Oxford Thinking

The Campaign for the University of Oxford

UNIVERSITY OF OXFORD

Campaign Report 2017/18

Welcome

It is a real privilege to witness the power of philanthropy here at the University of Oxford. The generosity of our donors, coupled with the calibre and ambition of our academics and students, is inspiring and improving lives across the world via a wide range of projects and research.

Our Campaign Report for 2017/18 features just a few of the areas that have been supported through the Oxford Thinking Campaign. These include a look at the significance of the Department of Physics' magnificent new Beecroft Building and how the Bodleian Libraries' first Education Officer is driving a variety of community, school and public activities.

Your support plays a critical role in maintaining the highest levels of academic excellence at Oxford, which in turn enables us to effect positive change on a global scale. Thank you for your continued support. I hope you enjoy this year's report.

Liesl Elder
Chief Development Officer
University of Oxford

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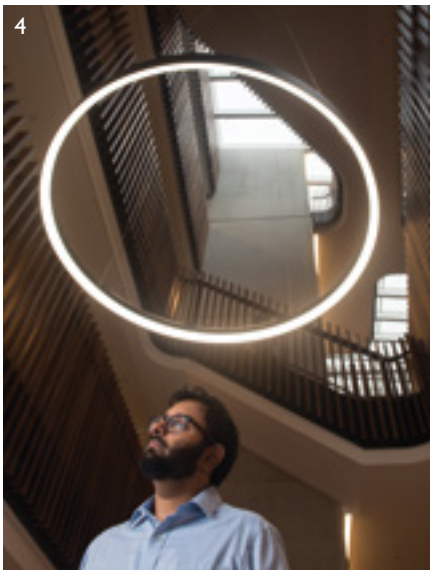
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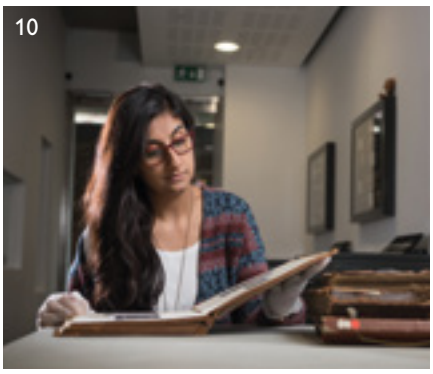
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Thanks to your support…

…our students are being taught in world-class laboratories

More than 100 donors have been inspired to give over £266,000 to provide world-leading facilities for the teaching of chemistry at Oxford, with some of the equipment the first of its kind in the UK.

Undergraduate teaching in the three areas of chemistry (organic, inorganic and physical) has previously occurred in separate buildings, but the new laboratories provide a unified space for integrated practical teaching, with the first students using them from October 2018.

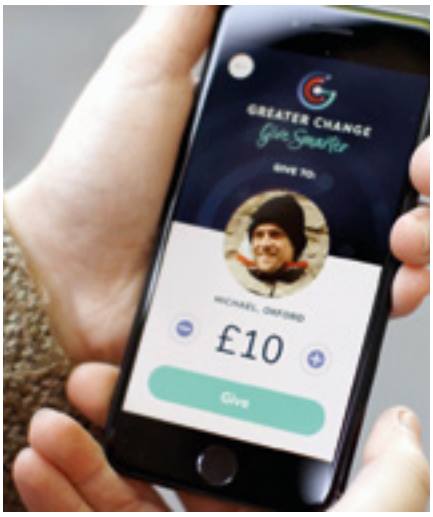
As part of the appeal, alumni had the opportunity to dedicate a fume hood through a donation of £1,916, commemorating the centenary of the opening of the Dyson Perrins Laboratory. Former professors and donors' loved ones feature among the engraved dedications. One reads: 'Fill this lab with good science, great skills and interesting substances… preferably not smoke'.

The appeal has made Oxford Chemistry's physical environment for undergraduate teaching one of the very best in the world and has prompted a surge in positive alumni engagement.

Professor Mark Brouard, Head of the Department of Chemistry, says: 'The chemistry teaching labs will enable us to provide the very best educational experience for chemistry undergraduates, facilitating cutting-edge new interdisciplinary experiments that mirror the collaborative nature of our research programmes. I am incredibly grateful for the generous support of our alumni and friends and am delighted that students will be able to benefit from this state-of-the-art facility for years to come.'

Above: Oxford's new chemistry teaching labs
Above, right: The Greater Change app

…Greater Change is helping the homeless



Oxford alumnus Alex McCallion has launched a social enterprise that could help thousands of homeless people put their lives back on track.

Greater Change allows members of the public to give securely and directly to individual homeless people via a mobile app or website, contributing to co-managed funds that will help them to achieve goals such as long-term accommodation or employment.

The success of the project is, in large part, thanks to the generosity of more than 300 donors who gave a total of £33,024 through OxReach, Oxford's crowdfunding platform. The project also benefited from extensive guidance from Oxford University Innovation and Aspire Oxford, a leading homelessness and employment charity and social enterprise. Greater Change has also received £23,000 of additional in-kind financing from Global Initiative, an Oxford digital firm offering a £100,000 Initiative Fund to support projects designed to return value to society. The Greater Change app was launched in August 2018.

Alex McCallion and his team have received widespread recognition for the project. They aim to build on its success by scaling up operations and supporting 5,891 homeless people annually within three years.

…we are making the study of languages at Oxford more accessible

A total of 191 donors have contributed over £55,800 for pre-sessional bridging courses in medieval and modern languages at Oxford, aimed especially at students from the state school sector. The first £10,000 also benefited from pound-for-pound matched funding.

The study of modern and medieval languages in the UK is facing an unprecedented crisis as student numbers drop across all age groups. There are fewer teachers and university departments are closing every year. Oxford's commitment to the study of languages is stronger than ever though, and the new Living Languages Fund has been created to encourage students from all backgrounds to think about studying languages, to apply to Oxford and to take up the places they are offered.

> We're committed to ensuring that we can continue to teach languages to the most talented and enthusiastic students

The donations received will go towards the costs of the courses, including teaching, accommodation, meals and travel expenses for the students. It is hoped donors will contribute on an annual basis and the faculty can host this valuable course every year.

Professor Ian Watson, Faculty Board Chair for Medieval and Modern Languages, says: 'Language provision cuts in UK schools have been particularly damaging to students from less affluent backgrounds who wish to pursue their aspirations for higher education. Oxford is committed to ensuring that we can continue to teach languages to the most talented and enthusiastic students, regardless of their financial background or any lack of resources in the schools they attended.'

Above: Olivia Williams (French and Portuguese, Merton, 2014)

Oxford Thinking Campaign statistics

Amount raised this year

£157m

01/08/17–31/07/18 including cumulative college data to 31/01/18

Amount raised since the start of the campaign

£2.89bn

Including cumulative college data to 31/01/18

Where donations come from (University only)

59%

United Kingdom

27%

North America

14%

Rest of the world

Destination of campaign gifts by priority area (University only)

Academic posts and programmes	58%
Student support	19%
Buildings	19%
Other	4%

Foundations for new physics

The new Beecroft Building will enable quantum theoretical and experimental synergies to flourish at Oxford.

The world of quantum physics, with its long time frames and as-yet unknown outcomes for our future, is not always suited to applications-focused funding. What is vital, says Siddharth Parameswaran, Associate Professor of Quantum Condensed Matter Theory, is core funding for basic physics, allowing scientists the freedom to follow where their research leads.

Oxford, along with its donors, has the confidence to follow exactly that approach – a stance that brought Professor Parameswaran from the University of California, Irvine, to join Oxford's Rudolf Peierls Centre for Theoretical Physics in 2017. That confidence is evidenced by the new £50 million Beecroft Building, the University's first construction in 50 years to be dedicated to the theory and practice of physics.

Designed by architects Hawkins\ Brown, the facility is named in recognition of the major support kindly donated by Adrian and Jacqui Beecroft. Within it is the Wolfson Centre for Quantum Science and Technology, funded by the Wolfson Foundation.

The building includes offices for theoretical physicists such as Professor Parameswaran, as well as state-of-the-art basement laboratories. Professor Parameswaran explains: 'Physics needs extremely complex equipment – vibration isolation, optical tables that float on air – and there's often a bottom-line-driven attitude that is more concerned with return on investment than on asking scientifically interesting questions. But you can't put a price on the pure science. You need to think about those questions in order to understand a mechanism that you can then, if you understand it well enough, translate into something that sits on your table top.' The smartphone would not have been possible without the study of quantum physics.

The Beecroft Building is designed to facilitate interaction. It links on three levels to the 1939 Lindemann Building at the Clarendon Laboratory complex, and its central atrium is an airy hierarchy of spaces to suit discussion groups of different sizes. These range from small areas where a few people can gather around a curved, double-height blackboard (theoretical physicists favour

> As a theorist, a collaborative environment allows me to work on whatever I want to. That was one of my major reasons for coming to Oxford, because I felt that if I wanted to go in a new direction, there would be other people with the courage to go in new directions with me

Right: Architect's impression of the Beecroft Building, showing the impressive use of space below ground level
Right, above: Siddharth Parameswaran standing in one of the building's many collaborative working spaces

real blackboards, with real chalk) to giant 'steps' that can be used as lecture seating. The atrium can also double as an exhibition space for public events, while at the bottom is a communal coffee area that everyone passes on their way into the heart of the building.

This carefully judged layout puts Professor Parameswaran within easy reach of other groups with a similar focus. He points out: 'At Oxford there are around 20 different groups doing diverse experiments in condensed matter physics. My colleagues come over for coffee and we spark up conversations.'

Professor Parameswaran comments: 'The strength of my sub-field of physics is that there are a lot of different experiments going on.' He is very interested in collaborating with experimentalists; their input stimulates his research in turn and he is currently working on a series of joint experiment and theory papers.

'In the condensed matter group', he explains, 'everything is driven by trying to understand what happens in the setting of many particles moving in very complicated environments. My work focuses on quantum mechanical systems of many particles that are strongly interacting, far from equilibrium, or both.

'One of the things we are trying to do is build a theory or framework for handling far-from-equilibrium quantum phenomena. There's a lot of interest in how that connects to the ideas of quantum entanglement and quantum chaos – about how quantum systems really transfer information. I would like a better understanding of that, and to develop some better tools.'

Oxford is now the UK's largest and most diverse centre for quantum research, with over 200 researchers in 38 separate teams. This includes the Networked Quantum Information Technologies Hub, part of the government's £270 million investment to establish a quantum technology industry in the UK.

Amid the excitement about possible new applications, Oxford understands that funding pure science is the key to new advances. This was echoed by the alumni and friends who made such generous donations to this project.

→ Go online to find out more about the Beecroft Building: www.campaign.ox.ac.uk/inside-the-beecroft

Inspiring audiences at the Bodleian

Through a new education and outreach programme, the Bodleian Libraries seek to inspire a love of reading in learners of all ages.

'It's an amazing privilege to be the first Education Officer at the Bodleian,' beams Rosie Sharkey. 'There's so much to do, and you could spend a lifetime doing it!' Since Rosie took up her post in the spring of 2017, she has worked tirelessly to establish an education and outreach programme at the library, aimed at fostering a love of the book for all.

Before the £80 million redevelopment of the Weston Library was completed in 2015, the Bodleian's efforts at outreach had been constrained – both by lack of resources and by the architecture of the old Bodleian Library, which was not designed for anything other than quiet study. It was the arrival of the Weston Library's newly remodelled space on Broad Street that finally set the stage for change, providing the platform upon which meaningful engagement could take place.

'We want everyone in Oxfordshire to feel like this library is for them,' explains Rosie. 'There's a lot of goodwill towards the Bodleian. People have always known that we were here, but the Weston creates a space where they feel much more comfortable.' To help encourage people through the doors, Rosie has developed a significantly expanded programme of free public events, ranging from workshops and demonstrations, to tours, talks and performances.

At the heart of the new programme is the Library Lates series, informal evening events comprised of dozens of bite-sized activities. They have proven particularly popular amongst younger

audiences, with around 60% of event attendees aged under 35. 'There's been an increased focus on hands-on learning,' says Rosie. 'We wanted it to feel much more accessible than, say, an hour-long lecture might. Spending five minutes chatting with an expert or having a go at a new activity is often a much easier way in for people.'

As well as running events inside the Weston, Rosie has also been keen to take her work out into the local community, in an effort to engage with groups who might not feel confident enough to visit the library by themselves. She has already delivered a number of successful outreach projects in this way, including printing workshops in community venues and family-friendly reading sessions in Oxfordshire libraries.

One project that Rosie is particularly excited to be involved in focuses on connecting Ethiopian and Eritrean communities with the library's manuscript collections. The Bodleian currently holds a collection of illuminated gospels written in Ge'ez, the liturgical language of the Ethiopian Church. 'Some of the people we're working with can read this language and will be able to talk to us about how these texts are being used today,' she says. 'It's as much about us learning from them as it is the other way around.'

> There's just so much incredible stuff in the library. You want people to see and enjoy and understand as much of it as possible

The final strand of the programme focuses on schools, and sees the Bodleian moving towards a much more proactive approach than had previously been adopted. Rosie now works with teachers from local state secondary schools to develop bespoke sessions, as well as seeking out opportunities to engage with young people visiting Oxford as part of the University's existing widening participation initiatives.

In the first year of the programme, education sessions were delivered to more than 1,600 students, and 85% of these sessions were with UK state schools. But as well as enriching their current learning, these visits also help young people to familiarise themselves with the role of a library in supporting research. 'So many schools nowadays don't have a proper library,' says Rosie, 'so it's really important that we help them understand what it is we do here.'

The impact of the Bodleian's new programme has been considerable, and the pace of change remarkable. Rosie is left in little doubt as to the importance of philanthropy in making it possible. 'It's been so wonderful to have had the opportunity to create something like this in a library that's over 400 years old,' she says. 'And to be funded by people who feel as passionately about the book as we do… it's truly an honour.'

The Bodleian Libraries' education and outreach programme and Education Officer post have both been generously supported by the Helen Hamlyn Trust.

→ Donations are also supporting outreach work at the Ashmolean Museum. Go online to find out more: www.campaign.ox.ac.uk/ashmolean-education

> The staff here have been delighted to see that the public is so interested in their work. I suppose you don't always realise that what you do is fascinating and amazing, if it's your normal nine-to-five!

> Working with schools has been really rewarding. It's been lovely to see the collection through young people's eyes

Far left: Rosie Sharkey running a brass rubbing activity for families
Left: Rosie in the Treasury Gallery at the Weston Library
Above: Visitors to the library's Ethiopian and Eritrean Discovery Day

Aspiration, opportunity and success

With help from donors, Oxford is working to ensure that talented young people from all backgrounds have the opportunity to fulfil their academic potential.

After finding out that she had been accepted into Oxford, Fis Noibi called her family to tell them the good news. 'Everybody was screaming,' she recalls. 'Everybody except for mum. She wasn't surprised at all; she said she always knew I would be going.'

Her mum may not have been surprised, but Fis certainly was. Now a fourth-year French and Arabic student, she was one of only two people from her secondary school to win a place at Oxford that year. 'My school wasn't very experienced with helping people get to Oxbridge. I think the last person before us went to Cambridge, but that was many years ago.'

For Fis, applying to Oxford felt like 'a foreign concept' at first. It was only in year 10, after meeting with a representative from Target Oxbridge, that she started to consider the possibility. Launched in 2012, Target Oxbridge aims to increase the number of black African and Caribbean students at Oxford and Cambridge by helping talented pupils to apply. 'But even then, I just couldn't decide if I really wanted to go,' she reflects. 'I didn't know if this was something I could be really serious about.'

In year 12, Fis won a place on the UNIQ summer school programme. Open to students studying at UK state schools, UNIQ offers a realistic view of Oxford life, with participants staying in colleges, attending lectures and tutorials, receiving application advice and engaging with top academics during their five-day stay. It's an experience she credits with helping her to make up her mind once and for all.

'Just being able to speak to people here

and ask them questions about Oxford was amazing. That's when I really started to think, okay, I can actually see myself in this position,' she says. 'It also really helped to prepare me, not just for writing my personal statement and making an application, but for what to expect when I finally got here.'

Opening the door for others

A few days into Freshers' week, Fis started attending events run by the African and Caribbean Society (ACS), a student-led society that explores, promotes and celebrates African and Caribbean culture at Oxford. 'I knew that I would spend a lot of my time at the ACS because of my siblings' experiences at their universities. It played a big role in helping them to adjust and feel at home.

'I also knew that I wanted to be with people who look like me,' she continues. 'Just to know that they're here is really important.' Although the number of black and minority ethnic students at Oxford has grown in recent years, the University is working hard to increase diversity amongst its student population.

> I'm not the type of person to just sit and complain about something. I like to make plans and take action

Access and outreach initiatives, as well as partnerships with schools, student societies and other organisations, are key to speeding up the pace of change.

Supported by Oxford's Undergraduate Admissions and Outreach team, the ACS holds regular events aimed at helping prospective students of African and Caribbean heritage to make informed choices about their education. Fis, who served as the society's Senior Access and Outreach Officer last year, was responsible for coordinating their outreach efforts. 'You can really see the impact that our programmes are having,' she explains. 'When a student we've worked with goes on to make an application to Oxford, it's very rewarding.'

As well as volunteering for the ACS, Fis has also continued her involvement with the UNIQ programme. This time though, she is a student ambassador, responsible for supporting her very own group of cohorts. 'I'm doing all of this to help make a change,' she says. 'Yes, it's a big commitment, but it's worth it. I've made my way into this space, so it's important that I help others behind me to follow.'

UNIQ gives priority to students from low socio-economic status backgrounds and areas with low progression to higher education. It was established in 2009 through philanthropy, and will soon expand by over 50% thanks to another generous donation.

> Many UNIQ ambassadors actually did UNIQ themselves. And it makes sense, because we know how it has benefited us, and how to make sure that the students get the most out of it

Left and below left: Fis Noibi at Somerville College
Below: UNIQ gives participants a taste of college life

The Indian Army in the First World War

TORCH (The Oxford Research Centre in the Humanities) stimulates research that transcends both disciplinary and institutional boundaries. Through the lens of one project, we explore how the centre's drive to promote collaboration, foster public engagement and support academics at all stages of their careers, is helping to spark ideas that change our world.

Approximately 1.5 million Indian soldiers served in the First World War, of which 74,187 are thought to have lost their lives. But although the contributions made by the British Indian Army were significant, they have largely been forgotten – their stories long omitted from traditional historical narratives, or relegated to the footnotes.

'People don't want to remember the horrific parts of the war, but the fact is that British and Indian soldiers, particularly the lowest orders, suffered quite badly together,' explains Dr Priya Atwal, 2017–18 Knowledge Exchange Fellow for TORCH. Last year, Dr Atwal embarked on a six-month research project to highlight the overlapping, but largely overlooked, experiences of men from India and Oxfordshire in fighting for the British Indian Army in Mesopotamia.

Accompanied by a team of inter-generational volunteers from the local British-Asian community, Dr Atwal gained access to previously unstudied military heritage collections held at the Soldiers of Oxfordshire Museum (SOFO) in Woodstock. She trained the volunteers in archival research and worked alongside them to study and interpret their findings. The stories they uncovered together –

illuminating and at times deeply affecting snapshots of life, love and loss on the Eastern Front – were later told through a travelling exhibition.

'It didn't take us long to see the project's full potential,' reflects Dr Atwal. Inspired by her findings and keen to continue her collaboration with the museum beyond the bounds of the initial project, she successfully applied for a one-year TORCH Knowledge Exchange Fellowship. The post brought with it an award of £10,000, enabling Dr Atwal to extend the scope of her research, as well as to significantly enhance the outreach activity being undertaken around the exhibition.

'The narrative that SOFO was telling and what we found in the archive material was very different,' says Dr Atwal. Through a series of events targeted at British-Asian families, she sought to share a different historical perspective – one that people may not have heard before. 'It's definitely done a lot to change perceptions. Particularly for Asian people, learning that they have a long-standing connection with what is a relatively white, middle-class community has promoted a very interesting dialogue.'

Working in collaboration with the museum, Dr Atwal has also created a range of fresh primary educational resources based on the project's findings.

> We've discovered an incredibly exciting, multi-layered story. Just imagine what could be done with it in the future

She hopes that teaching local, global and colonial perspectives in schools will help a new generation to engage more fully with the story of the war. 'If children don't see their own history reflected, the risk is that they will switch off. But if we can show them that all of these different communities were involved, the long-term legacy of this project could be incredible.'

For Dr Atwal, an early-career academic, the support she has received from TORCH has been invaluable. 'I was fresh out of my DPhil when the project began, and so the fellowship really gave me the opportunity to explore my options,' she reflects. 'I gained experience in the heritage and education sectors and developed skills in public engagement, all while doing academic research. It's just been fantastic.'

Although her own involvement in the project has now come to an end, Dr Atwal hopes the work in the archives will continue. 'We've opened up a can of worms here,' she says. 'We've discovered an incredibly exciting, multi-layered story. Just imagine what could be done with it in the future.'

The Knowledge Exchange Fellowship scheme has been generously supported by the Andrew W. Mellon Foundation. TORCH relies on philanthropy to achieve its ambitious goals and is currently fundraising to secure its future through endowment.

→ Go online to discover more about TORCH: www.campaign.ox.ac.uk/sparking-new-ideas

Left and right: Dr Priya Atwal at the Soldiers of Oxfordshire Museum, Woodstock
Above and above right: Items from the archive

Tackling prostate cancer

Prostate cancer has become the most common cancer in men in the UK. One in eight men will develop the condition at some point in their lives, with more than 47,000 new cases being diagnosed every year.

Professor Ian Mills first began researching prostate cancer in 2003. 'I'm a molecular biologist, so my entry point to the disease was a protein called the androgen receptor,' explains the John Black Associate Professor of Prostate Cancer. Androgen receptors work by binding to testosterone and steroid hormones, which are both regulators of prostate development and prostate progression in men.

In the years that followed, the genomics revolution has made it possible for researchers to map this process in unprecedented detail. The findings have had a significant impact upon the development of targeted hormone treatments, and much work is now being undertaken to increase their efficacy – often by combining clinically proven drugs with other forms of treatment, such as radiation or immunotherapy.

'What you're actually trying to target for curative therapy is a disease that's constantly evolving and changing,' says Professor Mills. 'It consists of millions of cancer cells, each with their own repertoire of defects and dependencies, so it's actually very challenging to think of curing it simply by zeroing in on a single protein. In order to fully capture and respond to its diversity, in the end you need a response biology that's equally adaptive, and that's the immune system.'

Professor Mills' research focuses on using targeted drugs to modify the inflammatory and immune response of the patient to the cancer, so that it 'can be effectively cleared from the body and cured'. He does this by developing preclinical models that, in turn, enable a better understanding of the way in which these drugs apply to cancer cells, and how they interplay with a functioning immune system.

It's a lengthy process that involves editing the genome of cancerous cells to lock in or lock out particular genetic factors. The cells are then treated, either with radiation or targeted drugs, their DNA extracted and sequenced, and the results analysed. 'We're looking at the signals within those tumours and evaluating how they've changed in response to the edits that we've made,' explains Professor Mills. 'I'll then collaborate with clinicians and immunologists to try to think about how to apply these findings.'

Professor Mills is currently in the process of developing models of the disease that can be used by a number of different groups at the University, including

> If you're in a place where there are personalities that want to reach out to each other, work together and take risks with their research, philanthropic funding can be very powerful indeed

teams based within his own department, the Nuffield Department of Surgical Sciences, as well as further afield. At the Big Data Institute, for example, work is being undertaken to predict genetic drivers of the disease, based entirely on the computational analysis of cancer sequencing data. 'There's the potential to collaborate with this group to do some functional biology on some of the targets they identify,' notes Professor Mills.

But although model development is key to better understanding the biology of prostate cancer, finding competitive research funding for this type of work can often be challenging. 'Many funders don't see their role as improving the context in which a disease can be better understood,' says Professor Mills. 'They want to know that the research they're supporting is going to have a direct treatment impact or an impact on cancer detection. Model development won't do that, but it will create the context in which it can happen.'

This is just one of the many reasons why donor support has proven invaluable to Professor Mills' work at Oxford. As he explains: 'Not only does philanthropy give me the opportunity to catalyse collaborations, but it also allows me to take leads, targets and candidate biomarkers that we've discovered and conduct more experiments. I don't have to slow down the pace of my work by filing grant applications. I can just keep pushing until the data shows us what's going to work.'

Professor Mills' post has been generously supported by the John Black Charitable Foundation.

> I hope that in ten years' time, I'll have contributed to a very clear roadmap for the molecular classification of prostate cancer

Above: Professor Ian Mills at the John Radcliffe Hospital
Left: Lab equipment

Investigating the threat of junk news

Research from the Oxford Internet Institute is revealing the ways in which government agencies and political parties around the world use digital media to manipulate public opinion.

There was a time when the communication strategies employed by democratic governments and those used by authoritarian regimes were easy to distinguish from one another. Today though, things aren't quite so straightforward. 'I started out studying democracies, then I studied autocracies and now I'm back at democracies, and that's in part because a surprising number of communicative tricks jump from regime type to regime type,' says Professor Phil Howard, Director of the Oxford Internet Institute (OII).

Around the world, government agencies and political parties are using the Internet to spread misinformation, exercise censorship and undermine trust in democracy. According to a recent OII study, the problem is growing rapidly, and now constitutes a critical threat to public life. But although the role of digital media as a tool for political manipulation has recently come under increased scrutiny, it is by no means a new phenomenon.

> These days, elections are all about data

It was in the run-up to the US presidential election of 2000 that technology experts first began using the Internet to influence public opinion, says Professor Howard. These experts, often industry lobbyists, would set up bogus campaigns in order to create the illusion of widespread public support. 'Fake lobby groups had been around for many years, but it was really in the late 1990s that they started taking people's trust in their own social networks online and abusing it for political means,' he notes.

This practice became all the more powerful following the creation of Facebook and Twitter in the mid-2000s. 'Some of the accounts that we catch here at the OII were started only a few months after these companies went live,' says Professor Howard. 'If political campaign consultants don't have guidance about what constitutes ethical behaviour, they will very quickly turn new technologies and platforms to the service of a lobbyist or political interest.'

Following the Brexit referendum and the 2016 US presidential election, technology companies have come under increased pressure to combat the spread of junk news, with efforts focusing on the identification of fake accounts and the removal of the very worst of the content from their platforms. For countries facing upcoming elections, such as South Africa, Guatemala and India, these solutions cannot be implemented quickly enough.

'These elections are going to be very important for how democracy grows globally,' says Professor Howard, who will soon begin investigating the way in which tech companies are addressing these problems in the Global South. 'India has 40 or 50 different functioning languages that people vote in. Will Facebook really have the capacity – either in software or personnel – to catch an organised misinformation campaign there? I doubt it.'

So, how do you begin to tackle a problem on this scale? According to Professor Howard, the answer lies in more social media, not less. 'There are lots of political science theories that tell us that democracy works well in small groups, and that the larger the group gets, the harder it becomes to signal preferences and clearly express opinions,' he explains. 'Social media platforms already allow small groups to deliberate, share evidence and sometimes come to a consensus on a particular issue, so there may be ways to build that into policymaking.'

Professor Howard points to instances of single cities, small states and high-trust organisations using groups of citizens to produce voters' guides. Such groups come together to fact-check the claims being made on both sides of the debate, producing a balanced document that can then be used to inform decision-making. It's an approach he feels could work well in a number of countries around the world.

Governments, of course, cannot be forced to adopt strategies like this, but by working closely with policymakers, practitioners and business leaders, the OII is uniquely positioned to help shape the debate.

Looking ahead, Professor Howard says that innovations in artificial intelligence, big data and blockchain are going to have a significant impact on our political, economic and cultural institutions. 'At the OII, we investigate how to get the best out of such innovations, and how to do so ethically and equitably.'

The OII was founded in 2001 following a gift of £10 million from Dame Stephanie Shirley, and is currently fundraising to secure programming and a dedicated building facility through endowment.

> In a growing number of countries around the world, very deliberate efforts are being made to mislead and throw public conversations off the rails

Left and above: Professor Phil Howard at the Oxford Internet Institute

A new dawn for sport

The first phase of an ambitious plan to revolutionise sporting provision at Oxford has been realised.

Iffley Road has been at the epicentre of sport at Oxford for over a century, and is perhaps most famous for being the venue where Sir Roger Bannister broke the four-minute mile in 1954. But over time, increasing student numbers, growing sports clubs and limited resources have put the site's facilities under pressure. 'Although Oxford is a world-leading university, we were trailing behind in terms of sporting provision,' says Jon Roycroft, Director of Sport. 'We knew that things needed to change.'

In June 2018, Oxford celebrated the opening of the Acer Nethercott Sports Centre, a state-of-the-art facility incorporating a spacious four-court sports hall, refurbished café, changing rooms and the Gallie-Lewis-Dean Gym. More than 450 donors have committed a total of £4.3 million towards the building, which will play a key role in helping the University to increase participation in sport and exercise.

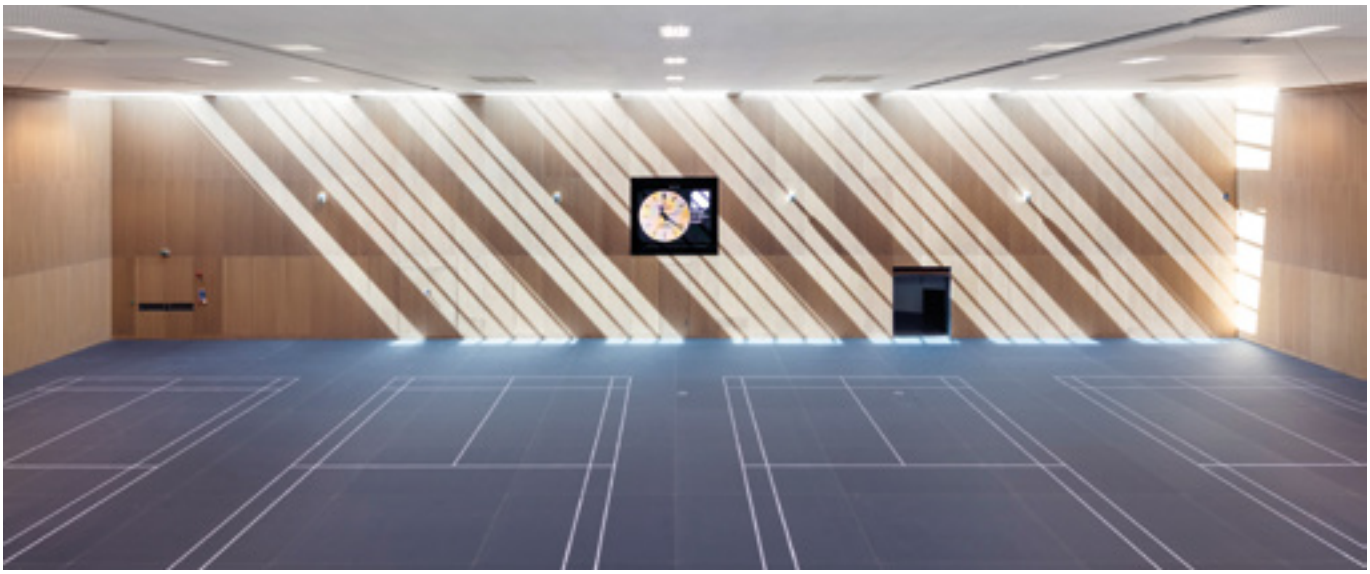
'When we first walked in we were blown away,' says Isabelle Cooper, a third-year geography student and Captain of the Oxford University Netball Club. 'It just feels so professional, and the floor is really great too!' Inlaid with hundreds of LED lights, the new glass floor illuminates at the touch of a button, enabling players to switch effortlessly between the line markings for different sports.

Before the Acer Nethercott Sports Centre was constructed, the University relied on just one modest hall space to serve more than 40 indoor clubs. 'Having two halls to choose from doubles our options,' explains Isabelle. 'Now we can train at better times, and we're no longer competing with every other club in order to get prime-time spots.'

By redeveloping the Iffley Road site, the University hopes to make a major contribution to the wellbeing of its students and staff, and the local community. 'Ultimately, we want to provide an inclusive and accessible home for all who wish to engage with sport,' explains Jon. 'And with the opening of the new sports centre, we're now one step closer towards realising this vision.'

> Ultimately, we want to provide an inclusive and accessible home for all who wish to engage with sport

Above: Members of the Oxford University Netball Club, captained by Isabelle Cooper (centre)
Below: The four-court sports hall



Out of the deep

A new exhibit paints a fascinating picture of prehistoric marine life in England.

Travel back in time 165 million years, and you would find the land upon which Oxford stands today submerged 50 metres underwater. 'Much of central and southern England was covered with a warm, shallow sea that would have been teeming with animals,' says Dr Hilary Ketchum, Collections Manager at the Oxford University Museum of Natural History.

The fascinating story of this ancient underwater world is now being told through a new permanent exhibit in the museum's central court. Entitled Out of the Deep, it showcases the remains of two large Jurassic marine reptiles called plesiosaurs. One of these is the rare long-necked plesiosaur that was discovered in a quarry in Cambridgeshire in 2014. The exhibit also incorporates a short-necked relative that was unearthed near Oxford in the 1990s.

'We received an overwhelming amount of public interest when the long-necked plesiosaur was donated to the museum,' says Dr Ketchum. 'We had a lot of people asking us to put it on display, but we didn't have a showcase that was big enough, or the money to get one.' Thankfully, generous donor support meant that the museum was able to purchase the specialist cases it needed, as well as commission a range of new digital content and dynamic artwork for the exhibit.

In addition to finding out more about prehistoric marine life, visitors to the new display will have the opportunity to learn about the techniques used to analyse fossil specimens, and how the findings can help us to better understand the evolution of life on Earth.

'The really exciting thing is that we think they might be new species,' says Dr Ketchum. 'The long-necked plesiosaur has one of the most complete skulls ever found, so that's going to tell us a lot.' It's still early days though, she stresses: 'We haven't had that much time to do research on it. We need to scan parts of the skeleton still preserved in rock, and who knows what that analysis will reveal? I can't wait to find out.'

Out of the Deep has been supported by DCMS/Wolfson Museums and Galleries Improvement Fund; FCC Community Action Fund, administered by WREN; and individual donors. The long-necked plesiosaur was donated to the museum by Forterra in 2015.

Above: Dr Hilary Ketchum examining the skull of the long-necked plesiosaur
Left: Fossil fragments

News in brief

Engaging young scientists through the Global Jet Watch

A unique approach in modern astrophysics research that takes advantage of the rotation of planet Earth, while simultaneously educating students, is celebrating the first ever 24/7 measurements of a nova explosion in our galaxy while continuing to produce spectacular data about microquasars.

Supported by a number of donors, the Global Jet Watch was launched by Katherine Blundell OBE, Professor of Astrophysics at the University of Oxford. It has five observatories, based in Chile, South Africa, India, New South Wales and, most recently, Western Australia. The position of each observatory ensures that there is always at least one location in darkness, essential for optical astronomy, and real-time measurements are served up via interactive web pages. The India observatory is even powered by our nearest star, through the medium of a solar farm.

Education is an important spin-off of the Global Jet Watch. Four of the five observatories are based in schools, giving children the opportunity to operate telescopes, control the observatory and learn to apply science. Targeting mainly girls in developing countries, the goal is to inspire the next generation of globally astute young scientists – building their confidence, encouraging them to aspire to change the world for the better, and ensuring they have lots of fun in the process.

Professor Blundell says: 'The Global Jet Watch is a dream come true, both in terms of astrophysics research and in terms of switching on lights in the minds of students in developing countries who wouldn't otherwise be exposed to science. I am indebted to the donors who have enabled us to get to where we have got to already.'

The fifth observatory, commissioned in 2014 in Western Australia, was made possible by the generosity of the late Derek Benham (1952–2018), Physics alumnus and great friend and supporter of New College and the University.

Above: School children in India with the Global Jet Watch telescope and solar farm

Establishing a visionary programme to improve human wellbeing

A major new programme of research focusing on human wellbeing has been established at Merton College thanks to the generous bequest of Dr Peter Braam, a former Junior Research Fellow at the college.

The aims of the programme, which will support the creation of a series of Early Career Fellowships, are to improve the human situation and address the needs of the poorest or least privileged societies or segments of humanity.

The complexity and breadth of issues that have an impact upon human wellbeing are wide-ranging, and in recognition of this, the Peter Braam bequest will encompass expertise and knowledge from a number of disciplines. Dr Braam's work has spanned several fields of theoretical and industrial areas of computing, mathematics and some physics, and his specific wish is to enable 'the use of research, regardless of which academic disciplines are used, to improve countless lives on the planet.'

Dr Braam has already worked with Merton College to establish the Peter Braam Junior Research Fellowship in Global Wellbeing, currently held by Dr Kate Orkin, and the Peter Braam Graduate Scholarship.

The Early Career Fellowships will be based in colleges and departments across the University of Oxford, and oversight of the programme will be based at Merton College. Sir Martin Taylor, the recently retired Warden of Merton College, referred to the programme as 'visionary', with 'the ability to have a massive impact on problems that can change people's lives.'

At a ceremony to celebrate the bequest, Dr Braam commented: 'A deep immersion in your truly wonderful university and college system and your respect for academic freedom can influence a person for a lifetime. It has influenced me and many others more successful than I have been. It will continue to inspire others.'

By setting out the terms of his bequest now, Dr Braam is assuring that Merton College and the wider University can build on this important work well into the future.

Securing scholarships for the world's most talented graduate students

The impact of graduate scholarships on the life paths and careers of individuals cannot be underestimated. Dr Humphrey Ko, himself a graduate of Oriental Studies at Oxford, has enabled students of Traditional China to pursue their areas of academic interest regardless of financial circumstances by setting up the Oxford-Ko Scholarships.

The first Oxford-Ko Scholars embarked on their courses in 2013, and eight students have since completed their studies. As with most Oxford graduate scholarships, recipients were required to demonstrate excellent academic ability and the potential to contribute to the world as leaders in their field. The value of the scholarships was further increased by matched funding from the University, which significantly boosted the impact of Dr Ko's donation.

Michelle Kwan Yee Liu, an Oxford-Ko Scholar in the Master of Studies degree in Traditional China, says: 'This scholarship has been incredibly important, as it has given me an opportunity that would have been otherwise closed to me. Without it, I would not have been able to continue my studies.'

Speaking of her future plans, Michelle says: 'I am currently planning to go to China to work for at least a year. Since my academic interest is in Chinese studies, I want to take this opportunity for full cultural immersion to improve my understanding of the language and culture. I hope to work in the education sector, and give back to society what my own education has given me.'

Graduate scholarships are a major strategic priority for the University, with plans to establish 300 new scholarships within the next five years.

Above: Dr Peter Braam at Merton College
Right: Michelle Kwan Yee Liu at St Cross College

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