What future for the NHS at 75?

A positive prescription for a service under pressure

Richard Meddings, Chair of NHS England, offers his prognosis
Editorial

The theme of this year’s Exon – health and caring – was inspired by the NHS marking its 75th anniversary in July this year. It is therefore felicitous that Richard Meddings, Chair of NHS England, agreed to contribute an article. The NHS, Richard points out, remains the institution people say makes them most proud to be British, but with surging demand, fuelled by a growing and ageing population, many are asking is it still fit for purpose? Richard makes the case for staying true to the NHS’s founding principles while undertaking necessary transformation.

One person hoping to drive change is Professor Marian Knight, who shares her research into disparities in maternal deaths and severe pregnancy complications. Hugh Palmer – a counsellor – advocates a fresh approach to mental health care, where the patient is the expert, professionals avoid pathologising, and the paramount question is what happened to you, not what is wrong with you. The research of Professor Charles Foster and Dr Aarti Jagannath, though in different fields, leads each to reason convincingly that to take better care of ourselves we need to be more in tune with our primeval selves and with nature. Meanwhile Dr Heloise Robinson considers the relationship between health and caring – was inspired by the NHS marking its 75th anniversary in July this year. It is therefore felicitous that Richard Meddings, Chair of NHS England, agreed to contribute an article. The NHS, Richard points out, remains the institution people say makes them most proud to be British, but with surging demand, fuelled by a growing and ageing population, many are asking is it still fit for purpose? Richard makes the case for staying true to the NHS’s founding principles while undertaking necessary transformation.

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Rector’s review

Health and caring: these linked topics, the foci of this edition of Exon, provide a highly appropriate hook on which to hang a review of Exeter’s activities for Exon during 2022/23, my penultimate academic year as Rector.

As the articles in this 2023 edition of the magazine demonstrate, Exeter’s alumni, Fellows and students who work in, research about, and study physical and mental healthcare are numerous, creative and full of impact. One such author, honorary fellow Richard Meddings (1977, Modern History) has an especially broad perspective in his role as Chair of NHS England. Another contributor, Marian Knight (Supernumerary Fellow and Professor of Maternal and Child Population Health), who recently received an MBE for her work in the field, has been appointed one of four new Scientific Directors on the board of the National Institute for Health and Care Research. Meanwhile, researchers led by Exeter Fellow Neil Herring (Tutorial Fellow in Preclinical Medicine, Associate Professor and Consultant Cardiologist) have found that an inexpensive blood test for stress hormone levels could save thousands of lives by measuring how much of a particular hormone is present in patients’ blood.

Yet the aspects of the College’s recent life relevant to Exon 2023 go well beyond those specifically related to health care and research. For example, there are many activities related to the College which are rightly included in caring, notably the annual activities of our student charity and the continuing professional and student-led welfare work focused on Exeter itself. Moreover, the College’s wide-ranging involvements in culture and sport contribute substantially to the health, broadly conceived, of the Exeter community as a whole. In addition, Exeter’s research on subjects such as artificial intelligence has substantial relevance to health and caring, especially in their wider senses. Ranging across these and related topics, a survey of College life in 2022/23 reveals Exeter to be a vibrant community with very considerable efforts boosting both health and caring.

The recent academic year brought some new cases of Covid, and some persisting Long Covid, to the College. However, the incidence of the disease was much less even than in academic year 2021/22. As a result, the few restrictions of that period became non-existent in 2022/23, delighting all categories of the Exeter Family.

The marquee in Front Quad remained, but this was due to the Library Project – for which the tent (as my fellow Americans call it) functioned as a reading room, complemented by the deployment of the Saskatchewan Room as a lending library, which experienced the same volume of borrowings as usual.

Another indication of robust Exeter health was that the College’s twice-weekly formals during term were almost always well attended by both students and members of the Senior Common Room. Similarly, the four annual subject family dinners each attracted substantial student numbers. Likewise the College’s now numerous festival occasions were usually booked up well in advance. A notable example was Burns Night, which featured an especially impressive Toast to the Immoral Memory by Dr William Zachs, who deployed an original letter from Burns during his presentation. Equally lively were the reception, lunch and unveiling in May associated with the portraits, photographic and oil, of honorary fellow President John Kufuor (1961, PPE); those occasions attracted an exuberant audience, especially of Ghanaians, including the King of the Ashanti, who had recently attended the Coronation of Charles III. There was also a celebratory dinner in Hall marking the Coronation, complete with individual flags and paper crowns. At the very end of the academic year came the second annual Middle Common Room June dinner, which included a numerous postgraduate delegation from Exeter’s sister college, Emmanuel Cambridge, whose Master and I signed during the meal a new agreement between the two institutions.

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Reviewing his penultimate year as Rector, Professor Sir Rick Trainor finds the College in robust health and full of positive impact.
Ascension Day featured glorious sunshine and singing play, Turl Street Arts Festival. In June came a hilarious garden usual, Exeter students played major parts in February’s that vivid half hour continues! late in the evening. The anxious search for any videos of ‘special mystery guest’, to do a disc jockey ‘set’ from Covid-19 – has readily re-learned how to party. This recovered skill was much in evidence during the vibrant teaching remained a major area of strength for the College, as exemplified by the award the Social Sciences Division conferred on Agni Orfanoudaki (Tutorial Fellow in Management). In terms of student achievement, Gabriela Menden (2017, English) won the English Faculty’s prize for the best doctoral thesis of the year, and Jennifer Kim (2022, History of Art) won the Jon Stallworthy Poetry Prize. Student excellence also encompassed entrepreneurship: Wanlin Xiao (2019, PPE), Kezia Susanto (2019, Engineering) and Zheqin Zhang (2020, Medicine) devised ‘i-Opto’, the first ever digital app optometry solution, placing second in the inter-collegiate All-Innovate Competition. Many Exeter Fellows received substantial research awards (notably the AI Turing Fellowship won by Michael Bronstein [Artificial Intelligence] and honours (such as the election to the American Philosophical Society of Dame Carol Robinson FRS [Chemistry]) during the academic year. 2022/23 also saw the College staging the launches of several academic books by Exeter authors, including the highly praised Counting India: England, Mughal India, and the Origins of Empire (Bloomsbury Publishing) by Nandini Dax (English). The renewed vitality of alumni occasions – in London, Los Angeles, New York, San Francisco, Seattle, Vancouver, and Washington DC – attested to the continued health of the very important ‘old members’ category of the College community. Nonetheless, as ever, Exeter’s alumni suffered many losses during 2022/23, notably the distinguished Australian judge and very loyal Exonian Murray Tobias AO (1961, Law), the highly generous and extremely hospitable Canadian lawyer Henry Klopperburg (1968, Law), and the celebrated novelist and honorary fellow Sir Martin Amis (1958, English). Back in Oxford, Exeter also played a prominent role in the context of the University. Late in 2022 the College was the venue for a concert and dinner in honour of departing Vice-Chancellor Professor Dame Louise Richardson, and in 2023 Exeter twice hosted her successor, Professor Irene Tracey FRS, during her first months in office. In terms of undergraduate admissions, Exeter made further progress in the latest batch (covering UK undergraduates who matriculated in 2020, 2021 and 2022) of diversity statistics, exceeding the ever-improving University average on most measures. Indeed, Exeter’s undergraduate student body is now much more reflective of the UK population as a whole, including mirroring almost exactly the proportion of UK-domiciled students with three As or more at A-Level who identify as BME or who come from socio-economically disadvantaged groups or areas of low progression to higher education. Also, in a development associated with assisting students’ transition to university and the ongoing encouragement of excellence, the College committed itself to a programme of on-course support led by postgraduate study mentors in the various disciplines. In continued robust health, too, was the Williams at Exeter Programme at Oxford (WEPO), now under the energetic direction of Bojana Mladenovic, professor of philosophy at Williams. As usual, Philip Pullman (1985, English) launched WEPO’s academic year with a stimulating tea party talk. The College’s premises continued to improve. We now take for granted the refurbished Lodge, but – along with the opening of the external Turl Street wooden gates during business hours – it continues to impress visitors with the heritage-conscious modernity of Exeter. That project also contributed substantially to the College’s sustainability campaign, a key measure of 21st-century health for any institution, which (aided by major savings on gas and electricity consumption) received a Gold award in the Vice-Chancellor’s annual Green Impact competition. Pointing in the same direction were plans, endorsed in general terms by Governing Body, for the rejuvenation in collaboration with Herford, of the college’s adjoining sports grounds with due regard to biodiversity. Most importantly, as autumn approached the restoration and renovation of the College Library neared completion. With its extra reader spaces and accessibility, the Library will be a major contributor to the College’s well-being for decades to come. Likewise the patience of the community, especially students, during the 14 months of disruption associated with the project is another positive indicator of the College’s health – and caring!
I am delighted to announce that the Governing Body has elected Dr Andrew Roe CB to be the next Rector of Exeter College. Dr Roe will take up the Rectorship in October 2024, in succession to Professor Sir Rick Trainor.

Dr Roe is currently serving as Chief Executive and Commandant of the Defence Academy of the United Kingdom, which educates students from the British armed forces, the Ministry of Defence, wider government, UK industry and overseas. A senior Defence official, Dr Roe is a graduate of the United States Army Command and General Staff College, the School of Advanced Military Studies, and the Higher Command and Staff Course. He holds a doctorate from King’s College London and is the author of two books and a number of articles.

On his election Dr Roe commented: ‘I am delighted and honoured to have been elected to serve as Rector of Exeter College. Having had the pleasure of meeting students, staff and Fellows, it is evident that Exeter is a diverse, warm and welcoming college, eager to build on its impressive achievements. It is testament to the current Rector, Sir Rick Trainor, and all parts of the College community that Exeter is such a thriving and innovative environment. I look forward to joining Exeter’s inspirational community so that, together, we can navigate the College on to new heights.’

Professor Sir Rick Trainor, who will have served as Rector for ten years when his term comes to an end on 30 September 2024, said: ‘I warmly welcome the appointment of Andrew Roe as my successor. He has the distinguished career, clear vision, wealth of leadership experience, strong commitment to higher education, and warm personality that Exeter College expects from its Rector. The fact that Andrew’s PhD was earned at my former institution, King’s College London, reinforces my enthusiasm! I look forward very much to a smooth and productive transition with Andrew during the next fifteen months.’

We look forward to welcoming Andrew to the College, and to continuing, under his Rectorship, the pursuit of our central goals of excellent teaching, world-class research, and the fostering of a thriving and happy community here at Exeter.

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As someone who has been lucky enough to visit the Library site at least once a month during its 15-month renovation, I can attest to the incredible transformation both inside and out. As the scaffolding comes down and the new roof and repaired stonework are revealed, there is a sense of excitement about seeing the finished result. It has been a huge achievement from beginning to end, expertly project managed by our Domestic Bursar, Babis Karakoulas, who kept the whole process on track and (nearly) on budget, even during the pandemic.

At the time of writing the upper floor of the Library is almost finished and one can see what the space would have looked like when it was first built. The only noticeable difference is the introduction of the lift, which is discreetly located at the far end next to the spiral stone staircase. The original bookcases have been beautifully restored off-site and returned to their original location, and a specialist haulage team is carefully returning books to their shelves after just over a year in the Bodleian’s storage facility in Swindon.

The renovation of the Library is more than just a refurbishment; it is a testament to the College’s dedication to providing a state-of-the-art, accessible learning environment for its students, Fellows, and professional support staff. The project has achieved a seamless blend of tradition and innovation, maintaining the Library’s historical charm while introducing new technology and essential amenities such as the lift and a fully accessible toilet.

However, this ambitious renovation would simply not have been possible without the support of our donors. The final project cost is £11.7 million. The College has committed £3 million of its own resources (from a private placement loan) and we have raised just over £7 million in philanthropic donations from alumni and friends of the College – a fantastic achievement for which we are deeply grateful. The building will be named the Jackson Library in honour of the father of our alumnus and lead donor, William Jackson (1983, Geography).

Almost 200 donors have made a gift to the Library and all of them will be recognised in some form inside the Library, from book plates to wall plaques. It’s a remarkable opportunity to have your name or that of someone you love become part of the fabric of a building that will stand for many hundreds of years and witness generations of students coming and going.

There will be an official re-opening on 18 May 2024, to which all donors will be invited. Alumnus and honorary fellow Sir Philip Pullman (1965, English), well known as a staunch supporter of libraries, has kindly agreed to preside over the ceremony.

It’s not too late to make your mark on this special place. If you would like to make a gift please contact me at yvonne.rainey@exeter.ox.ac.uk or 01865 279662.
Exeter achieves Gold in Green Impact Awards

The past year has seen a flourishing of activity to make Exeter College more sustainable, culminating in the College receiving a Gold Award in Green Impact at the Vice-Chancellor’s 2023 Awards for Environmental Sustainability, writes Sustainability Coordinator Peter Nitsche-Whitfield.

At the time of writing, the Earth just experienced its hottest week ever recorded and it is increasingly clear that changes are direly needed to restore planetary health. At Exeter College, we recognise that this is an issue that needs both individual and collective action. Thus, we have set up a Green Impact Team, bringing together students, Fellows and staff to discuss and implement changes in both individual behaviour and College action.

The Green Impact scheme encourages organisations to work effectively on becoming more sustainable across a range of categories covering energy, biodiversity, emissions, waste, food, travel, water and engagement. Correspondingly, we have worked on a range of projects, not all of which can be mentioned here.

Notably, College saw a remarkable reduction in gas use — and therefore emissions — over the last heating season, with gas consumption 7.87 per cent lower in 2022 than in 2021. There will be further substantial gas savings in 2023 as Turl Street benefitted from improvements to its boiler systems and the installation of smart thermostatic radiator valves in staircases 12 to 14, which allow us to stop wasting heat on empty rooms.

Exeter students demonstrated their care about nature by planting a new wildflower meadow at the sports ground. The wildflowers will make the currently underused sports ground more attractive to wildlife and Exonians alike and support the health of local wildlife populations as well as of those students who got a good portion of exercise planting the wildflowers!

Those are only some of the achievements this year, with student volunteers looking at many other areas such as improving recycling, engagement and cycling.

In recognition of these achievements, Exeter College received a Gold Award in Green Impact at this year’s Vice-Chancellor’s Environmental Sustainability Awards – impressive given this was the first year we took part in Green Impact!

Looking to the future, we have been developing long-term plans to make Exeter more sustainable. The first key step in this has been data collection, which has focused on our waste as well as energy and water consumption. This has been helpful in the development of plans to decarbonise our buildings, which will detail ways to improve insulation and assess which renewable heating and photovoltaic options are suitable. For instance, Exeter hopes to heat the refurbished Library using ground source heat based in the Fellows’ Garden, and then create a new biodiversity-friendly, health-enhancing space above the heat pumps for everyone, including wildlife, to enjoy.

Exeter students prepare a new wildflower meadow at the College’s sports ground.
Celebrating 200 years of Exeter College Boat Club

With two promotions, blades, a wealth of home-grown University athletes and participation levels hitting new highs, there’s plenty to be proud of as we enter this bicentenary year, says Exeter College Boat Club Association Chairman Matt Holyoak (2015, History).

Manchester City F.C. rounded off an impressive season in June when they lifted the Champions League trophy in Istanbul. As sports clubs go, however, they are relative newcomers. When Manchester City was founded in 1880, Exeter College Boat Club was already nearly 60 years old, and would shortly reach the pinnacle of their own sport, when they would claim the Grand Challenge Cup at Henley Royal Regatta.

As we mark the 200th anniversary of the Boat Club in the 2023/24 academic year, it must be admitted that the fortunes of these two clubs have somewhat diverged. Exeter College Boat Club continues to thrive, however, with its rebuilding project in full swing and participation levels hitting new highs.

Students and coaches continued to reap rewards on the Isis in 2022/23. Torpids brought a new set of blades to adorn the College walls plus promotion for the women’s first boat. The W1 boat was also promoted in Eights Week, making five bumps, the joint most of any crew on the river. The Club has also done a stellar job in introducing the sport to new people: in 2023 Exeter entered six boats during Eights Week. Of the 94 Exonian athletes who took part, 48 learnt to row at Exeter.

The Club was bolstered in the summer by the arrival of two new boats. The Sandra D II, a brand-new Janousek, was very generously donated by Raymond and Sandra Dwek, long-time friends of the Boat Club. A new men’s second eight was purchased from St Paul’s School, and will be renamed Trigger after the popular dog owned by Nick Badman, Senior Member of the Boat Club.

Exeter is also immensely proud to once again support some home-grown university athletes. Ella Stadler (2022, History of Science, Medicine and Technology) competed in the Boat Race in March, and has been elected President for the 2023/24 season. Maria Nielsen-Scott (2018, Medicine) rowed in the reserve boat, Osiris. On the lightweight side, Victoria Fletcher (2021, English) coxed the women’s top eight, and has now been elected President of OUWLRC. Georgia Stonadge (2022, Inorganic Chemistry) was selected for the reserve boat, Tethys.

Ever-present in the background of College rowing is the Exeter College Boat Club Association, which acts as a vehicle for alumni to stay in contact with each other and support the Boat Club. Members (who now number more than 60) regularly return to College for dinners, casual boat outings, and to help with training.

The Association is hosting several events open to all to mark the bicentenary next year: a function in Hammersmith to watch the Boat Races; the annual dinner in Oxford during Eights Week; and a picnic and row-past at Henley Royal Regatta. In addition, there will be barbecues, commemorative clothes, races against Exeter students, and even a special book to commemorate the occasion.

ECBCA members are kept updated on all upcoming events and how to attend throughout the year. If you would like to join and you are happy for ECBCA to contact you, please email me at matthewholyoak@outlook.com with your name and year of matriculation.
Those unfamiliar with the term ‘MAD’ have sometimes asked me why Exeter College’s students would need such a representative. Am I the elected college jester? Or maybe, as befitting to Oxford, a Carrollian Mad Hatter? These assumptions would be wrong, but not as wide of the mark as one might think... For perhaps you could say that Exeter College is ‘mad’—teeming with an abundance of arts-related activity.

**YOU COULD SAY THAT EXETER COLLEGE IS ‘MAD’—TEEMING WITH AN ABUNDANCE OF ARTS-RELATED ACTIVITY.**

In fact, ‘MAD’ is an acronym for Music, Art and Drama, and as the designated undergraduate student representative this year, I have been responsible for overseeing activity in College related to these disciplines. From participating in karaoke nights and music ensembles, to starring in feature films and creating set designs, this year Exeter’s student body has been involved in a plethora of artistic activities, both in and outside of College.

Owing to the initiative of Eliana Kwok (2022, Engineering), Exeter became the Tuscan setting of Machiavelli’s *The Mandrake* in the College’s Trinity Term play. With the first half performed in the Fellows’ Garden, the Italian comedy was made quintessentially ‘Oxford’ against Exeter’s iconic view of the Radcliffe Camera. The action and audience were transported to the College chapel for the second half of the performance, with this change of setting enhancing the play’s comic animated resolution. *The Mandrake* was very well received, with such high demand that extra tickets were released on multiple nights.

This year’s Karaoke and Live Music Nights also proved popular among Exonians. In Trinity Term Exeter’s newly formed house band, the Ex Pistols, made their University-wide debut. Featuring two members of Oxford’s renowned Dot’s Funk Odyssey, Matt Lister (2020, PPE) and Maisie Young (2022, Biochemistry), and the guitar and vocals of Will Bidwell (2022, History) and Thant Thura (2022, Classical Archaeology and Ancient History), the Ex Pistols impressed at the Turl Street Karaoke Night in Jesus College bar and the ‘Battle of the Bands’ in the aptly named Mad Hatter bar on Iffley Road.

Exeter’s inter-collegiate activity of course extends beyond music. The annual Turl Street Arts Festival, which sees Exeter join forces with Jesus and Lincoln to organise a week of arts events, is always a highlight of Hilary Term. This year’s festival was no exception, with an array of activities taking place throughout the week, ranging from printmaking to a street fair on Brasenose Lane. This year’s representative for Exeter was Jasmine Ashworth (2022, English), who commented: ‘I’ve had the chance to meet some amazing people, whilst also furthering the importance of the arts in Oxford — something which is so vital at the moment!’

Izzy Kori (2021, Fine Art) received praise for her artistic contributions to a production of Shakespeare’s *The Tempest* at the Oxford Playhouse in Hilary Term, directed by Costi Levy (2019, Philosophy and Spanish). The production’s visual aesthetic reflected the show’s focus on ecology and climate justice. Izzy, the set designer, repurposed set pieces from previous shows at the Playhouse and used other recycled materials, such as coffee bags and carpet scraps, decorated with mycelium, a natural mushroom substrate, to recreate Shakespeare’s island landscape in a creative and sustainable manner.

**‘I’VE HAD THE CHANCE TO MEET SOME AMAZING PEOPLE, Whilst ALSO FURTHERING THE IMPORTANCE OF THE ARTS IN OXFORD — SOMETHING WHICH IS SO VITAL AT THE MOMENT!’**

JCR ‘MAD’ rep Emma Little (2021, English) takes us on a Lewis Carroll-inspired journey through the wonderland of Exeter’s music, art and drama during the past year.

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An insight into the arts at Exeter

**‘DOWN THE RABBIT-HOLE’**

JCR ‘MAD’ rep Emma Little (2021, English) takes us on a Lewis Carroll-inspired journey through the wonderland of Exeter’s music, art and drama during the past year.
Izzy was also the set and costume designer for Matchbox Productions’ adaptation of Kafka’s *The Metamorphosis* in Trinity Term, and chose to line the set with expanding foam, visually depicting the spreading of Gregor’s infection through the foam’s contamination of the stage. The audience wore headphones throughout the show, as part of a binaural experience, which created an atmosphere that was both intimate and visceral. Sonya Luchanskaya (2021, Biochemistry) co-founded Matchbox Productions with Vasco Faria (2021, Biochemistry) this year, and achieved success with their debut show, Dennis Kelly’s *Love and Money*, in the Burton Taylor Studio in Hilary Term. Sonya told me a little about how the company made the transition to the Pilch, Oxford’s student-run black box theatre, with *Metamorphosis*:

‘I like to think of *Love and Money* as our foot-in-the-door for drama. It was acting and skill-heavy, but technologically not too complex, giving us a great grip on the drama landscape and helping us to meet loads of talented people that would then join our creative team for *Metamorphosis*. Both [productions] were so creative and we never took ourselves too seriously — it was just us wanting to experiment with texts and see how far we can push the ambition of a black box space.’


Daniel McNamee (2020, Classics and English) was recently cast as the lead actor in *Breakwater*, Oxford University’s first feature film since *Privileged* (1982), which launched the careers of Hugh Grant, Andy Paterson and Mike Hoffman.

*Breakwater* follows the tentative relationship between Oto, a student at Oxford, and John, a retired angler who lives on the coast. Daniel told me about his experience in *Breakwater* and how it compares with the many theatre productions in which he has performed:

“We filmed *Breakwater* over a period of three weeks during the Easter vac. The process was a very steep learning curve — I’m not sure any of us knew just how labour-intensive producing a film of the quality we wanted would be. Nonetheless, we somehow got it done.

‘There are a few ways it differs [to performing in a play]. As an actor, the work felt a lot more cerebral; more feeling and thinking, less showing. Overall, again I think it would be the way scheduling works. Given the necessity of waiting for the right conditions to shoot, time becomes a terrible master. It does make it all the more rewarding though when those perfect conditions arrive and it all works. There are some lovely dawn scenes in *Breakwater* that look incredible, but aged us all years.’

Whereas *Privileged* was very Oxford-centric, *Breakwater* was shot in both Oxford and Suffolk, contrasting the city’s sandstone landmarks with the gritty, salt-encrusted coast, paying homage to Oxford, but depicting it in a different light. *Breakwater* is now in post-production, and will be shown at film festivals beginning summer 2024.

Reflecting on all that has taken place at Exeter this year, a few lines from Tim Burton’s 2010 adaptation of Alice’s Adventures in Wonderland come to mind. The Mad Hatter asks Alice if he has gone mad and Alice replies: ‘I’m afraid so…’ (and perhaps we too have to be in order to balance Oxford degrees and our artistic passions), but, after a pause, Alice reveals her secret: ‘All the best people are!’ A sentiment, I am sure, that resonates with many — and long may the ‘MAD-ness’ continue!”

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*Above and below: The Mandrake performed in Easter’s Fellows’ Garden*

*The Ex Pistols take centre stage at a live music night*
ExVac: The heart of Exeter’s community

Giving children a fantastic break from difficult times at home – and creating an unforgettable experience for student Holiday Leaders too – makes the months of fundraising and battling regulations completely worthwhile, says ExVac Treasurer Freddie Crichton-Miller (2021, English).

The Exeter College Vacation Project, known to all as ExVac, is as important and as impactful as it was 40 years ago, when the very first ExVac holiday took place in an empty Eton College boarding house. Forty generations of passionate and caring students have maintained and expanded on the charity’s founding principles, turning ExVac into the much-loved charity at the heart of Exeter College that it is today.

Of course, quite a lot has changed since 1982. For one, the holidays have moved from Eton to the New Forest, and there are considerably more requirements around safeguarding and healthcare than there were 40 years ago, to say the least. The charity’s committee has also grown, now including 11 dedicated members who work all year to fundraise, promote and run the holidays every April, with the constant support of seven trustees.

ExVac exists and has always existed to take children from the Oxfordshire area on holiday, giving them the opportunity to just be kids for a week and have a break from difficult times at home. All the children who take part in an ExVac holiday have been put in touch with the committee via Oxfordshire Social Services, and so the charity does its best to give parents and children alike a week off.

For the children, ExVac provides the invaluable opportunity to try new things, to explore the outdoors, and to make friends in a new and likely unfamiliar environment. A week of canoeing, pottery painting, animal petting and even a day at Paulton’s Park (home to Peppa Pig World) culminates in tearful goodbyes amid proclamations that ExVac is the ‘best’ and that they will come again next year. Every year, after months of battling regulations and fundraising issues, the holidays serve to remind the committee and the leaders what ExVac is really all about.

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Thanks to the one-to-two leader-to-child ratio, each child is closely looked after and supported, made possible by the 20 students who volunteer as Holiday Leaders across both trips. Every year, it is the enthusiasm and energy of the Leaders that ensures the holidays go off without a hitch and guarantees that kids will have an experience they won’t forget any time soon. It is also an experience that the Leaders themselves won’t ever forget. At this year’s Annual General Meeting, it was wonderful to hear students call ExVac the best thing they’ve done at Oxford. Even at a university with such a vibrant extracurricular scene, ExVac stands out as one of the most valuable complements to an Oxford education. ExVac provides a real, unrivalled opportunity to develop leadership skills, to deal with regulations, to plan, to manage budgets that make a difference, to handle safeguarding, and ultimately to give back.

ExVac could not be run without the support of the students and staff of Exeter College. Notably the Chaplain, Reverend Andrew Allen, and the Rector, Professor Sir Rick Trainor, have guided the charity and ensured its growth in recent years, supporting the senior committee through AGMs, complicated decisions, or simply the process of finding meeting spaces. Exeter’s students, too, have supported the charity all year, whether by donating money, by contributing time, or by cheering on their friends. The donations and ‘promises’ of the Promise Auction in Michaelmas Term 2022, for example, raised over £1,400 for ExVac, and saw hundreds of people turn out in support of the charity.

While the Covid-19 pandemic and the cost of living crisis have introduced new struggles for the ExVac committee, it goes without saying that the last few years have made life even harder for the children and families ExVac aims to help. Recent years have brought new challenges, meaning ExVac’s work is more important than ever, and so thanks must be given to ExVac’s donors for their generosity and support, which is ultimately integral to the existence of ExVac and the continuation of its holidays.

If you would like to donate or to find out more about ExVac, please visit the ExVac website: ExVac.web.ox.ac.uk
You make the tea and alpaca the sandwiches!

Informal social events and visits from furry friends help to cultivate a vibrant community and provide a welcome relief from academic work, explains JCR Welfare Rep Misha Pemberthy (2021, PPE).

Welfare at Exeter is composed of a wide network of individuals across College who make varying kinds of support available to all students to try and make sure that everyone gets the most out of their time at Exeter. From Andrew Allen (Chaplain and Welfare Lead) and Helen Thornton (Nurse and Welfare Officer) through to a peer support team of trained students, there is a real variety of support available for Exeter students regardless of what issues they might be facing.

Leading things, Andrew and Helen are well placed to offer advice on appropriate forms of support and, more immediately, a listening ear, whether that be concerning anxiety, settling into Oxford, sexuality, gender, or resilience, amongst many other issues and concerns.

Olive Matthews-Prichard and myself (Welfare Reps) and Tanay Mukherjee (Vice President for Welfare) made up the JCR welfare team this year (the MCR has three student representatives who fulfil a similar function). Together, we perform a dual role, providing general welfare support and relaying specific concerns to the relevant senior officers.

Each week, we provide a welfare tea, a tradition that dates back many years at Exeter. It is an opportunity for everyone in the JCR to gather on a Wednesday to chat, unwind and have a bite to eat. All sorts of tasty treats are available, including fresh tea and coffee thanks to Exeter’s fantastic catering team, which encourages really strong turnouts week in, week out. We sometimes welcome – and take for walks – animals, too, from Helen’s cocker spaniel, Jasper, to ‘welfare alpacas’, which provides light relief from academic work and brings smiles to people’s faces.

We also make 5th Week of each term ‘welfare week’, to combat the colloquially termed 5th Week blues. This year, we held quiz nights and pottery painting workshops, and distributed welfare information packs and sweets, to cultivate a community atmosphere, lift spirits, and share advice at a time when stress tends to peak each term.

On the other side of the role, fortnightly meetings with Andrew and Helen provide an opportunity to talk about the general atmosphere of the JCR and to raise any specific areas of concern. Further to this, this year we were proud to unveil a welfare handbook that pulled together welfare information, to make the right support more easily accessible to those who need it.

Welfare at Exeter is about both helping those with any issues and concerns and raising the level of welfare for all students. Tanay, Olive and I have thoroughly enjoyed being part of the team this year, and wish our successors Kate, Maya and Matt the very best come October.
Finding inspiration through the law of the ‘interminable jungle’

Lucy Ryder (2021, Jurisprudence) has augmented her studies by working with a pro bono initiative on legal cases relating to immigration and asylum law – work that is so enriching that it should be integrated into the undergraduate curriculum, she writes.

Oxford Legal Assistance (OLA) is a pro bono scheme whereby undergraduate Law students work with Turpin Miller, a local firm specialising in immigration and asylum law, on legal aid cases. As Turpin Miller Representative, I have spent the past academic year coordinating a group of 18 volunteers and liaising with senior caseworkers at Turpin Miller and members of the Law Faculty to ensure the scheme runs smoothly.

There are three key components to the scheme, the first being training sessions in immigration and asylum law delivered by senior caseworkers at Turpin Miller. These sessions introduce student volunteers to an area of law which Lord Bingham referred to as ‘an interminable jungle of alphabet thrown together in no particular order’. Needless to say, gaining any sort of grounding in immigration and asylum law can be challenging, especially as an undergraduate. Being taken through the asylum claim process by senior caseworkers therefore provided invaluable context for the more practical aspects of the scheme.

The second component consists of task allocation sessions, in which student volunteers are asked to prepare either an objective evidence bundle to be used at an immigration tribunal or a chronology that reflects a specific client’s journey to the United Kingdom and their experience thus far. The importance of such tasks cannot be overstated, as clients making an asylum claim must demonstrate that they would have a well-founded fear of persecution if returned to their country of origin. Evidence of such a fear must come from both an objective assessment of the general state of the country (conveyed by the evidence bundle) and by reference to the specific circumstances of the client (conveyed by their chronology).

The third component is the in-person clinics carried out at the Turpin Miller offices. In light of the fact that s.84(1) Immigration Act (1999) prohibits unqualified individuals from giving immigration advice, the role of undergraduate student volunteers in a clinical setting is not to give legal advice. Rather, we take clients through paperwork and note down basic instructions. The primary focus is a fact-finding exercise concerning the client’s background and their journey to the United Kingdom. On several occasions we have had to use a dial-in translator in order to converse with the client.

It is a consensus amongst this year’s student volunteers that these in-person clinics have been one of the most valuable, inspiring aspects of the scheme. So much of the Oxford Law degree is grounded in theory, with reference to cases and academics from decades, if not centuries, ago. These clinics, on the other hand, provide students with the opportunity to connect with current legal issues in a more human way. It is for these reasons that I believe that this form of pro bono, Clinical Legal Education should be integrated into the undergraduate curriculum at Oxford, rather than OLA remaining extra-curricular.

Alongside organising the scheme and ensuring that student volunteers meet their commitments, another aspect of my role as Turpin Miller Representative is selecting the volunteers for the next academic year. The majority of the extra-curricular opportunities available to undergraduate Law students relate to the commercial sector, especially those in connection with the Oxford Law Society. The key objective of the OLA selection process is therefore to find individuals who are genuinely committed to furthering their understanding of legal aid and have specific interest in gaining practical experience in the field of immigration and asylum law. And year after year, the committee finds those students and the scheme continues to flourish. Despite the fact that OLA is currently the only undergraduate pro bono scheme at Oxford, its popularity and the passion of each year’s volunteers are indicators of a growing awareness of the importance of immigration and asylum law and human rights issues in general.

My involvement with OLA has been a key highlight of my time at Oxford and I can only hope that the availability of pro bono work at the undergraduate level continues to grow.

Above: A refugee in the shanty town known as the Calais Jungle. Left: Demonstrators pictured in January 2018 calling for the closure of the controversial Morton Hall in Lincolnshire, which ceased being an immigration centre in July 2021.

Being taken through the asylum claim process by senior caseworkers provided invaluable context for the more practical aspects of the scheme.
It is estimated that an additional 11 million children with cancer will lose their lives by 2050.

Sarah Njenga (2022, Population Health) explains her research into utilising digital technology to reduce barriers to childhood cancer care in lower-middle-income countries.

For many of us, the C-word (Cancer) is one that fills us with dread. Despite advances in medicine and clinical care which have improved survival outcomes over time, it’s important not to trivialise the impact that a cancer diagnosis and treatment can have on a person and their families, particularly in parts of the world where health systems may lack the ability to provide life-saving treatment.

Childhood cancer is a clear exemplar of this. It is a growing global health concern which, according to the World Health Organisation, affects around 400,000 children and adolescents annually, and outcomes for those diagnosed can vary widely depending on socio-economic circumstances and the strength of national health systems. Lower-middle-income countries (LMICs) face a harsh reality where children are up to four times more likely to succumb to their illness compared to those in high-income countries due to a lack of treatment options, specialist care, and supportive practices to help ensure patients begin and adhere to their course of treatment.

Lower-middle-income countries face a harsh reality where children are up to four times more likely to succumb to their illness compared to those in high-income countries.

The economic burden on families in LMICs accessing treatment for their child is a particularly significant contributor to treatment abandonment – the failure to initiate or complete potentially curative therapies. Little is known about the extent to which a cancer diagnosis and treatment affects households economically in the long term, and even less is known about the potential that interventions, particularly digital tools, might have on supporting families to help their child complete treatment.

With financial support from Exeter College and the Nuffield Department for Population Health, I was honoured to present the initial results of my systematic literature review at the International Health Economics Association congress this July. The study examined the efficacy and cost-effectiveness of interventions for childhood cancer patients and their families, implemented with the aim of helping them adhere to their course of treatment.

Initial results revealed that only one peer-reviewed paper exists which examines the cost-effectiveness of such interventions. This therefore reveals the need to establish more evidence of the efficacy and cost-effectiveness of programmes in LMICs which aim to reduce treatment abandonment.

My DPhil research seeks to understand these issues by looking at the economic burden of childhood cancer treatment on patients and their families in Ghana. The study will examine how these associated barriers affect treatment abandonment, and explore the cost-effectiveness of digital tools currently implemented in select hospitals in Accra and Kumasi, which could make a tangible difference in improving treatment adherence.

Ultimately, there is still so much work to be done in this field of research. And in many ways, my work addresses only a few questions in a sea of many which need to be answered. But I do hope that this continues to help spark a serious conversation around how we can create cost-effective interventions which reduce barriers to childhood cancer care in resource-constrained settings, and contribute to evidence-based health economic policies which implement them. By doing this, we can continue to support the development of programmes that can significantly improve the lives and survival rates of children battling cancer worldwide.
He started off exploring how the brain tells the time. But Patrick Oliver (2019, Medicine) ended up subletting a room in a frat house in Boston, discovering how fruit flies could help inform the treatment of depression, and learning that having the confidence to be unconventional can produce much more than awkward dinner party conversations!

Last summer I spent two months in Boston watching fruit flies have sex. Strangely, this animal model – a more delicate term for fruit fly sex – proves useful for learning about motivational states in the brain. It is also a fast way to make you ‘that guy’ at a dinner party.

The project in Boston arose serendipitously from other work I was doing in Oxford. During the third year of the Oxford medical sciences degree, students write an extended essay on a topic of their choice. Under the supervision of Professor Gero Miesenböck, I wrote my essay about how the brain tells the time. We know a lot about how the brain tells the time on short and long timescales: from processing sounds in our ears on the scale of microseconds to circadian rhythms, which allow us to differentiate days. However, little is known about telling time on the intermediate scale – from seconds to minutes to hours.

Whilst conducting research for my essay I became interested in the work of the Crickmore lab at Harvard and Boston Children’s Hospital. They had discovered that fruit flies reliably have sex for 23 minutes, with little variation, and that this process is regulated by just six neurones in the brain. Since papers from the Crickmore lab kept coming up in my reading – and to be truthful, because fruit fly sex is more attention-grabbing than most neuroscience literature – I sent an email to the lab to ask a few questions.

Two Zoom calls, four months and a stressful visa interview later, I found myself subletting a room in a frat house in Boston, ready to begin work with the Crickmore lab. I’m incredibly grateful to Exeter College and the Crankstart Scholarship Fund for the financial support which made this trip possible. (And yes, the frat house was a huge mistake!)

Watching fruit flies have sex... FOR SCIENCE

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Whilst working in the Crickmore lab, I investigated how the 23-minute sex timer can be regulated, specifically looking at the role of serotonin. Serotonin is an important neurotransmitter which affects mood, motivation, and attention, and is the target of the most prescribed class of anti-depressant drug – selective-serotonin re-uptake inhibitors (SSRIs). To investigate the role of serotonin in regulating the 23-minute sex timer I used a technique called optogenetics which, interestingly, was pioneered by my essay supervisor, Professor Miesenböck. The optogenetic technique involves genetically engineering neurones (-genetic) so that they can be ‘turned on’ with light (opto-). In my experiments, I employed optogenetics so that I could use green light to activate serotonin-releasing neurones (-genetic) so that they can be ‘turned on’ with light (opto-). In my experiments, I employed optogenetics so that I could use green light to activate serotonin-releasing neurones that are involved in fruit fly sex.

What I found was that a little bit of stimulation really motivates the flies – they would have sex for hours! However, lots of stimulation had the opposite effect – the flies would stop having sex immediately. Therefore, this suggests that the amount of serotonin is critical for regulating motivation: you can have too much of a good thing.

I thought this finding was fascinating because many popular theories of depression are based on the levels of serotonin in the brain and the success (and lack of success in many cases) of SSRIs is thought to be determined by serotonin levels. My results raise more questions than answers, but the crucial outcome is that the fruit fly sex model might be useful for investigating and improving the treatment of depression in the future.

Alongside the intricacies of fruit fly sex, during my time in Boston I learnt about designing my own experiments, presenting data to a lab group, and living on my own in a new city. However, the main thing I gained is the confidence to be unconventional: whether that be organising a research project in a new city after a single Zoom call or working on a topic which sounds as silly as fruit fly sex. This is something I will try to take forward with me, and I hope to do this with the new project I have begun working on in Oxford with an equally ridiculous title, ‘Poo for Parkinson’s’. At the very least it will ensure I stay well supplied with awkward dinner party conversation.

The amount of serotonin is critical for regulating motivation: you can have too much of a good thing.
highlighting heterosexual living patterns. In the 1950s, Tennessee State University’s esteemed women’s track coach Ed Temple, who later coached the USA women’s track and field teams for the 1960 and 1964 Olympics, explicitly emphasised his female athletes’ heterosexuality, stressing, ‘None of my girls have any trouble getting boyfriends ... I tell them that they are young ladies first, track girls second.’ From 1970 to 1990, athletes purportedly aligned their self-presentation with Temple’s philosophy, emphasising their heterosexuality to convince society that athletics programmes did not threaten femininity. Adrienne Blue, writing for British Vogue in 1988, commented on female athletes who, after mentioning their sporting accolades, would ‘approach of nothing, throw in lines like, “but I like gentlemen to open car doors and when I retire I’m going to devote myself entirely to my husband and children.”’

The transatlantic assignment of parenthood status solely to female athletes reflected the Western consensus regarding the greater importance of motherhood, not fatherhood, as a legitimising trope, creating the homogenous image of respectable and responsible female athletes. Similarly, women emphasised their fertility and their capacity as mothers to legitimise their continued entrance for athletics competitions, stated, ‘though I miss my son, too, when I am away from Poland.’ Szwierska’s language echoed Blue’s description of ‘phonetic apologies’ as the sprinter attempted to legitimise her motherly status and prove her career choice did not jeopardise that. Writing for The Guardian, John Rodda also repeatedly discussed female athletes relative to their status as mothers. In contrast, he never commented on an athlete’s fatherly status. For example, The Guardian published Rodda’s article detailing Eamon Martin’s debut and gold medal at the London Marathon. Martin’s son was born three days before the race, yet Rodda did not refer to Martin’s status as a father. The transatlantic assignment of parenthood status solely to female athletes reflected the Western consensus regarding the greater importance of motherhood, not fatherhood, as a legitimising trope, creating the homogenous image of respectable and responsible female athletes to represent the Western order in what Erin Redihan described in her 2017 book, The Olympics and the Cold War, as the ‘proxy battleground’ of the Cold War Olympic stadium.

During the Cold War, the use of gender as a soft power and the political importance of sporting success created a new soldier, the female athlete.

Muscular women were frowned upon; they were not viewed as genuinely feminine. Women to be too frail to compete in a race of that distance. The event was not reinstated until 1960. From the 1960s onwards (and arguably still today), in an attempt to legitimise their engagement in sport, women and their coaches emphasised the athlete’s ability to be a girlfriend, wife, mother and beautiful through an interest in cosmetic means. In contrast to journalists’ depictions of Eastern Bloc athletes as sexually non-conforming, the Western media ‘ultra-feminised’ their athletes by

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D uring the 1970s and 1980s, ‘looking like a Russian shotputter’ was a slur used by British teenagers to describe a muscular female peer. Muscular women were frowned upon; they were not viewed as genuinely feminine. This attitude was shared across the Atlantic, where US newspapers struggled with the dichotomy of the female athlete. It was inconceivable that women, especially if they were white and middle-class, could be both feminine and athletic. US female sprinter Willye White, who competed in five Olympics between 1956 and 1972, summed up the tension between athletic competition and femininity, stating in 1979 that ‘A female athlete is always feminine. This attitude was shared across the Atlantic, where US newspapers struggled with the dichotomy of the female athlete. It was inconceivable that women, especially if they were white and middle-class, could be both feminine and athletic. US female sprinter Willye White, who competed in five Olympics between 1956 and 1972, summed up the tension between athletic competition and femininity, stating in 1979 that ‘A female athlete is always feminine.

Ella Stadler (2022, History of Science, Medicine and Technology) looks at the pressure put on sportswomen in the West not just to demonstrate sporting ability, but first and foremost to prove their femininity.

A new soldier: the female athlete

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‘For the first time, it felt like the work I was doing was useful’

Elliot Yates (2019, Biochemistry) describes his final-year research project with the Department of Physiology, Anatomy and Genetics.

In the fourth year of Oxford’s undergraduate Master’s in Biochemistry, students take Part II of the course: a 23-week research project. It accounts for about a quarter of the marks available throughout the entire degree. Much more than this, it offers students the opportunity both to diversify and to specialise the skills developed during the significantly more theory-based Part I of the course. Biochemistry students can complete their research project in a range of the University’s departments. I chose the Department of Physiology, Anatomy and Genetics, under the supervision of Professor Stephanie Cragg, Professor of Neuroscience, and Dr Katherine Brimblecombe, a postdoctoral researcher.

My research focussed on uncovering the mechanisms that regulate the release of dopamine in the brain, with particular relevance to Parkinson’s disease. My transition from the Biochemistry Department into a neuroscience lab meant that I sometimes found myself acting as a specialist biochemist. Although initially daunting, this experience accelerated my confidence and learning in my own subject, teaching me how the knowledge I had acquired in Part I of the degree programme could be applied to systems that I had never previously encountered. Although I had not had any formal neuroscience teaching, the lab team guided me and translated the details of the work for me, and in return I offered a biochemical insight, where I could, into the questions we were asking.

For me, Part II was a refreshing change from the much more prescriptive Part I course. I was allowed to design my own experiments, choose the direction of my research and show some independence in my scientific thinking. Covid-19 disruptions had also meant my previous lab experience had been somewhat curtailed, so I was excited to apply the theoretical skills I had already learnt.

My scientific work consisted of using fast scan cyclic voltammetry, an electroanalytical technique, to detect the concentration of dopamine in acutely living mouse brain slices. Application of different receptor agonists and antagonists allowed the switching ‘on’ and ‘off’ of different neuronal circuits to investigate which ones play a role in the regulation of dopamine concentrations in the brain. A variety of neurological diseases, including Parkinson’s disease, addiction disorders and schizophrenia, are associated with a dysregulation of dopamine release in the brain. As such, Professor Cragg’s lab is focussed on understanding these mechanisms of regulation, with the aim to identify druggable targets that could be used in future therapies of these disorders.

It is this aim, and the many other aims of the various labs that accept research placement students, that sets apart Part II from Part I of the Biochemistry degree programme. For the first time, it felt like the work I was doing was useful. It may seem obvious, but only now do I realise that the hard work and stress of the first three years of the course, often spent in the library, was necessary to get to the point where I would (sometimes) have something useful to contribute in the lab. I was initially anxious about my departure from my home department, but the support offered by my lab group allowed me to dive into a completely different scientific realm, which is something I found really fulfilling, and part of the reason my fourth year at Oxford was my favourite.

For me, the Part II research project not only provides an opportunity for biochemistry students to apply their skills in a specialised field, but also offers a valuable sense of purpose and fulfilment as they contribute to real-world scientific endeavours.

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A healthy dose of Eastern innovation

Highly efficient dermatology services and pioneering surgical robots were two of many insights that Kirsten Lee (2017, Medicine) experienced during her 10-week elective in Vietnam and Korea.

As part of our medical school curriculum, in our sixth year we can choose to experience healthcare systems abroad for 10 weeks. This elective is often considered the highlight of medical school, as we get to apply ourselves in a healthcare system different to the NHS. We have freedom to choose which countries and centres we visit. I chose two different centres, to gain maximum exposure during the 10 weeks.

In Hanoi, I attended Vietnam’s National Hospital of Dermatology and Venereology. There, I shadowed doctors across various departments. Being a specialist hospital, there were nine floors providing dermatology services for both the public and private sectors, providing an insight into services that I had not encountered in the UK.

My first week was spent shadowing doctors in the laser department, treating vascular malformations and pigmented lesions using different wavelengths of laser to penetrate different depths of the skin. I noticed that the pace of appointments and procedures is very fast in Vietnam. In a single morning clinic, 30 to 40 patients could be seen and treated. The morning would start with four or five dermatologists stationed around one main professor, and a similar set-up across the room.

One procedure that really interested me was the transplantation of melanocytes (melanin-producing skin cells) for patients with vitiligo. In Vietnam, more patients present with vitiligo due to the nature of their darker skin colour; the contrast produced by the vitiligo is greater and the presence of the membrane in the heart and the subsequent success of the operation.

The second part of my elective was in South Korea, at Seoul National University Hospital. There, I shadowed anaesthetists, including in subspecialties such as orthopaedics and paediatrics. I witnessed a wide range of surgeries from the anaesthetist’s perspective, following patients from induction to emergence from anaesthetic.

The language barrier proved difficult. Doctors generally spoke fluent English and took the time to translate some of the patients’ opinions and their treatment plans for me. However, I felt largely unable to communicate with patients. As a medical student, I realised how vital it is on placement not only to understand and learn the doctor’s perspective and the treatment patients receive, but also to understand the patient’s own perspective – why are they choosing to seek help, what are they most worried about, and how comfortable do they feel with the treatments and procedures the doctors are offering them? Although I was able to interpret body language in these consultations, there was a part of the consultation I was not able to appreciate.

Overall, I had a fascinating experience on elective exploring two specialties that I had little exposure to at medical school, seeing how different healthcare systems operate and speaking to other medical students and doctors about how their training paths differ. I was very grateful to receive support from Exeter College for the costs of the elective. Looking ahead, I am excited to start as a junior doctor this summer and put into practice years of studying and anticipation. I have thoroughly enjoyed the six years I have spent at Exeter College. Being a student here brings a wealth of opportunities, of which this elective was a highlight, and I am very thankful for the support from the medical community at Exeter throughout my degree.
When Louise Downs (2021, Biomedical and Clinical Sciences) planned to screen hospital patients in Kenya for hepatitis B, she realised the need to consider the stigma people might face with such a diagnosis, and how they might feel if treatment was unjustified or unavailable.

When I spent five months of my 18-year-old life living in rural Kenya, I vowed to return and do something ‘useful’. At that time, I hadn’t decided to become a doctor; I was going to become an ecologist focussed on wildlife conservation. The trouble was, at university I was drawn again and again towards human infection. I eventually did a graduate medicine degree and began the long path towards an infectious diseases registrar post. I was awarded an academic clinical fellowship, allowing me to continue my passion in human infection and undertake research.

On beginning my academic post, I trawled around Oxford departments trying to decide which infection interested me most and where I should focus my research. This was hard as I had very little insight and minimal lab experience. Eventually I went for the supervisor I liked best as I had been told this was far more important than the actual topic. So, even though hepatitis B was my least favourite virus in medical school as I didn’t understand the serology, I ended up in a hepatitis B research group with Professor Philippa Matthews.

It turned out that chronic hepatitis B (CHB) was a huge global health problem with complex issues focussed in low- and middle-income countries – here was my chance to return to Africa. I was awarded a Wellcome Trust Doctoral Training Fellowship at Oxford University, to recruit and study a cohort of patients living with CHB through the KEMRI-Wellcome Trust Research Programme in Kilifi, Kenya to understand how we could better stratify people for treatment. CHB has variable clinical outcomes, from asymptomatic infection to severe liver scarring and cancer. International guidelines state that those with little or no liver disease should be monitored but not treated. These guidelines are complex however and depend on an algorithm of serum markers and liver imaging not available in most low-income countries, so treatment here is haphazard and not guideline based. CHB prevalence in Kenya is around three to five per cent, but estimates are wide and based on skewed populations. I aimed to undertake screening for hepatitis B virus (HBV) in those attending the local hospital for unrelated reasons, to get a more accurate prevalence estimate and to characterise how serological markers relate to liver health.

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The first project hurdle was a very long ethical approval process from Oxford and Kenyan ethics boards. During this process, the question came up again and again of what I was going to do for those diagnosed with HBV. Could I treat them? Could I vaccinate their contacts? Could I refer them to secondary care? These were reasonable and important questions, but I hadn’t thought of this issue. In my mind a diagnosis was the most important outcome. With this, steps could be taken to reduce onward transmission and educate people about liver health, even without treatment. I hadn’t considered the stigma people would face within their community with such a diagnosis, or the need for them to feel ‘something was being done’ even if treatment wasn’t necessarily justified or available.

Of course, my PhD budget didn’t allow for treatment provision, vaccination or onward referral. Since these interventions were otherwise completely unaffordable to those being screened, ethics teams were unhappy for us to test at all. Was ignorance better when there was no treatment? We argued that to advocate for better clinical pathways for those living with CHB and to improve access to diagnostics and treatment, we first must describe the problem. Those diagnosed now were paving the way for the future, being tested for the greater good, raising awareness of the virus, helping the education and training of clinical staff in hepatitis B, although perhaps without any direct benefit to them. Was this enough to justify the test? We wrestled with these questions, discussed them with other teams and amongst ourselves. Other conditions had faced similar issues before treatment was available, and providing evidence of the need was paramount in catching the attention of any potential funder or health minister.

We eventually realised CHB treatment was freely available locally given it was also a critical HIV medication. We opted to vaccinate only household contacts physically attending appointments but did not provide onward referral. We discovered the onward referral pathway was a dead end, with no further treatment available, again indicating advocacy for clinical HBV care was needed. We got ethical approval process based on these answers, but it left me thinking about the legacy of research studies in low-income settings. What happens once the research team has left? Are participants left with stigma from a ‘diagnosis of interest’ for which there is no cure? These complex decision-making processes will stay with me throughout my research career and will certainly make me a more well-rounded clinical academic as a result.

I aimed to undertake screening for hepatitis B virus (HBV) in those attending the local hospital for unrelated reasons, to get a more accurate prevalence estimate and to characterise how serological markers relate to liver health.

Those diagnosed now were paving the way for the future, being tested for the greater good, raising awareness of the virus, helping the education and training of clinical staff in hepatitis B, although perhaps without any direct benefit to them.
The NHS at 75

Critical condition:

Demand on Britain’s National Health Service is rising exponentially, fuelled by a growing and ageing population, writes Chair of NHS England **Richard Meddings** (1977, Modern History; Honorary Fellow). As the NHS turns 75, Richard looks at the increasing stress the organisation is under and reveals his treatment plan to secure its good health for the next 75 years.

The NHS is now in its 75th year. This anniversary is being celebrated, but it will also raise the question even more loudly of whether the model is still fit for purpose; a question that is, for instance, currently being asked by the Times Health Commission, the Financial Times, and Sky News.

What has stood out in my first year is the sheer scale of NHS delivery, the breadth of its treatments and its continuous, remarkable innovation. It is no longer the NHS of the ‘Iron Lung’ but instead offers a range of breakthrough treatments unimaginable 75 years ago.

However, demand is rising exponentially, fuelled by a growing and ageing population. The number of over-85s is projected to double in the next 25 years, our fastest growing demographic, and their needs are multiple and complex. And more than a quarter of adults in England are now obese – raising their risk of cancer, heart disease, and diabetes – while in the past year we have seen a jump in the number of under 18s requiring treatment for serious mental health problems.

In the face of surging demand, patient satisfaction has begun to ebb. Recent analysis by the King’s Fund shows overall public satisfaction with the NHS has fallen to 29 per cent. Yet most people still believe in the model and what it stands for. Ninety-three per cent believe the NHS should remain free when needed, 84 per cent that it should be available to everyone, and 82 per cent that it should be funded through taxes. And it remains the institution people say makes them most proud to be British.

I firmly believe the NHS needs transformation, but the principles of ‘free at the point of delivery’ and ‘accessible to all’ remain essential foundations. This doesn’t mean everything stays the same, but the massive heart of what it does must remain true to those principles. I believe we should judge our society on how we look after people’s health, particularly the most vulnerable – those on low incomes, with disabilities and an increasingly ageing population.

In England there are 564 million patient contacts each year: ten contacts for every person.

Since becoming Chair of NHS England, the message given to me by many parts of the media and the ‘commentariat’ was the NHS is ‘completely broken’. I don’t believe this to be true. My view is much more pragmatic. Far from being broken, it is instead at risk of being overwhelmed. That is a very different problem.

Why do I say this? Because the NHS also delivers on a vast scale day in, day out. For context the population of England is roughly 57 million and yet the NHS provides nearly 1.1 million GP appointments daily. Over two thirds of these are face to face and approaching 50 per cent are on the same day. In England there are 1564 million

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have ever done, capacity is not keeping up with demand.

Countries in the EU. Whilst we are investing more than we
England was over 20 per cent lower than in the larger 14
years 2010 to 2019 investment in the health service in
healthcare system in states which is under-capacitised.

What is the NHS doing? It is a flotilla of ships, not a
dreadnought. Not a single organisation, but an industry
vested interests – an ecosystem. At the centre of these
entities have merged, and we are at the year's midpoint
developing its headcount by up to 40 per cent to significantly
decrease head office bureaucracy. This head office interacts
with Government, organises the service, distributes budget,
sets KPIs and targets, and oversees 220 acute health
Trusts, 45 specialist hospitals, 240 community hospitals:
each with their own separate Boards and fiduciary
responsibilities.

We have 133,000 workforce vacancies, 15 per cent fewer doctors, and 25 per cent fewer nurses than the OECD average.

The NHS operates via seven regions and, new as of this year, through Integrated Care Systems (ICSs) across 42 geographic areas, which seek to partner health
care more closely with the communities they serve, and more effectively with local authorities and the voluntary sector. Each of these ICSs is very different in scale, demography and the shape of provision.

The health landscape is further shaped by 20 Royal Colleges and several Arm's Length Bodies. There are 6,000 GP practices – nearly all small private businesses
with whom the NHS England relationship is contractual.
This ecosystem has however been designed with a
structural boundary between health and social care
which itself is under-capacitated and fragmented. This
causes major operational issues.

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sets KPIs and targets, and oversees 220 acute health
Trusts, 45 specialist hospitals, 240 community hospitals:
each with their own separate Boards and fiduciary
responsibilities.

The NHS costs around £158 billion in revenue spend
and about £8 billion in capital annually – or around
£2,700 per person. And much of this spend is skewed
to particular societal cohorts, increasingly to the elderly.
How would I describe the fundamental challenge
the NHS faces? Put simply, it is ‘exponential growth in
particular societal cohorts, increasingly to the elderly.

The second set of priorities is more strategic.

At the NHS Board, the agenda has two themes. The
first is the immediate challenges. These include urgent
and emergency care (i.e., ambulance handover, A&E
waiting times, planning earlier for winter); access
to primary care and how this can be quickly improved;
and maintaining the focus on reducing waiting
times. These three tasks are receiving huge support from
Government at the most senior levels.

The second set of priorities is more strategic.
Merge and reduce the size of head offices to help cut
corporate costs and enable greater devolution to allow the
ICSs to flourish.

Imagine a world where we had the even the average
OECD level of physical capacity: a world where the
population is better health educated and the NHS
workforce can cross the organisational boundary
between health and social care. Imagine a sufficient
workforce with different skills mix, with clinicians able to
work to the top of their capabilities. Imagine a world
where med-tech and life sciences drive much better prevention
as well as cure. Imagine how genomic sequencing and
early intervention could transform health outcomes.

What then of demand growth? Twenty-eight per
cent of the adult population in England is obese, which
increases the risk of serious illness. The population of England is 7.5 million, or 16 per cent, greater than
it was in 2000 and is ageing, with more than a 15 per
cent increase since 2010 in over 70s who have multiple
conditions. Mental health issues are surging, with
children and young people's mental health interventions
increasing by 40 per cent in 2012 alone. And not to
be underestimated is that our scientists and medical
researchers continually identify new conditions and find
better ways to treat old ones.

Given this picture, how do we think about the
challenges?

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Lastly, we need to optimise the use of the private
sector. It is often not realised the NHS already includes
very significant private sector involvement – from
cataract operations to hips and knees, and drug
provision – but its workforce is shared with the NHS and
therefore limited by the same supply issues.

Primary and community care is where I want to focus
much of my energy. The current system is under immense
pressure and GPs, who I think do the most
brilliant job, are facing an increasingly hostile narrative.
But reform will take negotiation, clarity of alternative
models as options, not compulsions, and a variety of
organisational structures.

As we celebrate the 75th year since the NHS's
foundation, what do we need to do to secure the next 75?
Our society in recent decades has changed as
dramatically as its expectations. The NHS’s offer is
immensely greater, our applied clinical skills much
broaden, and our scientific understanding and use of
cutting-edge technology accelerating all the time. The
NHS today is also very different from the day it was
founded – it is always changing and evolving.

There is, however, an urgent need for capacity to
match up with growing physical demand and for social
care to be better resourced and invested. We can do
more, deploy technology more, and change processes to
improve productivity. But running too lean is hampering
these efforts.

I do remain optimistic for the future.
When I was asked to write an article on ‘Health and Caring’, the theme for this issue of Exon, it seemed that the objective was that the magazine would feature some articles from medics, but that it was thought that a broader range of approaches to the theme would also be helpful. On this basis, I assume that an article from a Law Fellow might be seen as providing some useful balance for the subject-matter, or a different perspective.

Dr Heloise Robinson, Singer Fellow in Law – although the law cannot force us to be kind, it can address our human failings by recognising the right to receive care.

A world where kindness alone were sufficient would be a world of angels, not human beings.

But – adds Dr Heloise Robinson, Singer Fellow in Law – although the law cannot force us to be kind, it can address our human failings by recognising the right to receive care.

With respect to Health, most of us would probably think that providing a definition of this concept should be relatively straightforward, and that the scope of ‘health law’ would follow. The truth, however, is that finding a definition is notoriously difficult.

In whichever manner that we define ‘health’, we all know that it is something that we want: something desirable. It also seems that we need care because of some limitations in our health. However, if it is in fact the caring that we are after, the defects in our health are necessary, for it is they that create the need for care. It seems that we will never be entirely physically, mentally and socially healthy, but in the gaps created by the failures in our health, we hope to find care. The end result is another complexity: if it is complete health that we want, we cannot obtain this without caring, but if it is ultimately caring that we desire, it is complete health that we want, we cannot obtain this without caring, but if it is ultimately caring that we desire, we must remain unhealthy.

This year I had the pleasure of designing and teaching a new course for the Law Faculty, on disability and equality. It was a special topic within Jurisprudence, on foundational philosophical questions that might inform the law’s approach. Much of the first seminar was spent on examining possible definitions of the concept of disability which, like the concept of Health, is not straightforward. The major approaches to defining disability are the

In whichever manner that we define ‘health’, we all know that it is something that we want: something desirable.
Understanding disparities in maternal deaths and severe pregnancy complications

In the UK, Black women are four times more likely to die during pregnancy than White women, while women from the most deprived areas are twice as likely to die than those living in the most affluent areas. Marian Knight, Professor of Maternal and Child Population Health and Supernumerary Fellow, hopes her research can bring about positive change.

We also asked whether we need to say that care must be provided as a matter of justice, or whether we can rely on human kindness.

Thinking about disability also raises questions about the meaning of Caring, and we examined, for example, whether it is important for any care work with disabled people to involve a certain state of mind – whether it requires a type of virtuous attitude, or affection. We also asked whether we need to say that care must be provided as a matter of justice, or whether we can rely on human kindness. One author we studied, Eva Feder Kittay, says that kindness is neither necessary nor sufficient for care. A world where kindness alone would suffice would be a world of angels, not a world of human beings. We cannot merely rely on the kindness of others, and we might say that disabled people who need care would therefore need to have a right to access it. I have said that I will not say much about legal rules, but here is where the law becomes more obviously relevant. A lot of our work as lawyers comes in right about here, if our ‘gap’ in kindness must be filled with justice. Our failings must be addressed with law, as a second-best option: the law must recognise rights to receive care, but the law cannot force us to be kind.

In examining the concept of disability, I presented the students with a number of possible definitions. One understanding, I suggested, is that we are all disabled, at least in some sense. I should say that this view was not very popular with the students. Perhaps they are right. Maybe there must be a ‘norm’ which applies to most of us, and some ‘others’ who remain on the outside. It seems easier to understand the concept of disability in this way. It is also comforting to think that most of us fall on the right side of the tracks, and that the pain and weakness we fear are the problems of others, and not our own. Such a broad definition would surely not be practical in the law. Nevertheless, whether or not we are disabled, the reality is that we are never completely healthy, and that we are always in need of care. This allows me to conclude by saying something about why Health and Caring are important concepts for thinking about the role of law, more broadly. If the law is made for a society of human beings, it is true that it must reflect the fact that we are necessarily imperfect. However, it can also reflect the fact, I hope, that we are always perfectible.
As I write this, the world has been shocked yet again by the untimely death of a young woman in the late stages of pregnancy, the US gold medal winning sprinter Tori Bowie. She died from complications of pre-eclampsia – high blood pressure in pregnancy – and as we mourned her loss it emerged that two of her three teammates on the 2016 Olympic-winning sprint relay team had also experienced life-threatening pregnancy complications. All the team members are Black. Tori’s death, and the experiences of her fellow athletes, are the very real evidence of a disparity we know about, but still do not fully understand.

I should reassure all readers that it is very uncommon to die during or after pregnancy in the UK – around one in every 2,500 women giving birth. However, this single figure masks a significant disparity. In the UK, Black women are four times more likely to die during pregnancy or in the six weeks after the end of pregnancy than White women; for Asian women the difference is two-fold. Similar differences exist between women of different racial groups in the US, with overall maternal mortality rates in the US being two to three times higher than in the UK. These differences are not limited to maternal deaths: we also observe similar patterns amongst severe complications, such that women from Black and Asian ethnic groups are more likely to have pregnancy complications than White women.

Women from Black and Asian ethnic groups are more likely to have pregnancy complications than White women.

My research focusses on prevention and treatment of severe pregnancy complications and hence one of the important areas that my research team are investigating is why women from different ethnic groups are more at risk. There is no simple answer. Aiyssyn Felix, one of Tori’s fellow sprinters who herself had severe pre-eclampsia, describes one of the reasons. She explains that she was not aware of the worrying signs of pre-eclampsia, and when she described her symptoms to others, they were assumed to be part of normal pregnancy. Concerning symptoms in pregnant women are often dismissed as being due to pregnancy itself, rather than being recognised as reflecting serious illness. Pregnant women from ethnic minority groups are more likely than White women to report that their concerns have been dismissed. This in turn may mean that conditions such as pre-eclampsia are diagnosed late or not at all.

Another reason women’s symptoms may be dismissed is because doctors, midwives and nurses, as well as friends and families, do not recognise that young pregnant women can have conditions such as heart disease. Heart disease has been the leading cause of maternal deaths for many years, yet still women describe typical symptoms of chest pain and breathlessness when lying flat and their cardiac condition is not recognised. Pregnancy puts added strain on the circulatory system and not infrequently leads to heart disease being revealed for the first time.

We know that women who die during or after pregnancy, or who have severe complications, are more likely to have pre-existing health conditions, such as diabetes, epilepsy or mental health problems. Women with multiple health conditions need complex care from different clinical teams and often this care is not joined up. Advice may not be culturally appropriate and tailored to individual needs, for example consideration of African, Caribbean or South Asian foods for diabetes and weight management. Our research has identified that many Black women who die do not receive the tailored, culturally appropriate care that they need.

I have focussed mainly so far on differences in rates of complications amongst women from different ethnic backgrounds; we also know that differences exist between women from different socioeconomic backgrounds. The most important next step is to try to work out how we can act early to prevent severe pregnancy complications, and how we can do so in a way that will ensure women from ethnic minority and disadvantaged backgrounds benefit the most, to reduce these disparities. We have just started a project to develop a new optimised electronic maternity early warning system to help recognise when women are becoming unwell and to escalate their treatment to prevent severe complications. I very much hope that this will be one route in the coming years to ensuring all those who give birth have an equal chance of a happy and healthy outcome.

Women with multiple health conditions need complex care from different clinical teams and often this care is not joined up.

Much of the research we carry out uses medical records, or electronic hospital data, to try to understand why these disparities exist. However, we have to recognise the limitations of what medical records and data can and can’t tell us. We cannot identify from records whether women have met with racist attitudes or where their previous experience of prejudice has impacted on their trust and confidence in their doctors and midwives. Work from charities such as Birthrights and Five X More has identified many women who describe such negative experiences and we have to recognise that this is a contributory factor.

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BECOME UPPER PALAEOLITHIC,
FOR YOU AND THE PLANET

For hunter-gatherers, relationship – particularly with the non-human world – is everything, says Supernumerary Fellow Professor Charles Foster. Truly hopeful environmental policies, he argues, will be devised by people who think and feel that way.

There is overwhelming and growing evidence that contact with the non-human world is good for us, and non-contact bad. Children who play regularly in green spaces have a significantly reduced incidence of ADHD. Hospital patients recover faster and employees are more productive if they look out on trees. Walking or sitting in woods (the Japanese have their own name for it: shinrin-yoku, or ‘forest-bathing’) has many physical and mental health benefits. Systolic and diastolic blood pressure drop, anxiety ebb away, blood glucose may fall and sleep is enhanced.

Some of those effects may be mediated through phytoncides, volatile oils used by plants to ward off infections. It seems that when inhaled by humans, phytoncides increase the number and activity of natural killer cells, which take out malignant and virus-affected cells. They may have other immune-stimulating and anti-inflammatory effects, and may play some role in the psychological benefits of exposure to trees. But some of the psychological benefits seem to have other roots. How, for instance, does one explain the fact that even watching nature documentaries improves one’s mental health? Window boxes help too, and it is hard to think that that’s a phytoncide effect.

The effects are big, and we increasingly recognise them. A survey conducted for the Mental Health Foundation found that 73 per cent of UK adults surveyed said that connecting with nature was important in managing their mental health during the pandemic.

If one looks behind the headlines of the studies there are some intriguing suggestions that at least some of the beneficial effects might come from the mere fact of relationship with the non-human world, rather than via some chemically-mediated mechanism. Here are two of those suggestions.

First: The more connected with nature you feel yourself to be, the more likely you are to feel that your life is worthwhile. This is a difficult observation to assess, of course, because the people who feel most connected to nature are likely to be those who spend a lot of time in green places, breathing phytoncides, having picnics, striding up hills, and doing other life-enhancing things whose effects are hard to disentangle from those of interconnectedness per se. Yet it is possible to control for those other factors, and interconnectedness does seem to be an independent variable.

And second: The greater the number of species in the habitat in which you immerse yourself, the greater the mental health benefit.

Scratch a banker and you’ll find a caribou-spearer and berry-collector.

It is well known that relationships with other humans are good for us. To increase your life expectancy, graft yourself into a stable partnership, make tea at the local hospice, be a member of a faith community (it’s not clear whether that’s a variable independent of all the relating you do at the church, mosque or synagogue), and meditate each day (so that you know properly who the ‘I’ is who is doing all the relating). There is rather more equivocal evidence that relationship with non-human pets might help too.

Relationships, then, whether with humans or non-humans, improve the length and quality of our lives. We are quintessentially relational animals. It’s reasonable to presume that if we act in the ways most concordant with our true nature, things will go better for us. Human relationships are vital, but there is an additional benefit of being connected intimately with the non-human world, and feeling that we are part of a nexus of which humans are only a part. We thrive all the more, it seems, if we experience a wider variety of types of relationship; that’s the evidence that biodiversity helps our mental health. We’re wired up to cope well with many and diverse relationships, and we thrive most exuberantly when we do.

The reason must lie in our evolutionary past. It’s not hard to find.

Behaviourally modern Homo sapiens (that’s us) first appear around 40-50,000 years ago, or possibly rather earlier (the times are contentious), at the start of the Upper Palaeolithic. From then, until the Neolithic, we were hunter-gatherers. Depending on how you do the calculation, between around 85 and 95 per cent of our time as modern humans has been spent as hunter-gatherers. That, constitutionally, is what we are. Scratch a banker and you’ll find a caribou-spearer and berry-collector.

For hunter-gatherers, relationship (and particularly relationship with the non-human world) is everything. They see themselves as part of the non-human world, not as lords over it. They bleed into the wood; the wood bleeds into them. Their (our) hides became progressively less porous from the Neolithic onwards. The natural world, and feeling that we are part of a nexus of which humans are only a part. We thrive all the more, it seems, if we experience a wider variety of types of relationship; that’s the evidence that biodiversity helps our mental health. We’re wired up to cope well with many and diverse relationships, and we thrive most exuberantly when we do.

Our personal, political, societal and environmental health depends on the restoration of the Upper Palaeolithic perspective: on us behaving in concordance with our constitution. No hunter-gatherer trashes a wood. It would mean hunger and the vengeance of all the dead-souled trees. We’re learning, far too slowly, the imperative of reverence for non-humans. The existential dangers in the shifting, scared environmental columns can only be properly addressed by restoring us to our right mind: that’s the mind of the light-treading wanderer who knows that their interests and the forest’s interests are identical.

We can’t all be literal hunter-gatherers. There are far too many of us and not enough caribou. But we can all be metaphorical hunter-gatherers. We can work on being more porous to the wild (which will have the side effect of making us kinder to our friends and enemies); on seeing that eating a bacon sandwich is an act of near-cannibalism that demands strenuous moral justification, and probably a liturgy of oblation; on devising new or (better) disentangling old choreographies for dancing with the wild. The only truly hopeful environmental policies will be devised by people who think and, perhaps more importantly, feel that way.

The Earth may be doomed, but do this anyway. At least it will mean that your killer cells will be in better nick as we accelerate to the apocalypsis.
The science behind sleep and the body clock

Dr Aarti Jagannath, Supernumerary Fellow and Associate Professor at Nuffield Department of Clinical Neurosciences, says that just as we now appreciate the consequences of changing our environment for our planet’s health, our own health too might benefit from living better in tune with our natural world and our natural rhythms.

Sleep and body clocks have captured public interest like never before – we are inundated with devices that profile our sleeping patterns, health status and daily routines in unprecedented detail, providing tailored advice on how best to get a good night’s sleep. In this age where such information, both good and bad, is freely available, what can we trust, what is the scientific evidence? In this article, I hope to take you through some of the fascinating science behind light, sleep and our body clocks, with which to make informed choices about sleep health.

All life on Earth is set to a 24-hour rhythm, dictated by the rotation of the Earth on its axis. As an environment in which to adapt one’s living habits, day could not be more different from night. Therefore all forms of life have evolved an internal clock that allows them to anticipate these daily changes in the environment and tailor their physiological behaviour to ensure they do the right things at the right time of day. In humans, this clock is encoded in our genes and its function is evident in the sleep/wake cycle: we sleep at night. But nearly all aspects of how we function and our mental capacities, alertness, mood and cognitive ability also cycle – we are naturally at our lowest during the night.

This body clock, or circadian clock, relies on light as detected by the eye to provide it with time-of-day information. Throughout our evolutionary history, sunlight was the only source, and of course as reliable as clockwork as a time cue. However, now we can tailor our light exposure as we want – indoor lighting and devices late into the night, dim offices during the day. As a result, the clock receives confusing time cues such that our biological night is no longer synchronised with night in the natural world, causing dampened or misaligned circadian rhythms. Since the circadian clock regulates all our physiology, chronic diseases such as type II diabetes and mental health conditions including depression.

I am often asked about device use and the impact of blue light eliminators. The science here is that the cells in the eye that convey time of day information to the clock are maximally sensitive to blue light. However, this does not mean these cells do not detect other colours, so keeping the screen bright but eliminating blue is not very helpful. Equally, the amount of light emitted from devices such as e-readers is not enough to have a major impact on sleep timing, but the alerting effect of engaging with social media or other online content can profoundly delay sleep.

Sleep is controlled by two drives, the circadian, which asks ‘is it the right time to sleep?’ and the homeostatic, which asks ‘do I need sleep’? Exactly what the homeostat is at the molecular level has remained a mystery, but a strong contender is adenosine, a substance with which we are familiar in the context of caffeine. Adenosine levels rise in the brain with wakefulness to signal an increasing need for sleep. Conversely, adenosine levels dissipate during sleep, and caffeine acts to block the effects of adenosine. Our recent work showed that adenosine also regulates the circadian clock in the same way. Therefore caffeine is a great way to kickstart the day, but once consumed, caffeine can last for four to six hours in the system and, as such, is best avoided in the evening.

Healthy sleep habits can be easily brought about by regulating light exposure. This is because natural sleep is regulated by melatonin, which in turn is regulated by the clock, such that it is released just before bedtime and stays high throughout the night. When the biological clock is delayed due to evening light, this delays the production of melatonin, such that its peak may stretch well into the morning, after the alarm clock goes off, leaving one feeling groggy. By seeking bright light in the morning, ideally sunshine, and avoiding bright light in the evening, one could advance the circadian clock and melatonin production to improve performance in the morning and indeed overall health. My own rhythms have improved dramatically after acquiring a pet dog – nothing to do with the dog, simply that I am the designated walker.

My group’s research is about how light regulates the circadian clock; light has different effects depending upon the quality of light (colour and intensity) and when it is seen. We know little about how light accomplishes this at the molecular level, yet this knowledge holds the key as to how we may be able to treat disorders of the sleep and circadian systems. By decoding these molecular pathways, we have a route to targeting the clock in conditions where rhythms are compromised, such as in the blind or the aged. We are entering a new era where we now appreciate the consequences of changing our environment for our planet’s health, but also our own. In the context of sleep and circadian rhythms, this may be the awareness of the benefits of living better in tune with our natural world, and our natural rhythms, which is what I hope to have accomplished with this article.
IN THE HANDS OF THE WORLD

AI can transform the world in ways both hugely beneficial and frighteningly harmful to humanity. How can we both harness the opportunities and contain the risks, asks Fellow in Engineering Science, Professor Michael Osborne.

The last few months have been by far the most exciting of my 17 years working on artificial intelligence. Among many other advances, OpenAI’s ChatGPT – a type of AI known as a large language model – smashed records in January to become the fastest-growing consumer application of all time, achieving 100 million users in two months. No one knows for certain what’s going to happen next with AI. There’s too much going on, on too many fronts, behind too many closed doors. However, we do know that AI is now in the hands of the world, and, as a consequence, the world seems likely to be transformed.

Such transformational potential is due to the fact that AI is a general-purpose technology, both adaptive and autonomous, botting some of the magic that has led humans to reshaping the Earth. AI is one of the few practical technologies that may allow us to re-engineer our economies wholesale to achieve Net Zero. For instance, collaborators and I have been using AI to help to predict intermittent renewable energy sources (like solar, tide and wind), to optimise the placement of electric vehicle chargers for equitable access, and to better manage and control batteries. Even if AI leads to great economic gains, however, some may lose out. AI is currently being used to automate some of the work of copywriters, software engineers and even fashion models (for occupation that the economist Carl Frey and I estimated in 2015 as having a 98% probability of automatability). AI is one of the few practical technologies that may allow us to re-engineer our economies wholesale to achieve Net Zero. For instance, collaborators and I have been using AI to help to predict intermittent renewable energy sources (like solar, tide and wind), to optimise the placement of electric vehicle chargers for equitable access, and to better manage and control batteries.

A paper from OpenAI estimated that almost one in five US workers may see half of their tasks become automatable. Currently, AI’s inscrutability, untrustworthiness and difficulty to steer – flaws that have and will lead to harm. AI has already led to wrongful arrests (like that of Michael Williams, falsely implicated by an AI policing program, ShotSpotter), sexist hiring algorithms (as Amazon was forced to concede in 2018), and the running of many thousands of lives (the Dutch tax authority falsely accused thousands, often from ethnic minorities, of benefits fraud).

AI governance are either too lightweight (like the UK’s regulatory approach) or too slow (like the EU’s AI Act, already two years in the making, eight times as long as it took ChatGPT to reach 100 million users). We need mechanisms for international cooperation, to develop shared principles and standards and prevent a ‘race to the bottom’. We need to recognise that AI encompasses many different technologies and hence demands many different rules. Above all, while we may not know exactly what is going to happen next in AI, we must begin to take appropriate precautionary action now.

Viewed as an invasive species, AI might immiserate or even eliminate humanity by initially working within existing institutions.
Physician Marlene Speth (2008, Visiting Student) is passionate about sharing medical knowledge and in her spare time helps train Myanmar’s doctors, no matter what their position on the country’s civil war.

Just recently, when flying to London from Zurich, I was asked about my nationality. After a short pause, I replied European. I was born in Munich, went to school in Germany, but also in England and France, spent a year in South America, went on to study in England, Germany and the United States, and have now been working in Switzerland for a couple of years.

My grandparents were of the war generation and, when I was growing up, I loved hearing all the stories my grandfather told me about his experiences. Sad, touching, but also some joyful sparks. My grandfather’s life, years ago when he was wounded, was saved by a Jewish female doctor in Russia. He came back to Western Germany from Russian captivity very late, spoke Russian fluently and has been wanting to go back to Russia all his life. He always said he left the country with a smiling, but also with a tearful, eye.

Now, years later, I am a consultant in a Swiss hospital, and in my free time I work as a doctor for a charity project in Myanmar. As part of the charity project’s team, my group has spent holidays in Myanmar teaching and learning together about ear surgery. Friendships have formed.

Due to the recent military coup and the civil war, our medical team now cannot visit the country, but we have established weekly Zoom sessions. Some of our friends are on the military side, some on the other side working underground. Various reasons. However, we are all physicians and want to treat patients regardless of their nationality or political background. Respect each other. Physicians from other conflict countries have also joined our weekly online meetings, sometimes with assumed names, sometimes without the video function. We talk purely about medical issues and want to foster medical exchange and knowledge to help patients not only in Myanmar.

Recently, when I visited a neurosurgeon friend in London, she told me her zest for life stemmed mostly from her job. She said if there is something to be done, she would rather do it tomorrow than put it on the long bench.

Better is possible. It does not take genius, it takes diligence. It takes moral clarity. It takes ingenuity. And above all, it takes a willingness to try – A. Gawaynde.

For myself and my medical colleagues, the world does not seem black or white. The more time I spend in my job, the more I ask myself what really matters in life. Property and money certainly make things easier. Do they buy happiness? A meeting with great friends certainly does. Or a weekend off, lying in a tent in the mountains, stargazing. That certainly does. Let’s move closer together. Respect. And appreciate the little things. Appreciate life.

We would love to welcome anyone interested in medical exchange to our weekly Zoom sessions (mainly ENT and emergency medicine). As attendees, we want to respect one another, be open to dialogue, commit to equity and basic human rights. To join and for more information, visit our website: www.carematters.de.
Photographer and author Hugh Palmer (1970, Literae Humaniores) recently switched careers, and is currently halfway through a BA in Counselling and the Therapeutic Relationship at the University of Warwick. Here he reflects on his first experience of university and on the mental health challenges facing students today.

Half a century ago, counselling was barely in existence, let alone a profession that I might have imagined for myself. It was certainly not provided for students; stress was a concept confined to the Engineering faculty. But the choppy passage into adulthood was always risky: unanchored from the security of family; under pressure to succeed, to make relationships; the unsteady compass of an unknown future. Not that I noticed. In that pampered generation, the possibility of shipwreck was well hidden under the surface, and the cracks in my personality were holding water — for a time, at least.

Many years on, after the inevitable breakdown (whose story I share in the book) I found myself co-facilitating a local bipolar support group here in Oxford. I noticed how many of the attendees started their decades-long mental patient ‘career’ at university age, after running aground on the shoals as above. In the short term a medicalised psychiatric response can certainly save lives. But once coupled up to a diagnostic label, young people can be shunted into a bureaucratised system of ‘care’. In psychiatry, human contact is a scarce and costly resource, and can too often be reduced to a six-monthly, five-minute medication review, endlessly juggling the burdensome effects and side-effects of heavy-duty psychotropics.

My present training, in person-centred systemic therapy, gives time to the healing power of listening. It also comes from a strictly non-pathologising place. We are no longer assuming that unexpected or self-destructive behaviours are symptomatic of a ‘disorder’; they may, when seen in the context of an unfolding story, turn out to be survival tactics generated in response to threat. The question is not: ‘What is wrong with you?’ — but rather, ‘What happened to you?’. The client, not the professional, is the expert, and the counsellor’s open and curious stance encourages a joint exploration of the client’s own narrative, which I believe to be the central focus and material of therapy. In this setting, an individual’s real story is allowed to emerge, an account of the authentic self — not based on the family’s expectations, or the figure projected on Instagram, or the idealised presentation of the dating app.

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As mentioned, the client is the expert, and it doesn’t require a four-year degree to be able to listen effectively and empathically (although it helps). By means of peer support, peer mentoring, or informal groupwork, a commonwealth bound together by loyalty and fellow feeling can also enable the same process. The unique strength of Exeter’s community gives its members the opportunity to learn from a deeper connection with one another, whilst providing the support that can safeguard its members through the challenges they face.

Recommended reading

From the history of ‘women’s words’ and the British arrival in India, to cricketing triumphs, dancing foxes and witty essays from Will Self – a selection of the books published in recent months by Exeter academics and alumni.

Mother Tongue: The Surprising History of Women’s Words
Jenni Nuttall (Lecturer in English)
Little, Brown Book Group
For feminists and lovers of language alike. Nuttall guides readers through the evolution of the words we have used to describe bodies, menstruation, sexuality and gender from the dawn of Old English to the present day.

Courting India: England, Mughal India and the Origins of Empire
Nandini Das (Fellow in English)
Bloomsbury Publishing
A profound and ground-breaking new history of one of the most important encounters in the history of colonialism: the British arrival in India in the early 17th century.

The Social Brain: The Psychology of Successful Groups
Tracey Camilleri (1980, English), Samantha Rockey and Robin Dunbar
Penguin Press
Leading experts from the worlds of evolutionary psychology and business management come together in this invaluable insight into team working and effective leadership.

Cry of the Wild: Eight Animals Under Siege
Charles Foster (Supernumerary Fellow)
Penguin Press
A fox dances along a railway track towards Essex. An orca mourns the loss of her mother in a valley west of Skye. Legal anthropologist Charles Foster tells stories of the wild, as it waits to confound, outrage and re-enchant.

Why Read: Selected Writings 2001–2021
Will Self (1970s, PPE)
Grove Press UK
In this cornucopia of thoughtful and witty essays on writing and literature, Self aims his inimitable eye at titans of literature, and literary forms past and future.

New Rock New Role
Richard Sparks (1970, English)
CAEZIK SF & Fantasy
The gaming world and epic fantasy come together as Daxx wakes up to find he’s turned into his own avatar and is in the middle of a wilderness he doesn’t recognise.

Antisemitism: An Ancient Hatred in the Age of Identity Politics
Philip Slayton (1965, Jurisprudence)
Sutherland House
This startling exploration of the past and present of antisemitism starts with the surprisingly complex basics: What is a Jew? What is antisemitism? Why does it happen?

The Cedar Never Dies
Omar Sabbagh (1999, PPE)
Northside
Sabbagh weaves public and personal stories together in this liberating verse-documentary of the modern and contemporary Lebanese experience.

Deep Down
Imogen West-Knights (2010, English)
Fleet
Funny, moving and unexpected, Deep Down is an empathetic and hard-hitting look at both the struggles and the joys of sibling relationships, and the realities of grieving the loss of someone who was already an absence.

The Failure of Political Opposition in Japan
Arthur Stockwin (1956, PPE)
Routledge
A lucid exploration of party politics in post-war Japan, with a particular focus on the evolution of Liberal Democratic Party governments between the 1990s and 2010s.

Health and Efficiency
Steffan Blayney (2009, History)
University of Massachusetts Press
A deep dive into the ‘science of work’, and the relationship between health, body and capitalism in modern Britain.

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Marian Knight analyses concerning disparities in maternal deaths and severe pregnancy complications.

Heloise Robinson considers what we mean by ‘health’ and the role of law in addressing care needs.

Louise Downs weighs up the ethics of medical testing when diagnosis might lead to stigma but not cure.

Charles Foster extols the benefits of basking in nature and rediscovering our inner hunter-gatherer.

Richard Meddings, Chair of NHS England, offers his prognosis.