

EMMANUEL 2010
REVIEW



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The front cover shows the shell of one of the new study spaces in the Library being manoeuvred into position

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VIEW FROM THE LODGE



The Master shaping a roof timber at the Library's 'topping-out' ceremony

You cannot work in a place so luminescent with brainpower as Emmanuel without learning new things the whole time; or that at least is my experience. Unexpected morsels of knowledge abound at High Table or in conversation with Junior Members, and one is left saying to oneself, 'Why did I not know that before?' Sometimes one feels fairly safe that most others are equally ignorant, as when a graduate delivered a brilliant talk entitled 'The odour of dead bodies in the Middle Ages'. But there are so many areas, particularly in the sciences, where understanding is bounding forward into new territory that one can only wonder at the ability of our researchers and the potential of Cambridge again to change the world.

It was rather in that spirit of wonderment that I watched our team forge ahead to victory in the finals of University Challenge, to the immense delight of us all. I was amazed at how much they knew and felt very grateful that I was not in their shoes. Which of us, sitting under hot lights and in the eye of television cameras, faced with Jeremy Paxman barking out: 'If the difference between two positive numbers is 5, and the difference between their squares is 55, what is the sum of their numbers?' would be able calmly to reply: 'Eleven'? But that is what our team did. I was still trying to understand the questions a week later. What really impressed me was that the team were not only all very bright but they were nice with it. We can be as proud of the generation passing through Emmanuel now as we are of their predecessors.

The things one learns as Master are not just academic. At the moment the College – or those of us directly involved – are learning a lot about the management of projects through the refurbishment of the Library. I have previously been responsible for the ordering of new buildings, indeed new nuclear power stations at one point in the late 1970s, but I have never been so close to a project as this one.

continued on next page

It is partly that we have had to raise the money to pay for it and could not, as in my previous existence, look to the taxpayer for funding. I am deeply grateful for the way in which so many Members have dug into their pockets to help us, and have done so with such generosity. I will admit that at the beginning, when Sarah Bendall and I discussed how we were going to set about raising the money, I felt inwardly apprehensive about what we were taking on. Even with a significant contribution from the College, £6.85 million seemed an enormous amount to raise. But the need for refurbishment was pressing. So we buckled down and worked hard to contact everyone we could reach.

Mercifully it quickly became clear that we had the support of our Members. Being of a nervous disposition I kept reassuring myself that even if no one gave us another penny we would at least be able to say that we had raised half a million pounds, or one million, or two million, and so on until it became clear that we were actually within sight of raising what we wanted. I'm delighted to announce that we've reached our target and on behalf of the College I just want to say a warm thank you to everyone who has contributed. It made me realise yet again how much the College means to its Members, and how much we depend on you. We are very lucky.

Having raised the money we must of course now deliver the goods as promised. Here again it is good news, as well as another learning experience. We are admittedly probably rather more involved in the project than customers normally are; or so we are tactfully told. But Richard Nightingale, the Member who is our architect, and his colleagues seem blessed with enormous patience as well as being very fine professionals, and we have weekly and monthly meetings to review progress and keep control of design changes. Luckily we have chosen excellent contractors, Killby & Gayford. Relations are good and the project continues to run to time and to cost.

We have of course become familiar with the problems which inevitably crop up in a project. We had been warned about some of them by old Cambridge hands, for instance that there is a spring rising under one corner of the Library (I begin to think the College is built on a large network of underground waterways). Others were unexpected such as discovering that the foundations of the old bathhouse which used to be behind the Library had never in fact been removed, or coming across unexpected quantities of asbestos which had to be taken away by men who looked as though they were on the Moon. And I have learnt how matters which I would have thought were minor can be major potential headaches such as moving the College gas meter or laying a terrazzo floor on an uneven surface. There are many thousands of decisions to be taken in a project like this, any one of which can become a source of grief. But we have worked well as a team and the project is taking shape before our very eyes.

I'm delighted to announce that we've reached our target and ... I just want to say a warm thank you to everyone who has contributed. It made me realise yet again how much the College means to its Members, and how much we depend on you. We are very lucky.

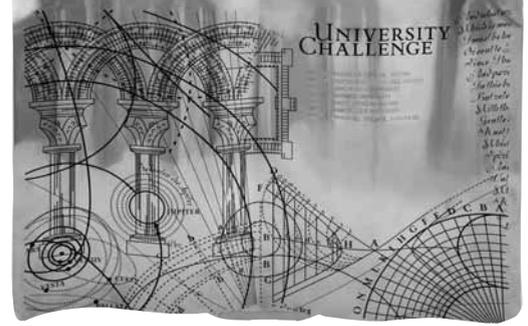
So let me finish with a warning. The refurbishment of the Library is really exciting. It is much more ambitious and larger than it looks from the outside and it is going to transform the facilities without losing the splendour of the 1910 building. I am not going to rejoice yet because I am very conscious how much hard work lies ahead, not least for the Library team who face a daunting task moving the books back to their rightful places. But I sense that two or three years from now, when the Library is settled and the challenges have become a distant memory, the College will be turning its mind to other possibilities for building and refurbishment. There is no shortage of them. Now that we have learnt what we can do there will be no stopping us. That's the trouble with learning.

Lord Wilson of Dinton
Master



Peter Twitchett

The Master with the Ladies' Second VIII in 'Lord Wilson of Dinton', after having bumped Jesus II in the Lent bumps



UNIVERSITY CHALLENGE – EMMA WINS

And so it happened: across the land, three million people tuned in to see what the hype was all about. In Bloomsbury, 60 or so squeezed into the cramped function room of a pub. They celebrated as the points accumulated. Starters were pre-empted, bonus questions considered, heads scratched and guesses made. Pleasingly for Cantabrigians the questions were going the way of Emmanuel, and the team from St John's, Oxford were squirming as the gap widened. Shoehorned into that tiny room with fellow Emma students, it felt a bit strange for Josh, Jenny, Alex and me, partly because we knew the result, but also because it was now a distant memory. That tense half hour had taken place five months ago, and the intervening period had been spent trying to keep our triumph a secret from friends and family.

It all started in March 2009 with a trial in the bar. After a written test and some rapid-fire questions, the team was selected; I was rather chuffed to have finished fifth and was reserve. Unfortunately James Eastwood, one of the chosen four, had to drop out as he could not guarantee he would still be a student in the next academic year. His misfortune was my good luck and so the team was settled with Alex Guttenplan as Captain, joined by Jenny Harris, Josh Scott and me, and Simran Singh in reserve. Our next step was to try to get onto television, enough of a challenge in itself given that only one team from Emma has made it in the five years I've been here, and only a quarter of teams that apply make the televised rounds. We

assumed we wouldn't be interesting, diverse and hip enough, but a few days after scribbling down answers to a few taped questions and being grilled by researchers in a room in Corpus we heard we'd been chosen. Come June we were in a studio in Manchester opposite a team from Regent's Park, Oxford, and we weren't doing terribly well. It's a lot harder when you're not at home, where the lights aren't quite so harsh, the tension is much less palpable and Paxman isn't giving you that trademark stare. I thought I'd get us off to a flyer by buzzing in on the second question. Minus five points. I then decided that my buzzer was better left unpressed. Fortunately the others showed a little more resolve, and we limped to 165 points and defeat. But it was enough. Just.

Alex, a veteran of Schools Challenge, the untelevised junior equivalent, suggested that we needed to be quicker on the buzzers; we had done well on the bonuses but weren't getting enough opportunities. The rest of us blamed the tatty dinosaur mascot that had been supplied by Simran. Fortunately, by the time we got back in July (minus dinosaur) something had clicked, and we surprised ourselves with a big win against Christ's in the play-off between the highest losers. The second round held University College London and the daunting prospect of playing against an institution much bigger than ours; trailing with just a few minutes to go Alex brought us back with some lightning buzzes, and before we knew it we were through to the quarter-finals and it was getting serious.

When we came to October, publicly we were still struggling in the first round although in fact we were back in Manchester filming the quarter-finals. The first match against Jesus, Oxford saw us pick up an early advantage and hold onto it. Our second (please don't ask me to explain the system) was against Imperial College, who were developing a reputation as formidable opponents (and were also one of the nicest teams we met). Fortunately we were again able to press home from an early lead. Clearly we were getting the hang of this buzzing malarkey. So after a night's rest came the semis. Manchester were at home, but it wasn't their day and we managed to achieve 315 – our highest score yet – in no small part thanks to Alex's hovering up starter questions.

Clearly we were getting the hang of this buzzing malarkey.

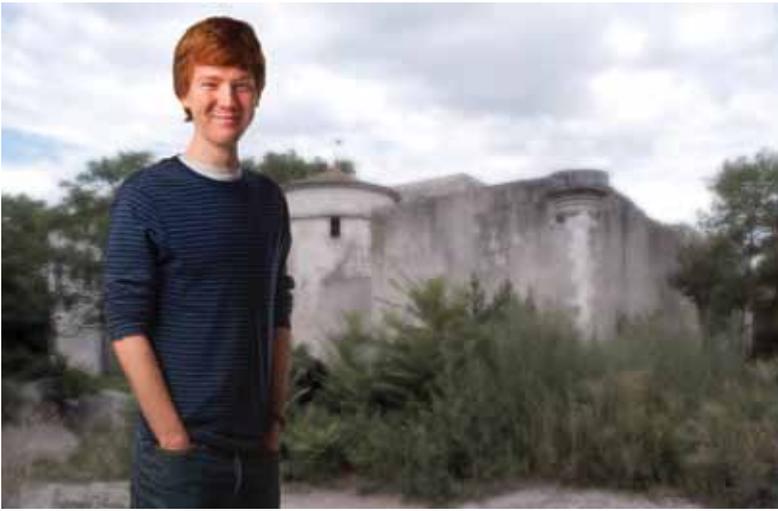
It was this performance which, when aired, began to draw attention: on Facebook the Guttenfans were whipping themselves into a frenzy, in the blogosphere he was tipped for Prime Minister, and in the *Telegraph* he was portrayed as Paxman's arch nemesis: the student who dared to stand up to the question-master. In truth there was, of course, no such enmity and, off camera, Jeremy Paxman was charming and enthusiastic, willing to chat, sign autographs and hang around after filming for a drink. But the papers had to have a story and so by the screening of the final in April, over a year after it all began, we (and particularly Alex) had, for a week, been living in the eye of small media storm. And so as we sat in the pub in Bloomsbury watching ourselves win University Challenge the real emotion was relief, that the big secret was now out, that we could talk and laugh about it.

We all had our personal highlights; for Jenny it was meeting Carol Ann Duffy; for Josh, somehow getting his dreadful patterned jumpers past Wardrobe; and for me it was finally getting a question on classical music right. What has been particularly special for us all has been to see how many people have affection for a show that is not flashy or high budget, but smart and interesting. It has been an especial pleasure to hear from the many Members of Emmanuel who got in touch to congratulate us at all stages of the competition. Thank you for supporting us.

Andy Hastings (2005)



MORE SUCCESS



JAMES EASTWOOD – won the undergraduate dissertation prize from the Society for the Study of French History in 2009

There are some faces which are difficult to forget. In particular I shall always recall the one I saw time and again in my final year as an undergraduate at Emma. It was an expression borne by many people I talked to when I told them the title of my dissertation, ‘Noble obligation and political imagination in ninth-century Carolingian Francia’. Ask the person next to you to read it and you might be able to see what I mean. I spent about six months researching and writing about the subject and it was brilliant. Let me explain why.

In the dissertation, I argued that you can’t understand ninth-century European politics in isolation. What people do and say in politics depends on far more than a narrow calculus of interests: it encompasses religion, family, geography, gender and a host of other notions which we might bracket under the troublesome term ‘culture’. My aim was to show that noble obligation – that is, the extent to which powerful dignitaries chose to remain loyal to the emperor – depended on political imagination, on the way those elements drawn from my list above helped people frame how they thought about every political question.

I can’t argue the merits of my dissertation on utilitarian grounds: everyone I wrote about is long dead, and many would rather be that way than read it from start to finish. But the processes at work in ninth-

century Europe are not so distant as some might think. No matter how disenchanted, secular, or rational we claim to be, the reasons we choose to behave the way we do – in politics or otherwise – are stranger than we imagine.

Looking for the strange in the ordinary is what I enjoy doing when I study, and sometimes I think the present day is when we need history the most. Even though my current MPhil research concerning the attitudes of Israeli veterans to military service is far removed from the time of Charlemagne, I am often surprised by the frequency with which I find myself asking questions similar to those I explored for my dissertation. Next year I plan to continue my academic work at the School of Oriental and African Studies in preparation for applying for a PhD.

CONG CONG BO – graduate student who organised a conference for 350 people in April 2010

I am an entrepreneurial medical student in my fifth year at Emmanuel. As an undergraduate, I ran three university societies, organised Europe’s most successful business creation competition and was listed twice in *Varsity’s* top 100 most influential students. I am currently building a healthcare venture that will deliver immediate, life-changing therapy to thousands of depressed patients.

I am enthralled and driven by the possibilities enabled by the action and imagination of the people I meet and read about. This is what led me to TED. TED (Technology, Entertainment, Design) is a non-profit organisation that arranges global annual conferences devoted to ‘Ideas worth spreading’, attended by leading thinkers and doers who have just 18 minutes each to share their ideas. TED Talks have a remarkable ability to inspire, educate, entertain and restore our childlike sense of curiosity and over 600 are available at www.ted.com. The launch last year of TEDx allows individuals all around the world to organise their own TED-style events locally under licence from TED.

Eager to bring TED to Cambridge for the first time, I set out to create TEDxCam along with Dawson King, an exceptional young entrepreneur I met at a business lecture in Cambridge. The theme of our conference was ‘Pluripotency’, a term used to describe stem cells, which have the power to become any cell in the body. Applied metaphorically, we wanted to explore

future potential and possibilities created by people, science and technology.

TEDxCam 2010 took place on 17 April at the Cambridge Union with nine speakers and an audience of 350 scientists, entrepreneurs, business people and students. Highlights included Simon Singh (Emma 1987) who, having recently won his libel case, touched on the importance of freedom of speech and its centrality to scientific discovery and truth. Other speakers included Emma Fellow Dr Carolin Crawford, astronomer and communicator of science; Professor Kevin Warwick, world expert in cybernetics; Aubrey de Grey, biomedical gerontologist; and Bruno Giussani, European Director of TED.

Our event was featured on the BBC and elsewhere. We will be represented at the *Guardian’s* Activate Summit this summer. We are planning an even bigger and better TEDxCam 2011. To stay informed, please follow us on Twitter and sign up to our newsletter at <http://tedxcam.com>.



Background image: Ivan Hoo www.chellewan.com

PROTEIN SHAKES AND SWEDISH (MEAT)BALLS

MARTIN SCHMEING – Research Fellow 2006–9 and now a Bye-Fellow

I became a scientist because I was curious about the inner workings of the natural world. Over the last ten years I have been lucky to work with some exceptional researchers, two of whom won the Nobel Prize in 2009. We share a drive to uncover the essence of biology and together we have been able to learn something fundamental about how nature produces one of its most important molecules: proteins.

Proteins are everywhere. They are essential to all life as we know it. Proteins are used as an energy source (as the now-ubiquitous protein shake illustrates); they define the shapes and structure of cells; they are the molecules our bodies use to digest, to synthesise chemicals, to protect us from infection, to process the air we breathe, and so on and so on.

The instructions to make these different proteins lie in the sequence of our DNA, as the order of DNA nucleotides in a gene indicates the order in which to assemble amino acids, the building blocks that make up every protein. The molecular machine that reads the gene sequence (after it has been copied from the DNA into a similar molecule called mRNA) is known as the ribosome. The ribosome is huge by molecular standards, containing around 250 000 atoms (a sugar molecule has 20 atoms). It is also extremely complicated, complete with subcomponents, moving parts and all sorts of different accessories. The ribosome lands on an mRNA and, looking at the nucleotide sequence, recruits the specified amino acids (which are linked to other RNA molecules, called tRNAs in the form of amino acyl-tRNA) to use in protein synthesis. The ribosome takes amino acids off from the tRNAs and chemically snaps them together like lego blocks, one at a time, to make a protein.

The basic idea behind this process has been known for decades. The ribosome was discovered in the 1950s, and by the 1960s it was known that the ribosome itself was made out of both protein and RNA components, and could be divided into a large and a small subunit. The small subunit binds the mRNA and one part of the tRNA, and the large

subunit binds the other part of the tRNA and links together the amino acids. But in science, it's all about the details. How exactly does the ribosome select the correct amino acyl-tRNA out of a cell full of incorrect ones? How does the chemical reaction that links amino acids together get enzymatically catalysed by the ribosome?

Working with Tom Steitz and his group at Yale University, I used X-ray crystallography to take three-dimensional pictures of the ribosome's large subunit. This technique had become routine for small molecules, but it has taken researchers decades to get it to work on the ribosome. To figure out how the ribosome makes proteins, I used modified amino acyl-tRNAs, which would pause the linking reaction at different stages, and then took the pictures. This gave us a series of still frames which, when looked at quickly in order (much like a child's flick book) provides a rough film of the ribosome building proteins from amino acids. These sequences¹ are both a good way to share our results with other scientists and the public, and also tell us quite a lot about the process. We discovered that the chemical 'active site' of the ribosome responsible for adding the amino acids together was made of RNA and not protein. This had been hypothesised many years before by Francis Crick while he was thinking about protein's version of the chicken-and-egg problem: if the ribosome, which makes proteins, is made out of protein, how was the first ribosome made? With proof that the important parts of the ribosome for making proteins were in fact RNA, this apparent paradox was resolved. We also showed that the ribosome protects the unstable linkage between amino acid and tRNA before it is time to add it to the growing protein, and figured out how the actual chemical catalysis of linking amino acids together works.

Around the same time, Venki Ramakrishnan and his group at the MRC Laboratory of Molecular Biology here in Cambridge were also using X-ray crystallography to study the ribosome, discovering how the small subunit can tell when the mRNA and tRNA are matching. I used my Research Fellowship at Emmanuel to join Venki in



If the day of the announcement was a celebration, Nobel week in December was doubly so.

Cambridge and we looked at the entire ribosome with an accessory factor (called EF-Tu), which delivers the amino acyl-tRNAs to the ribosome. We discovered how monitoring of mRNA-tRNA matching by the ribosome is communicated to EF-Tu, telling it whether the proper amino acid is present and, if so, allowing the large ribosomal subunit to add it to the growing protein. This is an extremely important process, since if the wrong amino acid is linked, it causes a mutation in the protein.

One morning last October, while discussing these results with a colleague, I overheard Venki on the 'phone, saying 'You have a lovely Swedish accent, but I don't believe you, you must be playing a trick.' I did believe it though, as right away I knew



what was going on: the famous call from the Nobel Committee. We all realised that the ribosome work was of fundamental importance, and for years there had been whispers about recognition. I happened to have a bottle of champagne from Emmanuel's cellars on hand, so as soon as Venki was off the 'phone I gave him a big hug and we popped the cork to celebrate with the research group. He told me he was sharing the prize with Tom and Ada Yonath, which meant I now had worked with two laureates. The call comes through 20 minutes before the prize is announced publicly, and laureates are sworn to secrecy for that time, so we shut the lab and enjoyed our morning bubbly. I sent off a congratulatory email to Tom and was thus the first to congratulate him since it was still a secret. Once the announcement was made, the lab became a madhouse. Well-wishers and reporters from around the world showed up in no time to interview Venki and us. Somewhere in Chinese TV archives there is an interview with me after my fourth glass of champagne, which I am glad never to have seen.

If the day of the announcement was a celebration, Nobel week in December was doubly so. I was invited to attend by Tom, because of my contributions to the work for which he was recognised. Indeed, the scientific explanation of the prize hailed one of my papers with Tom as the 'jewel in the crown' of the studies investigating the reaction linking amino acids together, something for which I've taken a lot of good-natured ribbing. Nobel week was a string of talks, parties and receptions, culminating in the day of the medal presentation. The festivities start at Stockholm's opera house, where the King of Sweden bestows the laureates with their prizes. This is followed by an extravagant feast at the City Hall, televised to all of Sweden, for which formal guest nights at Emmanuel had prepared me exceedingly well. I found it amusing to watch Venki, who is most comfortable in a holey sweater and trousers still tucked into his socks from that morning's bike ride, escorting the young Crown Princess of Sweden in the royal procession. Dancing in the Golden Hall followed,

and the celebrations stretched well into the next morning as we were taken by bus to the Karolinska Institute (Stockholm's medical university) for the after-party: a full Oxbridge white-tie May Ball-style party that raged until 6 am. It was a perfect way to draw celebrations to a close.

Curiosity and drive to understand the world is what motivates scientists, and neither I nor the laureates got into science to win prizes. When our work leads to more profound understanding of important aspects of nature, that is both the goal and the reward. However, it is certainly nice to contribute both to the hard work and to the celebrations.

Tom Steitz's Nobel Lecture (when repeated at Yale) can be seen at www.youtube.com/watch?v=FgEeLRTGKwc

¹ www.youtube.com/watch?v=0aQan400K_Q&feature=player_embedded#

THE FORTY-NINE WORDS

OKE ODUDU – Fellow and Herchel Smith Lecturer

In 1998, my final year as an undergraduate, I was introduced to the text: ‘The following shall be prohibited as incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market.’

These 49 words, which form part of European Union law, opened a door to the world of competition law, my main area of research and which has occupied almost half my life. The idea is simple: in a market economy the providers of goods and services work hard to offer consumers the most exciting products for the least amount of money: producers compete. Those whose products are less interesting or who charge too much will eventually go bust. Producers can substitute the discipline of competition for the security of co-operation. Instead of competing, they agree to produce the same things, or to the same standards, and to charge the same price. The quality and quantity of goods and services produced is worse and lower than under competitive conditions; at the same time prices are higher. One thing competition law does is prevent competitors from agreeing not to compete.

People are often surprised by the idea that legal research is necessary, since surely the law and its meaning are known. However, it is difficult for the law and its implications to be known beyond a certain point because law is necessarily open-textured: developments occur after a law is adopted that create uncertainty as to whether and how it applies in new contexts. Competition law provides a good example of this. Agreeing not to compete is a very serious offence. Companies can be fined up to ten per cent of their global turnover and individuals face up to five years in prison, fines and extradition to the United States. However the riches to be had by producers that do not compete provide an irresistible temptation to evade the law.

The law applies only when parties agree not to compete and there is evidence of this. The application of the competition rules thus turns on how such agreements may be known to exist. When entering into legally enforceable agreements, parties normally aim to be as clear as possible about what is intended, and generate



and preserve evidence, should what was agreed be subsequently questioned. However, since an agreement not to compete is prohibited and gives rise to serious sanctions, individuals and companies want to agree in ways that make it difficult or impossible for anyone to know about it. For example, extraordinary lengths were taken to conceal evidence of an agreement not to compete in the production of certain organic peroxides. The producers employed a consultancy to organise meetings outside the European Union;

the agreements were printed on pink and red paper to keep them separate from legitimate documents (printed on white paper). The pink and red papers were handed out during meetings and returned at the end; they were never taken out of the room and kept in a safe.

Competition law could not achieve its purpose if we were to rely on standard conceptions of agreement or means of proving it. One of the most powerful ways to demonstrate illegal agreement is with



a whistle-blowing regime. This exploits natural nervousness amongst the parties to the agreement by holding out a tempting offer of immunity for the first, but only the first, to provide evidence: be the first to blow the whistle and there will be complete immunity from a big fine and prison sentences. This was how evidence came to light that British Airways and Virgin Atlantic, firms that like to give the public the impression that they are the fiercest of competitors, had in fact secretly agreed not to compete, resulting in the price of the relevant product increasing from £5 to £60. Three Virgin executives blew the whistle in exchange for immunity from prosecution, but British Airways paid fines of £121.5 million in the United Kingdom and \$300 million in the United States and four of their executives faced criminal prosecutions.

Eyebrows might be raised as to why the evidence of people admitting engaging in illegal activity, and standing to benefit from that admission, should be taken as honest. Indeed, the reliability of evidence generated in this manner was questioned when the criminal prosecution of the British Airways executives collapsed after 70 000 documents emerged that were perhaps capable of telling a different story from that of the whistle-blowers. The challenge is to find a method to show an agreement exists without needing any direct evidence of it and several techniques have been devised.

Perhaps one could infer that an anti-competitive agreement has been made if price increases follow a meeting between competitors. Knowing this risk, the producers of organic peroxides reimbursed all expenses in cash to avoid generating evidence that meetings had taken place. Similarly, publicity photos of a cricket match between British Airways and Virgin Atlantic executives held in Sir Richard Branson's home shortly before price increases were announced were withheld and then released undated. Yet there are legitimate reasons for competitors to meet and so the challenge remains to develop a concept of agreement that does not require direct evidence of what has been agreed, but which excludes events occurring by coincidence, even when they may be identical to those that would have taken place if the parties had colluded. I am working to find something which is less than concrete but sufficiently firm to support the deprivation of liberty and the imposition of swingeing financial penalties. Agreement is only the thirteenth word in the phrase. The more I read and learn about these 49 words the more complexity emerges: even when we get over this thirteenth hurdle the fifteenth word towers.

GRADUATE RESEARCH

Several graduate students are supported either fully or partly by the College. John Munns has been funded by a Derek Brewer Research Studentship and the C S Gray Fund; Fatima Siwaju (overleaf), who came to Emmanuel as the Lord Northfield Scholar in 2005, has received an MPhil studentship from the College.

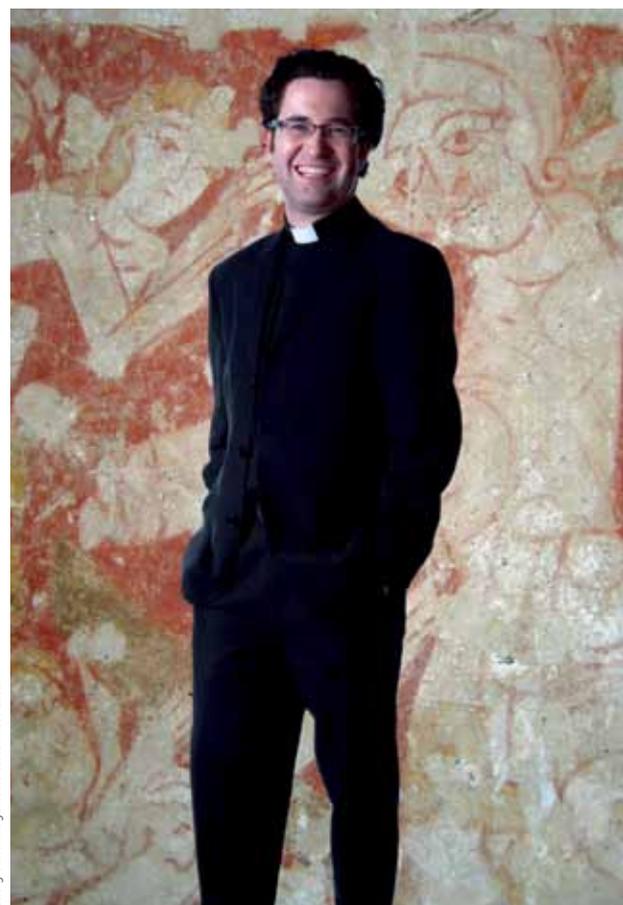
JOHN MUNNS

I came to Emmanuel in 2006 to study for a PhD alongside the new part-time post of Assistant Chaplain. My previous degrees were in theology and the history of medieval art, and my research has combined both disciplines by focusing on the relationships between Christian doctrine and artistic iconography in the late eleventh and twelfth centuries.

I have looked at images of the crucified Christ in Anglo-Norman England and the extent to which developments within them related to the understanding of key Christian beliefs, such as the nature of the atonement (how it was that the death and resurrection of Christ brought about human salvation), the nature of the Holy Trinity (the relationship between God the Father, God the Son and God the Holy Spirit), and the way in which Christ is believed to be present in the bread and wine of the Eucharist. Each of these doctrines was subject to a certain amount of clarification around the end of the eleventh century, primarily at the hands of two successive archbishops of Canterbury, St Lanfranc and St Anselm. Around the same time, a number of new, and highly relevant, forms of crucifixion imagery emerged, largely within the Anglo-Norman artistic milieu. I have related these developments in the visual arts and the written theology of the period to broader cultural issues such as changes in the patterns of the religious life; liturgical and devotional practice; popular enthusiasm for pilgrimage, relic cults and the crusades; and even the realms of law and politics.

Whilst there is more than once thought, the amount of artistic material surviving from eleventh and twelfth century England remains rather limited. A surprising amount of what there is, however, lives in and around Cambridge, ranging from key manuscripts held in colleges such as Pembroke and Corpus Christi, to rare metalwork figures of the crucified Christ kept in the Museum of Archaeology and Anthropology on Downing Street, to the earliest extensive

scheme of English church wall painting we know of, recently discovered at Houghton-on-the-Hill in Norfolk. So Emmanuel has been the ideal place for me to do my research and I am extremely grateful to the College for its support. As a result, I hope that we now have a slightly clearer picture of the fundamental role played by Anglo-Norman culture in shaping ideas and religious practices found across Europe in the later Middle Ages, a number of which continue to exercise an important influence in the Church today.



Background image: Tobit Curteis Associates

The image behind John Munns is a wall-painting of an angel sounding the Last Trump, on the East wall of St Mary's Church, Houghton-on-the-Hill, Norfolk



GRADUATE RESEARCH CONTINUED



FATIMA SIWAJU

I came to Emmanuel in 2005 to read modern and medieval languages. In addition to French and Spanish literatures, I had the opportunity to dabble in various disciplines, including linguistics, film studies and anthropology. I spent part of my year abroad in Senegal, where I conducted research for my final-year dissertation on Francophone African theatre. I enjoyed my time as an undergraduate, being able to study a broad range of topics whilst also engaging in several extra-curricular activities, including charity fundraising, chairing a human rights committee, journalism and student mentoring.

My decision to pursue an MPhil in development studies was largely driven by my study of the postcolonial literatures of Africa and the Middle East, which exposed me to their histories of colonialism and underdevelopment. I wanted to gain a more nuanced understanding of the social, economic and political factors, both domestic and internal, which have contributed to the present state of affairs in the developing world. The MPhil curriculum has not disappointed me: it is very interdisciplinary and has provided an integrated approach to development issues. My core papers range from development economics to social anthropology and politics.

I have developed a particular interest in the politics of the Middle East. One of my final-year undergraduate papers was on human rights in the Middle East, and I submitted my second final-year dissertation on military humanitarianism in Iraq. As part of my MPhil course, I have also conducted research into the dynamics of sectarian, ethnic and tribal identity in Lebanon and Iraq, and in the politics of political protest in Egypt. I plan to spend next academic year in Jordan learning Arabic, before returning to do a PhD on civil society and new social movements in the Arab world.

Studying at Cambridge has been a challenging yet highly stimulating experience, which has contributed to my intellectual and personal development. As an international student from Trinidad and Tobago, I have come to appreciate various cultural perspectives through interaction with fellow students of diverse nationalities and backgrounds. I am very grateful to Emmanuel for support throughout my studies, through the Lord Northfield Scholarship and an MPhil Studentship, without which this experience would not have been possible.

SUMMER PLACEMENTS FOR STUDENTS

Two Members have very kindly arranged for their companies to take students on summer placements this year. Such schemes both give our Junior Members valuable work experience, and also provide them with a much-needed income during the summer. And the companies find they derive substantial benefits, too.

Rob Devey (1987) has led the way in setting up such arrangements. He says, 'When I was with HBOS we were absolutely delighted with the Emma summer placement programme: the students were superb and I think we showed that we had a lot to offer. We also had a lot of fun together. Therefore I was keen to set up a similar scheme when I moved to Prudential and am looking forward to welcoming four Emma students this summer.'

PRUDENTIAL



Sarah Bendall

The four students who will be working for Prudential are (left to right): Eva Pappenheim, Abhishek Kumar, Kenneth Cochran and Henry Ogden

THREADNEEDLE ASSET MANAGEMENT



Sarah Bendall

Andrew Hall (1988, right) is employing Sam Davyson (left) and Tom Furnival (centre) at Threadneedle Asset Management



NORTH COURT

North Court is a fine old building of traditional stone under a soft tiled roof with stone-mullioned windows. Well that's what it would have you believe!

I first became intimate with it some 20 or so years ago, when as a contractor I was given a job that involved working within the loft area. Once up there I was bewildered to find I could walk around freely with not a rafter or joist to be seen, and apparently surrounded by concrete.

The building is in fact early twentieth-century and was designed by Leonard Stokes, the architect who had recently designed and completed the Lecture Rooms that were later to become the Library. (The rain-water hoppers bear the date 1913.) I have been employed by Emmanuel for 16 years and have become increasingly worried about the condition of the infrastructure within North Court, particularly of the pipe-work for both heating and domestic services.

...we are embarking on a total refurbishment of North Court.

So now the story begins, for we are embarking on a total refurbishment of North Court. And there are several challenges, partly because it is a listed building. An in-depth survey of the building confirmed my fears: the building is incredibly strong, but with no floor or ceiling voids there is nowhere to run new services. The only solution has been to create spaces by using existing cupboards and designing room layouts

which place bespoke wardrobes, for instance, in positions that will give us vertical routes (1). Horizontal routes, for ventilation, plumbing, drainage, electrical and IT services, have had to be created by lowering ceilings (2,3) and replacing some of the existing chair rails (waist-high timber rails) – a feature of the building – with a trunking system that allows us to install electrical fittings and IT connections. We have had to convince the local planning and conservation officers that this is the only option. With a compromise or two on either side an agreement has been reached and work has now begun.

Z staircase was chosen as the guinea pig because it is the furthest from the existing plant room beneath Q staircase, which those who have occupied some of the adjacent rooms will very well know. It has been only too apparent to residents of North Court that we have very poor control over the heating, and as all hot water and heating pipes come from the one plant room we have high heat losses. We are using the Court's robust design to establish up to three plant rooms at intervals in the loft (4) with modern condensing boilers, thus cutting down on these losses. Some of the redundant chimneys will be used for both ventilation and exhaust from the boilers, so avoiding the need for unsightly new openings from the building. And the ageing pipe-work – which was never designed to cope with current demands – is being replaced. We shall work back to Q, we hope a staircase a year, until the existing boiler room is removed.



1



2



3



4

Part of the refurbishment involves the installation of new water-, electricity- and gas-main supplies. The rooms are having energy-saving devices fitted, so that all electrical equipment – with the exception of a limited power supply for a refrigerator and computer – is turned off when the rooms are unoccupied. And there will be new provision for IT, both cabled and wireless.

It has been quite a challenge to get to this stage and Z staircase will be occupied again from October. We hope that the lessons learned this year will aid our work on the other staircases. Most of the work is being carried out by the College's staff so that we can keep disruption to a minimum. Now for Y!

Keith Wright
Mechanical & Electrical Supervisor



PETE DYSON HELP WITH DISSERTATION EXPENSES

The third-year geography dissertation can be an expensive undertaking if you choose to travel abroad for research, and funding from Emmanuel provides invaluable support that helps makes it possible.

My research questioned how the accepted tourist practice of the ‘sight-seeing tour’ has been extended to Mumbai’s largest slum, Dharavi, which now plays host to ‘slum tours’ designed to give small groups of international tourists a two-hour guided walking tour of the work places, schools and streets that are home to nearly one million people.

Over four weeks in July 2009 I shadowed these tours, interviewing guides, tourists and slum residents in an effort to uncover how ‘the slum’ is represented, how tourists comprehend their experience and how residents react to their Western visitors. I concluded that whilst the tours can be viewed as ethically dubious, they can also work as a force for good when they successfully transform the unwarranted negative image of ‘the slum’ and its people, and simultaneously feed money back into the community. In the future I’m sure we will see many more alternative tours emerge across

the world, as travellers continue to break the mould and challenge the typical tourist stereotype.

In retrospect, the idea for my research wasn’t born from books or reading lists, but was actually conceived years earlier on family summer holidays. How places and people are represented by tours and the power they have to transform our understanding of the world we live in has always preoccupied me, and my research was essentially an extension of this critical eye. There is no doubt that the difference between being a ‘tourist’ and a ‘researcher’ extends well beyond the requirements of a 10 000-word report. It strikes me that ‘the dissertation’ is too frequently hailed as a grinding academic chore, when in fact it offers a rare and unique occasion to challenge fundamentally our own assumptions and beliefs. I am very grateful to Emmanuel for partially funding this research, and would encourage others to grab such opportunities by the horns.

ROWENA PAGE FREDDIE ODGERS FUND

A generous contribution from the Freddie Odgers Fund has enabled me to undertake a work placement with the Neighborhood Defender Service (NDS) of Harlem (New York).

Having spent part of the last year exploring the concepts of criminology and sentencing within our criminal justice system as part of reading law at Emmanuel, I find the prospect of witnessing the application of substantive criminal law extremely exciting.

The work will centre largely around crime within New York, concentrating in particular on the defence and protection of young offenders. Notably, the NDS focuses on a holistic approach to offending behaviour, aiming to go beyond mere client representation in an attempt to resolve the underlying issues that cause the crime in the first place. It can provide social service support, referral to educational establishments, or aid in housing or immigration applications, all practised against a background ethos of commitment to the community it professes to serve.

During my week with the Service, I hope to gain a better understanding of the impact criminal justice policy

can have on individuals. I’ve spent the past two years studying the theory, so it will be interesting to see application of the policy. While I may encounter jurisdictional confusion between the American and English systems, I should better appreciate the relative strengths and weaknesses of them both.

In addition to the grant towards the placement in New York, the Odgers Fund has also covered costs associated with my moot activities this year. Somewhat ambitiously, I entered the Blackstones’ De Smith competition, arguably Cambridge’s most prestigious moot event. After five tough rounds I was delighted to be runner-up in a fiercely fought final in Lent term. As a result of this success and other contributions to Cambridge moot, I have been selected as next year’s Cambridge Mistress of Moots. The help from the Odgers Fund has been very welcome in covering the (surprisingly large!) costs of participating in such competitions.



JOE SHAW PERFORMING ARTS FUND

Emmanuel is a great place to get involved in music, and I have particularly enjoyed singing with the Chapel choir and taking over the running of the College's jazz band this past year.

The band has gone from strength to strength thanks to the enthusiastic support of the College and student body: both the big band and combo perform regularly and we've particularly enjoyed performing for the JCR, MCR and Master at various events in College. Opportunities in Cambridge extend far beyond the College though, and it has been a pleasure to be part of the Amateur Dramatic Club and Musical Theatre Society as musical director, arranger or performer in a number of shows.

I am delighted to have received a grant from the Performing Arts Fund, which has supported my musical endeavours in Cambridge and further afield. As a member of OneSound, a national Christian youth ensemble (www.onesound.org.uk), I perform

regularly throughout the year at various venues across the country, most recently at Birmingham Town Hall and Ely Cathedral, and have gigs in Nottingham and the Sage Gateshead planned for the near future. The ensemble provides opportunities for like-minded talented young Christians to come together, perform and lead worship at a top level and I really value the opportunity to sing and play the saxophone with them.

It is perhaps a miracle that anyone manages to fit so much in. However, studying for a degree in music allows some flexibility and as my thoughts move towards a musical career beyond Emmanuel, the opportunities and support available here are all the more precious.



EMMA SIDI PERFORMING ARTS FUND

Back in those tense days when I was a nervous Upper Sixth student awaiting either an acceptance or a rejection letter to study French and Spanish at Emmanuel, one aspect of Cambridge life in particular caused me to check our letter-box daily: I was desperate to be involved in what could arguably be described as the best university theatre scene in the country.

In my first week as an overwhelmed Fresher, I signed up to theatrical societies and attended theatrical 'Squashes', and consequently found myself bombarded with notices of imminent auditions for the incredible number of plays put on by and for students each term. Somehow I landed myself a part in the chorus of the Footlight's Pantomime, *Ali Baba and the Forty Thieves*, and from there I was happily trapped in the Cambridge student drama network. In February, I was involved in both the performance and writing of the experimental *House Party* and have been performing self-written comic monologues in Footlight's Smokers: fortnightly comedy nights in which new writing faces the critical eye of the student

public. People ask how I balance my 'thesping' with the typical Cambridge workload, but the structure of a rehearsal schedule in fact pushes me to get my academic work done on time: it could be described as a case of sink or swim, very very fast!

I am so grateful to have received a Performing Arts Award from Emmanuel, as it enables me to travel with the Cambridge American Shakespeare Tour in September, playing the role of Stefano in *The Tempest*. We shall be trekking from New York theatres to Kentucky church halls! Thank you again to Emmanuel for helping me have yet another amazing drama opportunity during my time at Cambridge.



JAN RIHAK & MARK FLIEGAUF CHARITIES FUND

When Jan (an MBA student at Emmanuel) passes by the Porters' Lodge every morning at 8 o'clock en route to the Judge Business School, 15-year-old Kiti (top left) is already on her way. However, Kiti is far from being a student in Cambridge: she attends a high school in Mombasa, Kenya.

And although she and Jan have neither met nor spoken to each other, their lives are intimately tied together and to Emmanuel. Kiti recently finished among the top one per cent of Kenya's students in her age group. Yet the girl nicknamed 'Gift' – due both to her sharp intellect and her winning smile – had not been able to pursue secondary education since her parents could not afford the high school tuition fees of £375 per year. It was at this point that Jan and I (Mark Fliegauf, studying for a PhD at Emmanuel) entered her life. We decided to help bright but needy students in developing countries to pursue their academic goals. Therefore, we founded Aiducation International's UK chapter in

autumn 2009. As CEO Jan explains: 'Aiducation (www.aiducation.org) is a non-profit organisation, dedicated to giving highly talented children in Kenya the chance of education and thus to fulfill their dreams.'

We have assembled a team of 15 volunteers in Cambridge and London. 'We approach people here in the UK who themselves have profited from some form of financial help during their education and are now eager to give back', explains Jan. While solidarity is one core principle of Aiducation International UK, the other is merit. 'We look for bright students, who have the potential and the willingness to achieve their goals and thus help their community.'



Aiducation International

Like Kiti, who combines stellar grades with the aim of becoming a cardiologist to help Mombasa's poor. At the heart of Aiducation's concept lies a one-to-one link between scholar and donor, with supporters receiving regular reports on those they are helping.

So far, Aiducation International UK has raised 25 scholarships since its foundation in September and is hoping to double this number by the end of the year. None of this would have been possible without logistic and financial help from the College. Emma has become our home.

OTHER COLLEGE FUNDS

The preceding pages illustrate use of some of the funds that are available to help Junior Members. There are many others, some large and some small, that provide assistance in many ways.

Some are for specific subjects: among gifts received this year have been donations to the Peter Wroth Memorial Fund (engineering) and the Whitaker Fund (history). Other funds help with extra-curricular activities such as sport (for example the Windsor Fund, which supports Junior Members who represent the University in 'sweaty' sports), music (the Burnaby Fund), chess and the performing arts. The purpose of many funds is to alleviate cases of student hardship: some are applicable to any needy applicant, others are for Junior Members reading particular subjects or from specified parts of the UK or world.

A new fund that is being established in conjunction with the Faculty of Arts at the University of Sydney is to enable graduates from Sydney to come to Emmanuel to read for a one-year postgraduate degree in classics. It will be possible for donors from Australia, the UK, the USA and Hong Kong to make tax-deductible gifts and further details are available from the Development Office.

HARDSHIP FUNDS 2008-9

105 grants

£39 712 awarded

£26 812 available from hardship funds, balance from the endowment

£10 – £1 000 range of grant per person

63 rent bursaries

£39 398 awarded



FOOD FOR GATHERINGS OF MEMBERS

Menu planning for the following year's Gatherings of Members starts well in advance, when I know which year groups are going to be returning.

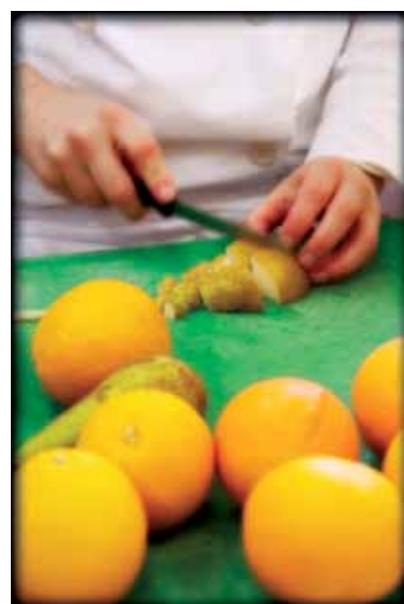
The food for these occasions is different from many others, as I try to plan a choice of old favourites, new dishes that have been particularly well received, and others that I think will be suitable for the event and for the age of the Members coming back. I aim to have seasonal dishes: September is the start of the game season and there are autumn fruits available, while in March there will be early lamb and spring vegetables, so long as there hasn't been a cold winter. I also arrange a traditional roast Sunday lunch.

Once the menu has been selected I think about ordering the ingredients. Some orders have to be placed up to four weeks in advance to make sure I get the meat and fish I want to serve. Beef has to be hung for 28 days to ensure the correct flavour; game also has to be hung. If the weather is bad and there are no landings, then fish can be a problem although the greater availability of farmed fish now helps considerably.

Much of the food is prepared in the week running up to the Gathering. On the Monday we will make stock using 30 kg of bones; if a terrine is on the menu then it will be made on the Wednesday to give it a couple of days to settle down and the flavour to improve, and any ice cream will be made. The main preparation for the dinner will happen on the Friday, with the vegetables being delivered and prepared. On the Saturday a team of six chefs will work throughout the day and there will be up to 20 waiting staff to serve the dinner.

The main challenge for any big meal is ensuring that every diner gets well-prepared and presented food in a timely manner. This comes with years of practice and learning what works well for each occasion. We strive to show our Members the best of College cuisine, which is only possible with a team of dedicated chefs. They achieve great things and I am proud to lead them.

Matthew Carter
Head Chef



FIRST PRIZE

Tony Maio (Third Chef, above left) and Nathan Aldous (Sous Chef, above right), who both won classes in the 2009 inter-collegiate culinary competition, for a vegetarian dish and a main course respectively. Emmanuel won the highest number of points and came second overall



NEW FUNDS

The College has established funds in memory of two Fellows who died in 2009. Further details are available from the Development Office.

PETER RICKARD FUND

The purpose of the Peter Rickard Fund is to contribute towards the costs of building the new reading room on the fourth floor of the Library, which will be a very attractive space in which to study and will be named after him.

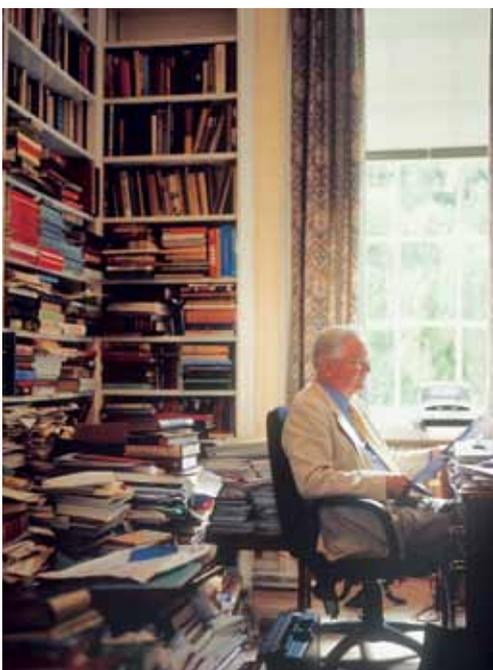


Emmanuel College

Peter Rickard, 1971

DAVID WILLIAMS FUND

The Professor Sir David Williams Fund is to support law students and the teaching of law at Emmanuel.



Ben Johnson

Professor Sir David Williams in his study at Emmanuel, 2004

THANKING DONORS

All Benefactors

- ❖ are listed in the *Emmanuel Review*
- ❖ receive invitations to occasional events in College, including garden parties for donors

1584 Society

(those who pledge legacies to Emmanuel)

- ❖ receive invitations to occasional events in College, including garden parties for donors

Benefactor Bye-Fellows

(£250 000 or more received)

- ❖ receive invitations to some College events
- ❖ are able to dine at High Table on a number of occasions each year
- ❖ are listed in the *College Magazine* and in the *Cambridge University Reporter*
- ❖ are admitted at a ceremony in the Parlour
- ❖ have their names recorded on a board in the Old Library

Benefactor Fellows

(£1 000 000 or more received)

- ❖ receive invitations to many College events
- ❖ are able to dine at High Table on several occasions each year
- ❖ are listed in the *College Magazine* and in the *Cambridge University Reporter*
- ❖ are admitted at a ceremony in the Parlour
- ❖ have their names recorded on a board in the Old Library

New Benefactor Bye-Fellows: Judy and David Beech (top), and Stella and Tzu Leung Ho (below)



John Beech



Sarah Bendaal

GERARD EVANS FUND

The Gerard Evans fund was established in 2003 to assist Junior Members with the costs of short trips to the USA in connection with their academic studies.

This year, Philippa Dunjay and Emma Harrison went to New York in the Easter vacation. They write: 'Through generous support of the Gerard Evans fund, we visited New York to help with our preparation for the American literature paper of the English Tripos. We were interested in development of the American cityscape and how the New York School of poets were influenced by the growth of the city around them; in ideas of American identity; and visited MoMA to see works by the New York School of painters in the 1960s. We had a rewarding and useful time, which helped enormously with our revision for Finals.'



Edward Leigh

Gerard Evans, 1976



FUNDS RECEIVED 1 June 2009–31 May 2010

Buildings, facilities & grounds	£316 789 ¹
Hardship & access	£189 717
Library	£2 321 480 ²
Master's fund	£6 411
Student activities	£52 694 ³
Studentships & scholarships	£158 898 ⁴
Teaching & research	£100 131 ⁵
Total	£3 146 120

1. includes work on the refurbishment of Z staircase and the start of refurbishment of 5 Park Terrace
2. includes £719 039 for general purposes, which has been allocated to the Library project, and unearmarked donations of £47 511 to the New World Fund
3. includes donations to the Emmanuel College Boat Club Association, to the Performing Arts Fund, for College music, for a gym and for sport
4. includes financial support for several overseas students who are wholly or partly self-funded, awards for Freshers, the Lord Northfield scholarship, and the Brewer Fund in Medieval English
5. includes the Odgers and David Williams Funds to support the study of Law and the Mead Fellowship in Economics

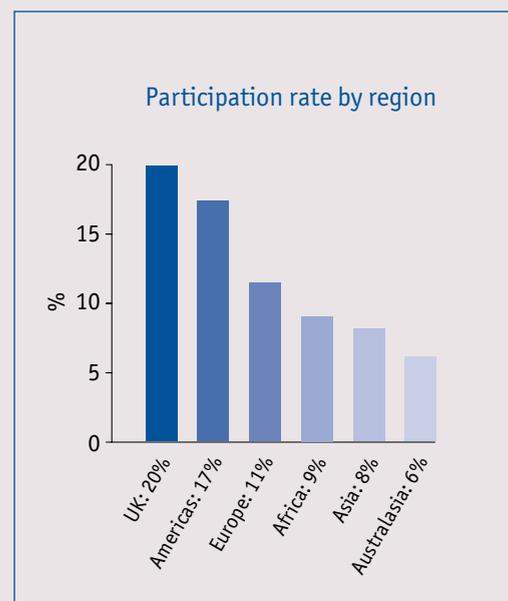
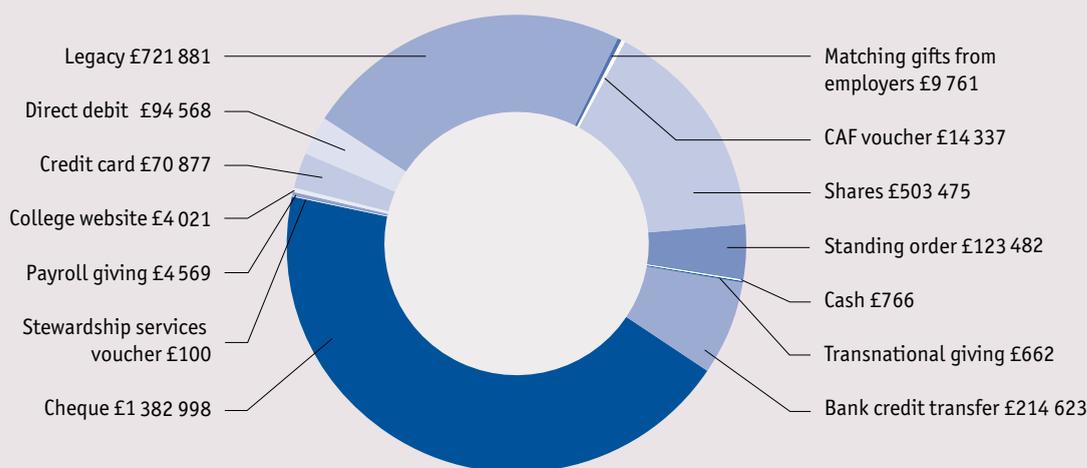
FUNDS RAISED Donations 1 June 2009–31 May 2010

Donations received and receivable	£2 517 001
Legacies pledged	£846 500
Total	£3 363 501

Donations received and receivable	£18 174 139
Legacies pledged	£18 382 623
Gifts in kind	£939 896
Total	£37 496 658

Donations 1998–31 May 2009

FUNDS RECEIVED Sources of donations 1 June 2009–31 May 2010



TAX

Emmanuel College is a charity by Royal Assent – Inland Revenue reference number X2659

The Development Office can advise on tax-deductible giving through, for example, Gift Aid, charity cheques, gifts of shares, payroll giving and legacies

Did you know that you can nominate Emmanuel College on your income tax return as the beneficiary of any overpayments you might have made to the Inland Revenue? The College's code is CAH10ZG

Charity Lump Sum Death Benefit

Are you over the age of 75 and are currently drawing an 'Alternatively Secured Pension' from your personal pension plan, i.e. you have not purchased an annuity from an insurance company? If the answer to both of the above questions is 'Yes' and you have no dependants, then on your death 82% can disappear in tax. If you prefer, you can nominate a charity to receive the whole of the remaining assets

tax-free. It is important that any nomination is notified to your Pension Scheme Administrator before your death as it is not possible for the Scheme Administrator to elect to make a payment to a charity in the absence of any nomination by the member. Even if you have a dependant you can still nominate in advance that any remaining funds left on that dependant's death are paid as a Charity Lump Sum Death Benefit.

If you would like to nominate Emmanuel, please contact the Development Office for further details and a nomination form

A gift to Emmanuel is a gift to Cambridge





EMMANUEL SOCIETY

Every Member of Emmanuel is also a member of the Emmanuel Society, which promotes links between Members and encourages their continuing interest in and involvement with the College. This includes strengthening connections between current Junior Members and those who have graduated.

The Society organises a wide range of events, which are publicised in its thrice-yearly Newsletter and on the College's website www.emma.cam.ac.uk/former/emmanuelsoc, and to which Members are warmly welcome. Suggestions of new events and offers to help organise them are particularly welcome.



Sarah Bendall

Fundraising is not part of the Society's remit and none takes place at any of its activities. The Emmanuel Society Office is, however, part of the Development Office and can be reached at emmanuel-society@emma.cam.ac.uk, tel 00 44 1223 762792, fax 00 44 1223 762793.

GARDEN PARTY



Sarah Bendall (call)



LITERARY DAY



Sarah Bendall (both)



EMMANUEL ONLINE

In the past year, the College has started sending out an occasional newsletter by email, which can also be read at www.emma.cam.ac.uk/collegelife/newsletter. To receive it, please make sure the Development Office has your email address.

Emmanuel has a fan page on **Facebook**, which can be found by searching for Emmanuel College on www.facebook.com, and a group for Members who live in the USA, found by searching for Emmanuel in America.

The College also has a group on **LinkedIn** (search for Emmanuel College) and can be followed on **Twitter** (follow EmmaCambridge).



VISITING EMMANUEL

All Members of MA status are invited to dine up to twice a year at High Table as guests of the College. They may bring a guest at their own expense. A booking form is available from the Development Office and www.emma.cam.ac.uk/former/events.

The College has simple guest rooms, which are available for booking by Members by going to www.emma.cam.ac.uk/conferences/accommodation/guestrooms or telephoning 00 44 1223 334255.

The College welcomes private bookings of its rooms for meetings, meals and conferences. Contact conferences@emma.cam.ac.uk or telephone 00 44 1223 762099, fax 00 44 1223 762547.

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Development Office
development-office@emma.cam.ac.uk
tel 00 44 1223 330476
fax 00 44 1223 762793



HOBSON'S CONDUIT



The ponds are a beautiful feature of Emmanuel. The water captures the interest and imagination of residents and visitors, always offering, in each blink of an eye, something new: ever changing reflections and shadows, ripples and stillness ... The ducks are popular as well, of course!

Few people realise that the ponds are part of Hobson's Conduit, a man-made waterway fed by ground-water springs a few miles away from Cambridge at the foot of the Gog Magog Hills. So although Emmanuel is not on the river, it is linked to another ancient but hidden waterway.

As a child I remember using the College as a shortcut, entering for a few minutes into what, to a small boy, seemed like another world. It filled me with wonder, and those early memories of historic buildings and beautiful gardens encouraged me to choose horticulture for a career, which began a little way upstream on the Conduit at the Botanic Garden.

Constructed in 1609, the Conduit links several places across Cambridge via a complex system of open channels and underground pipes and drains. At first used to flush the polluted King's Ditch, the same system later provided the city with fresh drinking water from a number of public dipping-holes, one of which was on Emmanuel's boundary just behind my office wall in Drummer Street.

Today, the original purpose of the Conduit can be seen at its best as water running past the Fitzwilliam Museum in open runnels on either side of Trumpington Street, often deep enough to splash in even on the hottest, seemingly driest of days. It is impressive that hundreds of years after construction it is still an effective, and attractive, street cleansing system.

Four hundred years ago, relying only on gravity for flow, it took an ingenious feat of engineering, and trial and error, to bring the spring water for several miles to and through the city on three separate routes. Today, the challenge continues.

Emmanuel's route was constructed in 1631. The Conduit enters Emmanuel along St Andrew's Street (1) and then forms the

channel in Chapman's Garden, originally straight and which has since been widened to form the attractive pond we know today (2). It fed the existing Great Pond in the Paddock and, later that century, the swimming pool.

On the wall of Old Court, built just two years later, a patch of moss (3) hints at the line of the brick-arched drain beneath that takes the water from Chapman's Garden to the Great Pond. A weir in front of Emmanuel House regulates the water level before it flows out of Emmanuel to the boundary dipping-hole (4), and onwards to Christ's.

Water levels are critical along the whole of Hobson's Conduit, as the seventeenth-century engineers discovered. The fall in places is very slight, if at all, so at best the flow is sluggish. Today, a few millimetres of penstock setting or debris, leaves or weeds blocking a filter make the difference between a constant flow, albeit slow, and none at all. Regular maintenance and monitoring of our section of this important, historic waterway, and discussion with the Hobson's Conduit Trust and City Council who manage other sections of the channel, has meant that we have kept the water moving steadily during the past year.

While the resident fish and bees (a new feature of the North side of the Paddock, (5) are quietly happy with our work, the ducks are altogether more vocal: they readily inspect and comment, quacking in approval, which is encouraging. Emmanuel's ponds have delighted people for hundreds of years and, by keeping Hobson's Conduit water flowing through the College, they should continue to do so for many generations yet.

**Christoph Keate
Head Gardener**

For the Head Gardener's diary of latest news from the gardens, see www.emma.cam.ac.uk/collegelife/gardens



1



2



3



4



5



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