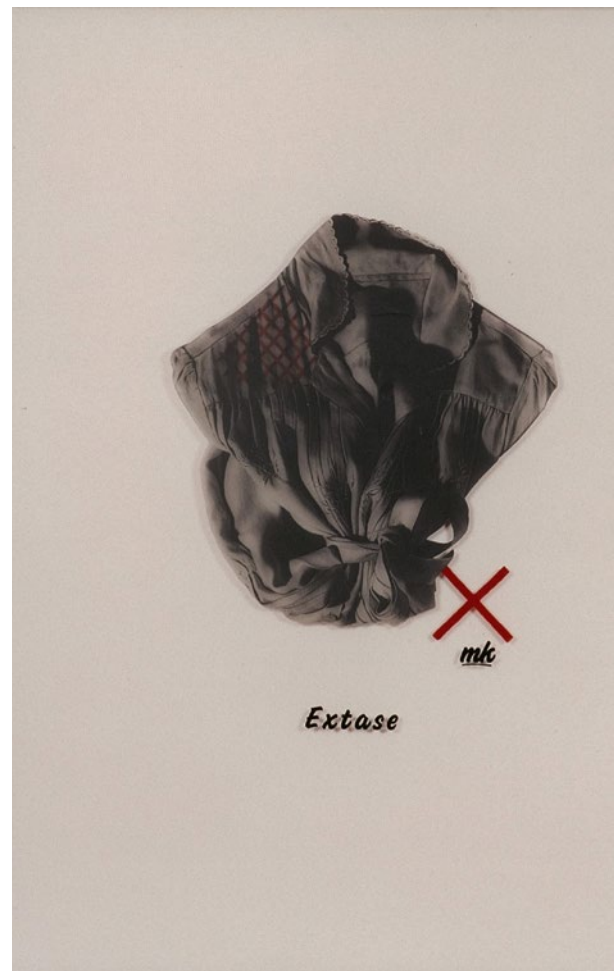
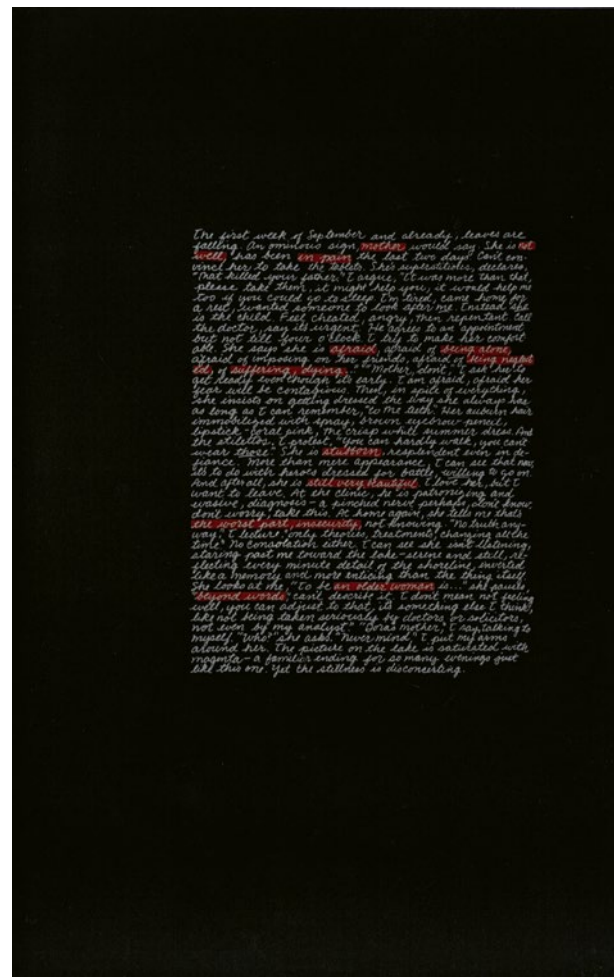
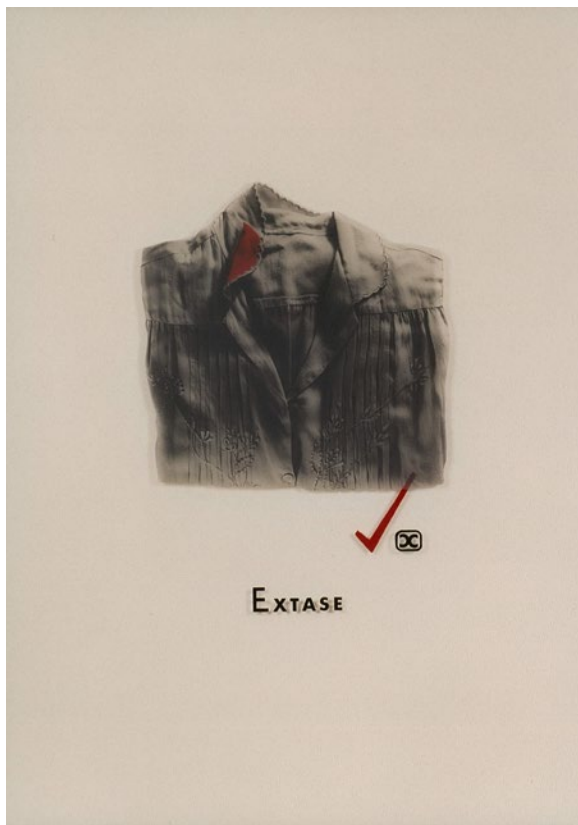


← **Models Triptych:
Madonna Cascade**

Rose Garrard, 1982

*Donated by the artist, 1992
© Rose Garrard*

It's this incredible communion of women, all at different stages of their lives, and with different experiences that don't often get spotlighted in museums and galleries



↑ Corpus, Extase

Mary Kelly, 1985

Purchased with the assistance of the Eastern Arts Association, 1986
© Mary Kelly. Courtesy the artist and Pippy Houldsworth Gallery.

↗ Ascending Form (Gloria)

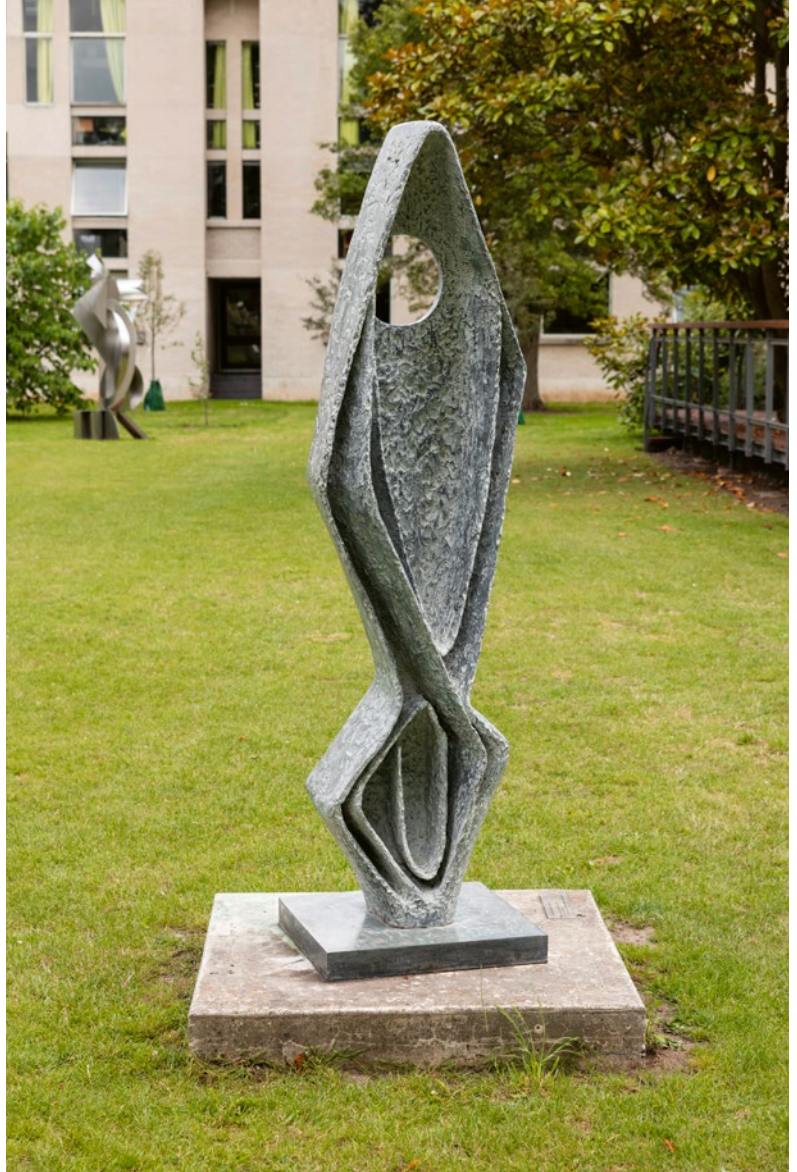
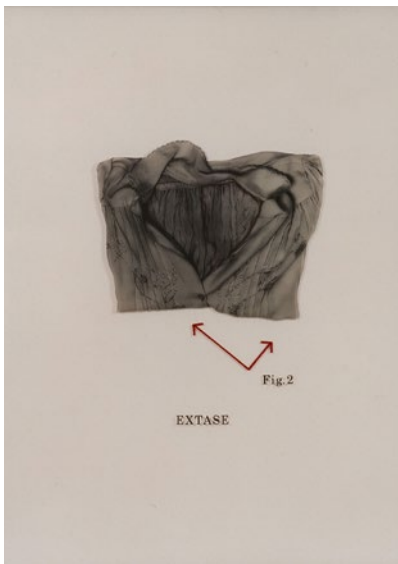
Barbara Hepworth, 1958

On loan from the Trustees of the Hepworth Estate since 2003
Barbara Hepworth © Bowness

within the College building. Most of the pieces in the collection have been donated and the public can visit the collection for free.

“What I love about the collection is that there are so many different stories, so many different points of view,” says Katy Hessel, author of *The Story of Art Without Men* and a Visiting Fellow at Murray Edwards. “It’s this incredible communion of women, all at different stages of their lives and with different experiences. And those experiences are ones that don’t often get spotlighted in museums and galleries.”

For Hessel, the experience of the artist Mary Husted is particularly powerful. When 17-year-old Mary became pregnant in 1962, she was sent away by her horrified family to “avoid the shame and loss of reputation”. Giving birth to her son Luke, without family support in a secluded nursing home, she resisted staff who wanted to take him away immediately and was able to spend a few precious days with her child.



She watched him carefully, using her art to create sketches – his arms raised in sleep, his hairline, his cheek – before he was removed from her.

Nearly 30 years later, Husted created an artwork using the drawings of her lost son, calling it *Dreams, Oracles, Icons*. The piece was donated to The Women’s Art Collection, and hung on the College’s walls where, incredibly, her son came to see it. Mother and son reunited, through art.

“What’s heartbreaking about these sketches is that it’s a mother who knows what the outcome is going to be. She’s holding on with every single mark,” says Hessel. “But these artworks show so much more than just motherhood. They also show the history of what women went through to exist, how they felt shamed and what they had to give up, and how their lives were affected by people making decisions for them.”

The Women’s Art Collection was founded in 1991, at a time when female artists were starting to shout more frequently and more loudly about underrepresentation. Indeed, the collection holds a 1989 poster made by The Guerrilla Girls, an anonymous group of feminists, female artists, which asks: “Do women have to be naked to get into the Met. Museum?”, pointing out that only five per cent of the modern art collection was created by women, but 85 per cent of the nudes were female.

In 1985, working in collaboration with the gallery, Kettle’s Yard, the College invited American conceptual artist Mary Kelly to take up a residency. Kelly was a controversial figure at the time, having displayed her infant son’s used nappies as part of her 1976 work *Post-Partum Document*.

“Kelly is a feminist, conceptual and rigorous artist,” says Loffler. “But *Post-Partum Document* sent the tabloid press crazy – they were outraged for its inclusion of dirty nappies. As a result, Kelly achieved a kind of iconic status. It really shows how bold Valerie Pearl, who was the College President then, and others were being in selecting her.” ›



← Dream, Oracles, Icons

Mary Husted, 1991

Donated by the artist, 1992
© Mary Husted

→ Do women have to be naked to get into the Met. Museum?

Guerrilla Girls, 1989

Donated by the artists, 2016
© Guerrilla Girls. Courtesy guerrillagirls.com

↓ Tattoo

Tracey Emin, 2002

Anonymous donation, 2014
© Tracey Emin. Courtesy Tracey Emin Studio

This is a mother who knows what the outcome is going to be, she's holding on with every single mark

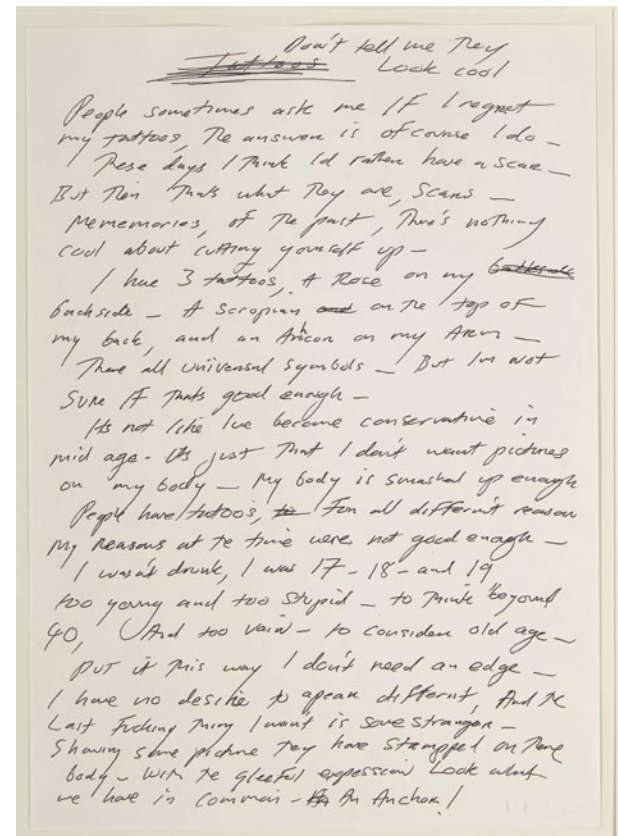
Pearl continued to build on the idea of creating a space for women's art. In 1991, working with curator Ann Jones, together with several fellows from the College, she sent out letters to a number of women artists asking them to donate work. "I think they expected perhaps around 10 people to respond," says Loffler. Instead, nearly everyone said yes, and within a year-and-a-half, 70 pieces were donated.

As it has grown, The Women's Art Collection has become a snapshot of women artists in the modern era – an alternative pantheon, showing the wide range of expressions in terms of both medium and theme. "Art historian Professor Griselda Pollock makes the point that women artists have always existed, but they were actively written out of art history by the male art historian in the 20th century," says Loffler. The Women's Art Collection, with its breadth and web-like connectivity, is a rebuttal to this linear and patriarchal canon.

And the setting is important. The Murray Edwards building is atypical for a Cambridge College. It was designed by the celebrated mid-century architectural practice Chamberlin, Powell and Bon, best known for creating the Barbican complex in London. "It's brutalist," says Hessel. "It's not built in a classical or neo-classical likeness. It's not what we all think about when we think of a civic building. The National Gallery and the British Museum, for example, promote a style of architecture imbued with a patriarchal history, and I like that The Women's Art Collection doesn't have that."

She points out that the galleries, student spaces and College rooms are connected by gardens and water. "There's a fluidity, it's a very primal thing." The Barbara Hepworth sculpture *Ascending Form* (Gloria) is sited in the gardens and, whatever the artist's intentions may have been the shape is undeniably vulval. "Let's say it feels inherently female," says Hessel.

The interconnected, modernist building; the public access; students wandering past works by great artists as part of their everyday lives; a garden where, as Loffler points out, you can both walk on the grass and pick the



The only reason The Women's Art Collection exists is because museum collections haven't taken the effort to really look outside for different stories, different perspectives



flowers: all of these things demonstrate a flattening of hierarchies, and the same ethos is reflected in the collection.

"It's important for me that there's an equality of display, that we tune into the artists that we don't recognise as much as those we do," says Loffler. "It's always been an intergenerational collection with artists recommending other artists to donate. The collection speaks of the network between those artists. Many collections are accumulated by a single individual, most likely a wealthy man, assembled and then donated for posterity. We don't have that. We are networked, distributed. The collection naturally displaces any sort of power dynamic."

That the collection has grown to its current size largely from donations demonstrates that the need for representation is still felt by living artists. The most recent Women Artists Market Report from the collector-focused website Artsy found that of the \$11bn (£8.6bn) created by selling art at auction, only \$1bn came from the sale of work by female practitioners. Of the top 100 works, just two were by women artists: Georgia O'Keeffe and Louise Bourgeois. And while the Burns-Halpern report, produced each year by the Freeland Foundation, showed that more than half of solo shows in London in 2021 were by female artists, there were still barriers at major institutions. Only 36 per cent of the works acquired by the Tate in that year were by women, despite just 37 per cent of the artists in the contemporary collection being women and only five per cent in the historic collection.

"Why does The Women's Art Collection exist?" says Hessel. "The only reason it exists is because museum collections haven't taken the effort to really look outside for different stories, different perspectives." Within Murray Edwards, those stories have found a place on the inside. ©

The Women's Art Collection is open to the public daily from 10am to 6pm and is free to visit: womensart.murrayedwards.cam.ac.uk



From particle collisions to data constellations

Dr Mireia Crispin-Ortuzar swapped her research on supersymmetry for a chance to reduce mortality from ovarian cancers.

WORDS MEGAN WELFORD PHOTOGRAPHY JAKIE DRUE

Where were you when the Higgs Boson was discovered? For Dr Mireia Crispin-Ortuzar, the answer is easy. Right there, on the spot. A particle physicist by training, she was working at the Large Hadron Collider (LHC) in CERN when, in 2012, the ultimate ‘needle in a particle physics haystack’ issue was solved.

“It was such an exciting time; we thought we were going to find answers to all the major questions,” she recalls. “I was part of the ATLAS Collaboration, searching for particles that could explain supersymmetry and dark matter. Spoiler: we didn’t find anything. Well, we made many interesting measurements, but found no evidence of new particles.”

In common with *Star Trekkers* and *The X-Files*’ Mulder and Scully, Crispin-Ortuzar began to wonder if there was something else out there. Not other galaxies, or black holes, but something more concrete, here on Earth.

“I was doing my PhD, and at the same time organising conferences for undergraduate women in physics and other policy events,” she explains. “I began to think about the implications of science and technology for society, and I found myself starting to think about science in a different way.

“I loved the collaborative aspect of the LHC – thousands of scientists working together – but I began to feel I wanted to do something important for communities I was part of. I do think basic science is essential, but I wanted to do something more directly impactful for people.”

At the same time, machine learning was beginning to become popular, she says. “I began reading academic papers on it, and thinking about how I might apply my skills in that area. It struck me that analysing data sets – millions of particle collisions – to find connections in order to answer different questions was exactly what I had been doing at CERN. And that’s what AI and machine learning does.”

From the stack of academic papers she read, medical imaging stood out. “Medicine was an obvious area with a lot of unanswered questions: around disease, and particularly cancer. I felt close to medical imaging, because PET and CT scans are basically mini versions of particle detectors. I thought this was a field I could really explore.

“Around this time there were a few papers published about applying machine learning to large data sets of medical images, and one mentioned the possibility of correlation with underlying biology, using molecular data from these same patients. I thought, ‘Oh my goodness, what if you could analyse images from people diagnosed with cancer, using smart, systemic computations to build better models than we have now, and also bring in the underlying biology? That could be really powerful.’” ›

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What if you could analyse images from people diagnosed with cancer, using smart, systemic computations to build better models than we have now?

In 2014, she applied for a Junior Research Fellowship (JRF) at Cambridge – a programme renowned for offering academic freedom and resources. “My application was 90 per cent about particle physics, but I added a paragraph about applying it to medical imaging.” With the idea niggling away at her, she also wrote an unsolicited email to the then Head of Medical Physics

at the Memorial Sloan Kettering Cancer Center in New York. “I wrote that I thought I could apply particle physics principles to medical imaging and cancer modelling. He invited me on a Skype call, and then eventually offered me a job as a postdoctoral researcher in his team. At almost the same time, I was offered the JRF at Trinity College. I asked Trinity: ‘Please could I go to New York first?’ Thankfully, they said yes.”

By the time she returned from the States, Crispin-Ortuzar was sold on radiology and, given the flexibility of the Fellowship, was able to choose to work on data integration for cancer, focusing on medical imaging. “I chose radiology for two reasons,” she says. “One: the potential impact is huge – everyone gets a scan at some point, so potentially everyone can benefit from the research. Two: it’s under-explored. Researchers tend to focus on genomics, combined with clinical data and perhaps pathology imaging. Radiology has been widespread since the early 20th century and these days it is sometimes perceived as less fashionable. But the beauty of it is that it’s a typical part of diagnostics and follow up, so there is so much information available. The range of scans makes studying changes in patients over time possible.

“The measurements, however, have always been quite basic; they’re done by a radiologist in clinic who doesn’t have much time and is basically using a digital ruler to measure a lesion. It’s semi-quantitative at best. But adding computation offers so much potential: to see in 3D volumes; or to look at textures within the lesions and variations in the intensity of their colour (well, they’re black and white but the intensity of the grey). You can apply deep learning to quantify what you see and use it as part of a model.”

This is what she is doing now in her Computational Cancer Medicine lab: using radiology to explore the biology behind the patterns in the data, to understand why one cancer patient responds to treatment when another doesn’t.

“For example, we recently published a paper exploring neoadjuvant therapy – a kind of chemotherapy – in ovarian cancer patients. Ovarian cancer is nearly always metastatic – spreading throughout the body by the time it’s diagnosed, because its symptoms are so vague. The therapy only works on 60 per cent of women, it can have nasty side effects and, if it doesn’t work, you may have wasted crucial time.

“Our study used radiology to extract the textural features of the tumour, including from the healthy area immediately around it, and combined this data with clinical information and demographics including previous treatments, biomarkers and circulating tumour DNA from elsewhere in the body. The model we built showed that adding the radiological data gave us the greatest insight into what was going on. Now we’ll refine the model and the imagery, using techniques such as cellular microscopy and spatial sequencing, and we’ll improve the answers.”

Crispin-Ortuzar’s desire for direct impact is also fulfilled in her startup, 52 North, founded with three other Cambridge graduates, where she is Chief Digital Officer. The interdisciplinary team has created a low-cost device that can identify chemotherapy patients at risk of developing neutropenic sepsis, a side effect of the treatment that can ultimately lead to death. Designed with patients, it is now going into clinical trials. “Academia is focused on conferences, papers, study results,” she reflects. “A startup focuses on deliverables, which is beneficial for an academic. Thinking from the start about how to translate what you’re doing into clinical practice is inspiring.”

And it’s no accident that Crispin-Ortuzar is studying ovarian rather than another kind of cancer. She co-leads the Ovarian Cancer Programme at the CRUK Cambridge Centre and hopes to expand it to include other gynaecological cancers. “Ovarian cancer, like other gynaecological cancers, such as endometrial – is under-studied. We need data-driven approaches to solving these challenges, better collaborations, large-scale trials and robust discoveries. Alongside other women in my field, I feel I have a duty to do something about it.

“If you look at the data on funding versus mortality rates for different cancers, ovarian cancer is near the bottom. We know from the massively improved survival rate for breast cancer that if we put the work and resources into something, we can solve it.” ☺

Dr Mireia Crispin-Ortuzar is Assistant Professor at the Department of Oncology and group leader at the Early Cancer Institute. To find out more about Cambridge cancer research, please contact maryjane.boland@admin.cam.ac.uk

What happens when all your BFFs are more URL than IRL?

The parasocial relationship – a one-sided friendship, typically focused on a celebrity – is not new, but it has recently become turbo-charged. Should we be worried?

WORDS LUCY JOLIN ILLUSTRATION JOHN DEVOLLE

“Imagine a celebrity or a politician you greatly admire does something you consider deeply immoral and repugnant. Would you stand by them?” That was the question posed by Simon Karg, co-author of a study around our willingness to update our beliefs about those we support – with some surprising results.

“We can see that people often keep holding on to a positive character evaluation even when the admired person commits a severe transgression,” says Karg, then of the Cambridge Body, Mind and Behaviour Laboratory. “The more important the person has been to us, the less likely we are willing to change our favourable opinion.”

Along with Michelle Lim (Churchill 2015) and Professor Simone Schnall, Karg analysed posts from thousands of social media users either side of a scandal involving YouTube celebrity Logan Paul in 2018. Paul and friends had filmed the dead body of a man in Japan’s Aokigahara forest – tragically known as a ‘suicide site’ – and shared it with his followers online, complete with highly inappropriate commentary.

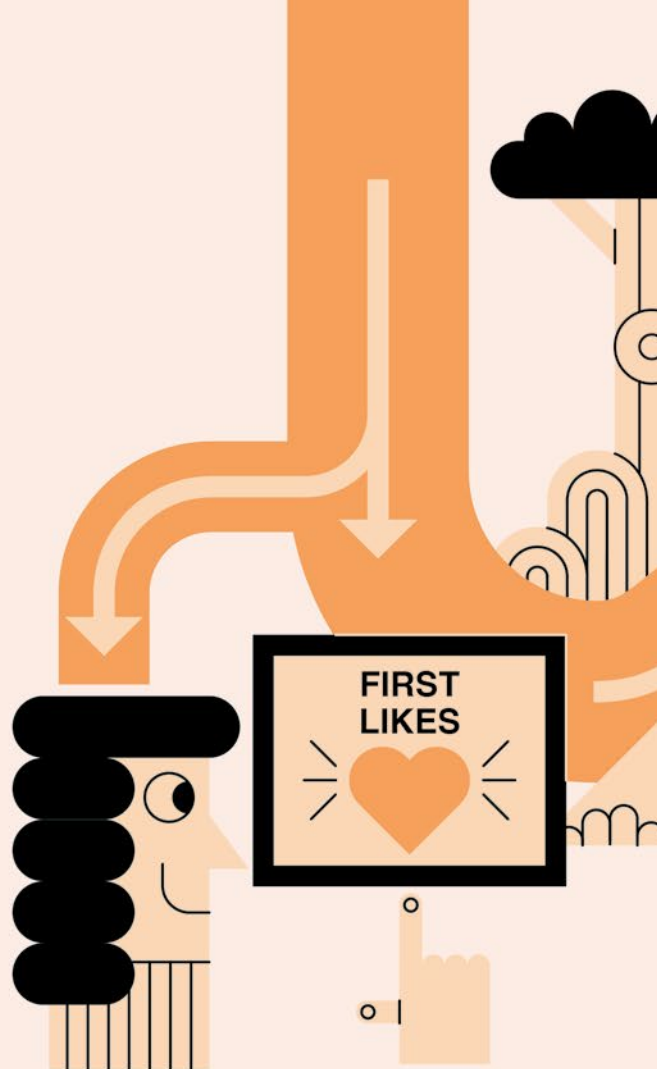
Following the video, and despite a public apology, Paul faced a barrage of criticism, a YouTube ban, and lost several lucrative sponsorship deals. But his massive fanbase of 15 million YouTube subscribers – the ‘Logang’ – furiously defended him. In fact, analysis of 36,464 posts from Paul’s followers found that three-quarters of the YouTube users who had left comments on a Logan Paul video before the scandal continued to support him afterwards.

Just 16 per cent expressed anger at the video, and only four per cent disgust. Six years later, Paul has more than 23 million subscribers, and many vastly more lucrative sponsorship deals.

It’s a fascinating snippet of the power of the parasocial: the intense relationships we have with people who don’t know we exist. Of course, these relationships are nothing new. (Here’s Alfred, Lord Tennyson (Trinity 1827) on Lord Byron’s (Trinity 1805) death, “I was fourteen when I heard of his death. It seemed an awful calamity; I remember I rushed out of doors, sat down by myself, shouted aloud, and wrote on the sandstone: BYRON IS DEAD!”) But back in pre-internet days, we were used to admiring from a distance. Now, we can see everything.

And that, of course, comes with a major health warning. While for most of us, parasocial relationships are entirely passive – we know Taylor Swift isn’t really our friend – for others, they can be extraordinarily intense, for both the admirers and for the object of their attention. Take Ibrahim Mohammed (Wolfson, 2016), whose connections with online subscribers became more extreme than he could ever have imagined.

When Mohammed wanted to apply for Cambridge from his secondary school in East London, he couldn’t find the sort of real-life insights into Cambridge life he was after. So in the Lent term of his first year, he started making YouTube videos about his life at Cambridge. “It blew up overnight, and just kept growing and growing over the next three years,” >



HIPPOCAMPI HYPOCRASIS

"I WAS GOING TO LEAVE
THIS TOXIC FANDOM BUT
I HAVE DECIDED TO STAY
ON THE GROUNDS THAT
SOMEONE HAS TO STAND
UP FOR THE TRUTH."

CORTEX DENIALIS MAGNUS

"NAH, IT'S JUST
A PLOT DREAMED
UP BY HER HATERS
FOR CLICKS."

CORPUS CAVEAT EMPTOR

"ONCE HIS SCAMCOIN
GOES TO THE MOON,
I'M GOING TO SPEND
THE REST OF MY LIFE
MOCKING THE NORMIES
FROM MY LAMBO."

MEDULLA LOYALIS VEHEMENTER

“ABSOLUTELY NO WAY WOULD HE DO ANYTHING LIKE THAT! HE LOVES HIS FANS AND, ANYWAY, HE’S SAID A MILLION TIMES THAT PEOPLE WHO DO THAT ARE AWFUL. ALSO, HE FAVOURITED MY POST ONCE.”

he remembers. Although he no longer makes new content for his channel, it still has 134,000 subscribers – and his 131 videos, covering everything from how Cambridge students get motivated to discrimination against poor students, have a total of nearly 14 million views. The comments under his videos are intensely personal. “I had a 10-hour shift today and I came home so tired and upset. You made today better for me, thank you,” says one. And

Prize in 2023. “Plus, there’s the echo chamber factor. It’s commonly seen in psychology that the more you are exposed to something, the more you like it – even if that exposure isn’t necessarily positive or negative. These three drivers all increase the intensity of parasocial relationships. I don’t know whether social media was designed to do this, or whether it’s an unintended consequence.”

Lim now works in the Human-Machine Understanding capability at Cambridge Consultants. “Algorithms will look at your

I get people who seem to know me well and really dislike me, in a way that seems disproportionate to the relationship they should be able to have. What I find interesting is that people follow me, watch all my content, and then tell me that I’m an infuriating bitch

CEREBELLUM IN VINO VERITAS

“SHE WAS DRUNK! IT WAS A JOKE! HAVE YOU NEVER MADE A JOKE LIKE THAT WHEN YOU’VE BEEN DRUNK? NO? OH...”

they weren’t just online, as Mohammed describes: “I got stopped on the street and at University events by people who were crying, saying how much the videos had helped them.” He soon found himself working directly with the Cambridge communications team. “When they contacted me, I thought it was going to be about trying to shut me down. But it turned into an amazing collaboration.”

Yet he found that parasocial relationships can have a darker side. “It was difficult when people started to see me as a friend and felt that they could open up about safeguarding issues. I had messages saying: ‘Ib, I need your help, I’m homeless, I’m stressed, I’m going to kill myself.’” He was given support by the University’s safeguarding and mental health experts, who provided him with responses and resources.

Mohammed never saw this unexpected responsibility as a burden. “Absolutely not. I always saw it as a privilege and an honour, because I was doing it for my community.” And he was determined to create something tangible. “I wanted to fund scholarships for some of the most deprived students in the UK, and I’m incredibly proud of the role I played setting up the Aziz Foundation’s Cambridge scholarships, for example. We currently have two students at Wolfson – and one of them used to watch me on YouTube. How crazy is that? And I felt that this person really shone in the interview because it was like he already knew me, so he didn’t need to be nervous.”

“Social media allows you to set up independent communities to idolise,” says Lim, co-author of the Logan Paul research, which won the prestigious Soloman Asch

preferences and push relevant content about that person towards you. That won’t just be content created directly by your parasocial friend, but also the community around them. And that, in turn, reinforces the parasocial relationship.”

Ruby Cline (Murray Edwards 2021) has also experienced both the highs and the lows of parasocial relationships. She started creating content on short-form video social media site TikTok when she moved to a new school for sixth form. “Lots of my fellow students had parents who didn’t speak English. Some were already juggling school and two or three jobs to support their families, and didn’t have the luxury of lots of time.” So, she started by creating short videos on political education to help, and then branched out into general knowledge.

At the beginning, when her “very small” account had between 5,000 and 10,000 followers, the relationship she had with those followers seemed more social than parasocial: she knew their names, their ages, their likes and dislikes. “They seemed like very deep, genuine social relationships. But I also recognise that they knew a lot more about me than I knew about them. And as my follower count grew, it became a lot less personal. Now that I’ve got videos that are getting hundreds of thousands – or even millions – of views, I have no idea who those people are.”

The relationship between Cline and some of her followers is very different from Mohammed’s, she says. “I’ve come in wielding opinions. I get people who seem to know me well and really dislike me, in a way that seems disproportionate to the relationship they should be able to have with someone on the internet. Part of it comes from being a woman on the internet who has opinions. But what I find interesting is that people follow me, watch all my content, and then tell me that I am an infuriating bitch.” ›



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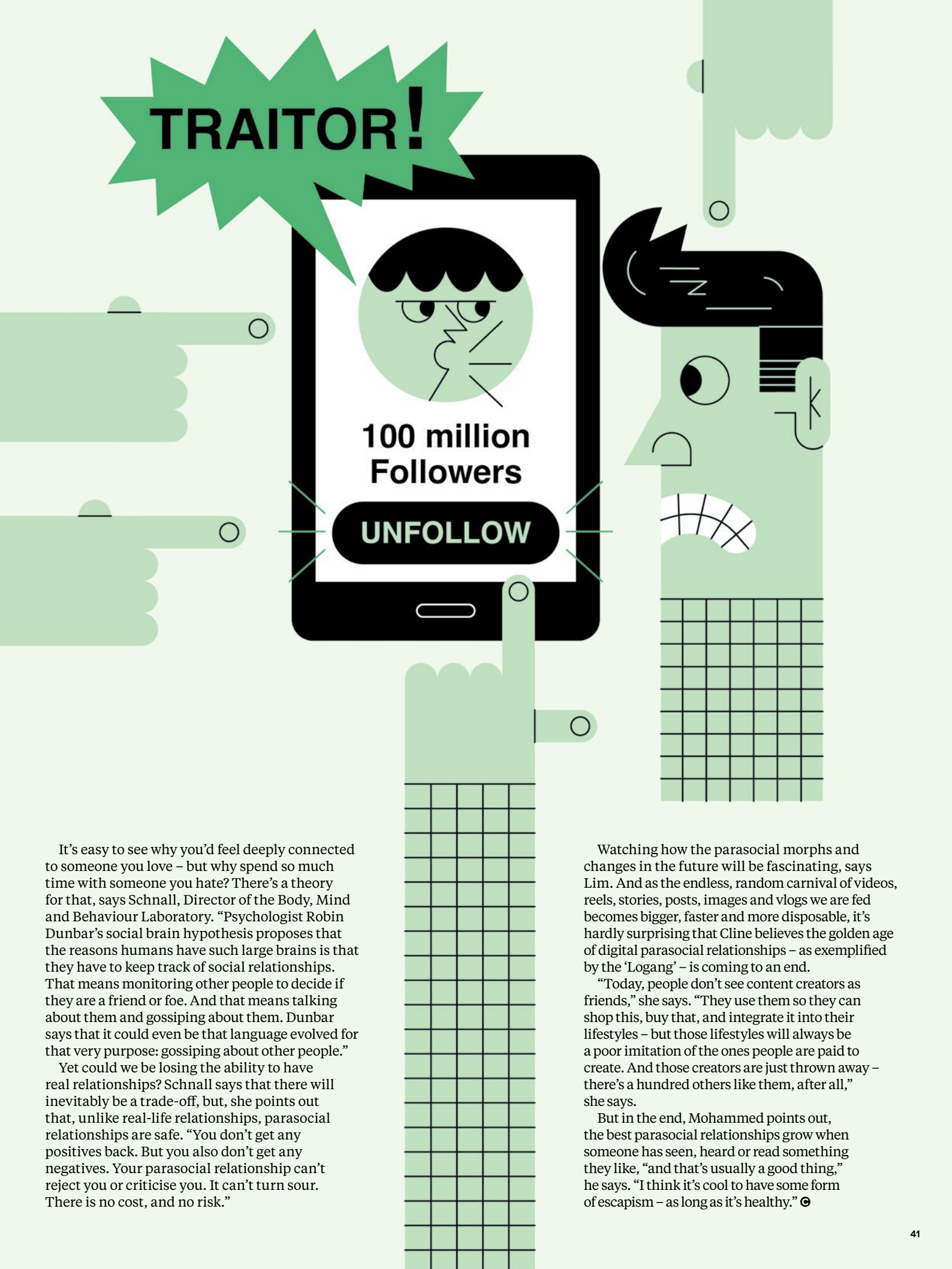


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A stylized illustration featuring a central smartphone. The screen shows a circular profile of a person with a green face and black hair, looking slightly to the side. Below the profile, the text "100 million Followers" is displayed, followed by a black button with the word "UNFOLLOW" in white. A green starburst with the word "TRAITOR!" in bold black letters points to the top of the phone. To the left, two green hands point towards the phone. To the right, a large green hand with a black face and a wide, toothy grin points towards the phone. The background is a light green grid pattern.

TRAITOR!

100 million
Followers

UNFOLLOW

It's easy to see why you'd feel deeply connected to someone you love – but why spend so much time with someone you hate? There's a theory for that, says Schnall, Director of the Body, Mind and Behaviour Laboratory. "Psychologist Robin Dunbar's social brain hypothesis proposes that the reasons humans have such large brains is that they have to keep track of social relationships. That means monitoring other people to decide if they are a friend or foe. And that means talking about them and gossiping about them. Dunbar says that it could even be that language evolved for that very purpose: gossiping about other people."

Yet could we be losing the ability to have real relationships? Schnall says that there will inevitably be a trade-off, but, she points out that, unlike real-life relationships, parasocial relationships are safe. "You don't get any positives back. But you also don't get any negatives. Your parasocial relationship can't reject you or criticise you. It can't turn sour. There is no cost, and no risk."

Watching how the parasocial morphs and changes in the future will be fascinating, says Lim. And as the endless, random carnival of videos, reels, stories, posts, images and vlogs we are fed becomes bigger, faster and more disposable, it's hardly surprising that Cline believes the golden age of digital parasocial relationships – as exemplified by the 'Logang' – is coming to an end.

"Today, people don't see content creators as friends," she says. "They use them so they can shop this, buy that, and integrate it into their lifestyles – but those lifestyles will always be a poor imitation of the ones people are paid to create. And those creators are just thrown away – there's a hundred others like them, after all," she says.

But in the end, Mohammed points out, the best parasocial relationships grow when someone has seen, heard or read something they like, "and that's usually a good thing," he says. "I think it's cool to have some form of escapism – as long as it's healthy." 🌀



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I was teaching, studying, founding orchestras... luckily I don't need much sleep

For composer and conductor Adam Pounds (Trinity Hall 2002), completing a Master's at Cambridge was the ultimate balancing act.

INTERVIEW MEGAN WELFORD



Eclogue for Piano and Strings **Gerald Finzi**

This piece of music has a beautiful, nostalgic quality to it. My family arrived in Cambridge from London in 1998, via a few homes and years along the M11 corridor. I enjoyed it straight away. I was teaching at Long Road Sixth Form College, and in 2002 I started my MEd at

Cambridge. I don't even know where I got the Finzi disc from, but as soon as I heard it, I fell in love with it. A friend had also just given me the book *A Cambridge Childhood* by Gwen Reverat and this piece gives me the same nostalgia – it's for an older Cambridge I've never even known! Finzi's trademark bittersweet harmonies seem to fit the Cambridge architecture. It made me feel at home in a new place.



String Quartet No.2 **Adam Pounds**

I'm going to be indulgent here and pick one of my own pieces, because it really reminds me of the balancing act my life was when I was doing my Master's. I was teaching and studying, I was involved with founding the Orchestra

of Great St Mary's, I had teenage children... luckily, I've never needed much sleep! If I had a free period at school, I'd slip into the music computer lab and work on my composition – I'm lucky in that I've always been able to get straight back into what I'm doing. For me, composing isn't total inspiration, it's also about being workmanlike, doing it as a project. This piece is a single movement of 15 minutes, but it's a mixture of contrasting moods, between the aggressive and the reflective. As a child, I was a chorister at St Michael's in Walthamstow, London, and I've always been involved with the church, but I had a period of non-belief, when I was quite driven and political and hot-headed. When I composed this piece, I was coming back to religion.



A Child of our Time **Michael Tippett**

I joined the choir at Great St Mary's while I was studying, and I have a strong memory of us travelling to the Faslane naval base in Scotland to perform. We chose to sing Tippett because it was like taking Cambridge abroad. He is hard to listen to

sometimes, but I love the spirituals because of what they represent and where they come from – the suffering and the work and the hope. We performed to the families of servicemen in Nissen huts, and they were very open to different kinds of music. Singing in the choir began as a way of making myself useful in church, but I actually benefited from it hugely as a musician: when you're arranging instrumentation and conducting, it's important to understand choir and orchestra together. Five years later, I became the conductor of the Stapleford Choral Society in Cambridge and, 15 years on, I'm still there. The choir opened a door for me.

We chose to sing Tippett because it was like taking Cambridge abroad. I love the spirituals because of what they represent



Divertimento in B Flat **Lennox Berkeley**

Lennox Berkeley was my teacher when I was young, so I listened to his music to get to know him better. I can't write and listen at the same time, so I'd take a break from studying at Cambridge and listen to this piece. It's in four contrasting movements, like a symphony,

and it's beautifully crafted for the orchestra. A conductor knows what's right for each instrument and Berkeley considers carefully what each can do. The way he uses the orchestra is an inspiration to me. He has a lightness of scoring, where less is more, and you only use the notes you need.

Find out the latest from Adam at adampounds.co.uk



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In the story of DNA, what's in a name? Everything!

The fascinating saga behind a graffitied blue plaque and its 'missing' inscription is now the centrepiece of a display at the Whipple.

WORDS JO CAIRD

PHOTOGRAPHY MEGAN TAYLOR

The Eagle, Michaelmas Term, 2017. On Bene't Street, the blue plaque outside the pub commemorates the discovery of the structure of DNA. But now, overnight, the legend “+ Franklin” has appeared, someone neatly inscribing her name onto the plaque.

And no wonder. Because the plaque, which reads “Francis Crick and James Watson first announced their discovery of how DNA carries genetic information”, has for some reason neglected to mention that Watson and Crick’s discovery relied upon experimental X-ray data from Dr Rosalind Franklin (Newnham 1938), as well as an X-ray photograph of DNA taken by her PhD student Raymond Gosling.

The tidy letters of the “+ Franklin” graffiti were cleaned off, but it wasn’t long before they were back. This dance was repeated as the years went by, until eventually the authorities simply stopped removing it. When the plaque – now quite seriously deteriorated – was replaced in summer 2023, its new wording recognised the role of Franklin, Wilkins “and other scientists” in Watson and Crick’s breakthrough.

Cambridge’s anonymous posse of Sharpie-wielding Rosalind Franklin fans may have achieved their aim, but the replacement of the plaque isn’t the end of the story for “+ Franklin”. Gifted to the Whipple Museum of the History of Science, the original plaque is now on display there, alongside one of Franklin’s DNA research notebooks on loan from the Churchill Archives Centre.

As the first artefact relating to the discovery of DNA ever held by the Whipple, the plaque offers a unique opportunity to explore this crucial slice of scientific history, explains Joshua Nall, the museum’s director and curator (pictured). “The traditional way would be with a model of DNA – which would



be a replica, because the original doesn’t survive. Now we have the plaque we can do something more interesting, which is display the story, the controversy surrounding the story, and that bit of local cultural history where someone decided that it was time this plaque was modified,” he says.

It nods to a wider story too. “One of the abiding interests of our discipline, over the last decade plus, has been

a growing realisation that much of what remains to be done for historians of science is to try and recover some of the hidden and missing voices,” says Nall. “When you dig a bit deeper, it’s usually a much more complicated story.”

The plaque, and Franklin’s notebook, will be on display together until 19 December. For more, visit whipplemuseum.cam.ac.uk



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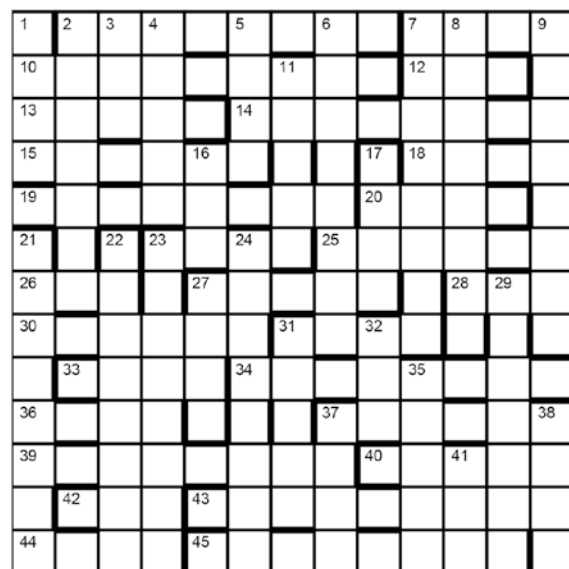
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Non-conformist

by Nimrod

A redundant letter is given by the wordplay in each clue: in clue order, these letters spell hints to the identities of four similarly fashionable individuals who are concealed in the final grid and who must be highlighted in a colour of the solver's choice, together with an appropriate adjective. A fifth individual, who does not conform, must be highlighted in a different colour, together with a different adjective. Where individuals overlap, the nonconformist's colour takes precedence. In total, 65 cells are to be highlighted.

Two answers are abbreviations. *The Chambers Dictionary* (2016) and *The Oxford Dictionary of English* (2015) are recommended.



Across

- 2 Victim pursuing monstrous bird circling round shipping area (8)
- 7 Growler I see moving out composer (4)
- 10 Dealt with strangely posh outlet for old hands (9. 2 words)
- 12 Producer of stock first wife loves bedding (3)
- 13 Destroy hospital order (5)
- 14 Scots Parish community relations bolstered by right to spread milling work (8, 2 words)
- 15 Is penetrating innermost parts of Colorado? (6)
- 18 Sport encroaching on the right (4)
- 19 Was greeting issued in confusion? (8)
- 20 Take off receptacle, quaint in style (4)
- 23 Grass representing rugs (4)
- 25 Ordeal that might be gone through by a playwright (6)
- 26 The language of Annie Oakley (3)
- 27 Bishop back from Tomar has tan (5)
- 28 Beancurd repulsed alien life here? (3)
- 30 Spoon without which friend would be fried? (6)
- 31 On return can sanction contract (4)
- 33 Donkey pancreas (4)
- 34 Type to impress women after something to stop animal destroying grain (8)
- 36 Period before end of blizzard disorientated climbers (4)
- 37 Portray as saintly space smuggler? Not so (6)
- 39 Holding festivity, many varied South Asian people (8)
- 40 In part, owed fixture for bathroom (5)
- 42 Mixed up type's new desire (3)
- 43 Argumentative national increases relief to West Thailand (9)
- 44 At the crease, dispatching ball with short cut (4)
- 45 Angry at sitters being extremely pretentious (8)

Down

- 1 Male article not difficult for poet (4)
- 2 No little while to shoulder my weightlifting fee! (7)
- 3 Innovative play done in Basic Education? (3)
- 4 Part of plant concerned with probing origin of rock (5)
- 5 Requests king to dress in funny sash (4)
- 6 Long Island's turbulent storm closes on New Haven (8)
- 7 Lose nerve and appeal, bandit having dropped them off stiletto (8, 2 words)
- 8 Introduction poorly remixed; out shortly (8)
- 9 Units passing down the line feel wrong, somehow (8, 2 words)
- 11 More than one cold season for the French colonies (5)
- 16 Gunners agreed line (3)
- 17 Take notice close to N. German city (4)
- 21 Stomach clamour about cycling style (8, 2 words)
- 22 Duck joke applied to climbing group (8)
- 23 Turncoat blown clear through opening (8)
- 24 Restful seat – springtime retreat in which master gets depressed (8)
- 27 Copy a national poet (4)
- 29 Antique, previously granted university chap, turning up on time in church (7)
- 31 Oscar's in a state – almost completely unanswerable questions (5)
- 32 At work near hotel (3)
- 35 Butterfly arrived suddenly in the rain (5)
- 37 Dust removing devices initially placed in loch (4)
- 38 More than enough Anglo-Saxon oil (4)
- 41 They will cut gemstone up (3)

All entries to be received by 7 February 2025. Send your entry:

- **by post to:** CAM 103 Prize Crossword, University of Cambridge, 1 Quayside, Bridge Street, Cambridge CB5 8AB
- **online at:** alumni.cam.ac.uk/magazine
- **by email to:** cameditor@alumni.cam.ac.uk

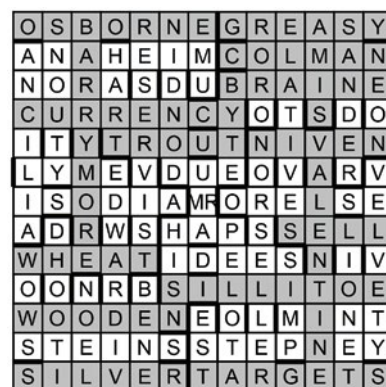


The first correct entry drawn will receive a £75 CUP book token and a signed copy of Neil Lawrence's *The Atomic Human*, a visionary analysis of what AI means for our identity as humans. Two runners-up will receive a £50 CUP book token. Solutions, winners and runners up will be published in CAM 104 and online on 26 February 2025 at: alumni.cam.ac.uk/magazine

Solution to CAM 102 Crossword

Missing Title

Links: ANGRY Young Men (OSBORNE, BRAINE, SILLITOE, AMIS); SPOONS (GREASY, TROUT, WOODEN, SILVER); actors who played RAFFLES (COLMAN, NIVEN, BARRYMORE, VALENTINE); suffixes of SOFT (CURRENCY, SELL, WHEAT, TARGETS). Dedicatees: the recently departed Steves WRIGHT (characters: Mr Angry, Mr Spoons) and HARLEY (characters: Mr Raffles, Mr Soft). The Missing Title MR replaces S(teve) in the centre cell.



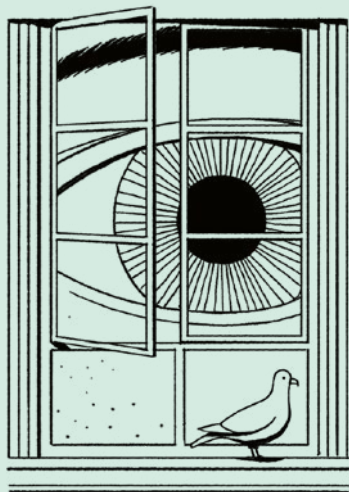
CAM 102 Winner: Andrew Allberry (Trinity Hall 1972) **Runners-up:** Michael Fortescue (King's 1968) and Nesta Thomas (Newnham 1965)

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