

# Gazette Supplement



## Oration by the Vice-Chancellor

Colleagues and friends of the University, thank you for joining me at the start of another academic year. The annual oration by the Vice-Chancellor is something I regard as a pleasurable duty. That's not a quality one can ascribe to all duties, and I am grateful for the opportunity it provides to share some thoughts with you about our University; a gratitude amplified by your apparent willingness to come and listen.

In my Oration a year ago, I took the opportunity to look inwards, to 'hold a mirror up to the University' and to take stock of our academic achievements and aspirations as one of the world's leading centres of learning and research. This morning, I plan to look outwards rather than inwards, and to focus less on our teaching and research in themselves, and more on what we as a University contribute to the wider world as a result of them. Hence my title: Oxford and the Public Good.

I want to reflect with you on the public value of Oxford: the benefit that flows to others from who we are, what we do, and how we do it. And if, in the course of these reflections, I manage to say something of wider interest and relevance about the special importance and value of higher education in the world of the 21st century, well, I shall consider I have not entirely wasted my time or, more importantly, yours.

It was our celebrated Public Orator, Richard Jenkyns, at Encaenia this year who stated in the course of a typically mordant review of the worldly achievements of Oxford alumni: 'Life - always our most dangerous competitor.' He captures neatly that too-familiar perception of the academic world having little if anything to do with life, certainly life as it is lived; life with a capital L.

Well, this morning I want to try not just to take issue with that perception by

illustrating some of the ways in which it is woefully wide of the mark, but to go further and even to argue that life as it is lived - still with that capital L - needs and increasingly depends on what good universities do. Not so much Life, our most dangerous competitor, perhaps, as Life, our most valuable partner.

Before I explore the many direct benefits that Oxford's scholarship brings to the world, I want to make one thing clear. You are not about to hear a hymn of unqualified praise to impact. At Oxford, we reserve the right to investigate subjects of no practical use whatsoever.

Karl Marx wrote: 'Mankind only sets itself such problems as it can solve.' Well, Karl was wrong about that as he was about lots of things. Oxford is almost defined by its ability to set problems with no apparent solution. To take one example: whatever became of the dinosaurs?

Well, it seems they shrank. Dr Roger Benson and his colleagues in the Department of Earth Sciences recently estimated the body masses of 426 species of dinosaur. The team, along with international partners, found those evolutionary lines which reduced fastest in size had the greatest survival success. There are 10,000 species of dinosaur alive and around us today - only we call them birds.

Now, unless you're a budgerigar wishing to trace your family tree, that information is of precisely zero practical value. Yet it's brilliant research and, somehow, I feel better just for knowing it.

A new book this year, *Hidden Stories of the First World War*, drew on two Oxford University crowdsourcing projects, the Great War Archive and Europeana 1914-1918. One such 'hidden story' was that of Regimental Sergeant Major George Cavan

of the Highland Infantry. Passing through his home station on his way to the front in 1918, he threw out on to the platform a matchbox, addressed to his wife and containing a message. A fortnight later, RSM Cavan was killed in action. It was only when one of his descendants uploaded the matchbox and message to the Great War Archive website that his full story came to light. That last poignant message reads simply: 'Dear wife and bairns, off to France, love to you all, Daddy' Now, I can't quantify the impact of our uncovering, archiving and contextualising that story. I certainly can't put a price on it. Yet we as a community are better for the knowledge, particularly as we struggle to comprehend a world exploding into war 100 years ago and the resulting devastation of millions of lives. Our improved understanding is a public good.

There will be many occasions when we are challenged about the real-world benefits of our work. When someone asks: 'What is the earthly use of knowing that?' we should be strong enough, and confident enough, to reply: 'You know, I've absolutely no idea what use it might be. But isn't it fascinating?'

And, sometimes, it's the learning with no apparent practical use that yields the greatest benefit. Back in the 1920s, two members of the English Faculty, one from Magdalen, one from Pembroke, would talk late into the night, exploring their mutual interest in Norse mythology. From those beginnings, C S Lewis and J R R Tolkien both wrote a series of books loved the world over, which have inspired film franchises grossing more than \$6.5bn at the box office. As a consequence here in Oxford, there are now tours around the two authors' favourite haunts, one corner of Waterstones is devoted to their works, and it is almost impossible to get a seat in *The Eagle and Child* on a summer's evening. Now, Lewis

and Tolkien didn't know that their musings about mythology would lead all to this. They didn't have an inkling. It is a classic example of intellectual curiosity sparking off a hundred unexpected developments.

To take a more recent and seemingly unconnected example, a DPhil student, Torsten Reil, was developing computer simulations of nervous systems based on genetic algorithms. In other words, a more natural animation of human and animal movement. He started to wonder what other applications this technology might have. Movies perhaps? Video games? I think many of you know what happened next. Torsten set up a highly successful company, NaturalMotion, providing animation services for major Hollywood pictures – including the *Lord of the Rings* films – and a series of best-selling digital games. The company, employing more than 200 people, was sold for more than \$500m earlier this year, with some £30m coming back to the University. All from one Zoology DPhil.

One further example of this kind of serendipity: Professor Harish Bhaskaran and colleagues in the Department of Materials have been investigating the relationship between the electrical and optical properties of phase-change materials – materials that can change from amorphous to crystalline state. To their surprise, they found that a seven-nanometre-thick layer of one of these materials was suitable as an extremely high-resolution and flexible screen. The potential applications are countless – smart glasses, smart windshields, even synthetic retinas. A patent has been filed and the team are in the early stages of exploring the commercial applications. None of this was ever intended – it's purely a by-product of the drive to know.

At the end of the children's classic *The Phantom Tollbooth*, the bored little boy Milo turns to the Princesses of Rhyme and Reason and complains: 'Many of the things I'm supposed to know seem so useless, I can't see the point of learning them at all.' The Princess Reason replies: 'Whenever you learn something new, the whole world becomes that much richer.' I agree with the Princess. And her words should be kept in mind as I turn to the more tangible benefits of Oxford's scholarship.

To state that the University is a major economic resource is, in one sense, to state the obvious. The collegiate University is the biggest employer in the county with more than 16,000 staff. Its combined annual turnover exceeds £2bn. Our research brings in more than £400m of income

from external sponsors. How could we be anything other than a landmark in the regional, national and international economic landscapes?

Yet my point goes beyond this. Of course, we sustain and support the current economic structure of our region. But we are also crucial in building the economy of the future. This region has expressed the aim of becoming a knowledge economy. That sounds like a job for us.

It is for that very reason that the University helped frame two major economic announcements made this year – the City Deal and the Oxfordshire Growth Deal – around knowledge-based growth.

The City Deal will, over time, unleash an estimated £1.2bn of investment in infrastructure and innovation. We are a key player in two new innovation centres, part of a cluster which also involves our partners at Harwell and Culham. The first new centre, the Oxford Bioescalator on the Headington academic and clinical research campus, will be the heart of an innovation ecosystem – a lively, thriving nexus of academics, clinicians, entrepreneurs, investors, engineers and the public. Start-up life science enterprises will take their first steps here and I fully expect to see them grow and move onto larger science parks in the region.

The second centre, the Begbroke Innovation Accelerator, will build on Begbroke Science Park's record of success, now home to more than 30 start-up companies from across the physical and medical sciences. The new centre will focus on advanced sectors, including robotics, nanomedicine, pharmaceuticals, and supercomputing.

Both new centres aim to address a particular problem for the knowledge industries, cheerfully known in the trade as the 'valley of death'. The valley is that gap between having an idea for an invention and anyone actually wanting to invest in it. Through our centres, science entrepreneurs will receive training, networking and mentoring on how to bridge this difficult gap. Even if they do walk through the 'valley of death', they should fear no evil.

The Oxfordshire Growth Deal sets out an inspiring vision: a spine of interconnected knowledge industries running from Bicester to Harwell; a £100m investment in transport, skills and homes with a target of 5,700 new jobs. Again, this cannot happen without the knowledge, expertise and innovation which Oxford University provides.

One cornerstone of the deal is to be the new Centre for Applied Superconductivity, housed by the Departments of Physics and Materials. Ever since Sir Martin Wood's early experiments with superconductors in the Clarendon Laboratory, Oxford has been a trailblazer in this scientific field. Now we can put that knowledge to work: in computing, in medical scanning, in efficient energy storage. The vast majority of the UK's fast-growing concentration of applied superconducting industry lies within a 20-mile radius of the spot on which I stand. Our new centre will provide the skills they seek and the technical solutions to the questions they pose.

But our economic involvement does not end with these ambitious deals. We understand the problems our region faces, great and small. Wherever there is an issue to be tackled, you are likely to find an Oxford researcher working on the solution. The unlovely Westgate car park, for example, is soon to be demolished. But how will the city cope with the loss of 800 of its 2,000 parking spaces? Our Transport Studies Unit and Department of Engineering are working with the city on a sophisticated response. Their study recommends smarter use of the data already available to local government and business, improving traffic management and keeping residents, businesses and visitors flowing around our city.

With economic growth comes greater threat to the environment. Our Environmental Change Institute is co-ordinating AgileOx – a partnership exploring how our county's strengths in the green economy can give a distinctive, sustainable identity to our growth ambitions. Social responsibility is also strong in Oxfordshire, now the UK's first Social Enterprise County. With our colleagues at Oxford Brookes and our respective student hubs, we have created the Oxfordshire Social Enterprise Partnership to foster and support local enterprises with a social mission. The humanities too are playing their part. The historic country houses of our region – Blenheim, Highclere, Stowe – are an economic strength as well as a cultural asset. Through the Thames Valley Country House Partnership, our historians, literary scholars and others are aiming to improve visitors' experience, working with those who preserve, protect and interpret these great houses and estates.

If these various projects have a theme, it is joining the dots – working out what data and systems all the players in our local economy have at their disposal and then making sure

they talk to each other. A smart city, if you will. That's why we and the City Council are scoping a wider project to establish what a smart, 21st-century Oxford will look like.

Another strategic priority for the University is the stewardship of our ever-expanding collections, and not just for the way they underpin the teaching of our students and the output of our researchers. Our museums, the Bodleian Library and the Botanic Garden are also central to the city's public engagement. The Ashmolean Museum, the Pitt Rivers Museum and the Oxford University Museum of Natural History are the three most-visited university museums in the world. The Ashmolean's local importance was recognised in July by the presentation of the Freedom of the City of Oxford to Professor Christopher Brown, whose directorship and vision have defined the museum's transformation in recent years. We also appreciate that not everyone can visit Oxford. The University's digitisation programme is extending our collections' reach by the day, bringing thousands of books, historical artefacts and cultural objects to millions of people worldwide.

Perhaps the most important underlying factor for any regional economy is the quality of its education. We live in a time of immense, and rapid, educational change. The new generation of free schools and academies has achieved some remarkable results in the summer just past. Many of their students have just joined us this term in Oxford, and we wish them well.

However, in helping address the challenges facing Oxford's secondary schools, we have chosen a different path. We believe that our education expertise should be available to children across our city, regardless of ability or background. For all its success, this is not something the academy model can readily deliver. For that reason, there is no Oxford University Academy but rather a broader, more inclusive initiative, the Oxford Education Deanery.

Since last November, the Deanery has been offering an enhanced partnership, putting our resources and expertise at the disposal of a group of 11 schools in the city. Led by our Department of Education, the Deanery is a multi-layered framework, involving educational research, initial teacher education and continuing professional development. It promotes collaboration among schools, rather than competition between them. It links our trainee teachers with local secondary schools, it links all of our academic research with those schools, and, most vitally, it aims to raise

the aspirations of a community of local secondary school students. It's so much easier to dream when you know other kids across your region share those dreams.

Notable successes of the Deanery's first year include a research project at Cherwell School, exploring how children develop their scientific understanding. An imagined futures project gave an invaluable insight into the hopes and ambitions of Year 9 pupils, including why some aspire to university - and why some don't. Several colleges and other central and subject departments of the University are playing an increasing role in the Deanery's development. Now we intend to build it, ultimately to a partnership of some 30 schools across Oxfordshire, taking in primary schools as well. We also know that others are closely watching the Deanery's development in the UK, in Norway and in Denmark.

At some point, most NHS patients in Oxfordshire will come into contact with an Oxford University medic. Practical benefits for individuals in Oxfordshire include access to outstanding clinical practice informed by high-quality research across almost every conceivable healthcare field. Our expertise spans cancer care, dementia, heart disease, diabetes, rheumatology, stroke prevention, arthritis and osteoporosis, to name just a few.

Last year, our already-vibrant partnership with local hospitals was extended when the Department of Health announced the formation of the Oxford Academic Health Science Centre (OxAHSC), including not only the University and the Oxford University Hospitals NHS Trust, but also Oxford Brookes University and the Oxford Health NHS Foundation Trust. The strengths of these four partners in research, education and healthcare are of vital importance in ensuring that the people of Oxford and Oxfordshire are served with facilities, treatment and clinical care of the highest possible standard.

But, of course, the benefits of our immense strength in medicine extend beyond the regional. Oxford's Medical Sciences Division has been adjudged for some four years to be the foremost medical school in the world. Indeed, on the basis of its research income, the division alone would be the fourth-largest university in the United Kingdom. And here I move on to the wider practical benefits that we deliver to the country and the world.

One important theme of the OxAHSC will be big data and the delivery of the

digital medicine revolution. The creation of the Target Discovery Institute and the Big Data Institute, announced last May, will enable the creation of large data sets for scientific research. The UK, with its National Health Service, is powerfully positioned internationally to compile and take advantage of such massive data sets which will enable researchers to develop new insights into who develops illness, why they do so, and, ultimately, how we can treat them.

Big data is just one area of medical activity where Oxford can make a practical, global, difference. Indeed, we have been doing so for decades, with health partnerships established in more than 30 different countries, many of them in the developing world. With the support of major funders, such as the Wellcome Trust, the Medical Research Council, the Li Ka Shing Foundation and the Bill and Melinda Gates Foundation, Oxford's researchers are in the front line of the fight against malaria, HIV/AIDS, tuberculosis and many other diseases. Current recommended treatments for malaria, dengue shock syndrome, typhoid, melioidosis, TB meningitis, diphtheria and leptospirosis are all based on work conducted in Oxford's Tropical Medicine Laboratories. Around the world, senior Oxford scientists are living and working in the communities most severely affected by these terrible diseases. Our overseas laboratories employ some 1,500 permanent staff and work with local institutions to build their research capacities. New threats emerge all the time, as the devastating outbreak of the Ebola virus in West Africa has shown. Recently two global alliances have formed to address this growing tragedy, with Oxford in the vanguard of both. Trials of potential new treatments are being fast-tracked in West Africa as we speak, led by Dr Peter Horby of the Centre for Tropical Medicine and Global Health and ISARIC, the International Severe Acute Respiratory and Emerging Infection Consortium. Meanwhile the Jenner Institute, under the directorship of Professor Adrian Hill, is spearheading the effort to find a safe and reliable vaccine to guard against the disease.

As the Ebola outbreak has demonstrated, we do not know in advance what precisely the global problems of the 21st century will be. With more people alive today than in the whole history of the species, strains on resources and ecosystems are certainly likely - as are further consequences of our own development, such as antibiotic use, carbon emissions and digital communication. But we cannot simply

predict specific questions and plan our research agenda to fit.

What is needed, for those complicated environmental, governance, medical, fiscal and technological challenges, is a wide base of data and research and thinking to provide properly informed responses to problems as they arise, to set up suitably resilient models, to create the tools that will begin to move to solutions.

So how does that look in a university like Oxford? It involves using decades' worth of research into electrolysis in the Department of Chemistry to produce safe drinking water from the Yellow River in China; it is using complex mathematical models to ensure that the appropriate levels of uncertainty are built into climate change forecasts; it is the accumulated experience of vaccine trials at the Jenner Institute which is exactly why they were called upon to lead on testing the Ebola vaccine.

But Oxford's contribution to the public good does not just rest with providing research and solutions for these big scientific and technical problems. It lies with improving the whole structure of governance and international relations.

Let me give three examples. In 2007, with banks across the western world facing collapse, Paul Klemperer, Edgeworth Professor of Economics here in Oxford, took a call. On the line was the Governor of the Bank of England. History does not record if he reversed the charges. I don't think things were quite that bad. Nevertheless, the Bank needed to inject liquidity into the financial system, but in a way that was reliable and fast. Working with Professor Ken Binmore, and using the mathematics of geometric reasoning, they came up with something called the 'Product Mix auction': a device that worked then, and continues to be used by the Bank of England to this day.

Such stories are rare, of course, and can feel more like Hollywood scripts than the real world of research. But they further underline my point that we need a critical mass of the research, the data, the thinkers and the debates which will provide the nursery-bed for solutions. Nobody working on geometric reasoning dreamed this might keep the money coming out of the cash machines one day. The mathematics underlying it had been done for a completely different reason. It has been said many times in the field of research, but it needs to be said again and again. You cannot always spot winners. The historians present will be familiar with the old observation about the Irish Question: 'The trouble with

the Irish Question is that the Irish kept changing it.' That is equally true of many of the world's knottier problems. The trouble with trying to spot winners in research is that the world has a nasty habit of moving on while you are looking the other way. There are rare examples of very specific questions generating very specific answers; but once you get to that point commercial sponsorship is easy enough to find. It is the background work which produces the banks of data, and those skilled individuals who can provide the necessary expertise when the Governor of the Bank of England has a problem.

Let me turn to my second example: flooding. Many of you will remember the events of 2007. After the wettest June on record the rain just kept coming. By 23 July, 50,000 households in Gloucestershire were without electricity, and, by the 24th, 420,000 homes in the Gloucester area had no drinking water. Local authority workers were simply overwhelmed by the scale and complexity of the problem. In the fallout that followed, the University of Oxford, funded by NERC and working with the University of Gloucestershire, set up a training programme for emergency and local authority workers to develop their capacity to deal with these situations. Called Project FOSTER (rather brilliantly, if you remember the nursery rhyme), simulations and the latest thinking on the behaviour of floods are used to educate front-line staff about what could go wrong, and why and where. That is evidence-based policymaking in practice, and the University of Oxford is exceptionally well placed to deliver the skills and information necessary.

Crucially, we are committed to conducting research without fear of, or respect for, vested interests; to making our findings available to all sides on a particular issue. How they then interpret that evidence is up to them. Nowhere is that principle more vital at present than for my third example - the field of immigration, looking likely to be just about the most contentious issue in the run-up to the general election next May.

That's why the work of our Migration Observatory, part of the Centre on Migration, Policy and Society, is so crucial. Created to broker an increasingly fractious debate, the Observatory now stands established as a trusted evidential platform on which all parties can base their arguments. And I'm pleased to say there are signs that the quality of debate is improving.

In July, the *Financial Times* led on an Observatory study showing that the number of new highly skilled migrant workers in

the UK had dropped 10% in two years. The story provoked considerable political reaction. The immigration minister, James Brokenshire, interpreted the figures as evidence that government policies to cut non-EU migration had not affected businesses' ability to recruit highly skilled migrants because of the EU's large pool of such workers. Vince Cable, Mr Brokenshire's government colleague, saw the data as proof that policy based on a net migration target is backfiring. I do not intend here to intrude on a coalition family dispute. What is important is that neither side questioned the underlying evidence. The Observatory's success is now proving a model for other countries, with Germany among those interested in establishing a similar research resource.

Wherever I travel in the world, particularly in China and India, one question persists. Why has the UK adopted a visa system so hostile to student entry? I do my best to answer but, frankly, the question baffles me as well. For the first time in decades, the number of international students at our universities has dropped, most markedly from India. Why are we doing this to them - and to ourselves? The excellence of UK Higher Education is, in crude material terms, an attractive commodity in the world market. Why, at a time of continued economic constraint, are we limiting one of our most effective generators of overseas revenue? Migration Observatory research has shown that the public do not automatically think about students when they think about migration. 'Study' is the least frequent answer given when the public are asked what they consider the motives for migration to be. Student migration simply isn't an issue for them and there are few votes in restricting overseas student numbers. There are signs that this reality is beginning to dawn across the political spectrum; something to be welcomed and encouraged ahead of the election.

I hope very much that my three examples have given some sense of what universities like Oxford can bring to complex political and policy challenges, ones that defy the temptation to reach for simple or simplistic answers. In essence, we can provide the data, the understanding and the analysis to underpin arguments and possible solutions for the problems we all face.

It is my strong contention and firm belief that Oxford, and not just Oxford, produces huge public benefit: benefit far beyond the very substantial intrinsic value of our world-leading teaching and research. And it is also, sadly, benefit which far outstrips the level of public investment in our sector.

Latest OECD figures show UK public investment in higher education at 0.9% of GDP – below the OECD average and one of the lowest in Europe. The situation in research and development is equally dismaying. The government's own figures show R&D falling to 1.72% of GDP in 2012. Almost all of our competitors' figures are up: China to 1.84%, the EU average to 2.06% and the US a mighty 2.79%.

Underinvestment in higher education is a false economy. Analysis by the Campaign for Science and Engineering recently quantified the link between economic growth and public spending on science and engineering research. A one-off, 5% increase in government R&D spending of £450m would increase market-sector output by £90m per year, every year. Further, CaSE found that universities which receive higher levels of public funding also generate more research income from business, charities and international sources. In short, private investment should complement Government research funding, and not be perceived as an alternative.

And, to be fair, that message does appear to have been getting through. This time last year, Sir Andrew Witty's review for BIS acknowledged that universities have 'extraordinary potential to enhance economic growth'. One interesting proposal was for world-class universities to lead UK collaborations delivering international technological advantage in specific sectors – the so-called 'Arrow Projects'. Sir Andrew calls for £1bn to be invested over the course of the next parliament. As the CaSE calculations demonstrate, a sum on this scale would offer the prospect of substantial return to the UK economy.

These are encouraging noises, but it is still all too rare to hear higher education described, accurately, as just about the most important investment a nation can make on behalf of its citizens, especially when those citizens are living in a knowledge-based global economy. That's why I have somewhat limited expectation, come the general election, that properly developed policies on higher education (as opposed to vainglorious point-scoring on past crimes and misdemeanours) will take up much of the politicians' time or attention. That's sad, because it is exactly the sort of issue on which a real effort to find a new, meaningful consensus between the parties would be of immense benefit – benefit, of course, to the students and to the universities of the future, but also, as I hope to have demonstrated this morning, hugely beneficial to the public good.

Our endeavours have enjoyed external recognition, and over the course of the past year Professors Dorothy Bishop, Marian Dawkins, Liam Dolan, Patrik Rorsman, Rajesh Thakker and Anthony Watts have been elected as Fellows of the Royal Society; Professors Francesco Billari, Susanne Bobzien, Georgina Born, Gavin Flood, Henrietta Harrison, Stephen Smith, Cecilia Trifogli and Sarah Whatmore, and Dr Susan Brigden, have been elected as Fellows of the British Academy; Professor Paul Newman has been elected as a Fellow of the Royal Academy of Engineering; and the Academy of Medical Sciences has elected as Fellows Professors Richard Cornall, Anke Ehlers, Gary A Ford, Fiona Powrie, Paul Riley and John Stein.

Since this time last year, Her Majesty The Queen has made the following awards to members of the University: the Order of Merit to Professor Martin West; knighthoods to Professors Colin Blakemore, Paul Collier, John Pethica, Peter Ratcliffe and Richard Sorabji, and also to Dr Noel Malcolm; the DBE to Professor Frances Kirwan; CBEs to Professors Martin Biddle, Marian Dawkins, and John Kay; OBEs to Ceridwen Roberts and John Simpson; and MBEs to Karen Hewitt, Dr Damian Jenkins and Dr Marios Papadopoulos.

Other recognition has been received by the newly knighted Sir Paul Collier, who was awarded the British Academy President's Medal. The British Academy also gave its Rose Mary Crawshay Prize to Dr Hannah Sullivan of the Faculty of English, and the Serena Medal to Professor Chris Wickham, Chichele Professor of Medieval History. The Royal Society gave the Sylvester Medal to Professor Ben Green, Waynflete Professor of Pure Mathematics, the Royal Society Pfizer Award to Dr Faith Osier of the KEMRI Wellcome Trust Research Programme, and the 2015 Francis Crick Lecture to Dr Rob Klose of the Department of Biochemistry. Sir Marc Feldmann and Sir Ravinder Maini of the Kennedy Institute of Rheumatology were named 2014 Canada Gairdner Award winners. Professor Alex Halliday, Head of the Mathematical, Physical and Life Sciences Division, has been elected as the next Physical Secretary and Vice-President of the Royal Society.

Three Heads of House who over many years have made great contributions to the life of the collegiate University, as well as to their own colleges, have retired over the summer: The Very Revd Christopher Lewis as Dean of Christ Church; Frances Cairncross as Rector of Exeter; and Sheila Forbes as Principal of St Hilda's. They are succeeded respectively by

The Revd Professor Martyn Percy, Professor Sir Rick Trainor and Sir Gordon Duff.

As mentioned earlier in the Oration, Professor Christopher Brown has retired as Director of the Ashmolean Museum. We thank him for his outstanding and transformative tenure, and welcome his successor, Dr Alexander Sturgis, previously Director of the Holburne Museum, Bath. We bid farewell also to Dr Timothy Walker, who has retired as Director of the Botanic Garden. In February of this year, Richard Ovenden was appointed as Bodley's Librarian, in succession to Dr Sarah Thomas.

This year has seen the retirement of many other distinguished colleagues who have contributed to the University's intellectual life over the years: Dr Elizabeth Adams; Professor Robert Allen, Professor of Recent Social and Economic History; Professor Sudhir Anand, Professor of Quantitative Economic Analysis; Dr Jeffrey Aronson; Professor Andrew Ashworth, Vinerian Professor of English Law; Professor John Baines, Professor of Egyptology; Professor John Barton, Oriel and Laing Professor of the Interpretation of Holy Scripture; Dr Helen Bergen; Professor Martin Brasier, Professor of Palaeobiology; Professor John Broome, White's Professor of Moral Philosophy; Professor Garry Brown; Mrs Kathryn Bunch; Professor David Charles, Professor of Philosophy; Professor David Coleman, Professor of Demography; Professor Richard Darton, Professor of Engineering Science; Professor Shamita Das, Professor of Earth Sciences; Dr Christopher Davies; Professor John Day, Professor of Old Testament Studies; Dr Irina Dianova; Dr Paul Dresch; Professor William Dutton, Professor of Internet Studies; Professor Thomas Earle, King John II Professor of Portuguese Studies; Professor Anne Edwards, Professor of Educational Studies; Professor David Edwards, Professor of Engineering Science; Professor Russell Egdeell, Professor of Inorganic Chemistry; Professor Karin Erdmann; Dr Sebastian Fairweather; Professor Valpy Fitzgerald, Professor of International Development Finance; Professor Peter Franklin, Professor of Music; Dr Peggy Frith; Dr Bernard Gesch; Professor Guy Goodwin, W A Handley Professor of Psychiatry; Professor Paul Harvey, Professor of Zoology; Professor Richard Haydon, Professor of Mathematics; Professor Edward Higginbottom, Professor of Choral Music; Dr John Hodgson; Professor Clive Holes, Khalid bin Abdullah Al-Saud Professor for the Study of the Contemporary Arab World; Professor Christopher Hood, Gladstone Professor of Government; Professor John Iles, Reader in Zoology; Dr Gerd Islei; Professor Nicholas

Jelley, Professor of Physics; Professor Alan Knight, Professor of the History of Latin America; Professor Basil Kouvaritakis, Professor of Engineering Science; Professor Donna Kurtz, Professor of Classical Art; Professor Steffen Lauritzen, Professor of Statistics; Professor James Malcomson, Professor of Economics; Professor Herbert Marsh, Professor of Educational Studies; Professor Ken Mayhew, Professor of Education and Economic Performance; Dr Michael Murphy; Dr Laura Newby; Professor Michael Noble, Professor of Social Policy; Professor David Norbrook, Merton Professor of English Literature; Dr Peter Northover; Dr Sima Orsini; Dr Katharine Parkes; Mr Robert Pinches; Professor Jane Riddoch; Professor Brian Ripley, Professor of Applied Statistics; Professor Christopher Rowland, Dean Ireland's Professor of Exegesis of Holy Scripture; Professor Jeremy Saklatvala, Professor of Cell Signalling; Professor Robert Service, Professor of Russian History; Professor Boudewijn Sirks, Regius Professor of Civil Law; Dr John Sloan; Professor Penny Smith, Reader in Engineering; Professor Thomas Snijders, Professor of Statistics in the Social Sciences; Mr Charles Stiller; Professor David Stirzaker; Professor Jeremy Thomas, Professor of Ecology; Professor Christopher Tuckett, Professor of New Testament Studies; Dr Jon Whiteley; Professor Mark Williams, Professor of Clinical Psychology; Professor Hugh Williamson, Regius Professor of Hebrew; Professor Bernard Wood, Professor of Earth Sciences; Professor John Woodhouse, Professor of Geophysics; and Professor Simon Wren-Lewis, Professor of Economics.

I would also like to mention those colleagues who have retired from important administrative, library or service posts in the University: Mr Charlie Beesley, Mr Michael Brooks, Mr Nigel Brown, Mrs Ruth Brown, Mrs Janet Buckland, Ms Helen Bull, Mrs Linda Clover, Mr Clive Dalzell, Mr Stewart Deakin, Dr David Dongworth, Mr Robert Dunn, Mr Samuel Ellis, Mrs Brigitte Farries, Dr Brian Gasser, Mrs Alison Gater, Ms Anne Gerrish, Mrs Marilyn Goulding, Mrs Jill Grieveeson, Mrs Patricia Hill, Mr Alan Hodgson, Mr Frank Hunt, Mr Michael Inman, Ms Maureen Jackson, Mr Christopher Jenkins, Mrs Diana Kelsall, Miss Helen Langley, Miss Valerie Lawrence, Mr Robert Laynes, Dr Keith Lewis, Ms Lidia Lozano, Miss Angela MacCarthy, Mr Peter Meredith, Ms Diana Naumann, Mr Tom Payne, Mr David Powell, Miss Mary Ann Robertson, Mr Colin Ryde, Mr Anthony Sanderson, Mrs Susan Simkin, Mrs Olive Thomas, Mr Christopher Thompson, Mr Timothy Vincent, Mr Donald Warden and Mr Robert Wyatt.

This year the University community has lost valued colleagues whose early deaths have been a source of great sadness: Dr Philip Brown, Research Scientist at the Nuffield Department of Clinical Laboratory Sciences; Dr Jonathan Burgess, Postdoctoral Research Assistant at the Department of Engineering Science; Dr James Naughton, University Lecturer in Czech; Professor David Porter, Senior Researcher at the Department of Zoology; and Dr Corri Waitt, Research Assistant at the Department of Zoology.

Finally, we pause to remember the contributions of those colleagues who have died in retirement over the past year: Professor John Albery, Miss Jocelyn Allard, Dr Frederick Atkins, Dr Syd Bailey, Miss Dorothy Barratt, Dr Philip Beckett, Mr Royston Beesley, Mr William Bell, Dr Michael Brock, Professor Marilyn Butler, Professor Iain Campbell, Mr James Campbell, Professor Lorna Casselton, Mrs Sally Chilver, Mrs Paula Cook-Mozaffari, Mr Peter Crane, Dr David Dressler, Dr John Enos, Professor Ellis Evans, Mr Michael Flinn, Professor Noel Gale, Dr Edward Gill, Mr David Gilson, Dr David Goldey, Professor Chelly Halsey, Mr Peter Hayward, Professor James Higginbotham, Mr Peter Hill, Mrs Ann Hunt, Mr Arfor Jones, Dr Lucas Kamp, Dr Barbara Kennedy, Mr Andrew Knox, Mr Peter Lewis, Dr Norman McCrum, Dr Piers Mackesy, Dr Angus Marks, Professor Anna Morpurgo Davies, Mr Michael Morris, Mrs Denise Mulvey, The Revd Professor Ernest Nicholson, Dr Donald Olleson, Dr Christina Roaf, Mr Derek Robinson, Mr Peter Shaman, Mr Philip Smith, Mr Thomas Stewart, Dr Stephen Stokes, Dr Joan Thirsk, Mr Latimer Tuke, Dr Jean Whatley, Dr Vivian Williams, Dr Fred Wright and Dr Geoffrey Young.



