Pictured: Dr Peggy Frith as Dean of Degrees © Robin Frith
Oxford Medical Alumni Update

Oxford Medical Alumni (OMA) promotes good fellowship amongst Oxford Medical Sciences alumni, supports regular meetings in Oxford, and elsewhere, for continued learning, exchange of ideas, networking and socialising.

EVENTS AND REUNIONS

10th/11th: Saturday 07 August 2021 at St Hilda’s College for those qualifying in 1960 and 1961
20th/21st: Saturday 02 October 2021 at Pembroke College for those qualifying in 2000 and 2001
30th/31st: Saturday 24 July 2021 at Trinity College for those qualifying in 1990 and 1991
30th/41st: Saturday 31 July 2021 at Balliol College for those qualifying in 1980 and 1981
40th/51st: Saturday 11 September 2021 at Balliol College for those qualifying in 1970 and 1971
50th plus: Friday 17 September 2021 at Magdalen College for those who matriculated in 1960 or before, plus those who joined the clinical school in 1964 or earlier
60th plus: Friday 17 September 2021 at Magdalen College for those qualifying in 1960 and before

To book, go to www.medschi.ox.ac.uk/get-involved/alumni/events-and-reunions/oxford-medical-school-reunions

BM BCH GRADUATION CEREMONY

SATURDAY 10 JULY

We congratulate all our newly qualified doctors. We wish you every success in your future careers and welcome you into the alumni fold. Stay in touch. We look forward to hearing from you.

CAREER ADVICE FOR JUNIOR DOCTORS

OMA recognises the challenges facing young doctors, some of whom are seeking inspiration and advice on their future careers. We feel OMA could play a role in facilitating informal relationships among career advice. If you feel you can help, please contact Dr Will Seligman (seligmanw@gmail.com). We are particularly looking for Consultants, GPs and senior trainees who qualified between 1980 and 2010 and are up-to-date with training programs and consultant recruitment.

RECONNECTING WITH FRIENDS AND COLLEAGUES

If you would like to reconnect with friends and colleagues you have last contacted with over the years, please email us at oma@medsci.ox.ac.uk and we will try our best to help.

MEETING MINDS, APRIL 2021

The University of Oxford created the virtual opportunity for alumni around the world to come together and experience an array of exciting and informative talks, with speakers sharing their experiences and expertise across a diverse range of topics. The lecture series can be accessed online: www.alumni.ox.ac.uk/meeting-minds. You will need to create a My Oxford Online account in order to see them (they’re behind a firewall) accessed via our website: www.alumni.ox.ac.uk/my-oxford/my-oxford-online

RECOLLECTING OXFORD MEDICINE

By the autumn, you should be able to enjoy the first 50 interviews in the Recollecting Oxford Medicine series. This project collects oral history of Oxford Medicine from the 1940s onwards through face-to-face interviews and was inspired by Peggy Frith. Derek Hockaday’s hard work, and skilful interviewing over that past 14 years, has produced this unique collection of talks. Be sure to take a look at www.podcasts.ox.ac.uk/series/recollecting-oxford-medicine-oral-histories

OXFORD MEDICAL LECTURE CLUB

The Oxford Medical Lecture Club, normally held at Osler House (John Radcliffe site), invites distinguished, entertaining, and interesting speakers to talk about their specialty and the latest developments in clinical and scientific research. Last year, the lecture series were held on Zoom and should resume in person in July 2021.

Future speakers:

Monday 26 July 2021: Professor Sir Adrian Hill ‘Malala Vaccines’
Monday 27 September 2021: Professor Paul Kleinerman ‘Immune Responses to Viral Infections’
Monday 25 October 2021: Professor Daniel Freeman ‘Virtual Reality for the Treatment of Mental Health’
Monday 29 November 2021: Professor Sir Simon Wessely

If you are interested to receive notifications of the meetings, please contact oma@medsci.ox.ac.uk

CONTRIBUTIONS TO OXFORD MEDICINE

We welcome your contributions to future editions of Oxford Medicine - clinical, scientific, creative, reflective, humorous, prose or poetry. We want to represent the full spectrum of alumni young and old, near and far.

MEMBERS OF OMA ADVISORY BOARD (OMAAB)

Dr Lyn Williamson - President OMA, Dr Roger Bodley - Honorary Treasurer, Professor John Morris, Professor Sir John Bell, Professor Gavin Screaton, Dr Catherine Swales, Dr David McCartney, Ms Christine Farchild, Professor John Stein, Dr Tim Littlewood, Dr Kevin Windebank, Professor Denise Leverley, Dr William Seligman, Dr Shing (Tom) Law, Dr Zai Akepoulou.

CONTACT PREferences

Please let us know if you have any personal details have changed or go to the OMA website to update yourself.

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President’s Piece

Welcome to the summer edition of Oxford Medicine featuring contributions from the collective hive mind of eight decades of Oxford Medical Alumni.

Derek Hockaday, much respected clinician and teacher, at nearly 92, takes us on his entertaining journey from life before the NHS, through the early expansion of the clinical school and medical scientific research in Oxford. The Recollecting Oxford Medicine interviews with Jean Smellie and John Spalding start in a time of war and pestilence, when medical students had to act up as doctors, St Hugh’s College was a neurosurgery hospital, and polio was life-threatening and endemic. Plus ça change...

Geoff Pasvol takes up the narrative, recalling how David Weatherall and John Ledingham helped shape Oxford into the world-class clinical school and a centre for scientific research, and David Darrell set up centres for tropical diseases and malara research. Enjoy these delightful, un-edited, first-hand accounts of two generations of Oxford medical history - the foundations upon which current clinical and scientific excellence have been built.

Congratulations to many of our scientists and clinicians who recently received honours and prizes. We particularly congratulate Sir Adrian Hill for his work on malaria vaccination and look forward to his lecture in July to the Oxford Medical Lecture Club.

OMA identical twins, Dan and Will Carroll, present contrasting clinical updates from opposite sides of the world. They join clinicians and scientists who update us on work that progressed despite the pandemic or was accelerated by it.

We pay our respects to our colleagues who died this year, particularly to David Hodd, respiratory physician, who sadly died from Covid in December 2020, just days before start of the vaccination program. It is a poignant paradox that vaccine hesitancy is one of the biggest challenges we currently face, even amongst young clinicians and healthcare workers. Lisa Webber and Neil Snowise tackle the problem, acknowledging that presenting people with compelling data is not enough. We need to learn new and different techniques to compete in this arena.

Making time for creativity keeps many of us happy, healthy and functioning as good doctors. Our selection of OMA creativity includes rainy day poetry, wildlife photography before work, crossword writing after work, doodles on histopathology slide box during work and inventing a new method of violin making from dried seaweed!

The medical students play out this edition, leading us ‘from the smog filled 20th Century, to a brighter, greener future... a land of positivity.’ Osler Rovers came back on top form as promised, gaining double blades summer bumps! Hannah Chase and fellow students successfully campaigned for the new Sustainable Medicine Module which now weaves environmental issues throughout the curriculum. Not a moment too soon, given that hospitals are carbon footprint hot-spots. Catherine Swales, Director of Clinical Studies, has the Coda. Her prose reads like poetry, so savour every cadence from her audacity of hope to the final adieu!
such as the RBD, because some mutations will impair its function in the parts of the protein that directly affect its behaviour, don't seem to cause more severe disease. And the virus strains is that they are more infectious: in general, they seem to escape from immunity induced by vaccines or natural infections.

However, the great majority of new mutations don’t affect behaviour of the virus; that is, they don’t alter its ability to infect and reproduce. Therefore, most of the new mutations don’t matter – the so-called variants of concern. These mutations mostly lie in the receptor-binding domain (RBD) of the spike protein, the domain that binds the ACE2 receptor on the cell surface that allows the virus to enter the cell. The existing mutations in the RBD have almost certainly been positively selected for high infectiousness (the affinity of binding to the receptor is higher) it is unlikely that immune escape has been a significant selection force in the evolution of the virus to date. The possibility of immune selection is interesting and important, but there is good agreement that the overwhelming driving force in SARS-CoV-2’s evolution to date is selection for rapid spread, not escape from immunity induced by vaccines or natural infection. It has been widely assumed that immune escape has already been a problem, but not only is there virtually no evidence of it, a priori one wouldn’t expect it to be a big force now. But it might become so in the future. So, the main difference between these and the other circulating strains is that they are more infectious: in general, they don’t seem to cause more severe disease. And the virus does not have an unlimited capacity to mutate, especially in the parts of the protein that directly affect its behaviour, such as the RBD, because some mutations will impair its function and so will be counter-selected.

Therefore, at present it seems likely that a future vaccine that contains a handful of key variants of SARS-CoV-2 will be able to give good protection against the great majority of variant viruses. Vaccines that contain a mixture of variant sequences have been in use for many years, with enormous success, for example against the pneumococcus. What is less certain is how often reversion mutations might become necessary, because we don’t yet know how long effective immunity lasts against this virus.

Preliminary results have been reported from clinical trials in the UK and in which volunteers received the Oxford/AstraZeneca vaccine as the first dose and the Pfizer mRNA vaccine for the second dose. The mRNA vaccine boost gave more side effects than boosting with a second dose of the Oxford/AstraZeneca vaccine, but these side-effects – such as headache, lethargy, sore arm – were mild and short-lived. Importantly, the mRNA second dose was highly effective in boosting the titre of antibodies to the coronavirus; the boosted T-cell response will also play a critical part in protection.

Vaccine-induced thrombotic thrombocytopenia (VITT)

It is now clear that around one to three people in 250,000 have a potentially serious thrombotic event between one and three weeks after receiving one of the adenovirus-based COVID-19 vaccines. Nearly all the reported cases have occurred after the first dose. Most early cases were described in females, but reliable estimates of the sex ratio of the condition have not yet been made.

The paradoxical association of thrombosis with thrombocytopenia has a close precedent in heparin-induced thrombocytopenia (HIT). Heparin can form a complex with a protein (PF4) produced by platelets, and in rare individuals this complex elicits antibodies which then aggregate platelets, forming a clot and depleting the platelets in the circulation. It appears that a similar rare series of events can be triggered by the adenovirus-based COVID-19 vaccines – the Oxford AstraZeneca and the Johnson vaccines.

If the thrombosis is detected at an early stage, progression can be inhibited by administering intravenous immunoglobulin, which blocks the adverse effects of the patient’s antibodies by saturating the Fc receptors on the platelets.

At present, we don’t know how to predict who will get these rare reactions to either heparin or the COVID-19 vaccines. Since COVID-19 itself carries a well-recognized risk of serious thrombotic complications, the decision whether to recommend an adenovirus-based vaccine or an mRNA vaccine in a particular instance depends on the person’s age and health and the current incidence of the infection.

Long Covid

It is widely recognized that somewhere between one in five and one in 20 people who develop COVID-19 will go on to develop symptoms that last for more than three months: this has become known as Long Covid. In some cases, the symptoms of Long Covid are seriously disabling, for example myocarditis or neurological symptoms. The condition was discussed in the December 2020 issue of Oxford Medicine, and a fuller account is given in ref. three. Long Covid is still very little understood and very difficult to treat, and intense research is now underway on the pathogenesis of the condition. There are intriguing recent indications, albeit preliminary, that fragments of SARS-CoV-2 can persist long after the initial infection, either in protein form or RNA, although live infection has been cleared. Much further work is needed to test the possibility that these persistent remains of the virus are responsible for the syndrome.

There are anecdotal reports that vaccination can improve the symptoms of Long Covid, but there are also reports that symptoms worsen after vaccination in some people. It is not yet clear whether there is a genuine causal effect in either direction.

References


As for all new medicines, COVID-19 vaccines have been tested in animals, rats in this case, and there have been no adverse effects on fertility. As for all new medicines, COVID-19 vaccines have been tested in animals, rats in this case, and there have been no adverse effects on fertility. The vaccines will probably be less likely to cause adverse effects during pregnancy than the vaccines – are using them for subversive population control.
experience as there were no obvious safety concerns. As of 17 May 2021, the v-safe database recorded that 114 thousand people in the USA had received an mRNA COVID-19 vaccine in pregnancy.

COVID-19, on the other hand, can have significant adverse effects on pregnant women and the fetus. Emerging data indicates that pregnant women are more likely to be affected with severe disease and twice as likely to be critically ill or die, especially if they are infected in the third trimester. If severe illness occurs, the risk of preterm delivery is increased by a factor of three. Vertical transmission may occur and SARS-CoV-2 can infect the placenta. The risk of stillbirth is twice as high in unaffected pregnancies.

No live or non-live vaccine has ever resulted in reduced fertility, and one could say that any serious, life-threatening illness has never been indirectly, or directly, as in the case of cervical cancer. Smallpox was successfully eradicated with a global vaccination programme started in 1959. Polio is close to being eradicated after effective vaccines were developed in the 1950s. WHO confidence in the long-term safety of vaccines is so high that governments are directed to have programmes to vaccinate all infants, children and adolescents against a number of transmissible diseases. The COVID-19 vaccines are the first to use mRNA as a vector for presenting an antigen, and the components of the vaccine are gone within hours of injection. Chimpanzee adenovirus vectors have had clinical use before, albeit limited, but there is no plausible reason to believe that any vaccine vector would have an effect on fertility.

As doctors, we are used to discussing the risks and benefits of any treatment when providing informed consent. The discussion with people of reproductive age, whether trying to conceive currently or planning for the future, should be straightforward as there is no reason why fertility would be affected by vaccination. There is no need to interrupt trying to conceive for COVID-19 vaccination. The conversation is more nuanced for those with fertility concerns. Doctors should be prepared to reassure our patients that there are no fertility concerns associated with COVID-19 vaccines. We should not shy from asking our patients if they have been vaccinated. Doctors are influencers, not just for our patients but for those around us and we all need to step up and help deliver a high level of vaccine uptake in the young population for the protection of everyone and as our contribution to the global fight to escape from this dreadful pandemic.

Dr Webber gave a lecture on vaccine hesitancy to the OMA Lecture Club in May 2021. This can be watched on our YouTube channel, which is: bit.ly/OMA-WebberBangham

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Jenner and the Antivaxxers

Dr Neil Snowise
(1974 Corpus Christi College, Visiting Senior Lecturer, Institute of Pharmaceutical Science, Faculty of Life Sciences, King’s College London)

The main ray of hope shining through the gloom of the COVID-19 pandemic has been the rapid development and success of several vaccines, which are now contributing to a significant decrease in COVID-19 transmission, illness and mortality. However, the antivaxxers have been increasingly active, spreading a variety of conspiracy theories, including assertions that the vaccine will change your DNA, insert a micro-chip, affect your fertility and other misinformation.

In addition, some have vaccine hesitancy with concerns about safety, many of whom are in the BAME communities, who need the most protection because their mortality is highest. Overall, there is a significant minority who may not wish to be vaccinated, despite the historical success of vaccines in reducing many communicable diseases.

This opposition isn’t new. Edward Jenner (1749 – 1823) is well-known for developing a vaccine against smallpox. A GP in Gloucestershire, he observed that local milkmaids who had contracted cowpox, a mild illness related to vario virus, the smallpox virus, were protected from catching smallpox. Subsequently, in 1796, he demonstrated that vaccinating healthy subjects with cowpox offered protection from natural smallpox disease.

At one stage, smallpox was the single biggest cause of death in Europe, killing 400,000 people every year. Within five years, Jenner’s discovery was being used across Europe and a decade later it had gone global. Smallpox deaths in London fell significantly. However, aggressive opposition arrived quickly from various angles – religious, sanitary, scientific and political, leading to a long battle between the authorities and an often sceptical, untrusting public. Some of the clergy believed that the vaccine was “unchristian” because it derived from animals. Others believed that diseases resulted from decaying matter and were not convinced that viruses existed.

In 1840, the Vaccination Act made vaccinations free. In 1853, a new Vaccination Act required mandatory vaccination for all infants, backed by fines and even imprisonment. This legislation was not popular and triggered the first formal, organised opposition to vaccination.

While riots flared in some towns, there was also more restrained opposition in the form of anti-vaccination leagues. For an increasingly literate population, pamphlets were produced with titles like “Vaccination: its fallacies and evils”, “Vaccination, a Curse” and the suitably Gothic “Horrors of Vaccination”.

...we need to focus on those with vaccine hesitancy, who have legitimate concerns, and ensure that the science is communicated in a positive, compelling and effective way.

Unfortunately, the vaccine of vaccination was not fully appreciated. Jenner did not stay in Trafalgar Square long, as many thought it inappropriate to have a non-military figure in a location which celebrated Britain’s military success. Saving countless lives worldwide did not compare well with the
A Jabbering Wreck

Dr Tim Crossley (1974 St Edmund Hall), retired London General Practitioner

The Pfizer shot, Waiting to A2’s Lo, is an easy sell. If the patient has made it to the vaccine centre, they are not anti-vax. However, they may well have misgivings as it is only then that they discover which they will have, and for every punter who prefers the Oxford vaccine there are a dozen who would rather go with the pricey option. It cannot be denied the latter has had better PR.

“How do you decide which vaccine to give people?” we get asked. The answer, for the over 40s, of course is the same way we decide what’s for tea tonight. It’s whatever we’ve got in the fridge. The randomness of this system makes patients feel they are not being picked on. One hundred and fifty patients a day, at around four minutes each, translates to 90 seconds for most and 15 minutes for the odd one who wants to discuss it at length, or who kicks over. This is not super-compressed consultation skills, it is the Amazon warehouse method with the occasional complex order to fit. If you slow too much, the waiting area fills and we build up a covid-safe queue in the street. And still customer satisfaction is high! I tell them to thank scientists and the NHS, not politicians, but they don’t.

Needle hesitancy occurs more than vaccine scepticism. And speed can be an asset here, though I was so fast with one nervous lady, of French origin, that she was unconvincing she’d had it. Showing her an empty syringe was only partially effective. I said she must trust me, which didn’t work either. It was the Pfizer, the sore arm later would be her reassurance.

Working at this pace, one has a spiel, a kind of verbal macro scope swaps out each time. A few basic questions about recent infections, and for younger people a question about pregnancy. I was ratting through this list, and turned my back to the patient to draw up the nectar, and raised the issue. “Is there any chance of pregnancy?” The response, “No, I’m a man.” Fortunately, it was a Pfizer day.

References

Right Place, Right Time

Dr Steve Lockhart [1977 New College], Vice President and Head of Europe and Asia-Pacific Vaccine Clinical Research and Development (VCRD) at Pfizer

When I qualified from Oxford over 40 years ago, I had no clear plan beyond getting my MRCP, a vague interest in research and a wish to work in other parts of the country. Six years later, having worked in Glasgow (my first published research project), Edinburgh (MRCP), the Midlands (more publications) and London (got married and gave up my wandering), I thought I would try pharmaceutical industry R&D, having been impressed by some trials I had been involved in and excited by a generation of new medicines, notably Captopril and Omeprazole.

In the early 1990s, working for Lederle, I was invited to set up UK trials of a new vaccine to Haemophilus influenza type b (Hib). The vaccine was based on the then new conjugate technology, which enables or enhances an immune response to the capsular polysaccharide of encapsulated bacteria, such as the Hib, meningococcus (except group b) and the pneumococcus. Soon after, in response to increasing rates of group C meningitis in children, I found myself in the right place when the UK Department of Health called for vaccine companies to work with them to rapidly develop meningococcal group C conjugate vaccines. In late 1999, we were the first company to launch a group C conjugate vaccine, in time to curtail the winter spike of group C meningitis and deaths. In parallel, we were developing the very first pneumococcal conjugate vaccine, a globally important class of vaccine, which has expanded from covering seven serotypes to a point where we are now in clinical trials with a 20-valent pneumococcal conjugate vaccine.

During the subsequent two decades, I was fortunate to work in different companies on vaccines based on various technologies against many infectious diseases, including typhoid, tuberculosis, HPV, infant combination vaccines, Clostridium difficile and many others; some even worked.

Working with vaccines has been immensely satisfying, although paradoxically people soon lose interest in successful vaccines as soon as they reduce cases of the target disease.

...paradoxically people soon lose interest in successful vaccines as soon as they reduce the cases of the target disease...

A few years ago, I returned to where I started, in some senses. Lederle Vaccines had become Pfizer vaccines and I am based in Berkshire, close to Oxford. I saw this as coming home to quietly prepare myself for retirement. We were talking with BioTech about a collaboration to use a new vaccine technology, mRNA, for seasonal influenza vaccines, and I was clinical lead for the program, which looked as though it would take many years. Then SARS-CoV-2 appeared, and I was in the right place to play a key role in the clinical development program for an mRNA COVID vaccine, zero to authorisation for general use in under a year (though much work continues). Retirement on hold. Again, right place, right time to rapidly develop a vaccine for an emerging pathogen using a novel technology. Story of my fortunate and very satisfying career in vaccines.

Edward Jenner’s statue was banished from Trafalgar Square after just three years (1858-61). Saving countless lives world-wide did not compare with military honours of military heroes.


Include references for each section as needed.
Memories of Oxford Medicine Part One (1946-66) Dr Derek Hockaday (Age 91)

Dr Derek Hockaday (1947 Brasenose College), retired consultant physician-endocrinologist

I’m sorry that this isn’t a scholarly and strategic review of the remarkable and unfinished development of the Oxford Medical School since the start of the NHS, but rather scattered memories of my interactions with it, with a heavily personal bias, which is how my mind works these days.

My first experience of Oxford medicine was in 1946 as a schoolboy who was playing rugby against a college 2nd XV, so I was taken to A&E at the Radcliffe, and without any imaging they diagnosed correctly that nothing was broken or torn, and that I could walk away with a supportive bandage. A&E was as hectic but much smaller then. A year and a half later, I came up to Brasenose College to read medicine. In the admissions process, I had a viable with Medawar who gave me a cavalier vertebran from a manatee for comment - I don’t believe the student who gave that away, and have always regretted that I didn’t say that it was from the neck of a front-row forward. Most of the 1947 matriculants were ex-Servicemen, some from two years in post-war Germany, some who’d been fighting since 1939 and had only just returned from the Far East, but future medics and other scientists and mathematicians were also taken straight from school. This resulted in my humiliation when a notice in the Lodge requisitioned me to deliver the bananas from the Bursar as, though turned 18, I still had a child’s ration book, which entitled one to a few of the first bananas to land from the West Indies.

The first term was split between Anatomy and Organic Chemistry in the Dyon Perrins Lab, the latter being boring as the lectures in Anatomy, especially from Le Gros Clark on the nervous system, were much better, and relieved the systematic dissection of the formalin–soaked cadavers with accompanying vases, some of whom even wore a dressing Alice Carleton, with powder–blue ribbed rim and a starching tongue to reprimand ignorance. In Hilary lectures, practicals and a weekly tutorial in Physiology began aside anatomy. For my first term, I was farmed out to Keith Taylor, in his College room, but always knew what had been said.

The whole pre-clinical course took three years and term, but George was one of a group of young tutors, who, imbued with the importance of the Honours School of Animal Physiology, thought it should occupy four terms with ‘Path’ and ‘Bac’ and ‘Pharmacology’, the start of 2nd BM taken before Schools. As that course was another Trinity term without an exam at the end of it, I gladly climbed on his wagon, but after a year or two the intended reform withered away. After Schools, I decided to stay another year to do BM Sc in Biochemistry and had a busy but immersive year on the metabolism of pantothenate-deficient rats, whom I remember feeding their special diets on Christmas Day. I saw my supervisor at the beginning and end of the project, but meanwhile had been given much friendly advice and support by Lloyd Stocker, a non-medic and long-standing member of Sir Rudolf Peters’ team, which had worked on the British Anti–Leviathan poison gas antidote. Sir Rudolf had a habit of moving his neck highly reminiscent of the bobbing movements of pigeons, on whose hearts he largely worked, and also a liking for effective toxins, such as fluorocacetate, which at that time he though undetectable, unless one thought to look for fluorine.

It was said that Uddell, the Professor of Physiology, had no sweat glands because he moved so slowly, I suspect perhaps because that did come first, I took to it, and found Baldwin’s Dynamic Aspects of Biochemistry fascinating with its accounts of Krebs’ cycle. The first, the only cycle, was to be severely criticised on quantitative grounds by R B Fisher in our Schools year, correctly for it did indeed need revision. He later did much work with Dennis Parsons on the exchange of gases during sleep. In my second year with all the new ways of thinking about body fluids and how to describe their contents in mille-moles, I was able to describe how to describe things in mille-moles, rather than body–grams, but initially was so shy that he faced the blackboard and talked to it in a quiet voice: he was the only lecturer for whom I sought a front-row seat, usually much preferring the back row.

George Gordon was the BNC tutor for medics, he seemed a very established figure though only a few years older, but was a splendid tutor, giving a very carefully thought through and not overly long reading list each week. In the first two years, working for 1ST BM, he taught groups of three or four, and had a system of drawing straws to decide who should read their essay. After I’d drawn the short straw four weeks running, I thought I’d be safe not to write an essay in a ‘busy’ week. I’d forgotten that chance has no memory, but promptly George tottered into hint of ‘Those whom the Gods wish to destroy…..’ when I again drew the short one, and moved elsewhere. He occasionally wiled away the minutes while an essay was being written by practising his putting in his large College room, but always knew what had been said.

1957 for my National Service as a medical officer in the RAMC to Wheatley Military Hospital, I think because Dr Kremer for whom I’d worked in London, along with Ritchie Russell, was one of the Cairo group in British Neurology which all served in Egypt during the North African campaign.

No history of Oxford medicine is complete without including that unusual centre for Neurology and Neuropsychiatry for all three of the Armed Forces, for it was the only hospital military medicine in the country, and put together with its numbers it was in effect run on very lean lines, both fiscally and administratively. While I was there, they used to refer to the medical students as rear–guard medical students, and it was certainly the case that unusual centre for Neurology and Neuropsychiatry for all three of the Armed Forces, for it was the only hospital military medicine in the country, and put together with its numbers it was in effect run on very lean lines, both fiscally and administratively.
A Life-Changing Encounter in Oxford: A personal view

Geoff Pasvol arrived in Oxford from South Africa in June 1974 on a three-year Rhodes Scholarship. A brief, serendipitous proposal by David Weatherall changed not only his intended medical career but the course of his entire life forever. He remained in Oxford for 17 years. In the meantime, Weatherall set about transforming the medical school into what will become the finest on the planet. These two events are unrelated!

In October 1974, I nervously approached the office of David Weatherall (DJW) who had just been appointed Nuffield Professor of Medicine at Oxford. I was in the ramshackle precints of the old Radcliffe Infirmary on the Woodstock Road, a cold draught blew through the long dim corridors which opened to the exterior by dilapidated, sprung, flexible rubber doors. To me, there was little superficial evidence that this was on the campus of what would become one of the finest medical schools in the world. My intention was to discuss with the professor my plans to study the role of tumour specific antigens in pathogenesis of adult leukaemia.

Phyllis Woolford, DJW’s new secretary, stern but kind, sat by the smell, was smoking a pipe. I cannot deny that I was dumbfounded; I had arrived at the beginning of June by sea and replied, “Would you like to go to The Gambia?” I was,” “I am the new DPhil student,” I announced. He smiled and replied, “You will go far.” said David Weatherall of John Bell after his first case presentation on the NDM... Tropical Medicine (Geographic Medicine, Global Medicine - call it what you will) was given a tremendous boost when David Warrell and Nick White ventured to Thailand in 1979 - call it what you will - was given a tremendous boost when DJW had produced three papers in Nature and one in The Lancet - a lucky stroke indeed! We were studying one of the best examples of Darwinian natural selection in man, i.e. malaria and the cellular mechanism by which the haemoglobin variants, especially thalassaemia might protect against malaria.

However, for General Medicine there was John Ledgrehm, a most inspirational and respected clinician and teacher. He had the calmest sense of expression and I recall one with descriptive references to a COPD patient as “puffing like a landed salmon”! The highlight of the firm was the weekly NDM clinical case presentation which would take place on a Thursday morning in a quiet little seminar room in the infirmary lined on either side with red plastic-covered chairs against each wall facing inwards. A strongly accented descriptive words resonated around the assembled throng. It was the voice of John Bell “This student will go far,” said DJW. It was the start of John Bell’s illustrious career in Oxford, and I was there! He would become Nuffield Professor of Medicine in 1989, Regius Professor in 1992 and go on to shape what DJW had started, into an operation of international repute.

On my visit to The Gambia in 1977, perhaps the most important event in my life occurred. It was at a Guy Fawkes Medical Officer vaccinating all orders of employees on their worldwide travels (JJ was particularly keen on the exotic, for example, rabies, plague, Rocky Mountain Spotted Fever, and others)! I had been clinical organiser of the final MB exam initiation in my former workspace. I was now a Wellcome Senior Fellow.

I have often reflected on my time at Oxford. Over the 17 years, I had the privilege of being the Deputy University Medical Officer vaccinating all orders of employees on their worldwide travels (JJ was particularly keen on the exotic, for example, rabies, plague, Rocky Mountain Spotted Fever, and others)! I had been clinical organiser of the final MB exam...
for three years, acting medical tutor for two years and had exposure to hundreds of medical students, many of whom have subsequently carved their names illustriously in so many capacities on the national and international front. My role as firstly member, then vice chairman and ultimately chairman of the Central Oxford Research Ethics Committee, led me to be acquainted with wonderful mourners and shakers amongst the organisation’s researchers. But an underlingly brooding possessed me - I had not looked after patients in a major way.

At this point (1988), David Warrell invited me to be the new scientific leader of the KEMRI Oxford Medical unit which was about to be launched in Kilifi, a research site on the coast of Kenya. As much as I had enjoyed the lab and research for nearly 15 years, I felt in need of a change in perspective. After all, I had studied medicine to look after patients. I visited the agile, unstoppable, and enthusiastic Nick White in Thailand for clinical research inspiration (Fig 2) and off I went once again to Africa. Our priority was to build a paediatric intensive care unit which we duly did in under three months! (Fig 3)

In Kilifi, my dilemma was compounded by a letter from DJW. “I would like to put you up for the Wellcome’s new global fellowship and I would like you to consider it carefully.” I was thinking about returning to the UK for three days for a successful interview. While in Kilifi I was not sure if I was ready to give up a wonderful life there and the world of medical research. We were doing amazing work in a small team. Our priorities were to build a paediatric intensive care unit and to train local researchers, in particular our research assistant, girl with big dreams, Corrine Huxley. I explained that I was not sure if I was ready for a return to the UK, but DJW and Alexandra Brown, our deputy, gave me every encouragement and reassured me that a return to Africa was not beyond my reach one day in the future. DJW believed that the Wellcome Trust had a special role to play in the ‘molecular’ and ‘omics’ age (genomics, proteomics and metabolomics). The meta-ecological John Bell introduced a capacity for big data, technological advances and entrepreneurial input from industry and endowments that led on to a ‘golden age’ in which the medical school was visited by every one of us alumni of Oxford who have subsequently carved their names illustriously in so many capacities on the national and international front. My temporary hesitancy but when a chair at St Mary’s Paddington London arose, I applied and returned to the UK for three days for a successful interview.

Although I was leaving a family and a father figure, I was joining another flourishing institution shortly to become an integral part of Imperial College London. It was not without deep sorrow that I cut the apron strings. It was therefore reassuring when I received a letter from DJW saying how much he had appreciated having me on the NDM. “It was great to think that the cheeky South African who wandered into my office during the first week (of his time in Oxford) is now a professor, and more seriously you’ve given a great deal to the department and I appreciate it enormously…” What more could I expect! As an accolade coming from DJW, it provided much solace.

The story of the rise of Oxford Medical School, when it is ultimately told in detail, will surely highlight David Weatherall as one of the first catalysts to move the department into the ‘molecular’ or ‘omics’ age (genomics, proteomics and metabolomics). The meta-ecological John Bell introduced a capacity for big data, technological advances and entrepreneurial input from industry and endowments that led on to a ‘golden age’ in which the medical school was visited by every one of us alumni of Oxford who have subsequently carved their names illustriously in so many capacities on the national and international front. My temporary hesitancy but when a chair at St. Mary’s Paddington London arose, I applied and returned to the UK for three days for a successful interview.

The Institute of Developmental and Regenerative Medicine (IDRM), a bold new strategic initiative which will transform the landscape of regenerative medicine in Oxford, is now a professor, but more seriously you’ve given a great deal to the department and I appreciate it enormously…”. What more could I expect! As an accolade coming from DJW, it provided much solace.

Institute of Developmental & Regenerative Medicine

Professor Paul Riley (British Heart Foundation Professor of Regenerative Medicine, IDRM Director) and Professor Georg Holländer (Hoffmann-La Roche Medical Research Professor of Developmental Medicine)

The Institute of Developmental and Regenerative Medicine is poised to make exciting new discoveries in how to restore or replace tissues in the heart, brain and immune system. There is now a very real possibility of developing new drugs and therapeutic strategies to treat birth defects or tissue injury arising from adult disease. For example, using drugs to reactivate fetal reprogramming following a heart attack, targeting nucleic acid delivery to treat Duchenne muscular dystrophy and using gene therapy to stimulate a deficient immune system.

Two thirds of all deaths world-wide are due to non-communicable diseases, many of these are cardiovascular, neurological or immune system disorders that have a developmental origin and represent an urgent unmet clinical need. To make an impact in this space and to facilitate the discovery of new regenerative therapies the Medical Sciences Division at Oxford, has established the Institute of Developmental and Regenerative Medicine (IDRM), a bold new strategic initiative which will transform the local, national and international landscape in regenerative medicine. At its core, the IDRM is a formal merger of developmental biology and regenerative medicine with a focus on understanding how tissues and organs are formed during normal development to inform on strategies to repair and regenerate the same tissues and organs when they are damaged or diseased. The Institute will bring together 15-20 world-leading research groups, comprising 240 cardiovascular, neuroscience and immunology scientists integrating their expertise, combining experimental and computational biology with advanced bioimaging, multiple ‘-omics’ platforms, machine learning, artificial intelligence and mathematical modelling, working with University colleagues in Big Data, Artificial Intelligence, Maths and Biological Engineering and with clinicians at the John Radcliffe and Churchill Hospitals in Oxford.

There have been few clinical success stories in regenerative medicine to-date. Stem cell therapy is the most widely explored but remains very challenging. With the notable exception of the use of hematopoietic stem cells in autologous and allogeneic transplantation for blood and some metabolic and immunological disorders, it remains unclear which is the best source of cells for transplantation. Most donor cells do not survive in what is a hostile pro-inflammatory environment with ensuing tissue scarring and fibrosis. At best, there has been modest and transient clinical benefit, most notably in the cardiovascular setting, where cell-therapy trials to treat patients following acute myocardial infarction have largely failed to deliver on the pre-clinical promise. The other major issue is that these trials have not stratified the patients for important risk factors and prognostic indicators, such as age, sex, ancestry, and pre-existing co-morbidities. The end-result being compromised efficacy. It is becoming increasingly apparent that stratifying patients, alongside the use of improved biomarkers to predict outcome, are pre-requisites for a successful trial design. That said, there have been some notable stem cell applications, in a limited number of patients, including the treatment of spinal cord injury and corneal damage. Significant clinical potential exists in other areas of regenerative medicine, such as bone replacement therapy and gene editing, currently being applied, for example, to induce “non-skiping” as a potential treatment for Duchenne muscular dystrophy. Tissue engineering represents another promising approach, utilising smart materials to facilitate cell delivery and survival, or via the generation of patches for tissue repair. 3D bioprinting of organs is also being actively explored, with the goal to deliver an unlimited supply of replacement “parts”. These platforms are either at a preclinical stage, or part of ongoing trials, and have yet to be translated to treat a vast array of diseases and injuries that can potentially be cured by regenerative medicine. These include Alzheimer’s, COPD, type 1 diabetes, Duchenne muscular dystrophy, myocardial infarction/heart failure, osteoarthritis, Parkinson’s disease, rheumatoid arthritis, systemic lupus erythematosus and sports injuries. Hence, there is an urgent unmet clinical need for new drugs and treatments to tackle some of these debilitating conditions.

Regenerative Medicine is defined as “the process of replacing or regenerating human cells, tissues or organs to restore or establish normal function” [Sydney Brenner (1927–2019), 2002 Nobel Laureate and Alumnus of Exeter College, Oxford].

The IDRM’s IMS-Tetsuya Nakamura Building is currently under construction, the “topping-out” ceremony was 15th December 2021 and the Institute will open its doors in January 2022.

Please visit www.idrm.ox.ac.uk for further details.

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Twin Tales: Paediatric Surgery

Dr Dan Carroll

“...Did you exchange a walk-on part in the war, For a leading role in a cage. How I wish, I wish you were here...” – Pink Floyd.

It was only a few weeks ago that I was asked if I could contribute something for Oxford Medicine, and it has given me a chance to reflect on the difficult times we find ourselves in. I had a wonderful and formative time at Oxford where many of you may remember me, not for any outstanding personal contribution, but because I was one half of a pair of identical twins studying medicine. My career has taken me far away from the safe and familiar NHS (consultant paediatric urologist in Cambridge). Nine years ago, I washed up in Tropical North Queensland as a paediatric surgeon to a massive geographical area. For those of you unfamiliar with the geography of North Queensland, we cover an area roughly the size of the UK/France and Germany combined but with a population of around one million. It was a big step to leave family and friends (and most particularly my brother) far away. It was a huge decision for us as a family, and I am lucky to have the support of my wife (Dr Charlotte Slaney, 1992 LMH) who works as a radiologist here in Townsville.

My working life here in Australia is both familiar and different to life in the UK. Patients remain the same, and as for most of us are central to my enthusiasm for the job, our clinical knowledge and skills remain a transferable currency. Torres Strait Islanders (ATSI) and aboriginal peoples make up around 40 per cent of my patient group and working with them was a strong motivating factor in my move to Tropical North Queensland. They suffer from systemic disadvantage throughout their lives. The inequalities start emerging from foetal life and continue throughout childhood, a massive geographical area. For those of you unfamiliar with the telecommunication of the 21st century that let us stay in touch with friends and family. Whilst we have so far escaped the worst of the global pandemic, our thoughts are often taken back to home and our friends and colleagues in the UK who we can no longer visit. I hope that all my friends reading this are well, and from afar it would seem that the UK is heading out of the other side of this faster than us here in Australia.

For those of you considering a sea-change after what must have been a harrowing year, please consider Australia, particularly thinking outside of the box of the big cities. Regional and rural Australia is an exciting and interesting place to live and work, although the workload can be very hard particularly in disciplines with small on-call rosters. Wishing you and your families all the best from the sunny tropics.

Clinical School intake photograph, 1992

up for our patients with the potential for fetal surgery, antenatal interventions and perhaps most importantly a clearer understanding of the natural history of paediatric surgical conditions. In addition, paediatric surgeons find themselves in the forefront of developing minimally invasive surgery even for our smallest patients, with even technically challenging operations such as oesophageal atresia and pyeloplasties now being performed using ‘keyhole’ surgery. The challenge to develop new instruments and imaging to assist surgery has been met by many paediatric surgeons combining with medical device companies to allow surgeons that would have been considered impossible at the start of my training. As I have an interest in paediatric burns surgery, the new frontiers and understanding we have in dealing with scars and remodelling of burns scars using lasers to ‘sculpt’ and remodel difficult scars is something I am working on at the moment in our paediatric burns patients.

Despite the advantages, the call of home is still strong for most of us ex-pats, and the inability to travel and see friends and family is a big worry. A lot of the world is larger than it ever was, and I am sure that I am not alone in my feelings of homesickness. Thank goodness for the telecommunications of the 21st century that let us stay in touch with friends and family. Whilst we have so far escaped the worst of the global pandemic, our thoughts are often taken back to home and our friends and colleagues in the UK who we can no longer visit. I hope that all my friends reading this are well, and from afar it would seem that the UK is heading out of the other side of this faster than us here in Australia.

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Dr Will Carroll

So, depending upon your perspective, this is the view from the ‘right side’ of the world and possibly the right half of paediatrics. In 1994, I decided that children were infinitely more entertaining than adults. Not being particularly attracted to the world of general practice at the time, I decided that I would set out to become a paediatrician. I can honestly say that I have never regretted the choice for a moment.

I seem to recall that I made my twin promise that he would not pursue a career in paediatrics. I personally have always suspected that he decided to pursue paediatric surgery just to annoy me. I was asked to write a short update on what is new in UK Paediatrics to complement a short piece from my twin.

The year 2020 (and the first part of 2021), have been a very different year for all of us. I had hoped to see Dan at least once this year (if not twice) but the virus that has come to dominate our lives has put pay to all of that. We have seen some remarkable changes in paediatrics over the year. Not all of them are COVID-19 related.

As a respiratory paediatrician, it has been enormously gratifying to see the amazing effects of the new treatments for a range of previously fatal diseases. The newer cystic fibrosis transmembrane regulators (CFTR) were anxiously awaited for the last two to three years. The research had indicated that the new ‘triple therapy’, Kaftrio, would have dramatic effects. I can confirm that these are real and substantial. I have seen children and young people’s lives transformed by these new treatments in a way that I hardly dared hope for. Indeed, the effects are so dramatic that many cystic fibrosis teams are seriously wondering whether they will need to ‘downsize’. For now, I am left wondering how quickly we can begin to reduce some of the other treatments required.

The reaction of one of my patients to the news that Kaftrio was funded for the UK in November 2019 was priceless. Indeed, her authentic reaction still makes me cry. If you want to see what it means to many of the families please do follow the story at: www.uhdb.nhs.uk/latest-news/nurse-beth-invited-to-number-10-after-daughters-reaction-pesviral-6207. It also might explain why at 50 years old I still look forward to a day in clinic.

A second area where there has been significant change is in the treatment of spinal muscular atrophy (SMA). Whilst the textbooks still describe cystic fibrosis as the ‘commonest inherited, life-shortening condition affecting white children’, spinal muscular atrophy type 1 is the commonest genetic condition resulting in infant death. I must admit to paying it less attention in medical school. However, it has been my privilege to care for dozens of children with different types of SMA over the past 20 years. For these children, the shifts in the clinical landscape have been no less seismic in the last one to two years.

Twin Tales: Paediatric Medicine

It has been enormously gratifying to see the amazing effects of the new treatments for a range of previously fatal diseases...

For those who like a bit of science (and I am sure that is most of you), then a useful explanation of SMA (an exon-skipping disease) and how some of the new treatments might help is found at: smauk.org.uk/more-detail-on-how-nusinersen-works-in-sma

I have been lucky enough to work in a centre (Stoke-on-Trent) that has been delivering Nusinersen, a new intrathecal treatment to children with SMA1. Its effects are impressive, but look set to be eclipsed by the arrival of gene therapy in the form of Zolgensma. In fact, I write on the day when the Evelina Children’s Hospital in London has delivered the first dose of this treatment ‘on the NHS’. www.bbc.co.uk/news/uk/57309613

I live in hope that Stoke-on-Trent will be added to the list of centres approved to deliver this life-changing treatment soon.

I am sure that other paediatricians would have been able to bring other examples of dramatic changes in the last year. If I missed your favourite advance, then please accept my apologies. Nonetheless, it remains clear that we really are living in ‘exciting times’ and not always for the wrong reasons.

I pray that 2022 sees an end to the pandemic and a return to travel, especially for those who are separated from their families. I hear reassuring news from our friends and colleagues on SAGE that some type of “normal” might return next year. Let’s hope that these wise folk, many Oxford alumni, live up to their name.
Engineering Innovations

Professor Lionel Tarassenko
DPhil, FREng, FMedSci (1975 Keble College), Professor of Electrical Engineering, Institute of Biomedical Engineering, Department of Engineering Science, President, Reuben College, University of Oxford, and Founder-Director Oxenhealth, R&D Director Sensyne Health

Since March 2020, the focus of the Biomedical Signal Processing & Machine Learning (BSP–ML) research group has been on adapting the technology, apps and machine learning we developed in the last decade for the fight against COVID-19. This has been achieved through remote patient monitoring, better patient stratification and improved diagnostics. Some of the work has been done in collaboration with Sensyne Health and Oxenhealth (two companies on the Oxford Science Park). Here we describe four of the key projects in which our research group, based at the Institute of Biomedical Engineering, has been involved.

Self-monitoring of blood pressure during pregnancy (BPm-Health)

BPm-Health is a blood pressure management system which helps expectant mothers to self-monitor their blood pressure, communicating their results to their healthcare team remotely rather than during face-to-face clinic appointments. It has been used during the pandemic to monitor pregnant women at risk of developing hypertension and progressing to pre-eclampsia. Automated feedback from the app and remote calls with clinicians have kept these at-risk women away from hospital during the COVID-19 pandemic, to minimise the risk of infection.

Women are sent reminders when it is time to take a blood pressure reading and they can then record data on the patient app. The app displays advice on what women should do, dependent on the results submitted. The formal launch of the BPm-Health project came after the successful recruitment of a 3,000-participant multicentre trial (BuMP) involving 15 NHS Trusts (Douglas et al., 2020). The system which we had developed in the IBME was transferred to Sensyne Health in record time. It was approved by the Royal College of Obstetricians and Gynaecologists and went live nationally in May 2020 (see www.sensynehealth.com/bpm-health).

Video camera technology for remote triage of suspected COVID-19 patients

For the last decade, we have been developing software algorithms to monitor breathing rate and heart rate using a video camera (including the webcams in a smartphone), and these algorithms were previously licensed to Oxenhealth (www.oxenhealth.com). The company’s main product is now a system which uses a video camera and infrared illumination in a secure housing to enable clinicians to take breathing and heart rate observations remotely from patients in their rooms. The product is a CE-marked Class IIa and FDA-approved (a world first) medical device: no device is attached to the patient, reducing infection risk, and staff can take observations from a separate location, minimising contact with patients. The system has been deployed in hundreds of rooms in 30 per cent of medical health NHS Trusts in England (Lloyd-Jukes et al., 2021). It was used to monitor patients with suspected COVID-19 symptoms in those Trusts, and by GPs in Oxfordshire to screen patients in a dedicated “COVID-19 hub” in East Oxford.

Monitoring of isolated in-hospital patients using wearables

In the early stages of the pandemic, there was a fear that the lack of knowledge about the dynamics of virus transmission and initial shortages of personal protective equipment could lead to an increased spread of infection in hospital clinical staff. Continuous vital-sign monitoring enables the identification of the rapid desaturation caused by the SARS-CoV-2 virus, and intervention with corrective treatment at the earliest opportunity (for example, via additional oxygen therapy). However, vital-sign monitoring tools used in isolation wards (bedside monitors), were not ideal for active, ambulatory COVID-19 patients.

Furthermore, point-of-care devices require staff to be present in the patient isolation rooms to take accurate vital-sign measurements, increasing the risk of spreading the infection.

At the end of February 2020, it became clear that the technology and software that we had been developing for monitoring high-risk ambulatory patients (the “Virtual High-Dependency Unit”) could be adapted for the isolation ward for COVID-19 patients in the John Radcliffe Hospital in Oxford. For those COVID-19 patients with no clinical requirement to be managed on a ventilator, or stepping down from intensive care, it is important for their recovery that they should continue to remain ambulatory, and so the wearable technology is ideal.

Our research group worked tirelessly throughout the first three weeks of March 2020 to ensure that the modified wearable monitoring system (a wrist-worn pulse oximeter and chest patch for heart rate, breathing rate and temperature, with Bluetooth connection to an Android tablet at the bedside) could be deployed soon after the opening of the isolation ward. The system went live with its first four ambulatory patients on the John Warin Ward on Monday 23 March 2020, the day that the first national lockdown started.

The wearables system uses web-based architecture and protocols (HTTPS and WebSockets) to transmit the vital-sign data in real time from the Bluetooth Low-Energy (BLE) and Wi-Fi enabled Android tablet devices, operating as patient data collection devices by the bedside in the isolation rooms, into a clinician dashboard interface available remotely via any modern web-browser. Fault-tolerant software strategies are used to reconnect the wearables automatically, during intermittent BLE disconnections, avoiding the need for nurses to enter the isolation ward to reset the patient monitoring equipment.

The remote dashboard also displays the vital-sign observations made by the nurses and entered by a separate system into the hospital electronic Track & Trigger record (eT&T). The latter is displayed alongside the continuous wearable data, allowing nurses to review both sources of vital-sign data in one consistent augmented e-T&T screen, and to track the physiological status of the patients in real-time.

System usage has been found to follow the two main COVID-19 wave trends, with half of the patients on the isolation ward monitored during the peak of hospital admissions in both of the main waves (April to July 2020 and December 2020 to March 2021). During the first wave, patients were monitored for a median of 31.5 [8.8, 75.4] hours, representing 88.1 [62.5, 94.5] per cent of the median time they were registered in the system. By the end of the second wave (late March 2021), 167 patients had been monitored for an overall 320 patient-days.

Understanding the trajectory of the COVID-19 disease

We analysed the Electronic Patient Record (EPR) data of 497 adult patients with COVID-19 admitted to the John Radcliffe Hospital from early March to late April 2020, and compared it with the EPR data from a cohort of patients admitted to the same hospital between 2013 and 2017 with viral pneumonia (the closest equivalent).

Our analysis showed that patients with COVID-19 who deteriorate in hospital experience rapidly-worsening respiratory failure (with low oxygen saturations even on high-inspired oxygen), but with only minor abnormalities in other vital signs. This deterioration is much more rapid than for patients with viral pneumonia. As a result, we proposed a new early warning score for COVID-19 patients (Pimentel et al., 2020).

App for lateral flow tests

The Clm-Health (FACTS) app was designed to enable Oxford University staff and students enrolled in the FACTS clinical study (Chief Investigator: Professor Richard Hobbs, FMedSci, Head of the Nuffield Department of Primary Health Care Sciences) to use Innova Lateral Flow Tests (LFTs) and, after each test, use the app to record their test result by taking a time-stamped photo using their smartphone’s camera. The data was then uploaded by the app to a secure Sensyne Health database in the Microsoft Azure cloud with a “dashboard” giving a list of those who self-tested that day, as well as their test result (positive, negative or inconclusive) automatically generated.

The app and FACTS study went live in Merton and St Hilda’s colleges at the beginning of November 2020, and continued until mid-January 2021. The app was used by 825 participants in the study in mid-December. The number of positive tests was remarkably low, of the order of 0.2 per cent of participants.

A paper describing the results of the FACTS study has been written and submitted for publication (First et al., 2021). It concludes that the study provided the first evidence on recruitment, retention and acceptability of regular COVID-19 self-testing. Quantitative data show that acceptability of completing the lateral flow test was positive, with 91 per cent giving positive feedback via the phone app. The survey and qualitative interviews revealed that the majority of participants found the self-testing to be acceptable and valuable.

Further work at Sensyne Health has led to the development of a deep learning algorithm to analyse the photo and automatically classify the test. The algorithm is able to interpret difficult-to-read lines, including very faint lines, often not visible to the human eye, thereby improving the accuracy of test reading (www.sensynehealth.com/magnifeye).
Incorporating the use of three-dimensional imaging, either CTCA or OCT, offers a significant advantage in the field of interventional cardiology. CTCA allows for the visualization of coronary artery anatomy, enabling accurate planning of interventions. OCT, on the other hand, provides high-resolution images of the vessel wall, allowing for precise stent placement and identification of plaque burden. The combination of these technologies is crucial in guiding treatment decisions, especially in complex cases.

In conclusion, the integration of advanced imaging technologies in coronary artery disease management has revolutionized the field of interventional cardiology. By providing detailed insights into vessel anatomy and pathology, these technologies have led to improved patient outcomes and a better understanding of disease progression. As technology continues to evolve, the role of interventional cardiologists in managing coronary artery disease will only become more specialized and sophisticated.
The Oxford Medical Lecture Club normally meets monthly at Osler House for a lecture on current clinical work and research developments at Oxford. Inevitably, with COVID-19, the lectures have been on Zoom. One glimmer of a silver lining is that this has made accessible a fascinating and erudite series of talks to those of us who would not be able to be there in person. I picked a selection of Zoom lectures, each very different, but sharing a striking common theme of collaboration and cooperation, and the importance of the interface between scientific research and clinical medicine. Not to mention the extraordinary and talented individuals involved. And that includes the Zoom audiences.

“Gene therapy: A Brave New World”
Deborah Gill, Professor of Gene Medicine at the University of Oxford - bit.ly/OMA-Gill

This was an absorbing, lucid and informative account of gene-targeted therapeutic approaches in cystic fibrosis, including the ethical implications of gene-editing, and the huge financial costs involved. Professor Gill then broadened the scope of her talk to give an overview of progress in the treatment of other genetic disorders. A mention of the haemoglobinopathies, the “first” single-gene disorders, might have been nice here, given the central role the Oxford group in pioneering clinical and molecular research into genotype-phenotype correlation in sickle cell and the thalassaemias, surely a cornerstone for the contemporary discipline of Gene Medicine. And important also because of their global burden largely affecting third-world countries, begging the question of how to pay the high cost.

“The first hundred days or should it be daze? Surgery in the time of COVID-19”
Neil Mortensen, Professor of Colorectal Surgery at the University of Oxford and President of the Royal College of Surgeons - bit.ly/OMA-Mortensen

While July 2020 may not have been the most auspicious time to start his term of office as the incoming President of the RCS, this modestly delivered, matter of fact and often humorous talk reinforced the perception of a chronically under-resourced system, but much more than that, it offered a fascinating insight into the working behind the scenes to juggle the competing needs of the COVID-19 pandemic, emergency and elective surgery, and the massive problem of ensuring effective surgical training. It was refreshing to learn that tackling the high carbon footprint of the OR will feature in new initiatives. We can also hope that this will be the end of the climate of competition as we emerge blinking into the new dawn of augmented reality.

“A+ apps, wearable machines and learning for the COVID-19 pandemic”
Lionel Tarassenko, Professor of Electrical Engineering at the University of Oxford, and inaugural head of the Institute of Biomedical Engineering (IBME)

COVID-19 was one driving force in the development of a series of clinical devices, for example allowing close but remote monitoring of sick patients while minimising the spread of infection by direct contact, presented in this fascinating lecture by Professor Tarassenko. This was a supreme example of advances resulting from a multidisciplinary approach, in which ingenious engineering solutions are inspired by clinical need.

“Parkinson’s Disease: pathological mechanisms to target discovery”
Richard Wade-Martins, Professor of Molecular Neuroscience at the University of Oxford, and head of the Molecular Neurodegeneration Research Laboratory and the Oxford Parkinson’s Disease Centre - bit.ly/OMA-WadeMartins

This lecture delivered what it said on the tin, but in the form of a brilliant narrative smorgasbord of what can be achieved with multidisciplinary translational neuroscience, using the full gamut of cellular and molecular biology tools, as well as the important input of affected individuals. And bring on Pharma to facilitate the development of drug therapy. This was awesome, a real masterclass. And yes, immunofluorescence should of course be featured on prime-time television.

Memorial Tribute to Professor Peter Sleight (1929 - 2020) - bit.ly/OMA-Sleight

This memorial talk, presented by cardiologist Dr Keith Channon and supplemented by tributes from a veritable roll of famous names, left little doubt as to Sleight’s genius. He was one of the pioneers of modern cardiology, his work underpinning the axial approach to imaging for the diagnosis and management of patients with cardiovascular disease. He contributed to the scientific community at large through his research, teaching, and mentoring and was an inspiration to many of us.

Professor Sir Adrian Hill awarded Knighthood and RSA Albert Medal

Dame Sarah Gilbert awarded Damehood and RSA Albert Medal

NEWS AND CONGRATULATIONS

A new vaccine against malaria, one of the world’s leading causes of child mortality, could be on the horizon as scientists at Oxford’s Jenner Institute announce that their candidate achieved 77 per cent efficacy in early stage trials – making it the first malaria vaccine to meet the World Health Organisation’s target of 75 per cent. The vaccine – developed by the same lab that worked on AstraZeneca’s COVID-19 vaccine – represents a new hope in the global fight against malaria. The Phase IIb trial of the vaccine candidate, R21, enrolled 450 children in Burkina Faso, one of the 10 countries with the highest cases of malaria and subsequent deaths. The vaccine candidate was developed in collaboration with Novavax and the Serum Institute of India (SII). A more extensive Phase III trial is now underway involving 4,800 children aged five to 36 months in four countries. “These significant results support our high expectations for the potential of this vaccine, which included reaching the WHO’s stated goal for a malaria vaccine with at least 75 per cent efficacy,” said Jenner Institute director, Professor Sir Adrian Hill KBE FMedSci FRCP FRS (1979 Magdalen College). “With the commitment by our commercial partner, Serum Institute of India, to manufacture at least 200 million doses annually in the coming years, we believe this vaccine could have a major public health impact.”

Professor Sir Adrian Hill KBE FMedSci FRCP FRS (1979 Magdalen College), Co-Director of the Oxford Martin Programme on Vaccines, received an honorary knighthood for services to Science and Public Health in the 2021 Queen’s Birthday Honours list. In May 2021, he was also elected a Fellow at Magdalen, the Lakshmi Mittal and Family Professor of Vaccinology, and founder and Director of the largest academic vaccine centre in the world, the Jenner Institute at the University of Oxford. The Royal Society is a Fellowship of many of the world’s most eminent scientists and is the oldest scientific academy in continuous existence.
We are proud of the Oxford medical community who received recognition in the 2021 New Year Honours List and 2021 Birthday Honours List. Congratulations to them all.

SIR PETER HORNY, Professor of Emerging Infectious Diseases and Global Health, appointed Knight Bachelor in the 2021 Birthday Honours List for services to Medical Research.

SIR MARTIN LANADAY FMEDSCLI, Professor of Medicine and Epidemiology, Research Director, Health Data Research UK, Deputy Director, Big Data Institute, Lead, Big Data and Computing Innovation, MRC Population Health Research Unit, Lead, Clinical Informatics and Big Data, NHRI Oxford Biomedical Research Centre, Head, Health Informatics Hub, UK Biobank, and Honorary Consultant Physician, Oxford University Hospitals NHS Foundation Trust, appointed Knight Bachelor in the 2021 Birthday Honours List for services to Science and Public Health.

SIR ANDREW POLLARD BMC MBBS PhD (LOND), DIC, MRC (UK), FHEA, FIDSA, FRCPCH, MA, FMEDSCSI, Professor of Paediatric Infection and Immunity, appointed Knight Bachelor in the 2021 Birthday Honours List for services to Public Health.

SIR DAVID STUART FRS FMEDSCI, Nuffield Professor of Structural Biology, appointed Knight Bachelor in the 2021 New Year Honours List for services to Medical Research and the Scientific Community.

SIR KEITH WILLETT, Director of Acute Care to NHS England and Professor of Orthopaedic Trauma Surgery, appointed Knight Bachelor in the 2021 Birthday Honours List for services to the NHS.

PROFESSOR TOM SOLOMON CBE (1984 Wadham College), Director of the National Institute for Health Research (NIHR) Health Protection Research Unit in Emerging and Zoonotic Infections, appointed CBE in the 2021 Birthday Honours List for services to Neurological and Emerging Infections Research, including during the COVID-19 response.

PROFESSOR CHRISTOPHER FAIRBURN OBE (1984 Christ Church College), Emeritus Professor of Psychiatry, appointed OBE in the 2021 Birthday Honours List for services to Psychological Treatments and the Treatment of Eating Disorders.

PROFESSOR CATHERINE GREEN OBE, Associate Professor in Ceramic Science Dynamics at the Welcome Centre for Human Genetics, Senior Research Fellow at Exeter College, and Head of Oxford University’s Clinical BioManufacturing Facility, appointed OBE in the 2021 Birthday Honours List for Services to Science and Public Health.

PROFESSOR TERESA LAMBE OBE, Associate Professor and Investigator at the Jenner Institute, appointed OBE in the 2021 Birthday Honours List for services to Science and Public Health.

PROFESSOR ELEANOR STRIDE OBE, Statutory Professor of Biomaterials in the Departments of Engineering and Science and Public Health.

PROFESSOR ERVIN FODOR, appointed Knight Bachelor in the 2021 Birthday Honours List for services to Engineering.

We also congratulate DR GARETH HYNES MBE, Specialist Registrar in Respiratory Medicine, at Oxford University Hospitals and a Clinical Research Fellow at the University of Oxford, who was awarded MBE in the 2021 New Year Honours List for services to Medical Education during the COVID-19 pandemic.

And in other news...

PROFESSOR ERVIN FODOR (1992 Worcester College) and PROFESSOR ROBERT LLOSE, are two of 64 life scientists to be elected to The European Molecular Biology Organization (EMBO).

DR LENNARD LEE (2005 Queen’s College), has been awarded ACP McElwain Prize for contributions to medical oncology during the COVID-19 pandemic, through the establishment of the UK Coronavirus Cancer Monitoring Project.

DR EOGHAN MULHOLLAND, Postdoctoral Research Scientist in Cancer Genetics at the Wellcome Trust Sanger Institute and previously a Lecturer in Molecular Genetics at the University of Cambridge, has recently been awarded the Lee Placito Research Fellowship in Gastronintestinal Cancer.

PROFESSOR JONATHAN REES, The Nuffield Department of Orthopaedic, Rheumatology and Musculoskeletal Sciences (NDORMS), has been appointed as the new Director of the John Radcliffe Institute.

PROFESSOR ANDI ROY leads one of the five research teams across the UK that have been awarded the 2021 Cancer Research UK - Children with Cancer UK Innovation Award to develop new treatments for childhood cancer.

Dr Jean Smellie (died 14 September 2020)

It is with great sadness that we learn of the death of Dr Jean Smellie (1944 St Hugh’s College), aged 93, a distinguished paediatrician who specialised in the management of children with urinary infection. Her meticulous research was important in developing our current understanding of the condition and substantially reducing the number of investigations and operations to which children were subjected.

Excerpts from Recollecting Oxford Medicine Interview with Dr Derek Hockaday in 2014.

What made you decide on Medicine for a career?

At school (all girls), it was generally reckoned that if you were bright you did medicine, if you were moderately bright you became a physiotherapist or something, and if you weren’t you became a Land Girl.

What are your earliest memories of Oxford?

Because St Hugh’s had the Head Injury hospital, we were distributed across Oxford, nominally to New College but I was in Balliol’s Holywell Manor. There were 10 women out of the 50 medical students. The men were either straight out of school or had a disability that made them unfit for military service.

So how did your first years go?

The anatomy department was busy and friendly. Alice Calton taught brilliantly. Humorous but exacting, with her flashing eyes and hair blue on Fridays. ‘Converge, converge’ was her expression if attention wasn’t paid to her blackboard drawings. Professor Wilfred Le Gros Clark was a lovely man, benign and more of a physiologist than a stickler for the small print in Jamieson’s Anatomy.

And how about life outside the department?

There were numerous societies. Margaret Roberts (Thatcher) was secretary of the Conservative Society then, and she invited distinguished politicians. The Union debates were usually good (ladies were confined to the gallery) and Anthony Wedgewood Benn was an active member. And there was time for non-medical lectures, such as Lord David Cecil’s on 18th and 19th century novelists and Kenneth Clark’s lectures at Ruskin College.

And then you’d have come to your third year.

During the War, there were two-year BA intakes. We were six female and six male, together with six who did a two-year BA previously but now returned. For me, this was the most formative and informative year (46–47). I had anatomy tutorials with Whitteridge, but I was scared stiff of him. Liddell was Professor of Physiology, and in a practical demonstration, with cats, you had to stand clear as he could easily leave a scalpel across the room, just getting it off his chest.

Then you’d have gone on to your clinical work.

I’d been up to London at the end of my first year, when the buzz-lobombs were around, to secure a place at one of the four London hospitals taking women (and this soon dropped to three, when the West London fell out). Luckily UCH accepted me, and on entry there were again 10 women out of 50, but a mix of London, Oxford and Cambridge students. Exams were all held back in Oxford.

So when did you come to work clinically in Oxford?

In 1960, I was appointed to a Lectureship in Professor Witts’ Nuffield Department, though it was in Paediatrics, and it was before the full development of the Oxford clinical school. We worked on two sites, the Radcliffe Infirmary and the Churchill (a wartime Canadian hospital in Nissans’ huts), but also linked with peripheral hospitals Banbury and Abingdon out-patient clinics. And in Oxford I had my first car, 10 years after qualifying, and I had an official day off, for the first time ever! The neonatal service was good, and there were good relationships with most departments. I was establishing an interest in metabolic disease that presented to the Wingfield-Morris Orthopaedic hospital, and then there were the families in Brill where there’d been a lot of in-breeding; it gripped me that all were sorts of diseases unexplored and all the brains in the world to explore them.

And did you see anything of the adult physicians such as Pickering?

Well, he was a man after my own heart. I first met him when I was going to do my DM thesis on chests, and John Hudson at UCH was keen on the radiology of the people who lived around King’s Cross, with the smog and the railway smoke. I’d done the chest expansion with a tape measure, and Pickering thought this was great, and accepted it as the stuff for a DM thesis. But that didn’t get written, but a DM came later from published works on urinary reflux, urinary infections and renal involvement.

Listen to Jean speak about her life in her own voice. The full interview with Dr Jean Smellie is available here: www.podcasts.ox.ac.uk/series/recollecting-oxford-medicine/oral-histories
Dr John Spalding  
(died 13 February 2020)

As we reported in the last edition of Oxford Medicine, Dr John Spalding (1936 New College) died on 13 February 2020. Dr Spalding was a well respected consultant and research neurologist for Oxford United Hospitals.

Here we include extracts compiled by Dr Derek Hockaday (1947 Brasenose College) from Dr John Oxbury’s (1972 Christ Church) interview of Dr John Spalding. You can also listen to John on the following podcast: www.podcasts.ox.ac.uk/interview-john-spalding-former-consultant-and-research-neurologist-oxford-united-hospitals

I believe you started your career in neurology by being a student house officer for Cairns at the Radcliffe Infirmary (RI) during the Second World War. Indeed I was a student house surgeon for Hugh Cairns because nearly all the young doctors were in the forces so there were no registrars and the few remaining qualified housemen had to cope with two firms each. At the time, Cairns was a large emergency hospital with the Military Hospital for Head Injuries which he’d established at St Hugh’s College. He very kindly became my medical adviser, and recommended I did neurological house jobs, as with Russell Brain and Douglas MacAlpine in London. Then he told me Ritchie Russell, who had worked at St Hugh’s, needed an assistant in Oxford.

The punch cards, described by one colleague as Ritchie’s folly, at Headington Hill Hall or later Wheatley. Ritchie had created the intermediate section. And I could give more detail to the RI, and arranged for Ritchie to have use of four of these for patients requiring air encephalograms, angiograms and myelograms. Ritchie’s patient load meant that six beds were really needed, so there was a panic to explain bed allocation on the rare occasions when Witts himself did a ward round there.

Stoke was towards Aylesbury where there was an outbreak of polio. At the time, patients with their respiratory muscles involved were sent to infectious disease hospitals which had neither the staff nor experience to treat them. Ritchie decided to take them on, using tank respirators, as everyone did then. These had the body in a tank, with an air-tight seal round the neck, and bellows that sucked the air out of the tank around 18 times a minute, so drawing air into the lungs. It provided satisfactory respiration but many patients also had difficulty in swallowing, so saliva pooled in the mouth and was fatally sucked into the lungs. About 1951, Lassen in Denmark saw the similarity to curarized patients, and intubated patients to connect them to an anaesthetic machine which supplied air if a medical student squeezed the bag. Ritchie asked help from Edgar Schuster, originally an NRc administrator who became a skilled instrumentalist during the War, and he produced the ‘East-Radcliffe Respirator’ to push the air in and out automatically. John Marshall and I added a hot water humidifier to prevent secretions forming crusts which were difficult to suck out. As other neurological conditions may need artificial ventilation, a Respiration Unit was built opposite Ward 13 with eight respirators.

I must have been very exciting when you extended the diagnoses you were treating to Guillain-Barre, myasthenia gravis and tetanus. Yes. The severe tetanus patients could neither breathe nor swallow, so we treated them with curare to break the spasm of their voluntary muscles, but then of course they needed ventilation. And I believe they had complications from autonomic nervous system involvement. Yes, they and the Guillain-Barre patients had trouble with blood pressure control. In the latter it was often too low, which was easily treated by lowering the head of the bed. But the tetanus patients were liable to hypertension, such as 240/140 mmHg, as the toxin inhibited the normal inhibitions of vascular contraction. Fortunately, beta blockers were just coming onto the market, and worked well. There was also excessive sweating and we had to work hard to get the patient’s fluid balance right.

And we had the facilities to look at other autonomic problems such as orthostatic hypotension; David Oppenheimer, neuropathologist, showed that in the spinal cord preganglionic sympathetic cells and their fibres had disappeared, and there was also damage to cerebellar connections. We published these findings under the title ‘Multiple System Disease’.

There was an interesting interlude through an outbreak of paralysis in Morocco. It was severe enough to prevent walking, and affected hundreds daily. Ritchie, as an expert on polio, was contacted, and he asked Honor Smith and I to go. It was soon clear that it wasn’t infectious, but there was a suspicion of a toxic cooking oil. Fortunately, one of Honor’s brothers was Chairman of Shell, so she was able to send samples to their laboratories. They quickly identified many as expensive aero engine oil it turned out that when the Americans had closed an air base, they didn’t take away the stock of engine oil, but sold it as lubricating oil, but there was a lot of it and the market for lubricant was limited, so the initial purchasers sold it on as cooking oil. Unfortunately, it contained ortho-cresyl phosphate which makes engine oil resistant to the very high temperatures in aero engines, and was also known to cause paralysis if swallowed, as had happened when it was included in ‘Ginger Jake’, something marketed during 1920’s prohibition in the USA.

How long were you and Honor in Morocco? We stayed as long as necessary, which was about a week.

Incredible that you cracked it in so short a time. Now, I know that you published about 100 papers and at the same time you were working as a busy general neurologist in Oxford and also Northampton. How did you successfully combine all this? It was something that was fun to do. It was very interesting. And we had a succession of very able postgraduate students who did a huge amount of the work. There was Lionel Opie, who went on to work with Hans Krebs and then into cardiology in his native South Africa. There were Harold Rotman and John Corbett, who had successful careers on return to the USA and Australia respectively. There was also Bill Watson who became Professor of Physiology in Edinburgh and has sadly now died, as did Ralph Johnson from the bees he started to keep in retirement from clinical work. Chris Mathias from India did a lot of work on autonomic activity in paraplegics and tetraplegics and went on to join Roger Bannister at St Mary’s and at Queen Square.

You published a book with Ralph Johnson. That was ‘Disorders of the Autonomic Nervous System’. We also wrote one on the autonomic system and the alimentary tract, and I had co-authored two earlier books on artificial respiration

It’s fascinating, John. I knew a lot of the things you’ve done but it’s clear that there’s an enormous amount I didn’t know.

Dr John Spalding (died 13 February 2020)

East-Radcliffe Respirator designed to help polio patients breathe. Extended to treat patients with severe tetanus. The forerunner of modern anaesthetic ventilator.
PROFESSOR JANE MELLANBY (1938 – 2021)

Written by two of Professor Mellanby’s children – Lawrence Impney (1982 St Peter’s College), Consultant in Obstetrics and Fetal Medicine, Oxford University Hospitals NHS Foundation Trust, and Harriet FItska (née Impney).

Generations of medical students, including those from her own college St Hilda’s, will remember ‘Dr Mellanby’. If it was not her blunt approach, her challenging tutorials, garden parties or seminars at her house, or the push for finishing her biochemistry practical first (a quantity of beer), it was for advancing the cause of women in medicine and science. ‘Dr Mellanby’s greatest gift to me’, wrote one of her students, ‘was to both fearlessly champion me and to tell me in no uncertain terms when I’d been an idiot.’ Often unorthodox in her selection and with a determination to help potential students from less privileged backgrounds, she inspired first fear and then fierce loyalty and love. It was as an ‘outstanding and inspirational educator of female medical students’ that she was elected to an Honorary Fellowship of The Royal College of Physicians in 2016, and in later years it was her students, she felt, that were her most important legacy.

Born in Sheffield in 1938 into a scientific family, Mellanby was always determined to follow in their footsteps. As an only child in wartime, she endured evacuation at the age of two and the divorce of her parents. She had to attend science A-level classes at a neighbouring boys school because physics and chemistry were not even taught at her girls’ school, which may well have contributed both to her passionate support of women in science, and to her support of her students, as although brilliant she was a difficult pupil herself.

In 1956 she went up to Somerville College, Oxford, to read Botany, Physiology and Chemistry. This was followed by a D.Phil. on intermediary metabolism with Nobel scientist Sir Hans Krebs. She began as a neurochemist, working with tetanus toxin and botulinum toxin as a Research Associate at the Caldicott Principles have become indispensable tools for managing personal confidential data, with over 22,000 Caldicott Guardians appointed not only within the NHS, but also in prisons, the Ministry of Defence, the police and overseas. Having already served as the first female president of the Royal College of Psychiatrists and the chair of the Academy of Medical Royal Colleges, Dame Fiona’s career encompassed many other positions of high office, including as Pro Vice-Chancellor of Oxford University and Chair of Oxford University Hospitals NHS Trust.

Obituary in The Guardian: www.theguardian.com/obituary-27fdhsn0r

DAME FIONA CALDICOTT DBE, FMedSci (1941 – 2021)

We are sad to report that Dame Fiona Caldicott (1960 St Hilda’s College), former Principal of Somerville College (1996 to 2010), died on 15th February 2021. Dame Fiona is perhaps best-known for the role she played in developing the Caldicott Principles, which govern the use of patient information within the NHS. Since the publication of the Caldicott Report in 1997, the Caldicott Principles have become indispensable tools for managing personal confidential data, with over 22,000 Caldicott Guardians appointed not only within the NHS, but also in prisons, the Ministry of Defence, the police and overseas. Having already served as the first female president of the Royal College of Psychiatrists and the chair of the Academy of Medical Royal Colleges, Dame Fiona’s career encompassed many other positions of high office, including as Pro Vice-Chancellor of Oxford University and Chair of Oxford University Hospitals NHS Trust.


SIR PETER HARPER (1939 – 2021)

Sir Peter Harper (1957 Exeter College) was a world expert on the genetics of inherited neurological disorders, particularly Huntington’s disease and muscular dystrophy. He also advocated the idea of genetic counselling – helping people to understand the implications of inherited disorders that might affect them and their families. Finding a genetic link between the two wasting conditions has led to highly accurate diagnostic and predictive tests for at-risk individuals and their families. Peter played a leading role in that discovery, and in establishing that in both disorders genes have unstable DNA sequences that tend to expand over generations, accounting for the phenomenon of “anticipation”, by which both conditions worsen, and occur at an earlier age, in successive generations. While there is still no remedy, his work has contributed to an understanding of the underlying molecular mechanisms, providing hope that a cure will one day be available.


DR DAVID CUTHBERTSON WEIR (1956 – 2020)

Dr David Weir (1975 Corpus Christi College), Respiratory Consultant.

he knows not where he is going
For the oceans will decide
It’s not the destination
It’s the glory of the ride...
~ Edward Monkton

David’s passion was medicine, all things respiratory from sleep medicine to malignancies and all things lung in between.

From his early Oxford study, to his finishing in Edinburgh, this shy arguative Mancunian carved a career across many countries laterally choosing to return to his early roots in the north of Manchester where he worked as a respiratory consultant. He was known as a great leader and educationalist, renowned throughout the whole of Greater Manchester and Europe for his potential led research into COPD, improving the lives of patients and supporting other would be medicos to do the same.

His dislike of bureaucracy was both a blessing and a curse as he relentlessly campaigned for improved healthcare for his beloved patients in the surroundings of his workplace.

His Oxford rugby and rowing days stood him in good stead for his hiking across his beloved Scottish mountains, always with a dog or two in tow and in the last few years, his home on the West Yorkshire moorland provided him with an endless landscape to roam.

His early culinary diet of port and Garibaldi biscuits (ahh, the student life) progressed to a love of all things grape and foiegras, preferring to grow his own produce, making jams, baking bread in his attempt to create his own version of the good life.

He worked right up until he left our lives doing the job he loved and will be greatly missed by all who knew him.

His wife, Jane

Obituary in The Guardian: www.theguardian.com/obituary-27fdhsn0r

The Times: www.thetimes.co.uk/article/professor-jane-mellanby-obituary-27fdhsn0r


Professor Bryan Sykes, the human genetecist who proposed that 95 per cent of Europeans could trace their ancestry to one of seven women living thousands of years ago, has sadly died at the age of 73. Professor Sykes pushed forward the analysis of inherited conditions, such as brittle bone disease and double-jointedness, and was one of the first to extract DNA from ancient bone. The same Bryan Sykes, holder of a personal chair at Oxford University, analysed hair supposedly taken from mythical hominids such as the Bigfoot and Yeti, and announced the results in a three-part television series. His delight in science and enthusiasm for communicating it to popular audiences were both aspects of an expansive personality that alternately inspired and exasperated his colleagues.


Kelp Violins

Dr Roger Bodley (1966 Worcester College), retired Radiologist

Following a concert is the local tulip fields of NW Tasmania, featuring violin music inspired by undulating Bull Kelp movements in the local sea, I thought it might be possible to make a violin body from the wide fronds of the kelp. Kelp has long been used by Indigenous Australians for baskets, food carriers and trinkets and now has a more widespread use as a food, soil fertiliser, biopolymer source and additive for cattle feed to decrease the methane production from rumination. We could not find references to its use as an instrument making material.

Problems were overcome by trial and error. My first violin shrunk to half the size as it dried and hardened! A medical mishap led me to store several fronds in the freezer to preserve them from their usual rapid, repulsive decomposition. When I came back to work on them I found that they were encased in solid ice and that they had been effectively desiccated and had a texture like thick leather. Two different approaches have created very attractive instruments that have a beautiful and surprisingly strong tone and volume.

Enlarged violin shapes are cut from the fresh kelp and frozen to desiccate them until no further ice forms, by which time they have shrunk to most but not all of their final shape and size. As they dry and shrink further in clamps, they come to behave like a rigid thermoplastic material and, using a hot air gun, can be softened, cut and moulded into new shapes relatively easily.

Kelp edges cannot be glued securely, so I have used waxed hemp thread to sew the body plates and sides together around a central wooden spine that called on skills learned in pelvic and plastic surgery. The kelp violin playing and instrumental radiology honed dexterity.

A friend, Dr Chris Henderson’s approach has been to use a more traditional construction method with internal wooden bouts but with an aluminium or carbon fibre tube spine and to screw and mastic the plates, bouts and rails together.

F holes would weaken the front plate in both violins so other holes were cut to minimise the different frequencies. In both designs, sound posts were thought to be of doubtful benefit as the kelp appears to have little inherent resonance but the arched front and back plates are prevented from collapsing (an early complication) by spacers around the spine.

The violins look interesting and attractive and have been very well received musically, despite the current Strings being fairly cheap and of low quality as these are “proof of concept” projects.

They have already been presented and played at a seminar of a group of seaweed researchers in The Institute of Marine and Antarctic Studies, Hobart, and will feature in an International Symposium on Seaweed in IMAS early next year.

Videos of kelp underwater and kelp violin playing:
bit.ly/OMA-WestPointKelp
bit.ly/OMA-ES-Violin

Kelp Violin and Underwater video courtesy of Emily Sheppard.
Slide Tray Art

Dr Chris Mason
(1977 Worcester College), Consultant Histopathologist, Exeter

“You may be wondering why these cartoon/drawings are so random? Let me explain... These pictures started life as doodles on Histology slide trays - done during those occasional moments of contemplation that punctuate the working day of every histopathologist (??). The shapes of pre-existing marks and blemishes were initially used as the inspiration for a drawing, however this soon progressed into a more planned and adventurous ‘artistic’ (???) process. Please enjoy...”

Mr David Williamson
(1974 Corpus Christi College), Consultant Orthopaedic Surgeon, Swindon

Crossword

ACROSS
1 Cut in dimensions reportedly (6)
4 I’d lace it to make it like an intestinal surface (8)
10 More than one up your sleeve? (3,6)
11 Sense disorderly state (5)
12 Abbreviated specialty sounds to have space (5)
13 Sometimes shaved, so not enough weapons (9)
14 Communicate without energy to the skilled and refractory (11)
16 Pat bad back (3)
18 By the sound of it, Asian national draw (3)
20 Juvenile school taxi back late endlessly (11)
21 Where surgeons perform? (7)
22 Not medicals, University crush garlic in the ship (9)
23 Tube found in first entrance (5)
24 Boat has time after achy mix-up (5)
25 Pioneer at home with no gold after tax (9)
27 Reload terrible nightmare (6)

DOWN
1 Physician sees fashionable flier (9)
2 Nearest little room where son hides (7)
3 Points to strange part of blood (5)
5 Home team beat sub I ring for internal damage (6,8)
6 Step in to move vine tree round the pole (5)
7 Stunned by disorganised Easter Day at first (7)
8 Outfit for doctor on Eastern ship (5)
9 Search everywhere to make a cleaner Britain (5,3,6)
15 A dog keeps quiet for man giving out the post (9)
17 Table rail gets fitted both sides (9)
19 Ace hare boxing could give you this (7)
21 Eye problems where pigs live reportedly (5)
22 Cut off point always (5)
26 Controlling the course of second peg band (8)

1974 Corpus Christi College, Consultant Orthopaedic Surgeon, Swindon
Dean of Degrees

Dr Peggy Frith MD FRCP, New College Dean of Degrees

Over the past several summers, I have been pleased to act in loco Regius Professor of Medicine at the Sheldonian degree ceremony. I proudly present all the medics who are finally graduating as qualified doctors. It’s always a splendid day, usualy with fine summer weather, happy students, celebratory parents, family and friends, and jollities in the colleges afterwards. It is a piece of theatre, a chance to dress up, and on the scarlet robes of an MD to ‘big-up’ for the occasion. There is a routine and a formula – literally the Latin intonation recited to the VC and Proctors: ‘Insignissimi Vice Cancellarii ...’ Graduands

Pledge their loyalty to uphold the University’s reputation, and college Deans compete in how well they indoctrinate their flock exactly when, and how loudly, to shout together their ‘Do Fidem!’ There are sometimes incidents of incorrect dress – no brown shoes, pale tights, unwelcome handbags or conspicuous jewellery, so that it is all fully ‘sub-fusc, below-the-brown’. Sometimes there are extra twists to the day. One year, an elderly Dean quietly collapsed in his chair and the observant VC had to signal to those Deans who might have some skills to revive him. The Sheldonian does have a_description in a cupboard, and now also has a canvas stretcher, so we can exit the stage promptly if we need to get to work in a more dramatic way than for a simple faint. I hope that we meet again in July 2021 to launch the next group of students. ‘Troops over the top’, into the real world, ready for action.

painting a pandemic: Osler house art competition

Dervla Carol
(2015 St Anne’s College)

The end of the first wave lent itself to reflecting on the experiences of the COVID-19 cohort. July stretched to a more liberated August – but the hospital was quiet. We debated a second wave - back to normal by Michaelmas, of course.

Of course – the next swell of the pandemic rolled into the autumn. It felt important for Osler House to tangibly acknowledge the experiences of medical students in a way which all members of the student body could relate to.

To commemorate the COVID-19 generation in a way that was sensitive to all experiences of the pandemic. Five very diverse entries were shortlisted and Matthew Gowell, portrait artist and final year medical student at Oxford, was voted the winning entrant with beautifully detailed examples of his previous work.

Due to COVID-19 restrictions, it has been over a year since I have been able to enter Osler House. When I return, I hope this piece will be showcased to allow everyone who has been absent feel like their experience has been remembered.

Oxford Medicine | Spring/Summer 2021

BLOOMIN’ ZOOMIN’

And what about the meeting, to be held right here, today?
Just when, from mass statistics, You thought you’d gone away.
Thanks to some genius, it can be right here in your room, seen, heard and sweetly spoken with that intervention, Zoom.

It really should be flaming June but the roses aren’t out yet. Some briar buds are already brown in the relentless wet.

Petals of wind-blown tulips fall, hide low in hazy gloom.
Take up the numbers’ challenge - get Bright gatherings from Zoom.

Dr Carole Robertson
(1952 Lady Margaret Hall), Retired

HOPE, HEALTH AND HAPPINESS

To the doctors and nurses on the front line
Emerging from darkness, from death and despair
You langed for some lightness to live without care.
From long hours of treating the sick and the dying
You just kept on going - not complaining or crying.

Now we look back at the year that has passed
With more knowledge and hindsight, we still feel aghast.
Tardy decisions and dithering fools,
The vaccine deniers, those flouting the rules

The conspiracy theorists, the Goings of Cummings
Hancock’s half measures and Boris’s bumbling-
We must look to the future and plan to move on
Get our lives back to normal and now have some fun!

Shop for frivolities, eat out, share a joke
Summer is here, we can party, meet folk,
See family, go clubbing or dating. Be free-
Let the world see you smiling - without PPE!

Dr Lesley Starr
(1976 St Anne’s College), Retired General Practitioner

THINGS THAT MEDICAL STUDENTS DO:
GET SMASHED

G- getting things wrong
E- exaggerating patients
T- trying to take bloods
S- sleeping past our alarms
M- moaning about... everything
A- asking stupid questions
S- stressing about exams
H- holding the retractor
E- escaping the ward for “teaching”
D- doing our best

Lucy Denlys
(2017 St John’s College)

HAiku - CLINICAL SKILLS

TEACHING

HaiKu - CLINICAL SKILLS

Frustrated with yet another missed cannula
I curse the fake arm

Written on a rainy afternoon at the end of May, these short poems reflect first-time experiences for three generations of Oxford Medical women.

Carole Robertson’s first Zoom experience,
Lesley Starr’s post-pandemic glimmer of hope and
Year 4 Medical Students’ first day at GWH Swindon.

ANSWERS TO CROSSWORD

ACROSS:
1. Incise
4. Diluted
10. Two tricks
11. Taste
12. Rheum
13. Underarms
14. Intractable
16. Dub
18. Tie
20. Propargylal
22. Surgical
23. Stent
24. Yacht
25. Innovator
26. Stearing
27. Ordeal
8. Dress
15. Scour the nation
16. Appointer
17. Bilateral
19. Earache
21. Theatre
22. Styes
23. Sever

DOWN:
1. Internist
2. Closest
3. Serum
5. Inside brusing
6. Intervene
7. Tasted

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Leslie Mathias
(2017 Christ Church)

Lisa Li
(2013 St Anne’s College)

Rosie Lynch
(2017 LMH)

Irene Mathias
(2017 Christ Church)

Lucy Denlys
(2017 St John’s College)
Osler House Boat Club News

Jennifer Holmes
(2019 St Hugh’s College), OHBC
Alumni Officer

Osler House Boat Club ended our first year on a high, winning double blades at summer torpids! We could not have asked for a better result, with two out of three crews qualifying, and medics of all different abilities competing from Katherine Maitland and Oriane Grant, fresh from the Oxford boat races to novices who only started this September. There was a nervous start to the week as the draw was announced and it was revealed that our W2 boat would in fact be chasing out W1 boat. However, the crews did not let this faze them and stepped up, with W1 getting a bump after an average of 18 strokes and W2 then powering through to get the overbump each day. They both bumped Catz, Trinity, Brasenose and Wolfson showing the world of Oxford college rowing that Osler House means business.

W1 bumped after an average of 18 strokes. W2 powered through to get an overbump each day.

This year was a spectator free event, however there was a livestream, now uploaded to First Sight Media’s YouTube if you would like to relive the action! The Osler Boats race at 12.25pm each day. www.youtube.com/user/FirstSightMedia/videos?view=0&sort=dd&shelf_id=0

If you want to support the Club further, why not donate for and help us get closer to our goal of getting a new boat for OHBC so even more medics can race in bumps next year.

Opportunities for Alumni to Row

As COVID-19 regulations relax, we are excited to announce the opportunity for alumni to get back in the boat, in collaboration with Oxford Medical alumni weekends. This will start with the 40th anniversary weekend on 31st July – any alumni of OHBC who would like to spend an afternoon back on the the Isis river, please do get in touch - we would love to see you!

Please email oslerhousebc.president@gmail.com.

Our GoFundMe page is www.gf.me/u/zcf4kp

Hannah Chase
(2018, Green Templeton College)
Third-Year Graduate Entry Medical Student in conversation with
Dr Lyn Williamson

Education for Sustainable Healthcare

What is ESH and why is it important?
Climate change is the greatest threat to health this century – that means us, right now. Education for Sustainable Healthcare (ESH) is teaching about the impacts climate change has on health and the sustainability of healthcare systems. It provides students with the skills required to communicate and drive change.

The pandemic has dominated the world for over a year and there is clear evidence pandemics are linked to climate change with predictions they will occur more frequently in the future. Furthermore, the NHS currently has the same global warming effect as the entirety of Estonia, so doctors need to sit up and acknowledge that by ignoring the issue they are actually causing patient harm. Overall, ESH is vital so doctors have the confidence to question, communicate and act, rather than stand by and allow the status quo until it is too late. The net-zero NHS by 2040 commitment is a powerful target and motivator.

What made you interested?
Prior to medical school, I used to be a vet and climate change felt very current and visible, such as changing disease patterns – not something theoretical in the future. At medical school I was struck by the lack of conversation about climate change and was shocked by the ignorance of some colleagues on the topic, rejecting the idea it would impact them or their patients in their lifetime.

What have been the ‘wins’ so far?
Some faculty members have been exceptionally fast at making changes to their course and there are many more promises for next year. Just a couple of examples include Dr Michele Peters changing every lecture in her sociology course to maximise relevant ESH content and Dr Jane Moore overhauling the women’s health curriculum to ensure ESH is integral to that rotation. The clinical skills lab has also been transformed to have a sustainability lens on all aspects including green fake blood as a visual cue! In the PHRC (www.phreportcard.org), Oxford came 20th out of 30 UK medical schools. Used to being top of league tables, this is an alien feeling for Oxford medical school and certainly another motivator.

Could you give some practical examples of how doctors’ working day to day in the NHS could make positive changes?
1. Since February 2020, NHS England have used over three BILLION aprons and facemasks. There are now hospital grade reusable ones by Revolution-ZERO so why not use them – is it just convenience?
2. Inhalers make up approximately four per cent of the NHS carbon footprint. Changing from MDI to DPI inhalers where possible is a simple way we can collectively make a huge difference (two per cent reduction with a 50 per cent switch).
3. I think the most important thing is to talk about it and challenge sometimes illogical established behaviours. Always ask why. I’ve been so uplifted by the responses and progress we have made by simply starting a conversation. Sustainability requires collaboration, not a top-down approach.

Any further acknowledgements?
I’d like to recognise Sarah Peters (a student peer) and Dr Ruchi Baxi (deputy director of pubic health) as core members of the student-faculty collaboration. In addition, Dr SanYuMay Tun, an expert in ESH, generously facilitated the workshops and has now taken on a consultancy role at the medical school until a newly funded position is filled.

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Osler House News

Thomas Brockwell (2016 Oriel College), President, William Osler House

I write this as the last of the hot cross buns goes stale. Much like Easter, the reopening of Osler House has proved a somewhat movable feast! Our long-running campaign is set to emerge victorious with our home to be reclaimed by the end of July.

With sport back on the agenda, the myosin heads of Oxford's clinical medics have been crossbridge cycling at rates not seen since pre-pandemic days. Buoyed by increasing financial support from alumni, the Boat Club's two women's crews and the mixed 'beer boat' are determined to storm Summer Eights and in June and get us back on the bumpers charts for the first time since 2016.

In rare defiance of the oars-based sporting hegemony under the dreaming spires, our Sports Reps threw down the challenge to the sporty male undergraduates. Subsequently, the women's crews have been running and cycled over a fortnight. Thus, the stage was set for the inaugural Stralvarity. Roused by a background of (online) cries of “bleed dark blue” and “where's your vaccine?”, the might of Osler House routed the Tabs with 1,749 miles run and 1,713 miles cycled to 940 and 1,383 miles run and cycled over a fortnight. With sport back on the agenda, the myosin heads of Oxford's clinical medics have been crossbridge cycling at rates not seen since pre-pandemic days. Buoyed by increasing financial support from alumni, the Boat Club's two women's crews and the mixed 'beer boat' are determined to storm Summer Eights and in June and get us back on the bumpers charts for the first time since 2016.

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Dr John Reynolds (1975 St Catz), Associate Head of Medical Sciences Division (Clinical Affairs) and Consultant Physician and Clinical Pharmacologist, John Radcliffe Hospital, Oxford

“Just four miles from level seven at the JR, the Otmoor RSPB reserve has been one of the places I gravitate to for a quiet hour or so at either end of the day whenever I can. It is a remarkable place with an abundance of wildlife where I can indulge my hobby of wildlife photography and let the bustle of the day job quietly subside”.