

optima

FITZWILLIAM COLLEGE NEWSLETTER



ISSUE 23 | 2017

FITZ ROWER LEADS
CAMBRIDGE TO VICTORY

NEW LOOK FOR FITZWILLIAM'S
GRADUATE COMMUNITY

HOME THOUGHTS FROM ABROAD



FITZWILLIAM COLLEGE
UNIVERSITY OF CAMBRIDGE

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MASTER'S MESSAGE

Optima – simply, the best. To me, Fitzwilliam is at its absolute best at the moment. It is not just that it looks absolutely stunning in the May sunshine. It is also the sense of purpose and mutual support which hangs over the place.



On Friday evening, Christopher and I went into the bar soon after 7 pm and enjoyed a drink. We sat outside, and were passed or joined by a medley of friendly students. There was a focus and a seriousness about the place (yes, it is exam season), but also, in the glorious sunshine, there was a strong sense of anticipation and engagement. Students, in one and twos and little gaggles, were making their way around the gardens to the library, or back to their rooms. We sat there with enormous pleasure, enjoying their greetings and their camaraderie. (There was a peacock too, but that's another story.) What a fabulous place.

In a few weeks' time, the College will have lost some of that sense of serious endeavour as May Week hits us, and then in the garden of an evening, you

sometimes can't avoid noticing the loudly inebriated. But even then, the vast majority of students will still be focused, focused on such a broad range of activities that it is truly humbling to behold. Music, acting, and political debate; many will be preparing for graduation, others for summer adventures. Many, especially the graduates, will remain here over the summer.

Please enjoy a taste of Fitz in the pages of another issue of *Optima*. In last year's editorial I said good-bye to Dr Helen Bettinson (History 1982) as Development Director. I'm glad to say she still drops by. And this year we say good-bye to Alison Carter, our wise and enthusiastic Head of Communications and Editor of *Optima* for the last nine years. I hope that she too will remain visible amongst the Fitzwilliam family. Next May, let me buy you a drink in the bar, Alison!

Nicky Padfield

COLLEGE NEWS

MASTER IN THE FAR EAST

The Master, Nicola Padfield, visited alumni in Japan, Hong Kong (pictured), Kuala Lumpur and Singapore in April, and chaired the panel discussion at the Global Cambridge event in Hong Kong. Professor David Cardwell also spoke, alongside the Vice-Chancellor, Professor Sir Leszek Borysiewicz and Professor Eilís Ferran, Pro-Vice-Chancellor for Institutional and International Relations. The theme was 'How is Cambridge tackling the world's most pressing global problems?'



CUSU STUDENT-LED TEACHING AWARDS

Nearly 600 nominations were received for this year's CUSU Student-Led Teaching Awards. Dr Susan Larsen was commended by students for innovative teaching; Dr Hero Chalmers, Dr Gabriel Glickman and Dr Matt Neal were shortlisted in other categories.



Dr Larsen, who is Director of Studies in Modern and Medieval Languages, teaches Russian and specialises in Soviet and post-Soviet literary and visual culture. She has recently pioneered Russian 'taster days' at Fitzwilliam College. Her commendation read: "We commend Susan Larsen in the

innovative teaching category for encouraging students to engage with their course outside the traditional curriculum."

Dr Hero Chalmers, Director of Studies in English, who specialises in seventeenth-century literature with a particular interest in politics and women's writing, was shortlisted for pastoral support. Dr Gabriel Glickman, Director of Studies in History, who specialises in politics and religion in Britain and its overseas colonies 1660-1750, was shortlisted for undergraduate supervisor (arts and humanities). Bye-Fellow Dr Matt Neal (History 2003) is a historian of late seventeenth- and eighteenth-century

Britain currently researching the political background to debate about religious toleration. He was shortlisted for supporting students.

CUSU's Student-Led Teaching Awards are now in their fourth year and exist to recognise outstanding teaching and student support across Cambridge University and its Colleges. They are a unique opportunity for students to recognise the exceptional contribution of teaching and non-teaching staff to their education at Cambridge, allowing students to nominate the staff they believe are deserving of recognition.

IN THE NEWS...



Professor Sir Shankar Balasubramanian
FRS FMedSci (NatSci 1985, PhD Chemistry

1991) was knighted for services to Science and Medicine. He co-invented next generation genome sequencing.



Professor Catherine Barnard
(Law 1986) LLM (EUI), PhD (Cantab) is giving the

Foundation Lecture on 16 November 2017 at 18:00. 'Me, (E)U and Brexit.'



Andy Burnham
(English 1988), former Labour MP for Leigh, Shadow Home Secretary, Shadow

Secretary of State for Education, and Health, was elected Mayor of Greater Manchester in May.



Alistair Darling, Lord Darling of Roulanish, former Chancellor of the Exchequer, was

the speaker at the Peter Wilson Estates Gazette lecture at Fitzwilliam in February.



Cressida Dick
CBE, QPM (MPhil Criminology 2001) took up her post as Metropolitan Police

Commissioner on 10 April. She is the first woman to hold this post.

COLLEGE NEWS

BOOKS BY FELLOWS

POSITIVE PEACE IN SCHOOLS: TAKING CONFLICT AND CREATING A CULTURE OF PEACE IN THE CLASSROOM



Hilary Cremin and Terence Bevington
April 2017

www.routledge.com

Publisher's description:

Positive Peace in Schools offers a fresh and challenging perspective on the question of conflict, violence and peace in schools. Drawing on the most up-to-date theory and research from the field of peace and conflict studies, this book provides readers with a strong understanding of the concept of positive peace, and how the dimensions of peace-keeping, peace-making and peace-building can be robustly applied in schools. This accessible book challenges educators everywhere to reconsider the nature of direct and indirect violence in schools, and the structural and cultural factors that sustain it.

Hilary Cremin (Bye-Fellow) is Director of Studies in Education at Fitzwilliam and Senior Lecturer in the Faculty of Education at the University of Cambridge.

THE ART AND SCIENCE OF THE CHURCH SCREEN IN MEDIEVAL EUROPE



Richard Marks (Editor)
April 2017

boydellandbrewer.com

Publisher's description:

The churches of medieval Europe contained richly carved and painted screens, placed between the altar and the congregation; they survive in particularly high numbers in England, despite being partly dismantled during the Reformation. While these screens divided "lay" from "priestly" jurisdiction, it has also been argued that they served to unify architectural space. This volume brings together the latest scholarship on the subject; exploring in detail numerous aspects of the construction and painting of screens, it aims in particular to unite perspectives from science and art history. Examples are drawn from Scandinavia to Italy.

Richard Marks (Bye-Fellow and Keeper of the College Works of Art) is Emeritus Professor of the History of Art at the University of York and a member of the History of Art Department, University of Cambridge.

DEFENDING SUBSTITUTION: AN ESSAY ON ATONEMENT IN PAUL



Simon Gathercole
May 2015

www.bakeracademic.com

Publisher's description:

In recent decades, the church and academy have witnessed intense debates concerning the concept of penal substitution to describe Christ's atoning sacrifice. Some claim it promotes violence, glorifies suffering and death, and amounts to divine child abuse. Others argue it plays a pivotal role in classical Christian doctrine. Here world-renowned New Testament scholar Simon Gathercole offers an exegetical and historical defence of the traditional substitutionary view of the atonement. He provides critical analyses of various interpretations of the atonement and places New Testament teaching in its Old Testament and Greco-Roman contexts.

Simon Gathercole (Fellow) is Senior Lecturer in New Testament Studies in the Faculty of Divinity of the University of Cambridge and Fellow and Director of Studies in Theology at Fitzwilliam College.

IN THE NEWS...



This year marks the Golden Matric of our '67ers. One prominent name who will be sadly missed is **Nick Drake** (English 1967). *Five Leaves Left*, his first studio album, was recorded while he was a student, and released in 1969.



Larry Elliott (History 1974) Economics Editor of *The Guardian*, drew a big audience for his lecture in College in February: "How a failed economic system led to Brexit and President Donald Trump."



Lee Hall (English 1986) author of *Billy Elliot* won an Olivier award in April for best new comedy. *Our Ladies of Perpetual Succour*, with an all-female cast, is now opening in the West End.

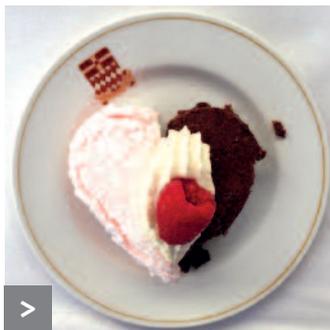


Dr Sean Holly (Fellow, Dean and President) organised the 2016–2017 Arrol Adam lecture series on The Problem with Economics. He was also Acting Master during Nicola Padfield's sabbatical leave in Lent Term.

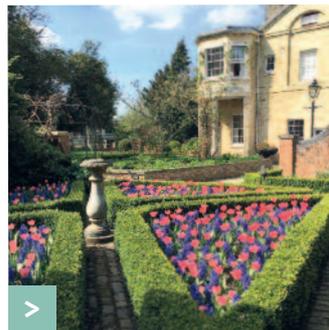


Dr Bhaskar Vira (Fellow) delivered the keynote address on the key messages at the twelfth session of the United Nations Forum on Forests (Implementation of the UN Strategic Plan for Forests 2017–2030) in New York in May.

#POPULAR PHOTOS ON SOCIAL MEDIA <3



<3 Happy Valentine's Day! <3
Cakes at Fitz today: A half brownie, half marshmallow bundle of goodness! We #love your creations, Richard! #BestExecutiveHeadChef #Valentines
♡ 🔍 ↻
14 February 2017 | 143 likes



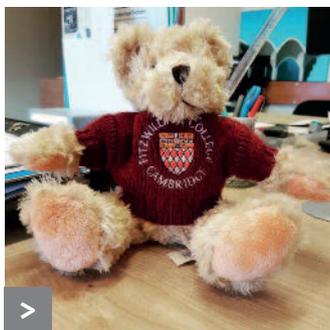
#FitzwilliamCollege
#beautiful #spring #tulips
♡ 🔍 ↻
10 April 2017 | 242 likes



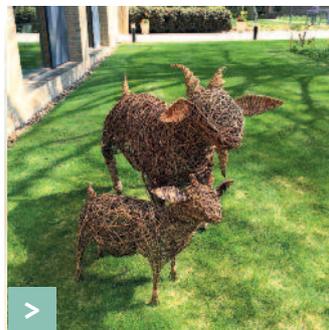
The Master, Nicola Padfield, was in Hong Kong on 7 April, where she met up with alumni and spoke at the Global Cambridge 2017 event. During this trip the Master also visited Kyoto and Kuala Lumpur, and she will be in Singapore on Wednesday 12 April. #GlobalFitz
♡ 🔍 ↻
10 April 2017 | 71 likes



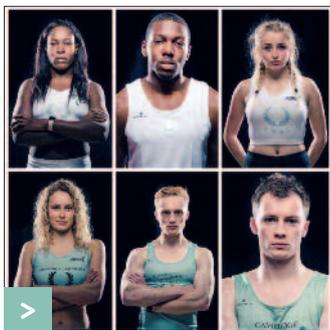
#sorrynotsorry for another cake pic
Celebrating #LGBT+ History Month at Fitzwilliam College. A huge thank you to @savannahdeniyan and the catering team for organising and executing our first ever LGBT+ History Month formal!
#rainbowcake
♡ 🔍 ↻
28 February 2017 | 101 likes



We're delighted to welcome the newest member of our Fitz family! Available from the Porters' Lodge soon. #FitzbillyBear #AdoptMe
♡ 🔍 ↻
19 October 2016 | 196 likes



Delighted to announce the birth of our brand new Fitzbilly! Welcome to the College!
Our Clinical Vet Director of Studies Angie Tavernor (who made both wicker goats) calls him Billy the Kid.
#Fitz #BabyGoat
#Thinkofallthegoatselves
♡ 🔍 ↻
7 April 2017 | 156 likes



Cambridge takes on Oxford in the 143rd Varsity Athletics event! 6 of the 8 Fitz students taking part pictured. 11am | Wilberforce Road Athletics Ground | Photos: Ben Bradshaw. #YourLightBlues #GDBO #FitzwilliamCollege #Cambridge #athletics #Varsity #Oxford #shotput #100mrelay #triplejump #highjump #3000m
♡ 🔍 ↻
10 May 2017 | 86 likes



#WildlifeWednesday
Spotted on Friday: #Waxwings on trees close to Auditorium! Pic: Junita Davies, Fitz Porter.
♡ 🔍 ↻
25 January | 110 likes

FITZ ROWER LEADS CAMBRIDGE TO VICTORY

Congratulations to Fitzwilliam PhD student Ashton Brown, President of the Cambridge University Women's Boat Club, who led her crew to victory on Sunday 2 April in the 2017 Cancer Research UK Women's Boat Race, beating Oxford by 11 lengths



Following last year's near sinking of the women's boat and the subsequent case of pneumonia she suffered, Ashton was determined to do everything she could to make this, her third year, a successful racing one for Cambridge.

"After two losses, I chose to run as President of the club so I could build on the strengths of the many amazing people on the team," she said. "My focus as President was for an open and transparent team which supported every athlete, not just those at the top of the squad."

be very tiring - and being in charge this year it was nice to feel like someone was looking out for me while I was so busy looking after the team."

In 2016 -17 Cambridge won all four other women's races against Oxford in the Blondie (reserve crew), Heavyweight Spare Pair, Lightweight Eight and Lightweight Spare Pair boats. Another Fitz student, Melody Swiers (Vet Med 2015), was in the winning Lightweight Spare Pair, alongside Rosie Boxall from Clare College, at the end of March.

Melody, who took up rowing in Michaelmas 2015, said: "It's been a tough but rewarding

Sarah said: "It is a real honour to be involved as an umpire whichever race you are following - for the 18 athletes in front of you it is probably one of the most important days of their lives and I feel a great responsibility to help it go smoothly for them. On the day I felt desperately sorry for Oxford who caught a stroke side blade on the start, and although they got it back and raced bravely were unable to make an impression on the clean starting and impressive Cambridge crew."

This was Cambridge's 42nd win in the Women's Race, which still places them well



1. Ashton on the podium. 2. Straight after the race. 3. Melody Swiers (left) and Rosie Boxhall. 4. Ashton & crew celebrate. 5. Ashton Brown next to umpire Sarah Winckless (NatSci 1993). Photos 1 and 5: Naomi Baker Sport Photography. Photos 2 and 4 Ben Tufnell Row 360.

And what a successful year it has been: not only did Cambridge beat Oxford in this year's Women's Boat Race, but they also did so by 11 lengths and in a record time of 18 minutes and 34 seconds. A lot of hard work and dedication lies behind this Boat Race win: the team have 12 training sessions a week, of between 1.5 and 2 hours.

Fitz supported Ashton with awards from the Paul Day Sports Fund, as well as with academic funding for her PhD. "This has allowed me not to worry as much about my personal finances," she said. "But more importantly, I feel like everyone in the College is looking out for me. The emotional support is huge - the process of trialling can

year filled with training, injury, and dieting, all amidst the joys of second-year Vet Med. After a shaky start in the windy conditions we overtook the Oxford pair to gain a huge lead and won the race 'easily'. Apparently our win set the tone for the boat races, as the next four races for CUWBC all resulted in a win for Cambridge!"

The last time Cambridge women won all three eights (Blue Boat, Blondie and Lightweight) was back in 1997, when Fitzwilliam alumna Sarah Winckless MBE (NatSci 1993) was President. Sarah umpired this year's Women's Boat Race - the first woman to do so on both the Tideway and at Henley Royal Regatta.

ahead of Oxford's 30 wins. Unfortunately, this year the Cambridge men lost to Oxford, meaning the light blues only have a total two-win advantage over the dark blues (82-80).

Did you know?

The initiative to hold both men's and women's races on the same day owes much to Fitzwilliam alumna Helena Morrissey CBE (Philosophy 1984), former chief executive of Newton Investment Management, the event sponsors.

Ashton Brown is funded by a Fitzwilliam College PhD studentship, and the Paul Day Sports Fund

NEW LOOK FOR FITZWILLIAM'S GRADUATE COMMUNITY



**DEVELOPMENT DIRECTOR, DR NICOLA JONES,
EXPLAINS THE COLLEGE'S PLANS FOR THE FUTURE**



Since 1950 the graduate student population at Fitzwilliam has grown from 82 to around 350 students, some staying in Cambridge for only a year, others for longer qualifications – and the College now wants to further improve the facilities for them.

Back in the 1950s, members of the 'Research Club' were delighted when the 'House' (as Fitzwilliam then was) provided two rooms on the first floor of 19 Fitzwilliam Street for their use, with 'playing cards, a chess set and a modern eleven waveband radio set'. Now two-thirds of our 350 full-time graduates live in College accommodation, either on site or nearby in houses recently purchased on Huntingdon Road, and all of them enjoy the social facilities of the Middle Combination Room (MCR) based in The Grove – two small common rooms and a kitchen.

Having been a graduate student here in Cambridge myself, I know that research

degrees are often an isolating experience. A well-organised, active and friendly graduate community makes for happier – and more successful – graduate students. Graduate students are already choosing Fitz because we can offer them a supportive environment: a room, high quality shared facilities, such as The Olisa Library and the Café, and an engaging, active research community. Our vibrant graduate body is one of Fitzwilliam's greatest achievements – and a recent survey of graduates has confirmed our good reputation in Cambridge, a key factor of course when graduates choose their College homes.

In the last decade we have had great success in attracting the brightest and best graduate students to the College: they are hardworking, outward-looking and diverse both in their backgrounds and in their interests. Many win prestigious awards to fund their study, and often their research

has the potential to change our world. Since 1928, five Fitzwilliam graduate students have gone on to receive Nobel Prizes!

But as our community has grown, the communal space available to graduate students in College has not and although the MCR space within The Grove is immensely popular – and the natural place for the graduates to congregate – it is currently limited by its size and facilities. Quite simply, it is no longer fit for purpose. Our 350 graduate students struggle to find shared spaces to work, to teach, and to socialise. In spite of their proximity to the College site, many have said they feel marginal to the day-to-day life of the College.

**WE ARE ASKING YOU TO HELP US
CHANGE THIS**

WE NOW HAVE A RARE OPPORTUNITY TO TRANSFORM OUR GRADUATE FACILITIES.

Alongside the Central Building, The Grove sits at the heart of Fitzwilliam, and it is the appropriate home for our MCR. Like the Central Building, The Grove is in need of some sensitive renovation, both to protect its future and to fulfil its potential role in College life.

Ex antiquis et novissimis optima.

Architects RH Partnership have devised a creative and beautiful solution to the challenge of expanding into the space

outside The Grove, adding a new informal inside/outside area.



Architects' visualisation of the extension to The Grove.



Existing

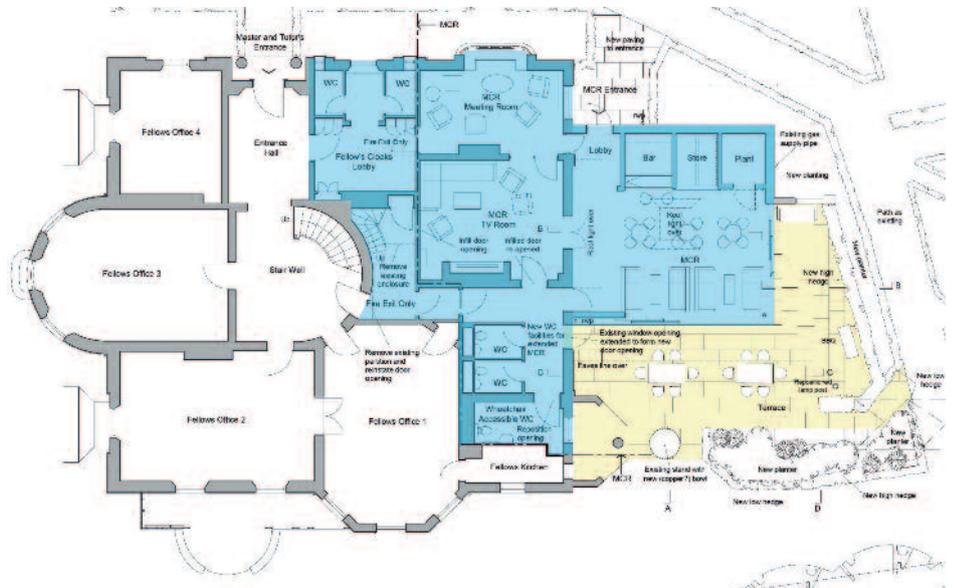


South view, showing proposed new social space.

WITH YOUR HELP, WE WILL EXTEND THE BUILDING, AND INTERNALLY RESTRUCTURE PART OF THE UPPER FLOOR, TO CREATE A SERIES OF NEW SPACES FOR OUR GRADUATES.



Existing ground floor layout



Proposed ground floor layout

As the images show, we will open out the ground floor, and enlarge the communal space significantly. This will transform the potential uses of the MCR while also retaining the distinctive character of The Grove.

Upstairs new rooms will be created to support teaching, group project work, and independent study. The MCR and the Fellowship have been consulted at all stages of the design, and they are excited by the potential this project has to bring the whole graduate community together.

The proposed extension to the current MCR will cost £560,000, and will include an external and internal restructure of The Grove. Planning permission has already been granted, and we would like to begin construction in summer 2018.

If you would like to hear more about the project, or indeed, make a contribution, please do contact me on development.director@fitz.cam.ac.uk

HOME THOUGHTS FROM ABROAD

American alumnus and donor **Stanley Gold (Law 1967)** visited Fitzwilliam in March to take part in "Business, Education and Democracy in the Age of Trump", an 'in conversation' event with political commentator David Runciman, Head of the Department of Politics and International Studies. Stanley Gold is Chairman and CEO of Shamrock Holdings, Inc., a California-based investment company, wholly owned by the Roy E. Disney family. The wide-ranging discussion brought fresh insights into the dilemmas facing contemporary America from someone who has had direct dealings with Donald Trump. It also brought reflections on the time he spent at Fitzwilliam in 1967 – at the height of the Vietnam War.



Prompted by his description of how his year at Fitzwilliam gave him a valuable perspective on what was happening in the US then, and on the future direction of his own life, *Optima* asked some current American and EU students to reflect on what's happening in their own 'home' countries now.



I moved to Cambridge from my small (conservative) hometown in the south-eastern US, right before the election and began to notice stark differences in discourse about the election, and in what people assumed about me. At home, people who didn't know me well assumed I was voting Trump – I'm a good Christian girl who must hate Hillary and love Mike Pence. In Cambridge, people assumed I was voting Hillary – I'm educated, and who with a science degree would vote Trump? Neither assumption was completely correct, though I am happy to disclose I did vote for Clinton. The shock of many in the UK is starkly different from the excitement I scroll past from a few people in my Facebook feed. I hope I can use this opportunity to unite with people from around the world and in the US to take care of the important things, and to spread hope and understanding—about folks who voted for Trump, and folks who thought it could never happen.

Gabrielle McHarg

(PhD Developmental Psychology 2016) US. She is the current President of the MCR.



I was at Hillary Clinton's election night block party in New York when Florida was called and the energy was decisively sucked out of the crowd. Although I was in the UK for the Brexit vote, that November night was more difficult to stomach. I study religious diversity and on top of all the other reasons I opposed his candidacy, I watched a man become president who stokes fears about Islam, has disregard for Jewish sensitivities, and has little to no literacy about the religion he claims to practice. I asked whether my research was even applicable to my home country; I wondered if this America was truly the country where I was raised and had grown to love. Being back in the UK gave me the space to reflect on those questions. The situation still feels bleak and uncertain, more so than post-Brexit UK, but I have been able to find hope. This new presidency shows how important understanding religious diversity really is. It's made me more politically engaged and more concerned that my research reaches wider audiences.

Austin Tiffany

(PhD Sociology of Religion 2014) US.



The elections in the US and France, and the British referendum demonstrate a clash between two radically opposed ideas of society: globalist progressivism versus nationalist conservatism. Although an overwhelming majority of Cambridge students strongly disagrees with the latter vision, I believe it's a serious mistake to look down on a large portion of our fellow citizens and simplistically conclude that we were right and they were wrong. This political fracture does not reflect well on us, either. It represents how our countries increasingly divide along the fault lines of socio-economic inequality. I've lived in Cambridge for almost three years, yet I don't really know the UK. Or rather, I only know one side of it. I feel that the University, whilst it is moving towards more equal opportunity policies, still tends to reproduce social, economic and cultural inequality. Inequality, in turn, disunites society, fosters frustration and sets the bedrock for political manipulation. After the recent political upheavals, our first endeavour should be to tackle inequality – at the local level.

Matteo Miolo

(HSPS 2013) is a French and Italian national. He spent a year abroad in Bologna and was the President of the Cambridge European Society 2016/17.

Studying at Cambridge has challenged my views and broadened my understanding of current events. Each day, I have the opportunity to engage others on current issues—and learn from their wide range of backgrounds. Upon arriving in Cambridge I learned that the recent rise in nationalism, anti-immigration sentiment, and the election of so-called “anti-establishment” candidates were making their way across the globe years before Brexit and Trump. My friend from Bangalore, India, explained how the nationalist Prime Minister Modi employed anti-Islamic messaging during his party's 2014 campaign. On a bus to an event I sat beside a Filipino delegate to the UNFCCC 22nd Conference of the Parties (COP22) in Morocco and learnt how, in her mind, the rise of the “anti-establishment” Filipino President Duterte mirrored the emergence of Trump in the US. As anti-immigration and nationalist sentiment continues, I grow more concerned about how these might impede our ability to converse with one another and have equal access to opportunities, due to our individual nationalities, religions, and other differences.

Meredith Keller

(MPhil Environmental Policy 2016) US.

Home has always been a tricky concept for me: my parents are professional nomads, we moved following the four-year rotations required. In that sense, coming to Cambridge was a familiar experience. I have grown accustomed to change and have learned to adapt: most recently, I have undergone a noticeable change in my pronunciation of ‘privacy’, to the amusement of my North American relatives. At the same time, differences operate on a scale: there are enduring similarities even across the furthest reaches of the world, and especially on individual continents. Viewed from my former homes in Africa, South America and Asia, the commonalities between the British Isles and Europe appear overwhelming. To me, the path Britain has chosen represents a denial of the ideals of adaptation, integration, and solidarity that are essential to survival and prosperity in a globalized world. I find solace only in the knowledge that mistakes can be remedied if they are recognized in time.

Stefan Theil

(PhD Law 2014) Germany. Stefan is the founder of the Students of Cambridge Refugee Scholarship.



A bulk superconductor levitated by a permanent magnet. University of Cambridge

THE MAGIC OF SUPERCONDUCTORS



A GUINNESS WORLD RECORD FOR PROFESSOR DAVID CARDWELL'S TEAM

Fitzwilliam Fellow Professor David Cardwell gave the Foundation Lecture "Bulk superconductors: revolution or red herring?" in November 2016 and reported on the work leading to publication of the Guinness World Record. The following article was first published on the University of Cambridge website.

A world record that had stood for more than a decade was broken in 2014 by a team led by Professor David Cardwell, harnessing the equivalent of three tonnes of force inside a golf ball-sized sample of material, called a 'bulk', that is normally as brittle as fine china.

The researchers managed to 'trap' a magnetic field with a strength of 17.6 Tesla – roughly 100 times stronger than the field generated by a typical fridge magnet – in a high temperature gadolinium barium copper oxide (GdBCO) superconductor, beating the previous record by 0.4 Tesla.

The record was published in *Superconductor Science and Technology* on 25 June 2014 as "A trapped field of 17.6 T in melt-processed, bulk Gd-Ba-Cu-O reinforced with shrink-fit steel", and recognised as a Guinness World Record.

The research demonstrates the potential of 'high-temperature' superconductors for applications in a range of fields, including flywheels for energy storage, 'magnetic separators', which can be used in mineral refinement and pollution control, and in high-speed levitating monorail trains.

Superconductors are materials that carry electrical current with little or no resistance when cooled below a certain temperature. While conventional superconductors need to be cooled close to absolute zero (zero degrees on the Kelvin scale, or -273.15 °C) before they superconduct, 'high temperature' superconductors do so above the boiling point of liquid nitrogen (-196 °C), which makes them relatively easy to cool and cheaper to operate.

Superconductors are currently used in scientific and medical applications, such as MRI scanners, and in the future could be used to protect the national grid and increase energy efficiency, due to the amount of electrical current they can carry without losing energy.



MASTER IN A SPIN

During the Foundation Lecture Professor Cardwell levitated and spun the Master, Nicola Padfield. The rotating platform had two tracks of powerful rare earth magnets underneath it, supported by over 30 superconducting bulk samples. The demonstration showed how superconductors can be used to make a low friction bearing that both levitates and stabilises - with no frictional losses. Professor Cardwell said:

“THERE’S NO EXTERNAL ENERGY INPUT; IT’S AN ENTIRELY PASSIVE SITUATION. THERE’S NO ACTIVE CONTROL, AND THERE’S NO ELECTRICAL DRIVER.”

David Cardwell is Professor of Superconducting Engineering and Co-Director of the KACST Cambridge Research Centre (www.kacst-cambridge.group.cam.ac.uk). He is also Head of the Engineering Department and has been a Fellow of Fitzwilliam since 1993.

The current carried by a superconductor also generates a magnetic field, and the more field strength that can be contained within the superconductor, the more current it can carry. State of the art, practical superconductors can carry currents that are typically 100 times greater than copper, which gives them considerable performance advantages over conventional conductors and permanent magnets.

The new record was achieved using 25 mm diameter samples of GdBCO high temperature superconductor fabricated in the form of a large, single grain using an established melt processing method and reinforced using a relatively simple technique. The previous record of 17.2 Tesla, set in 2003 by a team led by Professor Masato Murakami from the Shibaura Institute of Technology in Japan, used a highly specialised type of superconductor of a similar, but subtly different, composition and structure.

“The fact that this record has stood for so long shows just how demanding this field really is,” said Professor David Cardwell, who led the research, in collaboration with Boeing and the National High Field Magnet Laboratory at the Florida State University. “There are real potential gains to be had with even small increases in field.”

To contain such a large field, the team used materials known as cuprates: thin sheets of copper and oxygen separated by more complex types of atoms. The cuprates were the earliest high temperature superconductors to be discovered, and have the potential to be used widely in scientific and medical applications.

While they are high quality superconductors with outstanding potential for practical applications, the cuprates can be as brittle as dried pasta when fabricated in the form of sintered ceramics, so trying to contain a strong magnetic field within bulk forms of the cuprates tends to cause them to explode.

In order to hold in, or trap, the magnetic field, the researchers had to modify both the microstructure of GdBCO to increase its current carrying and thermal performance, and reinforce it with a stainless steel ring, which was used to ‘shrink-wrap’ the single grain samples.

The lines of magnetic flux in a superconductor repel each other strongly, making containing such a large field difficult. But, by engineering the bulk microstructure, the field is retained in the sample by so-called ‘flux pinning centres’ distributed throughout the material.

“The development of effective pinning sites in GdBCO has been key to this success,” said Dr Yun-Hua Shi, who has been responsible for developing the melt process fabrication technique at Cambridge for the past 20 years.

The result was the biggest ever trapped field achieved in a bulk, standalone material at any temperature.

“This work could herald the arrival of superconductors in real-world applications,” said Professor Cardwell. “In order to see bulk superconductors applied for everyday use, we need large grains of superconducting material with the required properties that can be manufactured by relatively standard processes.”

A number of niche applications are currently being developed by the Cambridge team and its collaborators, and it is anticipated that widespread commercial applications for superconductors could be seen within the next five years.

“IT WAS A REAL TEAM EFFORT, AND ONE WHICH WE HOPE WILL BRING THESE MATERIALS A SIGNIFICANT STEP CLOSER TO PRACTICAL APPLICATIONS.”



MAROONED

DATA CENTRES AND THE END OF THE DIGITAL WORLD?

Alexander Taylor (PhD Social Anthropology 2014) draws from his anthropological fieldwork conducted in high-security data centres to explore some of the fears brewing in ‘the cloud’.

The famous anthropologist, Sir Edmund Leach, once said that the task of anthropology ‘is to understand and explain what goes on in society’. As societies become ever-more digital, however, it is increasingly important that we also try to understand and explain what *keeps societies on*. In the last couple of decades, data centres have become vital to this process and I have spent the last year and a half conducting anthropological fieldwork inside these strange, almost alien spaces that power and deliver our digital world.

My primary fieldsite was a data centre known as The Bunker. Located in south-east England, this nuclear-bomb proof, underground fortress was originally built by the Ministry of Defence as a command and control centre during the Cold War. I also worked with companies who store their data in these ultra-secure facilities and

engineering specialists who construct the materials to defend data centres from a variety of physical and electromagnetic threats. My multi-sited research took me across the UK, Europe and US and brought me into contact with a diverse group of people, including electrotechnical engineers, emergency planners, the UK Defence Committee, solar physicists, energy sector policy makers and infrastructure security experts. I attended the numerous expos, conventions, courses, award ceremonies and trade fairs that fill the data centre professionals’ calendar and even earned a certified data centre management qualification in the process.

While data centres are not typical anthropological field-sites (think Amazonian rainforest or African villages), by approaching these architectural curiosities as cultural artefacts we can learn a lot about our own

society and how we make sense of the world – a process in which data and information technology are increasingly central.

In an economic context where organisations, governments and individuals demand 24-hour Internet access and produce over 2.5 billion gigabytes of data a day, data centres have become essential to the daily operation of digital society. These vast, windowless buildings store, connect, manage and deliver all this data, along with the applications, programmes and software systems our interconnected infrastructures rely upon.

These buildings, then, are doubly vital to daily life in the digital world: not only do they deliver and support the systems and services of day-to-day life, they also store perhaps one of the most precious commodities of our age: data.



Increasingly extreme measures are therefore being taken to secure and protect these buildings. Data centres are being built in abandoned mines, beneath mountains and in underground rock caverns. Military architectures like The Bunker, deserted since the end of the Cold War, have become prime spaces for retrofitting data centres.

'Bunkering' data in 'disaster-proof' subterranean data centres designed to withstand category-5 hurricanes, electromagnetic pulses, space weather and 100-year-long storms is becoming increasingly common. These cultural practices reflect not only the growing importance of data and I.T. to our society but also a growing awareness of the fragility of digital storage solutions.

Most of us don't think of data as having a physical form or location. Data is abstract, immaterial 'bits' floating in some ethereal 'cloud'. But for people working in the data centres that make up the globally-connected infrastructure we call 'the cloud', data is physical, tangible and highly fragile.

The hard drives storing data must be handled with extreme care and their mechanical parts are prone to failure. This means that multiple backup hard drives are needed in case the primary drive fails. Many organisations require their data to be triple replicated and distributed in geographically-dispersed facilities. It is increasingly common to build entire data centres that contain nothing but backed-up data waiting on stand-by in case of a disaster.

One of the great myths of digital storage is its space-saving potential. While living room shelf-space has been liberated from the weight of DVDs, books and CDs, this 'weight' has not disappeared. Rather, it has simply been re-located into these massive buildings that take up more space than our media and library collections ever did.

Another paradox underlying the shift to 'the cloud' is that this interconnected infrastructure being built to more efficiently, effectively and securely store the data that is increasingly integral to the functioning of our data-based culture, is increasingly

conceived as the very thing that will be responsible for the end of the digital world.

As Al Webb, the Head of Physical Security at The Bunker put it: "Digital societies are held together and empowered by their computer-connected infrastructure but at the same time this connectivity produces new forms of vulnerability in terms of the speed with which a disaster can cascade in a domino-like fashion throughout the entire interconnected system."

There is a growing perception amongst data centre security professionals that, by embracing all-things-digital and plunging headlong into the cloud, we have put all of our eggs into one fragile basket. Events like the 'digital switchover' when analogue television broadcasting was replaced by digital TV – and the gradual phasing out of legacy infrastructure like the analogue telephone network – has led many to fear that we are effectively marooning ourselves on a digital island.

Photos: Alex Taylor



OUTREACH

Research-led teaching: connecting the research community with state schools



Chris Wilson

The Brilliant Club is an award-winning charity that exists to increase the number of pupils from under-represented backgrounds progressing to highly-selective universities. They have been bringing groups to Fitzwilliam for several years. Optima talked to Chris Wilson (History 2002) Co-CEO of The Brilliant Club.

With one in four of the most advantaged fifth of 18 year olds progressing to a highly-selective university, compared to one in 50 of the most disadvantaged fifth, Chris Wilson believes that addressing this problem is both an economic imperative and a matter of social justice. The Brilliant Club – founded by two teachers in 2011 and with funding from the Sutton Trust – does this through two programmes, both of which mobilise the PhD community to share their expertise with state schools.

The Scholars Programme recruits PhD researchers, trains them as university access professionals and places them as part-time tutors in schools to deliver academically rigorous programmes to small groups of

high potential pupils. Researchers in Schools (RIS) is a teacher training programme designed specifically for PhD graduates, which places them as trainee teachers in state schools and supports them to develop as excellent classroom teachers and research leaders committed to closing the gap in attainment and university access.

“The Scholars Programme courses are pitched at the key stage above their current programme, so it’s stretching,” says Chris. “The passion of PhD students and their ability to communicate is the crucial component of The Scholars Programme – it’s the magic that makes it work.” Recent courses include: ‘Life, death and dictatorship in Modern Spain’; ‘Mathematical modelling of the Zombie apocalypse’; and ‘Why are babies born too soon?’

The Brilliant Club now works with 550 schools across the UK and have over 30 university partners, including Cambridge.

While he was at Fitzwilliam in March, Chris was delighted to reveal new data showing

that 58% of the pupils who completed The Scholars Programme in 2015 and were eligible for free school meals had gone on to highly-selective universities in 2016, compared to 11% nationally. Chris believes that education is the most important component of social mobility.

At Fitzwilliam Chris Wilson was taught by medieval historian Dr Rosemary Horrox – and despite not initially thinking that’s what he wanted to study, he went on to do his PhD on ‘Visions of the other world in the 13th century’. “I was lucky to receive an amazing education at Fitz, and to be excited about medieval history. Rosemary found me good tutors – everything started here! And I’m still in touch with everyone on my corridor...”

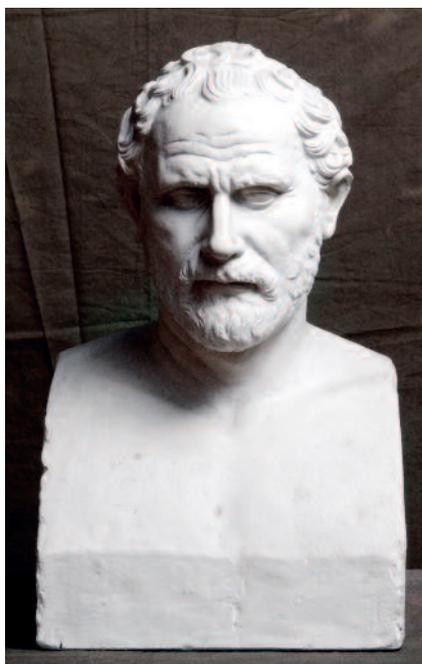
A nice coincidence occurred just before Chris’s visit. Current Fitzwilliam student Samad Chowdhury (HSPS 2015), who completed The Scholars Programme at KS4 and KS5, spotted a group of pupils (pictured) from his old school in East London (he was at the mixed sixth form of St Angela’s, Forest Gate) taking a tour of the College

"The passion of PhD students and their ability to communicate is the crucial component of The Scholars Programme – it's the magic that makes it work."

as part of their own Brilliant Club programme.

Samad said: "It was an absolute privilege spending my afternoon with such a talented group of students. Having graduated from the Brilliant Club in 2014, I have experienced first-hand the importance of the charity's work. Many promising students are hindered by the double disadvantages of, for example, being both BME and coming from lower socio-economic backgrounds: The Brilliant Club have taken pragmatic steps towards tackling these issues, pursuing the meritocratic values and principles of social justice which I believe are so fundamental to any modern democratic society."

www.thebrilliantclub.org



MY PHD

DEMOCRATIC PROCESSES HAVE ALWAYS BEEN AT THE MERCY OF THE TRICKS OF ORATORY AND RHETORIC. ROBERT MACHADO'S PHD LOOKS AT STYLES OF SPEECH IN THE ANCIENT WORLD

When we think of ancient Greece and all it has given us, we probably think first of the democracy in Athens, in which the courts and legislative assembly were made up of the free male citizens of the city and surrounding countryside, regardless of their wealth. From this period in the 5th and 4th centuries BC, we have a corpus of around 100 texts, speeches written for everything from lawsuits to the greatest matters of state and security.

The question I am asking for my thesis is a simple one: How did the ancient Greeks speak in these situations?

In all languages we have so-called variables: do you say "who" or "whom"? "I ain't done nuffink" or "I haven't done anything"? These variables often convey more than just their sense; they say something about the speaker's background: where they're from, maybe even their social class. What's more, we often subtly change them depending on our audience and the setting. How many times have public-

school educated politicians been caught dropping their ts? Greek speakers were no different.

By comparing the speeches to other texts – comedies, ribald graffiti and Platonic dialogues amongst others – I want to find out which variables the orators were using. Did the man up in court aim to make his language formal, or aim to sound like the man in the street? Were all the orations of Demosthenes literary like those of Barack Obama or JFK, or did he ever try and sound blokish and colloquial like Donald Trump?

Often Classical texts can seem simply to be huge indivisible lumps of 'Ancient Greek'. Yet this was a real, spoken, vibrant language in which people swore, loved and lived. Understanding how people spoke in politics and courtrooms gives us a unique insight into how Athenian democracy really functioned.

Robert Machado (Classics 2011, MPhil 2016)

THAT WAS THEN, THIS IS NOW

Emily Rought-Brooks (English 1989) teaches English at Fortismere School, a comprehensive in Muswell Hill, London, and completed her Master's in 2014 (Institute of Education/University of London), focusing on children's writing. She brought some of her pupils back to Fitzwilliam in March and *Optima* asked for her reflections.

Returning to Fitz with three of my sixth formers for the Progress in English Studies conference on an uncharacteristically rainy Cambridge day, I felt pleasure to be back, but also a sense of shock about how much time has passed since I was an undergraduate. Despite the weather, what struck me is the built environment of the College: how wonderful the defiantly beautiful modern buildings that form the College are. When I arrived, in October 1989, only the Lasdun buildings and New Court – still excitingly new and glamorous – existed. Tree Court was a muddy ploughed field, with works taking place to integrate the recently acquired Grove into the College.

“In those pre-internet days it felt like the only contact with the outside world were the payphones and two incoming phones that generated long queues as people waited to call home on Sunday evenings.”



But it was the people that made my time at College, not the buildings: being at Fitz felt like coming home. Studying English I was surrounded by like-minded people, who loved books and reading, and the intensity of college life and study made for intense friendships but also a lot of pleasure and fun. Fitz 'bops' were famous throughout the university and the bar, with Clive the barman running it, was the warm and friendly heart of Friday and Saturday nights.

I loved the libraries of Cambridge: whether in College, pulling out the volumes of past exam papers to try (and fail!) to prepare for any eventuality; or the English Faculty library on Sidgwick Avenue; or, most pleasurably, the UL, working in the West Room or climbing the book stacks to find a volume of criticism before, at a pre-arranged time (no mobiles, no email...) retiring to the tea room with friends for a cheese scone. When facing an essay crisis, Dr John Mullan was always helpful, dispensing invaluable advice alongside single malt whisky, and through his wise words, alleviating the stress of an anxious 18-year-old. Indeed, if I could pass on any advice to my younger self, it would be to be confident and believe in myself.

On the train back to London, my students spoke about their day – one of them, who had come reluctantly, thinking that Cambridge was not for her, was filled with enthusiasm for Fitzwilliam, having changed her mind as a result of her day in College. My undergraduate days may be increasingly distant, but as a teacher it is a pleasure to encourage others to take this exciting and rewarding journey.

THAT WAS THEN, THIS IS NOW

John Phillips (Classics 1968) tells Alison Carter about meeting the celebrated Russian composer Dmitri Shostakovich and his life in music and the law.

“We wrote to him in 1972. ‘Dear Mr Shostakovich... We like your music. Please can we give the British premiere of your Quartet No. 13?’ ... Or words to that effect,” laughs John Phillips, recalling a momentous year at the start of his musical career. He, Nicholas Dowding (also at Fitzwilliam) and Alan George (King’s) had known each other from the National Youth Orchestra and together with Ioan Davies (St John’s) had formed the Fitzwilliam String Quartet at the College in Michaelmas 1968. They’d enjoyed playing Shostakovich quartets in Cambridge, had just graduated and taken up their residency at the University of York when they heard that Shostakovich had written a new quartet.

“Dear Mr Shostakovich... We like your music.”

“We sent the letter to him at The Union of Soviet Composers, Moscow – and were astonished to get a reply from him almost by return with the score and parts.”

They were even more astonished when Shostakovich said he wanted to come and hear them play it. They met him (and his wife, and an ‘interpreter’, probably from the KGB – it was the era of defections) at York railway station at ten in the morning in Alan’s battered old car and even showed him York

Minster before playing Quartet No. 13 to him in the afternoon.

“His music is accessible and immediate as well as introspective and intimate – it gets straight to you. We were struck by his humility and shyness: if we played too loud he said it was his fault – that he should have marked it quieter.” John says he can’t remember the actual performance 45 years ago. “There was an almighty queue for tickets, it was absolutely packed, and I’ve never been so petrified in my life,” he confesses. He left the Quartet not long afterwards. “I’m the sort of person who closes one chapter and opens another, and I closed the Fitzwilliam String Quartet chapter and went into the law. They did a lot better without me!” he laughs. He read for the Bar, funding his studies by freelance playing with London orchestras.

But it’s not quite the end of the story. After 35 successful years in the law – he was in chambers in Manchester and then a judge (a highly stressful profession, he says, having dealt with “many difficult and sensitive historical sex cases”) – he plans to take a two-year Master of Music (Performance) degree at the Royal Northern College of Music. “I’m having violin lessons again and looking forward to the next chapter...”

On 30 April at Fitzwilliam there was a ‘Master’s Conversation’ event on Shostakovich with Alan George and Russian and Soviet music expert Professor Marina Frolova-Walker.



John Phillips.
Photo: Isha Cotay



FSQ The Fitzwilliam String Quartet 1971 or 1972. From left: Alan George, Nicholas Dowding, John Phillips, Ioan Davies.



Shostakovich and Alan George in York 1972



Portrait of Dmitri Shostakovich (Anthony Dorrell 1987), given to the College by the Shostakovich Society.



The original score (courtesy Alan George)

INNOVATORS

Homes for the homeless

Selwyn Image CBE (MML 1959) is the founder of the UK branch of the French charity Emmaus, which provides communities where the homeless (known as 'companions') can live, work and reconstruct a positive image of themselves. Since it was founded in 1992, Emmaus UK has set up 28 of these communities across the country – and four more are currently under construction – providing more than 750 people with a place to call home.

Selwyn recently received France's highest distinction, the *Légion d'Honneur*, for his humanitarian work. On 29 November 2016, to mark the charity's 25th anniversary, HRH The Duchess of Cornwall, Emmaus Patron since 2006, visited the community in Landbeach (Cambridge), where she joined a group of companions for a cup of tea and had a look around the community shop.

www.emmaus.org.uk



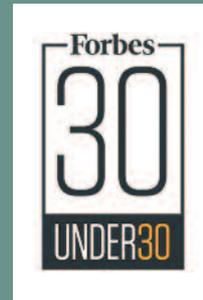
Sports partnerships initiatives

Twenty-seven-year-old **Grant Norris-Jones (MPhil Social & Developmental Psychology 2011)** made it onto the 2017 '30 Under 30: Sports' list published by the American business magazine *Forbes*, chosen from a list of over 15,000 entrepreneurs and 'game changers'.

Grant was a boxer in Cambridge, finishing his Cambridge boxing career by fighting on the All-University Division 1 team. After graduation he worked for the Leverage Agency in New York, developing a new kind of fight sponsorship package – which included the first movie trailer shown during a pay-per-view boxing match. At the National Basketball Association (NBA) he was a core part of the negotiations with Tissot for the first timing partnership



with a major North American sports league, in a multiyear deal valued at over \$200M. At 25 he then transitioned to FanDuel, a web-based fantasy sports game and an official marketing partner of the NBA, where he was hired as a director to help start up the integrated partnerships team. This included



working on the first revenue-generating partnership in the 'daily fantasy sports' industry in which a corporate partner paid for the rights to be on the FanDuel platform.

Speaking about his time at Fitzwilliam, Grant said: "Although boxing took up most of my time, I am most thankful that I was able to build friendships that are still so important to me. I am proud and grateful to be part of the Fitzwilliam family!"

www.forbes.com/profile/grant-norris-jones

RESEARCH: THE SECRETS OF TREES

Mysterious masting



‘Masting’ – think beech mast – is the term describing the phenomenon of plants or trees of the same species producing huge numbers of seeds every few years in synchrony with other plants of the same species.

Geography Bye-Fellow Dr Andrew Hackett-Pain has been researching the patterns and possible reasons, and a paper ‘Spatial patterns and broad-scale weather cues of beech mast seeding in Europe’ was published in *New Phytologist* in May 2017.

“Our data show that 2006 and 2011 were years when seed production in beech was high across northern and central Europe, the Carpathian mountains, the Alps and central Italy. We show that ‘mast years’ typically occur after a sequence of a cold summer, followed by a warm summer,” explains Andrew. “We think that this

climate control is probably linked to the accumulation of resources in the trees (producing large seed crops requires substantial investment of resources), and temperature effects on the plant hormones that control the production of flowers.”

Andrew believes that an ability to predict masting events will help improve wildlife management for these important species. It may also have implications for human health - mast years can lead to population explosions of the host species of various diseases, including Lyme's disease.

‘Cell glue’ and wooden skyscrapers



Molecules 10,000 times narrower than a human hair could hold the key to making wooden

skyscrapers possible say Professor Paul Dupree (NatSci 1984, PhD Botany 1991) and colleagues at the University’s Department of Biochemistry.

The two most common large molecules – polymers – are cellulose and xylan; in the cell walls of wood and straw they play a key role in determining the strength of materials and how easily they can be digested. For some time, scientists have known that these two polymers must stick together to allow the formation of strong plant walls, but how? Xylan is a long,



Photo: Vanishing point. Credit: Paul Bica

winding polymer with ‘decorations’ of other sugars and molecules attached, so how could this adhere to the thick, rod-like cellulose molecules?

“We knew the answer must be elegant and simple,” explains Dupree. “We found that cellulose induces xylan to untwist itself and

straighten out, allowing it to attach itself to the cellulose molecule. It then acts as a kind of ‘glue’ that can protect cellulose or bind the molecules together, making very strong structures.” Dupree is involved in the Centre for Natural Material Innovation at Cambridge, which is looking at whether buildings as tall as skyscrapers could be built using modified wood.

‘Folding of xylan onto cellulose fibrils in plant cell walls revealed by solid-state NMR.’ *Nature Communications*, 7.

An extended version of this article was published on 21 December 2016 on the University of Cambridge’s research news web page. <http://tiny.cc/cellglue>

BOOKS

BY MEMBERS

FOUNDATION MYTHS AND POLITICS IN ANCIENT IONIA



Naoise MacSweeney
November 2013
www.cambridge.org

Publisher's description: This book examines foundation myths told about the Ionian cities during the archaic and classical periods. It uses these myths to explore the complex and changing ways in which civic identity was constructed in Ionia, relating this to the wider discourses about ethnicity and cultural difference that were current in the Greek world at this time. The conclusions of this book have far-reaching implications for our understanding of Ionia, but also challenge current models of Greek ethnicity and identity, suggesting that there was a more diverse conception of Greekness in antiquity than has often been assumed.

Naoise MacSweeney (Fellow in Classics 2008-2010) is Lecturer in Ancient History at the University of Leicester, specialising in the study of ethnicity, identity and migration.

THE EMPATHY INSTINCT: HOW TO CREATE A MORE CIVIL SOCIETY



Peter Bazalgette
January 2017
www.johnmurray.co.uk

Publisher's description: Empathy is the power of understanding others, imaginatively entering into their feelings. It is a fundamental human attribute, without which mutually cooperative societies cannot function. In a revolutionary development, we now know who has it, who lacks it

and why. Via the MRI scanner we are mapping the human brain. This is a new frontier that reveals a host of beneficial ideas for childcare, teens challenged by the internet, the justice system, decent healthcare, tackling racism and resolving conflicts. In this wide-ranging and accessible book full of entertaining stories that are underlined by the latest scientific research, Peter Bazalgette also mounts a passionate defence of arts and popular culture as a means of bridging the empathy gap.

Sir Peter Bazalgette (Law 1973) was Chair of Arts Council England from 2013-2017 and now chairs ITV. He also chaired the UK Holocaust Memorial Foundation.

EUROPE ISN'T WORKING



Larry Elliott & Dan Atkinson
May 2016
yalebooks.co.uk

Publisher's description: Europe's centre-left is rapidly falling out of love with the European single currency. Looking at a range of key indicators the authors show how the euro has failed to deliver on its promise of more jobs, more growth and greater equality. Instead it has undermined the European Union. Assessing the situations in Greece, Germany, Italy, France, Ireland, and Iceland, as well as Britain, they show that the current policy of kicking the can down the road and hoping that something will turn up is proving increasingly unpopular with the currency's one-time fans in progressive politics.

Larry Elliott (History 1974) is the Economics Editor of *The Guardian*. He gave the Arrol Adam Lecture at Fitzwilliam in February 2017.

THE ISLAMIC ENLIGHTENMENT



Christopher de Bellaigue
April 2017
books.wwnorton.com

Publisher's description: With majestic prose, Christopher de Bellaigue presents an absorbing account of the political and social reformations that transformed the lands of Islam in the nineteenth and early twentieth centuries. Flying in the face of everything we thought we knew, *The Islamic Enlightenment* becomes an astonishing and revelatory history that offers a game-changing assessment of the Middle East since the Napoleonic Wars. Beginning his account in 1798, de Bellaigue demonstrates how Middle Eastern heartlands have long welcomed modern ideals and practices, including the adoption of modern medicine, the emergence of women from seclusion, and the development of democracy.

Christopher de Bellaigue (Oriental Studies 1990) lived and worked as a journalist in the Middle East and South Asia between 1996 and 2007, writing for the *Financial Times* and *The Economist*.

REVIVING ROMAN RELIGION: SACRED TREES IN THE ROMAN WORLD



Ailsa Hunt
September 2016
www.cambridge.org

Publisher's description: Sacred trees are easy to dismiss as a simplistic, weird phenomenon, but this book argues that in fact they prompted sophisticated theological thinking in the Roman world. Challenging major aspects of current scholarly constructions of Roman religion, Ailsa Hunt rethinks what sacrality means in Roman culture, proposing an organic model which defies the current legalistic approach. She

approaches Roman religion as a 'thinking' religion (in contrast to the ingrained idea of Roman religion as orthopraxy) and warns against writing the environment out of our understanding of Roman religion, as has happened to date.

Ailsa Hunt (Fellow 2012-2016) read *Literae Humaniores* at Corpus Christi College, Oxford followed by an MPhil in Classics and a PhD (awarded 2013) at Queens' College, Cambridge. Her primary research interests are in Roman religion.

30-SECOND METEOROLOGY: THE 50 MOST SIGNIFICANT EVENTS AND PHENOMENA, EACH EXPLAINED IN HALF A MINUTE



Adam A. Scaife (editor)
February 2016
www.quartoknows.com/Ivy-Press

Publisher's description: If you only have 30 seconds, there is time – using this book – to make sense of the science behind the seeming vagaries of the weather, the controversies, predictions and forecasts for climate change that shape our day-to-day experiences of the great outdoors. Ever since Aristotle first tried to explain the forces that seem to fall from the heavens, meteorology has opened up the study of weather, and caused disputes over the reasons why seasons change, where precipitation falls, why winds blow and when the sun shines. From halcyon days to hurricanes, super cells to silver linings, global warming to giant hailstones, here is the ultimate guide to a near universal preoccupation.

Adam A. Scaife (NatSci 1988) is an expert in climate prediction, head of long range forecasting at the Met Office and a visiting professor at Exeter University.

PROSTITUTION AND THE ENDS OF EMPIRE: SCALE, GOVERNMENTALITIES, AND INTERWAR INDIA



Stephen Legg
August 2014
www.dukeupress.edu

Publisher's description: Officially confined to red-light districts, brothels in British India were tolerated until the 1920s. Yet, by this time, prostitution reform campaigns led by Indian, imperial, and international bodies were combining the social scientific insights of sexology and hygiene with the moral condemnations of sexual slavery and human trafficking. These reformers identified the brothel as exacerbating rather than containing "corrupting prostitutes" and the threat of venereal diseases, and therefore encouraged the suppression of brothels rather than their urban segregation. In this book, Stephen Legg tracks the complex spatial politics surrounding brothels in the interwar period at multiple scales, including the local, regional, national, imperial, and global.

Stephen Legg (Geography 1996) is Associate Professor in the School of Geography at the University of Nottingham.

MINDFUL OF THE LIGHT: PRACTICAL HOPE AND SPIRITUAL HELP FOR MENTAL HEALTH



Stephen Critchlow
April 2016
www.mindfulofthelight.com

Publisher's description: Many people today are living with mental health issues. How do we recognise symptoms? What can we do to help? Does it help to have faith? *In Mindful of the Light*, Critchlow presents an invaluable resource for all who are living with mental health issues, whether as sufferers or carers.

Drawing on his rich professional knowledge, he offers clear information about the causes and symptoms of a wide range of problems together with helpful insights into everyday struggles and practical steps that can be taken. He also looks at the role faith can play for those going through the difficult and stormy times mental health problems can cause.

Stephen Critchlow (Medicine 1970) and later trained in psychiatry in London and Northern Ireland where he became a consultant. He has been a church leader in London, Ireland and Cyprus.

LOST STATIONS OF YORKSHIRE (PARTS 1 and 2)



Alan Young
2015
www.nostalgiacollection.com

Publisher's description: In 2005 Nick Catford, a member of Subterranea Britannica, started the *Disused Stations* website with the aim of creating a definitive database of the UK's closed stations. The work to complete the database is ongoing and will take many years. To date there are 1,550 stations on the site and it is visited by thousands of people every week. These books, the fourth and fifth in the series, have once again been compiled by Alan Young, a major contributor to the website, and are intended to serve as stand-alone records while also acting as companions to the *Disused Stations* website.

Alan Young (Geography 1969) taught Geography at the Queen Elizabeth's Grammar School in Blackburn for 37 years before retiring in 2010. He is now a freelance tour manager with Great Rail Journeys.

WHAT CHRISTIANS CAN LEARN FROM OTHER RELIGIONS



J. Philip Wogaman
March 2014
www.wjkbooks.com

Publisher's description: Learning about other religions is not the same as learning from other religions, which can have great value to Christians who wish to strengthen their faith. In this book's ten easy-to-read chapters, Wogaman shows readers what Christians can learn from different religions, such as Judaism, Islam, Hinduism, Buddhism, and even from atheism. From these religions Christians can achieve insight into love, sin, ritual, the importance of myth to convey truth, the foundational roots of Christianity, the dark side of Christian history, and many other important ways to see and interpret the world and to understand God.

J. Philip Wogaman (Visiting Fellow 1975) is former Senior Minister at Foundry United Methodist Church in Washington, D.C., past President of the Interfaith Alliance, and Professor Emeritus of Christian Ethics at Wesley Theological Seminary.

RENTIER CAPITALISM: DISORGANISED DEVELOPMENT AND SOCIAL INJUSTICE IN PAKISTAN



Shahid Ahmed
2016
www.palgrave.com

Publisher's description: Since the early 1950s East Asia and South-East Asia have, despite war and other challenges, managed to transform the lives of their people, whereas South Asia (India, Pakistan, Bangladesh and Sri Lanka) has lagged behind. Pakistan has never confronted the problem of rural poverty, nor invested in public services. This failure is a reflection

of the power of the landed class and its urban allies. This has now taken the form of widespread rent-seeking in the economy with the country's ruling elite sharing out the spoils amongst themselves. *Rentier Capitalism* sheds light on the reasons behind Pakistan's failure to bring prosperity to its people.

Shahid Ahmed (Economics 1962) has worked for the UN, and as an economist in the Economic and Social Commission for Asia and the Pacific, and in a senior capacity in Pakistan's central bank.

THE UNIVERSE IS A MACHINE



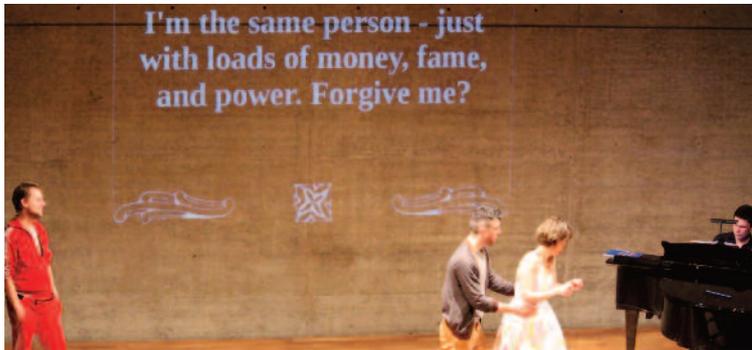
James Michael Hughes
November 2016
www.troubador.co.uk

Publisher's description: This book, in the form of a treatise, explores the "smoking gun" clue that a distinct mechanical process was present in the aftermath of the Big Bang, superimposed on the thermodynamic and nuclear processes associated with the evolution of the early Universe, and that the dynamic behaviour of the early Universe mimicked that of a symmetrical body having mechanical properties. *The Universe is a Machine* may offer food for thought for some physicists who claim that aspects of physics are currently in a cul-de-sac, and that a totally new perspective may be required. The perspectives contained in this book may be the first step out of that cul-de-sac.

James Michael Hughes (Engineering 1970) has many years of experience as a practising mechanical engineer in consultancy and in a wide variety of industries.

MUSIC

POP-UP OPERA BRING BRILLIANT BARBER TO FITZ



When Director of Music Katharine Parton invited Pop-Up Opera founder **Clementine Lovell (Arch & Anth 2000)** to speak at the annual Music Society dinner, they also talked about bringing a production to Fitzwilliam. Which is how their exciting *Barber of Seville*, in Italian, came to the College for Valentine's Day.

Pop-Up Opera are known for their witty projected captions – they summarise what's happening in plain English, often with jokes that are topical to the venue.

Clementine said: "It's such an honour to be asked to speak at the dinner, and I'm very proud to bring my company to perform at my old college! I was very

much involved with music at Fitz: I was part of the Sirens, who share the same ethos of engaging with an audience and drawing them in to really feel part of the performance. Pop-Up Opera is all about making opera fun and enjoyable for everyone."

www.popupopera.co.uk

SIRENS REUNION



Sirens and former Sirens at the Music Society Dinner & Reunion event on 4 February. The Sirens were founded more than 20 years ago!

RATTLE HIS BONES

Jonathan Woolgar (Music 2010) returned to Cambridge as one of two Composers in Residence for Cambridge University Musical Society in 2016-17. His chamber ensemble piece *Rattle His Bones*, based on a chorale Jonathan wrote as an undergraduate at Fitz, premiered at the West Road Concert Hall alongside works by Mark-Anthony Turnage and John Hopkins.

DIRECTOR OF MUSIC

Katharine Parton is stepping down after three successful years and returning to Australia to complete her PhD in conductor gesture and musical communication at the University of Melbourne. Dr Chloe Valenti will take up the post of Director of Music in September. She studied at Bristol University, did her MPhil in Musicology at Homerton College and her PhD on 'Verdi Reception in London' at Selwyn College.

STUDENT NEWS

PRIZE-WINNING WRITER

Nell Whittaker (English 2014) is the winner of the 2017 Cassandra Jardine Prize for her article 'Strange and mysterious treasures are washed-up on Britain's shores', about Britain's Receiver of Wreck. The prize, launched in 2013 in memory of the *Telegraph* features writer who died in 2012, is for young women writers.

"I came across the Receiver of Wreck while researching nautical phraseology for a short story I was writing. The name of the role itself conjures, for those with two feet on solid earth, the same sense of other-worldliness as the regions of the Shipping Forecast."



In 2016, Nell Whittaker won The John Kinsella and Tracy Ryan Poetry Prize. Here she receives her £500 prize from Professor Dame Athene Donald, Master of Churchill College.

SPEED MOOTING WIN

Sandamini Chandrasekara-Mudiyansele (Law 2014) competed in the 5th National Speed Mooting competition organised by Hope University in Liverpool, at the end of February, and won. The competition attracts participants from all over the country, and is judged by solicitors, barristers and judges. "There were seven rounds, and in the finals I was up against a Graduate Diploma in Law student from Oxford. I think the best part was when I was told that I was the first woman to win the trophy!"

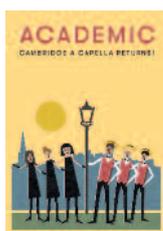


FITZ AT EDINBURGH...

Daniel Emery (English 2015) directs and **Georgia Holmes (MML 2016)** stage-manages 'Salt Water', which promises 'an hour of bracing absurdist comedy' set in 'a world of dock hands and drug smugglers, of salt spray and foaming ales'. 4-28 August at Underbelly Buttercup.

Spanish comedian **Isa Bonachera (MPhil Physics 2015)** takes her show 'Wow' to Edinburgh, performing at Underbelly Cowgate 3-27 August. She is a Chortle Student Comedy Award semi-finalist (2015 and 2017).

The Barbers & Sirens are taking their show 'AcaDemic: Cambridge A Cappella Returns' to the Edinburgh Fringe this year. Look out for them at the Space Triplex 10-13 August.



SPORTSPORTSPORT

VARSITY ATHLETICS



Martin Croft



Saeed Keyhanian



Maxine Meju



Kaesi Opara



Stephanie Sinclair

Eight Fitz athletes competed in the Varsity Athletics on 14 May. **Martin Croft (Nat Sci 2015)** won the men's 2nd team hammer. **Kaesi Opara (Medicine 2014)** won the men's Blues 100m and 200m, gaining a Blues standard in the 200m. **Stephanie Sinclair (Law 2015)** gained a Half Blue for her triple jump.

Saeed Kayhanian (MBBCh 2013) gained a Half Blue from his 400m hurdles. Sadly, Cambridge lost the men's and women's firsts and seconds matches but the women's Blues team only lost by 4 points! **Maxine Meju (Medicine 2014)** was the women's captain.

REFEREEING



Cambridgeshire FA recently promoted **Charles Martland (History 2014)** to a Level 5 Referee (Senior County Referee, Supply League Assistant) after he officiated over 30 matches and completed a series of assessments last season. Charles was also appointed to referee the Cuppers Semi-Final, between Pembroke and Sidney Sussex, as well as the Plate Final, between Robinson and Selwyn, in March 2017.



FITZ BASKETBALL ON THE RISE

The Fitzwilliam College Basketball Club was re-instated in October 2016, having been inactive for a number of years, and since then the team have space-jammed their way through the Cambridge University Basketball Club (CUBbc) college league. They joined the league in Division 5, didn't lose a single game, and were promoted; beginning Lent term in Division 4, they remained undefeated, securing yet another promotion to Division 3, where they will play next year (2017/18). It was only in the quarter finals of the Cuppers that they lost their first game of the year, after being seeded against King's from Division 1.



From left: Siyuan (Tim) Tong (Masters in Finance 2016); Florian Nie (Mathematics 2016); Derek So (Mathematics 2016); Kaesi Opara (Medicine 2014); Arvin Alaigh (MPhil Political Thought & Intellectual History 2016); Hyunkyuu Park (Engineering 2014). Also in the team: Alex Taylor (PhD Social Anthropology 2014), Alan Walsh (MPhil 2014, PhD Economics), Michael Fan (Medicine 2015) and Harkeerit Kalsi (Economics 2014).

COLLEGE FOOTBALL TRIPLE SUCCESS

FITZ'S MALE AND FEMALE FOOTBALL TEAMS HAVE HAD AN OUTSTANDING SEASON, WITH THE MEN'S SQUAD WINNING ALL THREE TROPHIES - CUPPERS, THE SHIELD AND THE VASE.

1sts: Captain **Tom Dunn-Massey (Economics 2014)**. The rout began on Friday 10 March with the Cuppers final when the Fitz 1sts took on Pembroke. Goals from **Peter Rutzler (History 2014)** and **Rufus Saunders (Land Economy 2016)** saw Fitz win 2-0 and earn its tenth Cuppers win.

2nds Captain **James Dilley (History 2014)**. The triumphant weekend continued on Saturday 11 when the 2nds took on Girton. Goals from Thomas **Franks-Moore (Natural Sciences 2014)** and **Jonathan Donnelly (MML 2013)** left the score-line at 6-0 and the Shield in Fitzwilliam's hands.

3rds Captain **Jack Maloney (NatSci 2014)**. The super weekend concluded on Sunday, when the 3rds defeated Jesus 1-0 on their home turf to win the Vase; **Cassius Bandeen (Natural Sciences 2015)** scored the goal.

WOMEN'S FOOTBALL CUPPERS

Captained by **Nell Whittaker (English 2014)** and **Amelia Williams (Classics 2014)**, Fitz women had a strong season and after winning all but one of their matches finished top of Division Three and will be moving into Division Two for 2017/2018.

WOMEN'S VARSITY FOOTBALL

For the first time the men's and women's football Varsity matches took place on the same day. Fitz had strong representation in the squad through Zoe Cohen (History 2016) and Daisy Luff (Biological Sciences PhD 2014). The team lost 3-1, however, Zoe was praised by Varsity for 'working [her] socks off in the middle' whilst Daisy was lauded for setting up a significant chance through an 'excellent through-ball to Becca Hirst'.



2016 CRICKET CUPPERS

Belated congratulations to the Fitzwilliam team who won Cricket Cuppers in June 2016, for the first time since 1972, beating Girton 167 runs to 164 – the results came out after *Optima* went to press. Fitz captain, **Adam Drew (Geography 2013)** said: "I can't quite express the pleasure of winning Cuppers. It feels a bit like finishing my degree – not obtaining the grade but actually finishing the final exam knowing you've done all you can and (hopefully) having achieved everything you've been working towards the past year."



Top (from left) Tahawar Hussain (12th man); Patrick Tice; Rory Sale; Sam Strong; Oli Taylor; Joe Painter; Dan Mehlig. Bottom (from left) Tom Corner; Nikhil Patel (vice-captain); Adam Drew (captain); Henry Warne; Christian Moffat.

"It was a privilege just to be associated with this great achievement," wrote Andrew Powell, Bursar, in his blog post. "I am the proudest Senior Treasurer in Fitzwilliam this year. The first in 44 years to win Cricket Cuppers!... Of course, this squad is not a flash in the pan. I'm sure they would be first to acknowledge the efforts of those captains over the last three years who have brought Fitz cricket back from the brink. I'm especially pleased for Sam Strong who has played for Fitz for seven years, and done two stints as captain and really pulled us through some difficult times."

LONG MEMORY



When a local Cambridge picture framer called Nobby shut up shop earlier this year, there were various unidentified, unframed items out the back. By very good chance John Rudderham, Fitzwilliam's long-time handyman, had popped in to see him and recognised one of the works. He'd been asked to take it to Nobby for framing.



At 78, John is one of the College's oldest employees, and has been at Fitzwilliam for 23 years. He and his wife Carole mainly look after Fitzwilliam's Boathouse and are regularly in College at lunch time - John has an inexhaustible fund of stories to tell. He had a difficult childhood and didn't learn to read until well into adulthood. So now the College has its artwork back, and has good reason to be grateful to the man with the long memory.

Artist Colette Morey de Morand said: "The work is one of a set of six works created in 1980. It is Caran d'Ache on hand-made water-colour paper. Originally it was given to my dear late friends Lady and Sir Anthony Caro. If the original mount and name is now lost I re-name the work 'All the Time in the World'." The work - originally on loan from the Fitzwilliam Museum - has now been given to the College. ...And still awaits framing!

GARDENS



Head Gardener Steve Kidger (centre) and his team, Deputy Head Gardener Nick Squires and assistant Camelia Manzoori do a wonderful job at the College - and judging by the number of photos on Twitter and Instagram lots of other people think so too. But it's not just about creating beautiful borders and varied planting (or indeed providing habitats for a local hedgehog hospital to release its patients back into the wild!). Steve runs garden tours for local clubs, and opens the gardens for the NGS (with Churchill College) - they raised over £900 for charity this year. They also helped out the new local Arthur Rank Hospice by assisting volunteers to dig-in some 15,000 plants. Oh - and the Fitzwilliam Community allotment!

DIARY

17 June	Billygoats' Pimms Party, Osier Holt
18 June	Great Geography Get-Together
24 June	Past v Present Cricket Match & Dinner
8 July	1967 Golden Matriculation Reunion
9 September	Sports Alumni Dinner
22-24 September	83rd Reunion Weekend
11 November	Careers Fair (& subject dinner TBC)
16 November	Foundation Lecture - Prof Catherine Barnard

HOLD YOUR EVENT AT FITZWILLIAM



Robert Clarke is now in charge of conferences as well as catering in the College. With the support of Emma Hilditch, who has come to Fitz from Trinity Hall, and Caroline Choat, the new Conferences and Events Office is the place to go if you want to host your event, conference, dinner or wedding at Fitzwilliam. www.fitz.cam.ac.uk/conferences