Oxford Medicine

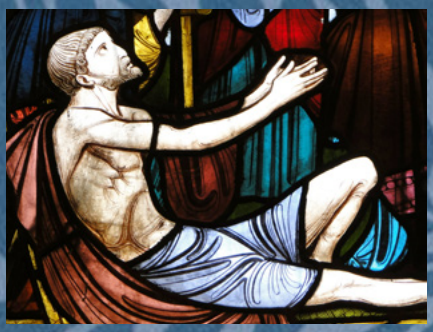
THE MAGAZINE OF THE OXFORD MEDICAL ALUMNI

University of Oxford Alumni

UNIVERSITY OF OXFORD

Summer 2023







The HLA Story Sir Walter Bodmer

SGLPT2 Inhibitors Dr Richard Haynes

Surgery is a Failure? Prof Dominic Furniss

Will AI Replace Doctors? Prof John Bell

Junior Doctors' Strike Dr Oliver Skan

Photo collage: 'Radcliffe Infirmary - History Hidden in Plain Sight' by Ian Baxter. *See page 39*

Oxford Medical Alumni Update

Oxford Medical Alumni (OMA) promotes good fellowship amongst graduates from the Oxford Medical School by offering regular meetings in Oxford and elsewhere for continued learning, exchange of ideas, networking and socialising.

BM BCH GRADUATION CEREMONY, SATURDAY 15 JULY

Congratulations to all our newly qualified doctors. We wish you every success in your future careers and welcome you into the alumni fold. Stay in touch (and don't forget to let us know your non-Oxford email address at: **www.alumniweb.ox.ac.uk/oxford-medical-alumni**).

GRADUATION REUNIONS 2023

Have been taking place throughout 2023 for those who qualified in 1972, 1973, 1983, 1993, 2003, 2013 and 2018. See pps 34,35.

RECONNECTING WITH FRIENDS AND COLLEAGUES

If you have lost touch with old friends and colleagues and would like to reconnect, please email us at **oma@medsci.ox.ac.uk** and we will do our best to help.

CAREERS ADVICE FOR JUNIOR DOCTORS

Some of our young doctors are seeking inspiration and advice on their future careers. A group of over 100 consultants across the range of medical specialities, have kindly offered to help. Dr Will Seligman has agreed to facilitate informal relationships around career advice. If you would like career advice or are interested in helping, please contact **Dr Will Seligman (seligman@gmail.com)**.

MEETING MINDS OXFORD 22-24 SEPTEMBER 2023

Prof Sir Chris Whitty, Chief Medical Officer, will present the Osler Lecture on Saturday 23 September. To find out more about the sessions on offer over the weekend, and to book your place, go to: **https://www.alumni.ox.ac.uk/event/meeting-minds**.

RECOLLECTING OXFORD MEDICINE

Inspired by Dr Peggy Frith (former President of OMA), this is a unique collection of oral history about medicine at Oxford from the 1940s onwards through a series of face-to-face interviews. Dr Derek Hockaday's hard work and skilful interviewing over the last 14 years has produced this special collection of memories. Included in this series are interviews with the late Professor John Ledingham **https://podcasts.ox.ac.uk/index.php/series/recollecting-oxford-medicine-oral-histories**

ARCHIVING OMA

Please contact me if you are interested in researching and collating OMA archives in areas such as Tingewick, Rowing, Medical School, Radcliffe Infirmary memories **Lyn.williamson@medsci.ox.ac.uk**

OXFORD MEDICAL LECTURE CLUB (OMLC)

The OMLC invites distinguished, entertaining and interesting speakers to talk about their specialty and latest developments in clinical and scientific research. Lectures are held on the last Monday of the month between 13.00 and 14.00. Join us either in person at St Hugh's College or online via Zoom. To see the schedule of upcoming speakers and topics, please go to: **https://www.medsci.ox.ac.uk/about-us/alumni/events-and-reunions/oxford-medical-lecture-club/oxford-medical-lecture-club**

2023 OMLC MEETINGS:

June 26 Professor Chris Conlon. HIV at 40

Sept 23 **Osler Lecture** with Oxford Meeting Minds
Professor Chris Whitty – The Role of the State, the Medical Profession, and the Public in Preventing Ill Health

Oct 30 Dr Sue Burge - Plants, Magic and Medicine

Nov 27 **Weatherall Lecture,** Professor Trish Greenhalgh - Doctors on Social Media: Virtue and Vices in the Digital Space

OMA ADVISORY BOARD (OMAAB)

Dr Lyn Williamson (President), Dr Roger Bodley (Honorary Treasurer), Dr Zoi Alexopoulou, Professor Sir John Bell, Sir Michael Dixon, Ms Christine Fairchild, Dr Laurence Leaver, Dr Tim Littlewood, Professor Calman MacLennan, Dr David McCartney, Professor John Morris, Mr Gokul Parameswaran, Professor Gavin Screaton, Dr William Seligman, Professor John Stein, Ms Emily Stone, Dr Catherine Swales, Dr Robert Wilkins, and Dr Kevin Windebank.

FUTURE CONTRIBUTIONS TO OXFORD MEDICINE

We welcome your suggestions and contributions for future articles – they may be clinical, scientific, timely, creative, reflective, artistic, humorous. Please contact **oma@medsci.ox.ac.uk**.

YOUR CONTACT DETAILS

Do we have the correct contact details for you? Let us know if you move house, change email address, or get a new phone number. Update your contact details and preferences on our website at **www.alumniweb.ox.ac.uk/oxford-medical-alumni** or by emailing **oma@medsci.ox.ac.uk**.

We are indebted to Christine Fairchild, Director of University Alumni Relations, for helping OMA over many years, and we wish her a happy, healthy and fulfilled retirement.

Editor: Dr Lyn Williamson, OMA President

Editorial Board: Dr Chris Winearls; Dr Tim Crossley; Dr Neil Snowise; Dr Luke Williamson, Dr Sarah Ball, Mr David Williamson

Designer: Mr Joe Graham

Cover Design: Ian Baxter

President's Piece

Dr Lyn Williamson
(St Anne's College, 1974) OMA President

Standing ovations are rare at medical meetings, but when SGLT2 inhibitor research was first presented to a delegation of diabetologists, they jumped to their feet and applauded. Professor Richard Haynes deftly brings us all up to speed with these drugs that have become pillars of therapy for renal, diabetes, and heart failure patients.

The last 60 years has seen HLA/MHC transformed from a curiosity to the conductor of the immune orchestra. Sir Walter Bodmer was there from the beginning and shared with us his memories of the early days of HLA research.

Don't try to lump or split this edition - it's varied and unpredictable- reflecting the range of talents and interests of our alumni.

Contributors have chosen to probe difficult subjects - Is Surgery a Failure? Will A.I. take our jobs? Sexism at Osler House? Doctor Stereotypes? Why the junior doctor strikes aren't going anywhere, yet.

The medical student pages bubble with energy and a humbling drive to make the world better place.

I am grateful to them all, and especially grateful to my family and friends in the editorial team.

Enjoy this edition. We hope to give you food for thought as well as a deep sense of belonging.

At the time of going to print we received the sad news of the death of Professor John Ledingham, founding member of Oxford Medical Alumni.

His influence is woven deep into the fabric of Oxford medicine and Oxford medical school. We will present a full tribute in our next edition.
R.I.P JGGL

Contents

SGLT2 Inhibitors: Another Benefit From Apple Trees

Professor Richard Haynes DM, FRCP *(Magdalen College, 1997)*
Professor of Renal Medicine and Clinical Trials, Nuffield Department of Population Health, University of Oxford

Inhibitors of the sodium-glucose co-transporter 2 (SGLT2) protein feature heavily in modern medical school curricula and treatment guidelines, despite only becoming available commercially in the early 2010s. Although many readers will have left medical school in ignorance of this class of medication, all would have been taught about the concept of the kidney's 'glucose threshold' (the concentration of glucose in blood above which glucose appears in the urine, and once exceeded, the urine glucose concentration is positively associated with the blood glucose concentration). It was the discovery of the mechanism underlying this phenomenon that led to the development of SGLT2 inhibitors, although their benefits probably far exceed the intentions of their creators.

Familial renal glycosuria is a genetic condition in which the renal glucose threshold is reduced such that glucose appears in the urine despite normal blood glucose concentrations. This condition was recapitulated pharmacologically in the 1930s by infusing phlorizin, an extract from apple tree bark. However, it wasn't until the 1990s that the proteins involved were elucidated and their genes cloned. The sodium glucose co-transporters were identified and localised to the kidney's proximal convoluted tubule where they are responsible for reabsorbing filtered glucose (which would otherwise be lost in the urine and therefore waste calories). SGLT2 is a high-capacity, low-affinity transporter expressed in the early proximal tubule and is responsible for reabsorbing over 95% of filtered glucose in health. SGLT1 is a low-capacity, high-affinity transporter expressed later in the proximal tubule which the remaining glucose. It is also expressed in the gut where it absorbs dietary glucose. If SGLT2 function is blocked, SGLT1 can compensate but only incompletely. Consequently, SGLT2 inhibitors were developed in the 1990s as a potential treatment for diabetes.

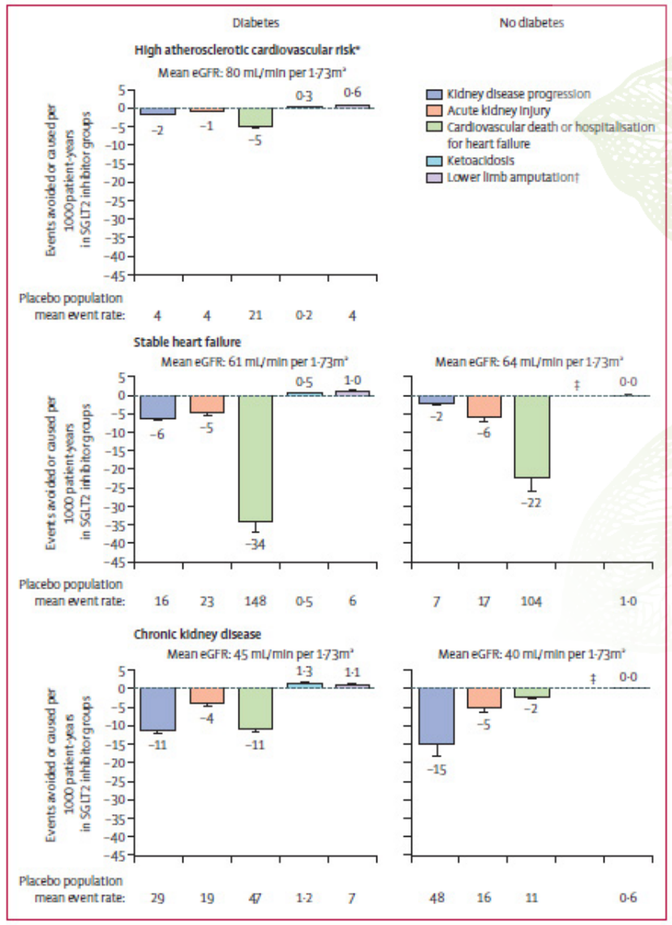
Dapagliflozin was the first SGLT2 inhibitor to be approved for the treatment of type 2 diabetes. Its effects on glycaemia are modest (reducing HbA1c by 0.5-1.0% on the absolute scale). Following the late discovery of adverse cardiovascular effects of another class of diabetes therapy (the 'glitazones'), the US Food and Drug Administration mandated that any new diabetes treatment must be assessed for cardiovascular safety. This ruling has led to a plethora of large, randomized controlled trials of treatments for type 2 diabetes. The first of these trials to complete for an SGLT2 inhibitor was the EMPA-REG OUTCOME trial of empagliflozin. This trial was designed as a non-inferiority trial (i.e. to demonstrate that the new treatment was not worse than current best practice with respect to cardiovascular risk). However, the protocol also included a test for superiority (only to be done if the first hurdle of non-inferiority was passed). To many people's surprise, empagliflozin was shown to not only be non-inferior to placebo, but also to be superior. The risk of cardiovascular death in particular was reduced by 38% (95% confidence interval 23-51%). In addition, there was evidence that empagliflozin slowed the rate of decline in kidney function. These two results stimulated considerable interest in both the cardiovascular (in particular, heart failure) and nephrology communities.

Since the publication of the EMPA-REG OUTCOME trial in 2016 a further 12 large randomized controlled trials testing different SGLT2 inhibitors in three main populations have been published. Two large trials of other SGLT2i among patients with type 2 diabetes at high-risk of cardiovascular disease largely confirmed the results of EMPA-REG OUTCOME and provide support for guidelines recommending that SGLT2 inhibitors be used early in the management of patients with type 2 diabetes. One of these trials (of canagliflozin) raised the hypothesis that SGLT2 inhibitors might increase the risk of lower limb amputation. However, this result is very different from the other trials and may just have been a chance finding and not a true hazard of this class of drugs.

Trials in heart failure populations have demonstrated substantial benefit, with SGLT2 inhibitors reducing the risk of cardiovascular morbidity and mortality in patients with heart failure with reduced ejection fraction (HFrEF) and also in patients with heart failure with preserved ejection fraction (HFpEF). SGLT2 inhibitors are now considered first-line therapy for patients with HFrEF along with renin-angiotensin blockade, neprilysin inhibition and beta-blockers. The improvements in outcome in patients with HFpEF were particularly welcome as treatments to improve prognosis in this condition had not previously been identified. A key advance of these trials was the inclusion of people who did not have diabetes, who appeared to derive similar benefits as people with diabetes. This sheds some light on the mechanism of these drugs which does not appear to be dependent on the improvements in diabetes control they provide; it also increases the population who can benefit from SGLT2 inhibitors substantially.

The third major population in whom SGLT2 inhibitors have been assessed is patients **with chronic kidney disease**. The first such trial focussed on patients with diabetic kidney disease (CKD) and showed a substantial reduction in the risk of progression of CKD and hence of the need for dialysis or kidney transplantation. Two other trials have both confirmed this finding and extended it. The DAPA-CKD trial included some participants without diabetes who – as in the heart failure trials – appeared to benefit as much as participants with diabetes. The EMPA-KIDNEY trial (run by Oxford University's Clinical Trial Service Unit) found similar results but extended the findings to a much broader population of people with CKD. The benefits were again unaffected by diabetes status but did appear to be modified by how much albuminuria (albumin leaking into the urine through damaged kidneys) participants had.

> *"It is not just the fruit of the apple tree that keeps the doctor away.*



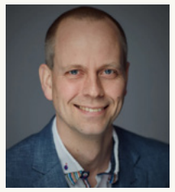
Absolute benefits and harjs of SGLT2 inhibition per 1000 patient-years by diabetes status patient groups.

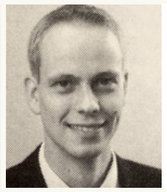
No drug is without **side effects**. The effect of these drugs on **urinary tract infections** is very modest (a relative risk of about 1.07 which means that for 15 people being treated with an SGLT2 inhibitor who develop a urine infection, only one of those infections was caused by the SGLT2 inhibitor). They do cause **a clear excess of genital candida infections**, but this is **easily treated** and does not necessarily recur if the SGLT2 inhibitor is continued. The metabolic effects of SGLT2 inhibition do increase the risk of ketoacidosis; this causes a small excess in people with type 2 diabetes (about 1 case for every 1000 patients treated for 1 year), but a larger excess in people with type 1 diabetes. Trials show that SGLT2 inhibitors can improve glucose control in people with type 1 diabetes but the risk of ketoacidosis is considered by many to be too large to make this worthwhile.

SGLT2 inhibitors were thought to increase the risk of acute kidney injury, probably because of the expected dip in kidney function when they are started. This 'dip' reflects a reduction in the pressure within the kidney glomerulus which is probably a good thing and contributes to the subsequent slow rate of decline. However, SGLT2 inhibitors actually **reduce the risk of true acute kidney injury**, possibly because SGLT2 is a major consumer of energy in the tubule and inhibiting it makes the tubule less susceptible to ischaemic injury. This has led to **SGLT2 inhibitors now being assessed in acutely unwell patients (including those with COVID-19 or receiving intensive care) where they might provide organ protection**.

Overall, the trials of SGLT2 inhibitors have shown very consistent benefits on important clinical outcomes in a broad range of patients, and demonstrate that we now have another effective treatment for conditions previously considered to have a poor prognosis. They are also being assessed in acute conditions and so may join a select group of medications with proven benefit in both acute and long-term care. It would appear that **it is not just the fruit of the apple tree that keeps the doctor away**.

Surgery is a failure - from operating theatre, to bench, to job centre?





Professor Dominic Furniss *(Christ Church, 1996)*
Professor of Plastic and Reconstructive Surgery, NDORMS, Oxford University

A provocative title for a practising hand surgeon? Perhaps, but bear with me as I describe for you the philosophical drive that guides my work as a surgeon-scientist in Oxford. I hope that the physicians amongst you will recognise the key value of surgeons in research. I hope the surgeons will rest assured that we still have an important role to play in the future of medicine. And finally, I hope to challenge everyone to think more fundamentally about how medicine might be transformed in the coming decades.

Why is surgery a failure?

I was a clinical medical student in Oxford between 1996 and 1999 and had the pleasure to work with some giants of surgery. I was house officer for both the late Prof. Sir Peter Morris, and Prof. Neil Mortensen, both Presidents of the Royal College of Surgeons. I was also the on-call PRHO for the final shift of Mr Mike Kettlewell – Millennium Eve 1999, complete with champagne in recovery (a cup of tea only for me). No wonder I chose surgery.

However, it was in the Nuffield Orthopaedic Centre where I found my true inspiration, watching the elegant, technically accomplished hand surgery of Henk Giele and Peter Burge (Figure 1), two fantastic surgeons who I have since had the pleasure to call colleagues. Peter used to run a combined Hand Surgery – Rheumatology clinic every Friday, where dozens of patients were seen, and several would be listed for reconstructive surgery. These patients were suffering from the effects of years of destructive inflammation in the joints of their hands, leading to deformity and disability. In the 25 years that have passed since then, the treatment of inflammatory arthritis has been completely revolutionised with the advent of biologic agents. These drugs are now deployed early in disease to prevent problems from occurring in the first place, and as a consequence we now operate on the hands of very few patients with RA. Trainee hand surgeons now barely see any rheumatoid hand surgery. Rheumatologists would now consider the need for reconstructive surgery in their RA patients to be a failure of medical care.

There are other examples of where surgery, once commonplace, may now be considered a failure of medical care: e.g., vagotomy for peptic ulcer disease, and coronary artery bypass grafting for ischaemic heart disease. The common thread that runs through these conditions is that to develop new **revolutionary** treatments, we first needed to understand the biology of the condition. Marshall and Warren won the Nobel Prize in 2005 for their discovery of H. Pylori and its role in peptic ulcer disease.

With knowledge of this biology, vagotomy was consigned to the history books. Similarly, Maini and Feldman, amongst many others, defined the critical role of TNF in the biology of RhA, and showed that anti-TNF antibodies generated a biochemical and clinical response in patients, paving the way for the multitude of biologics available today. A massive research effort has been expended on understanding the biological basis of atherosclerosis, and therapeutics that prevent the development of atherosclerotic complications is a major focus of medicine today.

Surgeons are critical in understanding the basic biology of disease.

My perspective on understanding the biological basis of disease is rooted in genetics, my very first passion as an undergraduate in Cambridge. Chronic diseases are "complex" diseases, whereby people have a genetic predisposition to a disease, and then several non-genetic factors push them over the threshold into what we would call a disease state. My research focuses

Figure 1: Peter Burge and Henk Giele pictured in 2014

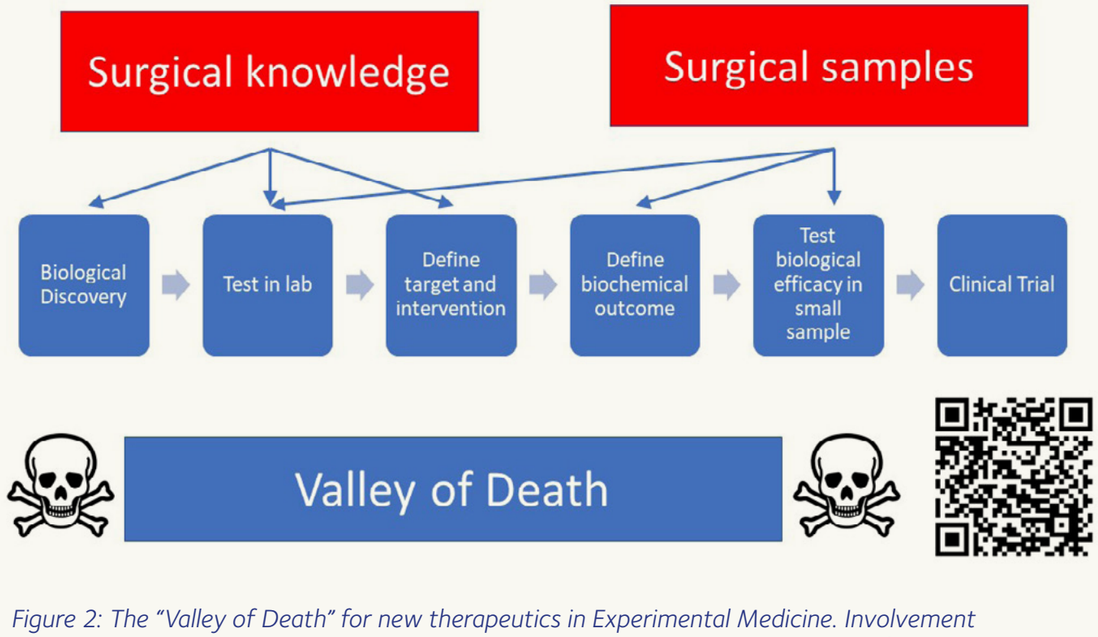


Figure 2: The "Valley of Death" for new therapeutics in Experimental Medicine. Involvement of surgeons is critical at all stages. QR code leads to our paper on a genetic target for hand osteoarthritis that is just about to enter an experimental medicine clinical trial.

on uncovering both the genetic and non-genetic factors that predispose to surgical disease.

Currently, the best way of looking at the genetic basis of these complex diseases is to use a study design called a Genome-Wide Association Study (GWAS). We don't profess to have any knowledge of what is really behind the biology of a particular disease, we just know that there is a genetic predisposition, from twin or family studies, and so we look across the entire genome for signs of that genetic predisposition.

The markers we use are called Single Nucleotide Polymorphisms (SNPs). In our entire genome we have about three and a half billion base pairs, and out of those we all vary at around 10 million SNP sites - that's what makes us different from each other. In a GWAS, we take thousands of cases and thousands of controls without a disease, often drawn from large population-based studies such as UK Biobank. We compare their genotypes at around a million of these SNPs spread evenly across the genome. We test to see whether any of those SNPs are more common in cases compared to controls. These SNPs then point the way to genes, molecules, and pathways that are critical in the development of disease.

In hand surgery, the three most common conditions I encounter in the elective clinic are carpal tunnel syndrome, Dupuytren's disease, and hand osteoarthritis. Each of these diseases is typical of a complex disease, and my group and others have defined the common genetic basis of these diseases. As surgeons, we are key to defining the phenotypes in patients who we treat on a daily basis. For example, in many GWAS, researchers ignore surgical codes, often because they do not have surgeons as part of the research group. This ignores patients who often have a more severe phenotype (that required surgery), and therefore may have a greater genetic predisposition. My group has improved the genetic understanding of both varicose veins and abdominal hernias using our surgical knowledge to refine the definitions of cases.

Surgeons navigating the Valley of Death

The experimental medicine pipeline is illustrated in figure 2. There is a well-recognised "Valley of Death" for new discoveries, with most failing to translate to new treatments. This phase requires the in-depth study of molecules and pathways in the lab. Again, as surgeons we have a critical role here, and can help navigate this Valley of Death effectively. We have unparalleled access to patient tissues through the operations we perform, and these tissues can be used to create realistic in-vitro, ex-vivo, and even animal models of disease. These human-tissue-based experiments are more likely to lead to discoveries that translate into the clinic. The biological efficacy of new treatments can then be rapidly assessed in a small experimental medicine study where patients awaiting surgery are given a drug, and the effects are measured on pre-defined biochemical outcomes in tissue resected as a part of the operation.

I want to illustrate this concept using some of our work on carpal tunnel syndrome (Figure 3). CTS is a very common compression neuropathy of the median nerve at the wrist, and a typical complex disease. Our genetic work has shown that molecules involved in organisation of the extracellular matrix (not neuronal genes) are key to the pathology. We have therefore focussed

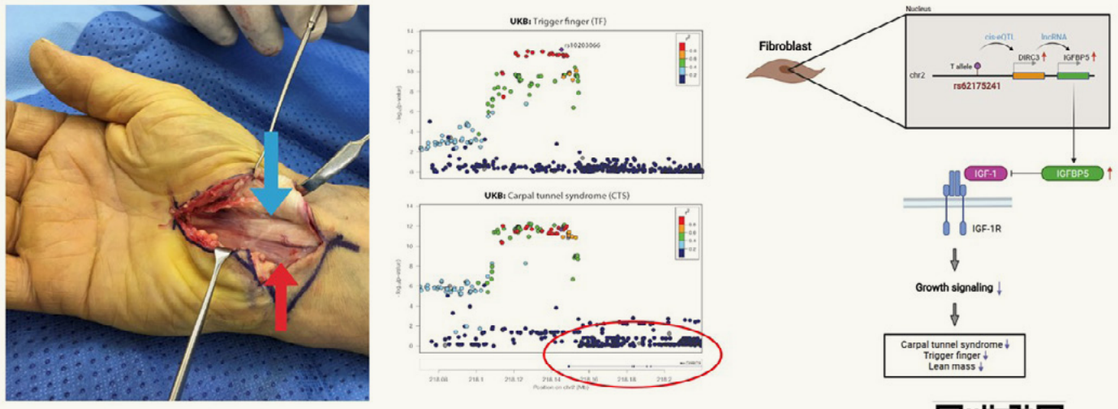


Figure 3: IGF-1 as a therapeutic target in Carpal Tunnel Syndrome.

Left panel: *Extended carpal tunnel decompression showing constricted median nerve (blue arrow) and abnormal hypertrophic flexor tenosynovium (red arrow).*

Middle panel: *LocusZoom plots show significant associations of both CTS and trigger finger close to DIRC3.*

Right panel: *Proposed pathological model at the locus, where the protective allele leads to increased IGFBP5, and subsequently decreased IGF-1 signalling in the flexor tenosynovium. QR code leads to our paper on the shared genetic basis of CTS and trigger finger.*

our attention on the tenosynovium of the flexor tendons that pass through the carpal tunnel along with the median nerve. This tissue is much more abundant in cases compared to controls and causes increased pressure and tethering of the median nerve. We have also shown a common genetic link with trigger finger, another disease caused by overproduction of the flexor tendon tenosynovium. The SNPs identified were close to a gene called DIRC3, that regulates the production of IGFBP5 – an antagonist of IGF-1 signalling. In samples of tenosynovium resected during CTS surgery, we were able to show that the SNP that protects against CTS and trigger finger increases IGFBP5 expression. Also, CTS and trigger finger patients have higher levels of IGF-1 in their blood compared to controls. Patients with acromegaly, who also have overactive IGF-1 signalling, are also more likely to get carpal tunnel syndrome. This means that the IGF-1 pathway is a key biological target in CTS, and experimental medicine studies are being planned currently.

With strong collaborations, we have also defined therapeutic targets in hand osteoarthritis and Dupuytren's disease, and they are at different stages within the Valley of Death. For hand OA, the sunlit uplands that mark the end of the Valley are tantalisingly close. We will begin recruitment in September 2023 to a study of a drug treatment in patients on the waiting list for trapeziumectomy, measuring a pre-defined biochemical outcome in the resected cartilage. A positive result may lead to a new treatment for this common condition. In Dupuytren's disease we are at an earlier stage, having defined a key molecular target based on genetic and biochemical analyses. Jagdeep Nanchahal's group at the Kennedy Institute for Rheumatology has already made some headway using anti-TNF agents. In each study, surgical samples have been key to evaluating candidate therapeutics in the lab. If we have success across these three common hand diseases, transforming care for these 'surgical' diseases, perhaps I will indeed need to visit the Job Centre!

Is medicine a failure?

I hope I have convinced you that whilst surgery is often a consequence of failure to understand and treat pathobiology, there is still a need for surgeons to be intimately involved in research. But a broader question is whether medicine as a whole is a failure? When I consider the diseases I have discussed in this article, and the biology of many diseases that we treat, one risk factor stands out above all others: increasing age. Indeed, the four chronic physical conditions responsible for most of the morbidity and mortality in our society – cancer, atherosclerotic disease, metabolic syndrome, and Alzheimer's disease – are all diseases of aging. The theme of surgical research is to identify diseases early, and prevent them causing problems, and prevent them requiring surgery. More generally, medicine must make the same fundamental shift to prevent or delay the onset of common chronic conditions before they cause such devastating morbidity and mortality – extending "health span" as well as life span. We must understand ever more fundamental aspects of biology – what is aging at a cellular and metabolic level? Can it be modified? Will modification prevent the onset of diseases of aging? Increasingly, the answer to these questions looks to be yes. Addressing and optimising our cellular metabolic health and aging has the potential to bring revolutionary benefits in the coming decades.

The Story of HLA: from serology to physiology - a personal account of the Oxford contribution

Professor Sir Walter F Bodmer *Department of Oncology, First Oxford Professor of Genetics, former Head of ICRF and Principal of Hertford College, FRS and HLA pioneer.*

Prologue

The story starts at Stanford University in the 1960s where I met Rose Payne who, with Jon Van Rood, had found that multiparous women who had not had blood transfusions had antibodies that reacted with the lymphocytes of the father and their offspring, as well as with unrelated subjects. This implied that the mothers had produced antibodies against lymphocyte surface determinants their children had inherited from their fathers. These reactions would be less complex than those from multiply transfused unrelated patients analysed by Jean Dausset[1], Rose Payne and others. They realised that such sera could be used to study a new antigenic system on lymphocytes.

Van Rood realised that sera reacting with the same determinant could be identified by the fact that, in spite of containing many different antibodies, they showed correlated reactions with random donors. His 1962 thesis showed how this could be used to define new antigens on lymphocytes, which he called 4a and 4b, now known as HLA-Bw4 and Bw6. Rose Payne asked me to help analyse the complex patterns of reactions she had found with her multiparous derived sera on a random panel of donors and handed me van Rood's 1962 thesis. My statistical background working with the great statistician and geneticist, RA Fisher, led me to see that the problem could be solved by simple clustering of the serum reactions using 2x2 analysis. I was busy becoming a molecular biologist so I suggested to my wife Julia who was busy child rearing, that with her background in statistics, gained while studying PPE in Oxford, she could help with analysing these serum reactions.

She wrote the programme and did the analysis that discovered what are now called HLA-A*1 and A*2 and defined what is now the HLA-A locus by a series of alleles (1). Julia had learned virtually no biology, never did a PhD, but was eventually awarded an Oxford DSc. She became a renowned and fondly admired figure in the HLA field.

Oxford 1970 - 1979
Setting up

Julia and I came to Oxford in 1970, where I had been appointed the first Professor of Genetics after meeting Jim (Sir James) Gowans when he was visiting San Francisco. By 1970, we had an HLA laboratory in Stanford which had contributed to the identification of the multi-allelic HLA-A and B loci. We had done field trips, with Luca Cavalli-Sforza, to Africa to study the distribution of HLA types in pygmy and Bantu populations. With Jim Gowan's helpful advice, we were awarded an MRC programme grant to set up for HLA typing in Oxford. We were generously helped by Peggy (Dr Margaret) Pickles and her husband, the noted pathologist Alastair Robb-Smith. Peggy was an expert in red cell blood groups and Rhesus diseases of the newborn and had already set up HLA typing in Oxford.

> ***"HLA types were truly the "Major Histocompatibility System."***

By 1970 it had been shown that the HLA types were truly the "Major Histocompatibility System". Paul Terasaki had shown that kidney transplants from HLA identical sibs had very significantly better survival than those from non-HLA identical sibs. Serological typing had suggested close linkage between whatever genes determined the types, so 1/4 of sib pairs would be expected to be HLA identical. HLA "tissue typing" for transplantation matching soon followed.

The functional role of H-2 types (the mouse equivalent), and so of HLA types, was first elucidated in a short paper by Zinckernagal and Doherty published in Nature in 1974(2), work for which they received a Nobel prize. They had shown that T cells from a mouse immunised by the LCM (lymphocytic choriomeningitis) virus would only kill LCM infected cells that were from mice with the same H-2 type. This meant that immune recognition by the T cells depended both on the virus type and on the H-2 type of the attacking T cells. Their explanation was that "the process of virus maturation through the cell membrane causes changes in self components, which are recognised only within the syngeneic or semi-allogeneic system." This implied that the T cell recognised a combination of part of the virus connected with the T cell's own H-2 type. This put Major Histocompatibility types at the centre of immunological function.

HLA and disease associations

Our first study on the association between HLA and disease was carried out at Stanford in collaboration with Hugh McDevitt who chose SLE (Systemic Lupus Erythematosus), an autoimmune disease, because of his discovery of the association between

Walter and Julia just about to leave Stanford 1970.

H-2 and specific immune responses made at the same time as Bernacerraf 's discovery of the genetic control of immune responses. Lilly had just discovered the associations between mouse virus induced leukaemias and H-2 which led to a flurry of HLA and disease associations towards in the late 1960s.

The first HLA association was with Hodgkin's Disease, as described by Amiel at the 1967 international HLA workshop. In 1972, I proposed that the basis for such an association may be variation at a closely linked locus in linkage disequilibrium with the markers gene's locus (3). This idea underlies the basis for Genome Wide Association Studies (GWAS) and marker imputation, which became a very active research area following the advent of DNA-based genotyping technologies (4,5). Investigation of HLA and disease associations continued with Hugh McDevitt (6) supporting the suggestion that the extensive HLA polymorphism was the result of frequency dependant selection where new HLA alleles were at an advantage for immune-based resistance to new infections, sometimes pandemics (7). This still provides a better explanation for HLA polymorphism than the classical balanced theory of polymorphism based simply on heterozygote advantage.

HLA Class II and international workshops.

The Mixed Lymphocyte Reaction (MLR) occurs when white blood cells from different individuals, cultured together, stimulate each other to divide. This did not occur when the individuals had the same HLA types as then defined, but these new types did not obviously correspond to the then known HLA types.

> *"This put Major Histocompatibility type at the centre of immunological function.*

This stimulated the search for sources of antibodies that could identify these new types. Van Rood discovered these first by using a complex assay. Our Oxford lab was amongst the first to detect specific HLA-linked antigens on B lymphocytes using a variety of less complex serologic assays, including, for example, tests on: the Burkitt lymphoma B cell line, Daudi, known not to express HLA-A,B,C on its surface because it lacked expression of ß2 microglobulin (8,9). How then to resolve the mixture of similar but varying results from many different laboratories?

The answer was HLA International Workshops. These were started by Bernard Amos, an early H-2 and HLA pioneer, in 1964 just at the time we had defined HLA-A*1 and 2. The aim was to enable active working collaborations between different laboratories, initially by each testing a common set of cells with their own panel of antisera to see if the results matched up with each other. These workshops gradually grew in their scope of activities and the widening range of participating laboratories from all over the world. They also, through an associated nomenclature committee, ensured a common language to define the HLA system and its variants as the understanding of the hugely complex system developed. This remarkable international collaboration has continued right up to the present -. I have participated in all the workshops, except the first. Julia was very active in these workshops in particular the 5th, organised in 1972 by Jean Dausset with the aim of studying the worldwide distribution of HLA variant frequencies. Our studies on HLA distributions in Israeli Arab, and Jewish populations, provided some of the first genetic evidence for a common element in diverse Jewish populations. Julia completed the editing of the final volume of workshop results while Jean Dausset went on holiday to recover!

The 7th international HLA workshop in 1977 in Oxford.

Julia and I organised the 7th HLA International Workshop in Oxford with the primary aim of sorting out what were then called the Ia types on B lymphocytes, following the H-2 nomenclature, and which became the Class II HLA types DR, DQ, and DP by the end of the workshop. This UK team included Richard Batchelor, Hilliard Festenstein, Andrew McMichael (just returned from McDevitt's lab in Stanford) and Peter Morris who had already established himself in the HLA field.

For the workshop, the world was divided into 20 regions, each with its own regional officer. 150 laboratories participated, studying 360 antisera on a panel of a total of 3,000 lymphocytes from different individuals covering all of the world's major ethnic groups. For analysis of all the submitted data, we relied on the rather meagre Oxford University computing facilities over weekends, run very effectively by our 19-year-old son! We used 200,000 punched cards and recorded the data on 1,500 microfiches, a huge body of data which would now easily fit on a small memory stick. There were agreed common protocols for the B cell serology, and hidden duplicate cells and sera to provide quality control. The results were clear and

> *"...this suggested the lack of HLA Class 1 expression was due to selection for resistance against T-cell immune attack...*

enabled the definition of what are now called the DR, DQ and DP types, and the HLA Class II genes.

The workshop was a stimulus for coordinated HLA and disease studies. Julia did an intriguing study with Allen and Hilary Hill at Stoke Mandeville Hospital, which showed that the strong association of B27 with Ankylosing Spondylitis (AS) was seen in women as well as men. The disease was however less severe in women and so B27 typing helped distinguish AS from other causes of lower back pain (10).

The workshop also promoted our involvement in a long-term study of the HLA association with Type 1 diabetes. This had already been shown to be strongly associated with DR3/DR4 heterozygotes, but our data suggested that this was probably an association with DQ because it was formed from polymorphic α and ß chains and so could create distinctive heterozygote combinations while DR could not, because its α was effectively invariant (11). This was later confirmed by Todd, Bell, and McDevitt (1987 (12), creating another HLA link with Oxford.

Somatic cell genetics and monoclonal antibodies (MAbs)

Our somatic cell genetic studies in Stanford created cell hybrids between fresh human lymphocytes and a mouse cell line. Weiss and Green had shown that such hybrids tend to lose their human chromosomes and so human genes could be mapped to their chromosomes by seeing which human chromosome, identified by its banding pattern, was consistently associated with the presence of a particular gene product. This mapped the human ß2m gene to chromosome 15 and not to Chromosome 6 where the HLA genes are sited (13).

In the 1970s, Cesar Milstein and Georges Kohler (also Nobel Prize winners) used hybridoma technology to produce monoclonal antibodies which have become essential research and therapeutic agents.

In our first work on monoclonal antibodies with Milstein in Cambridge and Alan Williams in Oxford we helped to characterise a MAb made against membrane from human tonsil lymphocytes. We showed it did not react with the HLA Cl I -ve Daudi cell line, but with virtually all other human tissues apart from red blood cells. The target mapped to chromosome 6 in our human mouse hybrids and was confirmed to be against a non-polymorphic segment common to the HLA-A, B and C gene products (14). This antibody, W6/32, has been extensively used in studies on the HLA Class I gene products.

The production of MAbs against various components of the HLA system, and their use for biochemical and tissue distribution studies, became an important part of our laboratory activities. One of our first MAbs against polymorphic HLA type, HLA-A*2, was made by Peter Parham. Frances Brodsky's DPhil thesis described MAbs against various HLA determinants including: β2m, polymorphic HLA Class I and Class II determinants and a non-polymorphic antibody that reacts against all DR types (15). Some of these are still used.

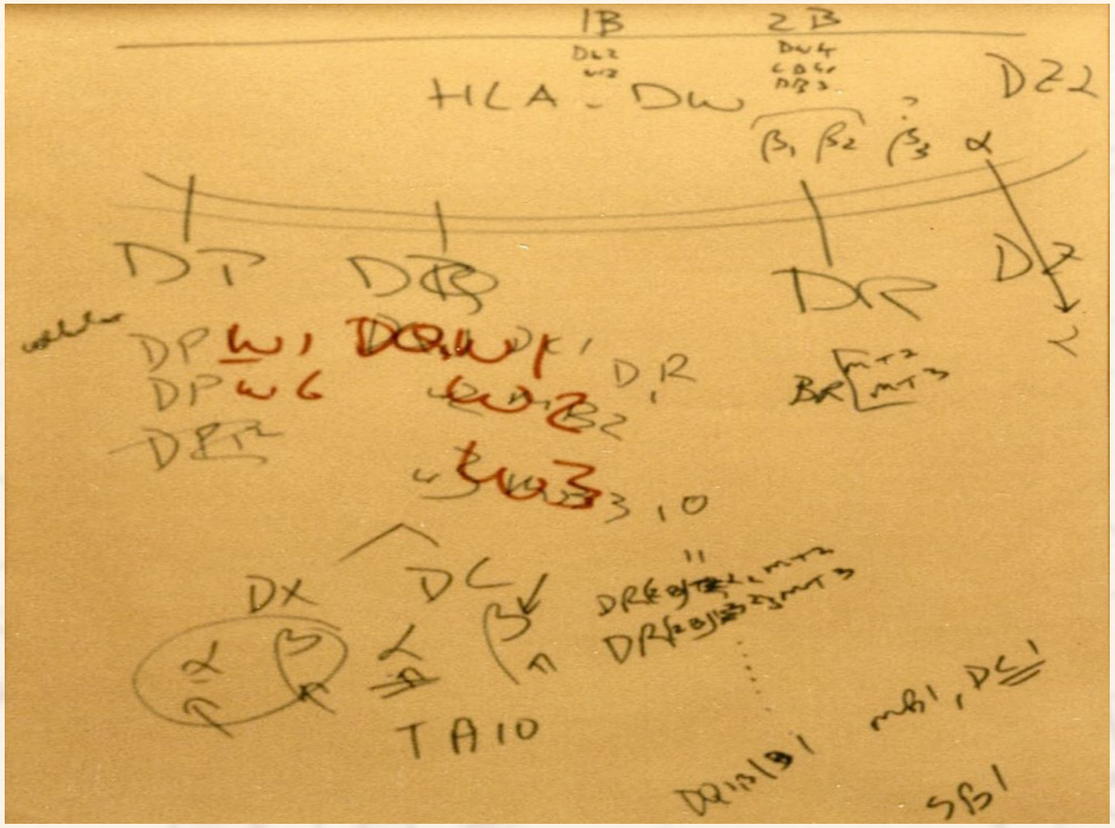
An early result from the use of the monoclonal antibodies on cell lines was the observation that a colorectal cancer derived cell line, Lovo, like Daudi, did not express HLA Class I determinants on its surface. This led to the suggestion that this lack of HLA Class I expression was due to selection for resistance against T cell immune attack, since T cell recognition of cellular targets depended on the presence of HLA Class I on the cell surface.

Another similar observation was the lack of HLA Class I on syncytial trophoblasts, which could explain how the maternal immune system avoids attacking the earliest stages of differentiation (16).

The chemistry of HLA

Immunochemistry was a forte of the Oxford Biochemistry department, headed by Rodney Porter who received a Nobel Prize in 1972 for work on the structure of immunoglobulins. Knowledge of the structure of HLA determinants was needed to elucidate their function. Porter advised me to talk to Michael Crumpton who had worked with him at St Mary's Hospital on antibody binding sites and our collaboration continued for many years. Early results were the first amino acid sequences of a part of HLA-A and B proteins (17) and the structure of the HLA Class-II proteins (18).

Julia, Helen and Walter Bodmer



How to work out new nomenclature _ DR, DQ, and DP

Oxford from 1990 - present

Julia and I moved to the Imperial Cancer Research Fund (ICRF) in 1979. Our research on HLA continued there and included the first DNA cloning of an HLA Class II gene, DRA encoding the nonpolymorphic HLA-DRα chain. When, however, the ICRF supported the setting up of a new Medical Oncology unit in Oxford towards the end of the 1980s, Julia and I decided to have a Cancer Immunology laboratory in the new unit. This provided a link between the ICRF HQ London and its new Oxford outpost.

The 1980s were a period in Oxford of major expansion and discovery in work on the H-2 system in the mouse, which was very relevant to future similar work on HLA. This included the pioneering research of Alain Townsend and colleagues showing how peptides from degraded proteins inside cells were presented on the cell surface by attachment to the H-2 Class I products. This was the explanation of Zinckernagal and Doherty's demonstration that T cell recognition of immune targets depended on a combination of the target and the T cells H-2 type. It is now known that this combined recognition process applies to all HLA Class I and II products. Andrew McMichael and colleagues did further extensive studies on peptide recognition by T cells in combination with the H-2 products, especially in the context of recognising flu infected cells.

Our HLA work in the Oxford laboratory included novel developments of DNA/ PCR-based HLA typing (19) and further studies of loss of HLA expression in cancers, particularly if they are mismatch repair defective, primarily due to mutations causing loss of ß2m expression (20). This was further evidence of strong selection to evade T cell immune attack particularly in tumours with a high load of mutations, and is now the basis for successful treatment of mismatch repair defective cancers using immune checkpoint inhibitors.

Epilogue

In this personal account I have not done justice to many other aspects of HLA work in Oxford. These include Peter Morris' studies related to transplantation, Tim Elliot's work on the details of peptide processing and peptide to HLA binding affinity, Sue Fuggle's work on transplant immunology (she started her HLA career as a research assistant with Julia), and many HLA and disease studies.

This is an abridged version of the full article with the references available via the OMA office.

[1] Dausset shared the 1980 Nobel Prize for Physiology or Medicine with Benacerraf and Snell for their "discoveries concerning genetically determined structures on the cell surface that regulate immunological reactions."

Will A.I. Replace Doctors?

Professor Sir John Bell
(Magdalen College, 1975), Regius Professor of Medicine Oxford

There is much discussion about the role of AI in clinical medicine. Without doubt the tools provided will allow us to replace many functions currently performed by doctors.

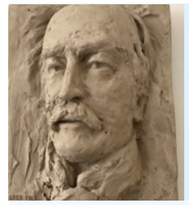
Analysis of images, both radiology and pathology will soon be accessible by this approach and wherever there are large, structured datasets progress will be rapid. Regulatory obstacles will be greater in medicine than in other areas but that should improve with time. Ethical concerns are likely to create further impediments, but these issues are solvable. Simple clinical functions such as routine appointments in primary care are also likely to be enabled or replaced.

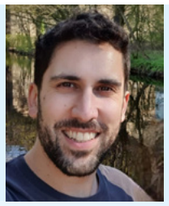
What is more difficult is providing the human functions necessary for patient interactions. Often diagnostic or decision-making cues emerge from face to face consultations where human emotions and empathy are crucial elements. Not only are these critical for patients but they provide essential signals to the physician.

It is also going to be some time if ever that complicated diagnostic problems can be interpreted correctly by AI. Like many aspects of medicine, getting a learning set that reflects the range of complexity seen in that setting will be hard. Using patient records will certainly not work given how noisy these are and the use of AI assumes there is an answer, when often there is not as we have a long way to go to understand disease itself.

Surgery provides another opportunity for AI but again the learning set needs to be large and regulatory hurdles will slow progress. Human input at some level will be needed for a while yet.

Overall AI will help reduce the burden on doctors and health systems but it is hard to see how doctors will be replaced any time soon.





ChatGPT essay via Dr Luke Williamson, in the style of Professor Sir William Osler

Dr Luke Williamson, (St Hugh's College, 2004) Consultant Rheumatologist, Whipps Cross Hospital, London, and Epic Physician Builder, Great Ormond Street, London

The winds of change are blowing fiercely through the hallowed halls of medicine, and the topic that lingers in the minds of many is the potential replacement of medical doctors by the ever-advancing artificial intelligence (AI). While the advances in artificial intelligence are undeniably impressive, it is with caution that we consider its potential to replace medical doctors. Medicine, my dear friends, is a tapestry woven with both scientific precision and the art of human interaction. It is an amalgamation of analytical reasoning and empathetic understanding, a delicate balance that forms the foundation of our calling.

The practice of medicine transcends mere data analysis and algorithmic decision-making. It requires the cultivation of a profound connection between physician and patient, rooted in trust, compassion, and a deep appreciation for the human experience. Furthermore, medicine demands the exercise of clinical judgment, the interpretation of subtle nuances, and the ability to navigate the intricate webs of disease and patient context. While AI may possess immense computational power, it cannot replicate the discerning wisdom that comes from years of study, practice, and exposure to the intricate complexities of the human condition.

In conclusion, my dear colleagues, it is unlikely that AI will replace medical doctors within the next 20 years. Our calling is built upon a foundation of human connection, empathy, and the wisdom acquired through years of experience. Let us embrace technology as a tool to enhance our practice, but never forget that the true essence of medicine lies in the timeless qualities that reside within our human souls.

We asked Adobe Firefly AI image generator to create a photo-realistic image of Professor Sir William Osler debating with an AI doctor at a patient's bedside.

With AI here to stay, we asked Regius Professor Sir John Bell and ChatGPT (in the style of Regius Professor Sir William Osler) whether they thought we would all be out of a job within the next 20 years. ChatGPT only narrowly beat Professor Bell in speed of response. Unlike Professor Bell, ChatGPT went over the word count, repeated concepts, and needed editing. This piece is a conflation of 3 ChatGPT attempts. It will be interesting to follow whether the publication of this article influences future A.I. contributions. *LDW*

Monkeypox - the Twilight of Smallpox

Dr Philip Mortimer *(New College 1960-63) Modern History, qualified St Thomas' 1969. Former director PHLS Virus Reference Laboratory, Colindale.*

Abstract

During 2022 monkeypox (mpox) was imported into the economically privileged world. It has since spread rapidly among sexually active gay men. A comparison with outbreaks of smallpox before and during its global eradication phase is instructive in devising an effective public health response to this unusual new epidemic, one which has the potential to become pandemic. If it is to be prevented from doing so, it will be mainly due to the availability and use of Jenner's famous vaccine in its modern attenuated form.

> *"The world population under 40 is unvaccinated against smallpox. The mpox epidemic highlights the need to develop vaccine technologies to meet future unexpected epidemic threats.*

Introduction

In Europe and beyond, smallpox was a frequently mortal disease during much of the last millennium; and wherever European invaders took it, for instance to the Americas, it acted as a devastating new disease. Thus, during the sixteenth and seventeenth centuries, smallpox seems almost to have wiped out some indigenous populations. It was not as infectious as measles, but it was more deadly and once introduced, it remained epidemic at intervals of several or more years. Worldwide, both children and adults were vulnerable to it until firstly the Turkish practice of engraftment and then Jenner's vaccine became available to protect them.

Thanks to Jenner, smallpox was, from the start of the twentieth century, no longer very prevalent in the First World. In the UK the last smallpox outbreaks of any size occurred during the 1870s and in 1902, and subsequent outbreaks were small and due to single importations. These were quickly contained with the exception of an outbreak in South Wales in 1962 that lead to nineteen deaths. In response to it (and in hindsight perhaps unjustifiably) an estimated 900,000 people nationwide were vaccinated.

But worldwide smallpox could only be engaged with once a full scientific understanding of it had been reached and a vaccination strategy designed and applied. By 1900 it was well understood that it was safest to prepare the vaccine on the flanks of calves rather than collect it successively from vaccinated infants. And by 1910 it was clear that smallpox was caused by a virus and not by a bacterium. In the early 1930s it became possible to grow and identify its virus in fertile eggs; but it then required a huge public health effort to extend the European degree of freedom from smallpox worldwide and eliminate it. This initiative was proposed in 1959 by a Russian, Victor Zhdanov, and fulfilled through the World Health Organisation (WHO) under the leadership of two American epidemiologists, Douglas A Henderson and William Foege. Beginning in 1965 it took more than a decade to accomplish. Before then the inhabitants of parts of South America, South and South East Asia, and sub-Saharan Africa were often exposed to smallpox; and in the form of *Variola major* virus those outbreaks had a mortality of 20-30%.

The WHO eradication programme

This programme was based on Jenner's vaccine, mostly distributed in a freeze-dried form and usually given into and not under the skin, using a hand-held needle with bifurcated tines. Wherever outbreaks of smallpox were known or suspected, local political support was engaged, cases were isolated and quarantined, and further spread interrupted by ring vaccination around cases, however they became known. In Nigeria, for instance, Foege learnt of suspected smallpox from Lutheran village missionaries. Fenner *et al's* excellent account of the entire process has since been conveniently summarised by the Drs Glynn.[1] The number of smallpox outbreaks gradually declined and the last known community-acquired case occurred in Somalia in 1977. WHO declared the world free from smallpox in 1980, but it then spent several years searching for missed cases. The suspected few that were found turned out to be due to the closely related orthopox virus, monkeypox.

But people continued to ask whether smallpox had really been eradicated...

And the answer was no. Investigations in the 1970s of small smallpox outbreaks in London and Birmingham [2,3] revealed that these were accidental (and deplorable) laboratory escapes of the virus, and there may have been other virus escapes, undocumented, elsewhere in the world. Laboratory proof of the two English outbreaks involved growing the virus in fertile eggs with the characteristic pocks of the smallpox (Variola major) virus appearing within 48 hours on the chorio-allantoic membrane, and the brick-shaped poxvirus particles being seen under the electron microscope.

These outbreaks brought laboratory biosecurity into focus and, as a hoped for final step in eradication, WHO pressed laboratories worldwide to destroy their stored frozen smallpox virus specimens. But the Soviet Union and the USA insisted on keeping theirs, as they perhaps still do. Other countries may hold laboratory frozen smallpox virus specimens, intentionally or otherwise.

Monkeypox takes centre stage.

During the search for residual smallpox cases that followed the WHO eradication programme attention was drawn to several other orthopox viruses variously referred to as monkeypox, cowpox and camelpox. Single cases and small outbreaks of human monkeypox have long been recognised in Central and West Africa, but few secondary cases have followed. It is doubtful whether any monkey species is the natural host of the virus. Recognising that the attribution is uncertain and potentially stigmatising, WHO now calls monkeypox 'mpox'. Until 2021 the public health importance of mpox was confined to sub-Saharan Africa, but since May 2022 it has fast become an international pathogen. By August 2022 WHO was describing it as a global emergency, and by the end of the year 80,000 laboratory-confirmed human cases were being spoken of from a hundred countries. By March 2023 the Centers for Disease Control and Prevention, Atlanta, had received over 30,000 reports of mpox from within the USA, at least a third of them with known coincidental HIV infection.

Until recently almost all these mpox cases have been in men who have sex with men (MSMs). But the infection has been spreading to other groups and is presenting in various clinical forms.[4,5] This poses questions about the means of transmission of the current wave of cases. How much further might mpox spread before control can be established, and how long will that take? How wide is the range of clinical expression of the mpox virus in humans, and how accurate will clinical diagnoses alone be?

Smallpox used to spread through close aerial transmission and the virus was also shed from lesions on the skin. Mpox may be spreading by both those routes, but it is also by sexual contact. Though in the West this has been almost entirely in MSMs, in May 2023 there came a report from Nigeria of a heterosexually transmitted outbreak of mpox with numbers of secondary cases.[6] There is often fever and lymphadenopathy, and the orogenital lesions can be painful. Deaths have been very infrequent, however, and following Jennerian vaccination they are rare. There is a significant report of sexual spread of mpox in another risk group, and with the same clinical pattern, and mpox is also being seen in some sex workers and other female contacts in other countries. There have been a few cases in newborns and children, and unless care is taken mpox may spread further, by injection, tattooing and even blood transfusion.[7]

Accessing laboratory diagnosis and treatment

The years since the eradication of smallpox have seen a revolution in the laboratory diagnosis of pox as of other viruses, and the polymerase chain reaction (PCR) for mpox infection is now widely available to sexually transmitted diseases clinics. The modern attenuated form of Jenner's vaccine prevents mpox as it once did smallpox, and widespread vaccination of MSMs may have forestalled a lasting pandemic. Even after exposure, immediate vaccination may mitigate illness, and antiviral treatments like tecovirimat and cidofovir are also being trialled.[8,9]

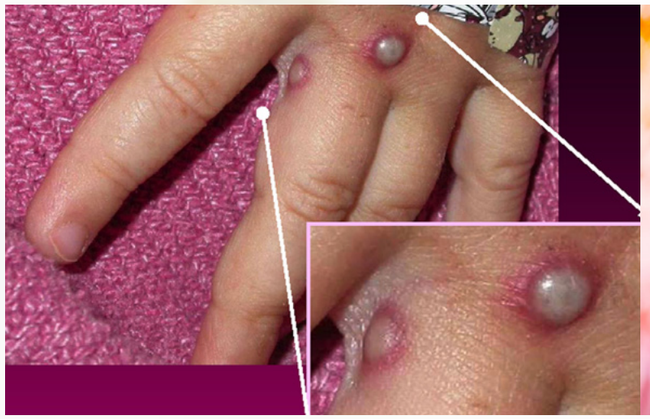
In the high-income countries where mpox has now become prevalent, the disease is well recognised, and the stigma once associated with diseases predominately seen in MSMs is hopefully being avoided. Those at risk are being offered vaccination, ideally twice within one to two months. Elsewhere though, the attenuated smallpox vaccine is less readily available, and where homosexual activity is unlawful and/or unacceptable, public health interventions against the spread of mpox may be impaired or absent.

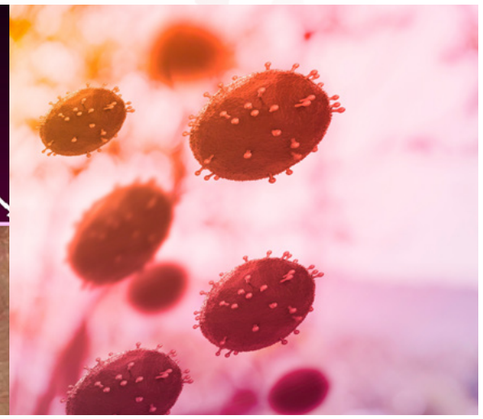
Conclusion

In mid-2023 the pandemic risk from mpox may be receding, but it is still prevalent. Unlike the ongoing pandemics of HIV and Covid19, both of which have also been ascribed to genetic adaptation from zoonotic origins, mpox is a double-stranded DNA virus and unlikely to show the adaptive pandemic propensity of these RNA viruses. Nonetheless, clinical awareness of mpox needs to improve especially if the clinical range of those at risk widens. Public health decisions yet to be taken this year may be crucial. Other than sexually, mpox is not very infectious, but unless vaccine is widely deployed among the main risk group, including in countries where MSMs form a hidden minority, mpox will persist beyond its African origins.

It is set to remain as a sexually transmitted disease, and emphasises the need to develop vaccine technologies over a broad range to meet unexpected epidemic threats.

References from OMA





William Morris, Lord Nuffield
Benefactor of Oxford Medical School


Dr Judith Collier *(Somerville College, 1975) GP principal in Ferring, West Sussex until 2014, with husband Dr Murray Longmore with whom co-authored 9 editions of Oxford Handbook of Clinical Specialties, and had 2 daughters. Passions: reading, teaching, foreign languages since age 10 (Mandarin Chinese, French, German, Latin, Italian, Spanish, Russian, learned in that order).*

It started with an appendix. Not Nuffield Maths O level, nor a Saturday cleaning job at my local Nuffield hospital, nor an attachment to the Nuffield Department of Medicine for my first medical student firm, but it was when there was an exhibition at Oxpens about Lord Nuffield that he really entered my consciousness, and only because his preserved appendix was on display.

Eight years ago I visited Nuffield Place, his home from 1933 until his death in 1963, now a National Trust property, off the road to Henley on Thames. There was the appendix (Fig 1) amongst a miscellany of tools in his bedroom cupboard (he liked to mend clocks at night). His bedroom carpet was made of scraps sewn from the left-overs from the cars Nuffield Motors manufactured. The house is extraordinary; it feels much as it must have been like when he died. His books are still on their shelves; there is a mechanical horse in the billiards room (for riding practice), and an iron lung (Fig 2). He would make one at no charge in the car factory in Cowley for any hospital in the Commonwealth that wanted one and made 1700 in all. There was a portable anaesthetic machine, the Oxford Vaporiser (Fig 3) that he had been party to the development of, and was still being used by the British Forces during the Falklands War. Having visited the house, I wanted to read a biography about him but Oxford City library did not have one, and the one I tracked down at the Union Library has not been read by anyone else since the first time I had borrowed it.

Five years ago, David Cranston and Peter Morris produced a beautifully illustrated, concise biography "Lord Nuffield and his Double Legacy" which has hopefully made his life more accessible to a wider readership.

So, why should we be interested in William Morris, Lord Nuffield? The answer is because he did so much for the foundation of Oxford's clinical medical school, and for the Oxford hospital services.

Born in 1877 in Worcester, he moved to Oxford at the age of 4 when his father became bailiff on the farm in Headington Quarry, rented by William's maternal grandfather from Magdalen College. William was educated at the Church School, Cowley, leaving at 15 to work in a bicycle repair shop, being himself a keen cyclist. He earned five shillings a week, and on being refused a rise to six shillings, nine months later, he resigned and established his own bicycle workshop in the shed of his parents' house in James St, later exhibiting finished bikes in their front window. An early customer was the 6 ft 3-inch-tall Rev Francis Pilcher of St Clements who requested that William make him a large framed bicycle. William apparently had to borrow the £4 required to buy the parts from a neighbour. He serviced the bicycle for many years, and later bought it back at a jumble sale and kept it next to his office in Cowley. He bought most of his parts in Birmingham, and on occasions would cycle the 120 miles there and back to collect them and might then work through the night to effect a prompt repair. At 17 he took up competitive cycling, making the lightweight bicycles to ride on. He was repeatedly champion of races, but not the year that he had all his teeth out, an experience unpleasant enough to make him champion the field of anaesthetics later in life. In 1896 he rented a bicycle shop at 48 High Street and then workshops in what is now called Longwall St (where there is a window display). In 1904 he went into partnership with a student from Christ Church who was supposed to be a sleeping partner, but he squandered money entertaining potential customers and the business failed, leaving William Morris with his £50 share of the debt. His newly wedded wife sold all her jewellery, apart from her wedding ring, to help him and it was said that he had to stand in the rain to bid to buy back his tools, some of which he had made himself. Having had the proceeds of his previous 13 years' work wiped out he made two resolutions: to put all his money into production, not promotion; and never again to work in partnership with anyone else. William Morris had a good reputation, and so was able to borrow money from suppliers, which, in addition to a small bank loan, enabled him to rebuild his business.

In 1906 William first set up a car-hire service. He made his first car in 1912, "The Bullnose Morris". By 1914 he had made 1,000 cars, having bought a disused military training college in Cowley as his production facility. During World War 1 the factory changed production to mine sinkers, manufacturing over 50,000, for which he was awarded an O.B.E. By 1923 he was selling 20,000 cars a year and had factories in Oxford, Abingdon, Birmingham and Swindon. In 1927 he sold 60,000 cars and by

Figure 1: The Appendix of William Moriss displayed amongst a miscellany of tools in his bedroom cupboard.

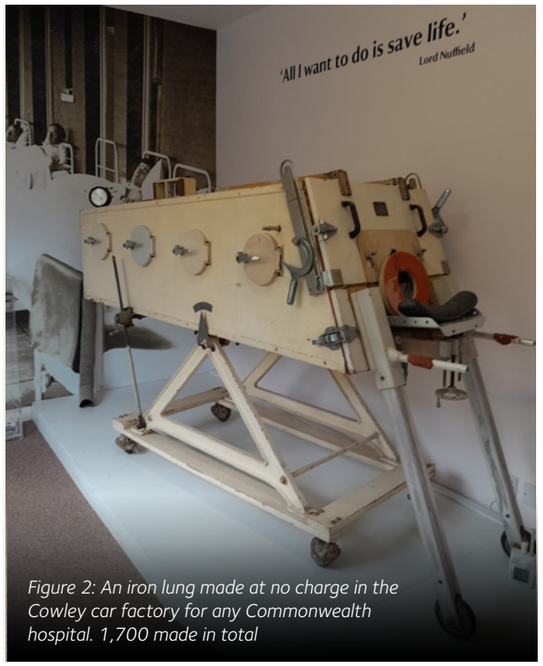


Figure 2: An iron lung made at no charge in the Cowley car factory for any Commonwealth hospital. 1,700 made in total

1935 he was selling 100,000 a year, a third of all Britain's car production. In 1928, the year that his appendix was removed, Henry Ford visited the Cowley Plant and in 1939 Morris' millionth car was made (it was auctioned by the Guy's Hospital Ladies fund at their garden fête in aid of their Appeal Fund). William was a keen golfer (as was his wife) and he bought Huntercombe golf course, near to the village of Nuffield, when it fell on hard times. At first he and his wife lived in the club house, but later they bought a house nearby (now Nuffield Place). When he was raised to the peerage in 1934 he took the title Lord Nuffield. William Morris played golf with many doctors, especially from Guy's Hospital and he was a great benefactor of Guy's Hospital where a statue of him stands, and also to St Thomas's. When he attended the coronation of George VI he stayed with Sir Herbert Eason, the Superintendent of Guy's.

During his lifetime William Morris gave away £30 million to charity (equivalent to £1.4 billion in 2018). In 1926 he gave £10,000 to help parents of boys in Borstals visit their sons (ironically, a prisoner of war camp next to his house in Huntercombe was later converted to a Borstal and is now a prison). That year he also gave £10,000 to Oxford University to establish the King Alphonso XIII Chair of Spanish Studies as he felt that Britain had limited facilities for learning Spanish. In 1927 he gave substantial donations to the Coventry and Warwickshire hospital, and to Birmingham General Hospital.

In 1930 he bought the Radcliffe Observatory site, when the Observatory was due to be transferred to South Africa. This allowed the Radcliffe Infirmary to enlarge and in 1935 he gave money to establish the Nuffield Institute of Clinical Research at the Observatory, and the Observer's House was renamed Osler House, to commemorate Sir William Osler, former Regius Professor of Medicine who was known to, and admired by, William Morris. (In 1948 Osler House became the social and administrative centre of the clinical medical school.)

> ***"During his lifetime William Morris gave away £30 million to charity (equivalent to £1.4 billion in 2018)***

In 1932 William Morris gave £40,000 to build a maternity home on Walton Street, behind the Radcliffe Infirmary enabling mothers to have their first babies there. In 1933 he gave £70,000 to rebuild the Wingfield Orthopaedic Hospital (he knew of its excellent reputation for the treatment of crippled children). The hospital was renamed the Wingfield Morris hospital, subsequently becoming the Nuffield Orthopaedic Centre.

In 1936 Lord Nuffield endowed £2million to the medical school trust to enable Oxford to develop a postgraduate clinical medical school. Initially funding was requested for 3 Chairs, of Medicine, Surgery, and Obstetrics and Gynaecology, but Lord Nuffield insisted that there should also be a Chair of Anaesthetics (and that Sir Robert Macintosh be nominated for that professorship). Establishment of a Chair of Anaesthetics was thought to expose the university to ridicule, but Lord Nuffield made the donation conditional upon its inception. A Chair of Orthopaedics and Pathology were created later. He also gave £500,000 for new buildings and facilities.

In the 1940s he endowed medical scholarships at Worcester and Pembroke Colleges, and at each of the women's colleges.

I went through medical school blithely unaware that the beautiful facilities at Osler House (now part of Green Templeton College) had been provided for us by Lord Nuffield, nor that he had been so important in the creation of the clinical medical school and his provision of so many buildings and equipment. His endowments were legion, but Oxford University was greatly blessed to have received such generosity from a man who was local, modest, and incredibly hard working.

Figure 3: The Oxford Vaporiser, portable anaesthetic machine still being used by the British Forces during the Falklands War.

Oxford University Medical School in the 1950s:
Was it all larger-than-life consultants and scary nurses?

Dr Judith M. Taylor (neé Mundlak) *(Somerville College, 1952) After graduation she emigrated to the United States and did postgraduate training in New York, as a board certified neurologist. She has always been interested in the history of medicine and wrote a series of short pieces for various journals. In 1994 she and her husband, Irvin Taylor, moved to California. There she began writing the first of her seven books on the history of horticulture. She has two sons and six grandchildren.* **www.horthistoria.com**

The Radcliffe Infirmary, that beautiful Georgian building established in 1770, was by the mid-twentieth century quite the modern institution. Following de-commissioning, the building became Oxford University's English Department where in 2018 I attended an international meeting and was probably the only person in the room who had any idea it had once been a hospital where I had spent many instructive months as a medical student.

In World War I the hospital had served the military as did Somerville, my alma mater and indeed Vera Brittain was one of the college's alumnae. In World War II the hospital was again pressed into service but by 1942 the Churchill Hospital had been built in Headington and certain specialties were moved there, adjacent to the Nuffield Orthopaedic Centre (renamed from the Wingfield-Morris Hospital in 1950). Joseph Trueta created an outstanding department of orthopaedics. Trueta, a Catalan, had assisted the Republicans in the Spanish Civil War and derived immensely valuable surgical insight from treating bomb victims including the value of emergency blood transfusions. Dame Janet Vaughan, the haematologist, principal of Somerville from 1949, had learned from him and had established the nascent UK National Blood Service in 1939.

The six months of patient contact we had on each major service, gave us much more confidence than students gained elsewhere, especially the Continent; useful when starting house jobs. One of the rites of passage was having to swallow a GI tube. There was a mad dash to pair off with the best students for this, but the lesson was to understand the awfulness of medical procedures. And students were drafted as subjects of an experiment on polio vaccines. Gustav Bohr, the son of the great physicist Niels Bohr, was one of the researchers - the first time I had ever had blood drawn.

> *"It takes 10 years to get a new fact into the literature and the rest of time to get it out.*

Medicine was my first clinical attachment, to the firm of Sir George Pickering, Regius Professor of Medicine, top man and distant successor to Sir William Osler. Osler House had once been the home of the University Astronomer who had worked in the octagonal observatory next door and was a teaching centre in my day.

Pickering was a very colourful man, turning a stagnant department around and attracting gifted younger men (and they were almost always men). Notoriously he did not care for surgeons, once delaying sending a patient with a bleeding ulcer to theatre by giving massive transfusions - until the blood bank ran out.

On another occasion, he diagnosed incipient thyrotoxicosis in a young lady who was sitting opposite him on the train, dragged her back to the Radcliffe and we all got to examine her on rounds.

In contrast Nuffield Professor of Medicine, Leslie Witts, was gentle and sympathetic, devoted to students and patients. He and Pickering were perfect foils for each other.

Other than ophthalmology and orthopaedics, sub-specialities of surgery had not established, so procedures were still done by often charismatic general surgeons like the brash surgeon who removed a reluctant prostate gland with his back to the patient, using his hand in the "policeman's dropsy" position. He advised us to take care of older men with prostatic disease because they tended to have more money than younger ones.

Mr Corrie was an old fashioned, dutiful surgeon. On Christmas Day he would come to the hospital, serving those patients who could eat their Christmas dinner, a tradition until quite recently. Harold Ellis, a cheeky Cockney sparrow who held his own among the Oxford mandarins, impressed us as he taught anatomy and surgery with a series of pithy epigrams. He went on to get the chair of surgery at Westminster Hospital then teaching at Kings College after retiring as a surgeon and is still alive.

1957, and I was awestruck as the senior registrar cut into a diseased mitral valve using a tiny blade attached to the tip of his index finger. Mr Allison ran the cardiac surgery department

at the Radcliffe, and had looks like a Hollywood surgeon with gleaming silver hair swept back from a broad brow. For one giddy week I was allowed to be his locum house officer; the registrar watched me like a hawk but it gave me a huge sense of exhilaration.

Professor Chassar Moir, the first Nuffield Professor of Obstetrics and discoverer of ergometrine, was another outstanding teacher. He had spent a recent sabbatical term in Guatemala and returned with many extraordinary artefacts and the skill to play the marimba. Among other foibles he distrusted female nurses and only allowed his trusty male assistant to work with him in surgery! We tended to laugh at him though he was the author and continuing editor of a standard textbook of midwifery. He'd say "It takes ten years to get a new fact into the literature and the rest of time to get it out" – and this was back then. Hospital beds were in short supply. The Oxfordshire health authority required (!) all first time mothers to be delivered in hospital but infants two through five were normally to be born at home. The focus was to reduce maternal mortality to zero. If the doctor ordered the Pitocin (oxytocin) the nurse-midwife administered it. The drops had to be counted at regular intervals and the foetal heart rate checked to be sure the drip was at the correct rate. Next to the patient for hours on end, counting drops and listening to the foetal heart rate, would be a lowly medical student.

One time, the drip running out, I blithely went to the ward cupboard and added a new bottle of pitocin to the intravenous infusion. When sister realized what I had done she incinerated me - part guilt, it being her role to do this.

The community midwife having received the patient's call would ring the medical school summoning the student on call who would set off by bicycle, possibly a few miles up and down the hills around Oxford. Home deliveries involved newspapers protectively spread across the carpet, sometimes piled up so you could barely get through the front door. Once the midwife sighed "I am so glad you are a girl. Now I can go and have a rest". Possibly the first and only time in my life when being a woman in medicine was an advantage.

A dreadful case of a PPH causing a maternal death at home led the bluff New Zealander John Stallworthy to establish the "flying squad", an elite team in a specially equipped car with everything they might need. The midwives were given strict criteria to make sure they called for help early enough while there was still time to save the patient. This squad performed admirably, Stallworthy succeeded Moir, and was in due course knighted. Mr Embrey, who later invented the tocograph, was another powerful department figure – but all we knew was that he did internal examinations without gloves, startlingly.

Maybe naively, I did not perceive discrimination. We did everything the men did. What I did not know then was that all the really important stuff took place in the male enclave of the pub – nice girls did not go to pubs.

Abridged by TC - Full version on request from OMA.

Fairy Bleep - Sexism at Osler House

Dr Jennifer Barraclough *formerly Jennie Collins (Somerville College 1967), Consultant in Psychological Medicine Churchill Hospital 1991-2000*

In response to an appeal for Tyngewycke memorabilia (*Oxford Medicine* Winter 2022) I sent in the programme from 1969, when I played the part of "Fairy Bleep". It was the first year that female medical students – Hilary Pickles, Hennie Brown, and me - had appeared on stage. It was all good fun at the time, but some of the material would seem crudely sexist today. The pantomime was called *Prowlapse*, contained lines like "No nurse minds being stared at, it gives her confidence", and a proposal for buying "pink elephant" bras and pants for female players was made at the next AGM. The magazine editors remarked on the sexism and invited me to write an article about my experiences at Osler House with special reference to this topic.

Sexism is defined in the Oxford Dictionary of Philosophy as "the inability or refusal to recognize the rights, needs, dignity, or value of people of one sex or gender", and is usually assumed to be directed at women. In the second part of this article I will review the subject in relation to female doctors and medical students, giving examples from personal experience. First, some general recollections about my career.

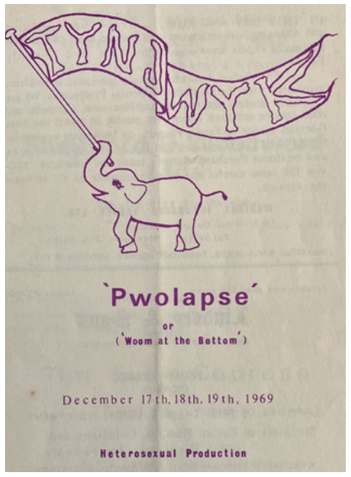
Student days and after

In my time the medical students' club, Osler House, was located in an 18th century building next to the old Radcliffe Infirmary on the Woodstock Road. I was one of only three women in my intake of 20-odd clinical students in autumn 1967. Medical and surgical wards were at the Radcliffe, some specialist services based at the Churchill. With only a few of us attached to each firm we had ample opportunity for clerking patients and doing practical procedures: venesection, drips, ECGs, lumbar punctures, catheters, assisting in theatre. Nights on take were busy and sometimes fraught, but the atmosphere was mostly friendly and relaxed, with far less regulation than I imagine there is today. The consultants got to know us individually, and often gave us lifts between hospitals. A highlight of our surgery attachment was visiting the cottage hospital at Moreton-in-Marsh with Mr Ted Maloney. We saw a few patients there and had a splendid afternoon tea.

Our perceptions of the different specialties, and even future career choices, were strongly influenced by the quality of teaching in the relevant departments and whether medical students were made welcome there. Experience on most attachments was positive. For instance, despite having little previous interest in bones, I enjoyed the course at the Nuffield Orthopaedic Centre thanks to the enthusiasm of Professor Robert Duthie and Mr Campbell Semple. One day, in recognition of Lord Nuffield's endowment of the service, we visited the Morris car factory. Also excellent was the week I spent in rural general practice, staying in the home of Drs Frank and Jean Haine at Blockley. In contrast, the course at the Littlemore Hospital was poor, leading me to put aside my intention to specialise in psychiatry until several years later.

I don't recall any formal teaching about sexual discrimination and other gender-related issues, nor other "soft" subjects like doctor-patient communication, medical ethics, the psychosocial correlates of health and disease, complementary medicine, or stress management for ourselves. I did write down a comment from Dr Hockaday: "an emotional crisis can make the hypothalamus go all twirly", and many years later I experienced this myself.

My years at Osler House were happy ones. Social life involved parties, receptions and dinners at various colleges, friends' houses, and The Lamb and Flag near Longworth (Dirty Dudley's), large quantities of food, and an alcohol intake far in excess of current guidelines. I sang in the hospital choir. Richard Redman and David Lawrence had built a punt while at Cambridge, and over Easter 1968 I joined the crew bringing it to Oxford along 160 miles of waterway with many locks, camping on the canal banks overnight.



After qualification I had a series of jobs in radiotherapy, general practice, clinical and academic psychiatry. These diverse experiences all proved relevant when I found my niche as consultant in psychological medicine at the Churchill. I worked mainly in Sobell House and the oncology unit and set up a psycho-oncology service. Since retiring to Auckland with my New Zealand husband, interests have included exploring natural therapies, editing medical books and a wartime memoir, writing novels (self-published), animal welfare, choral singing and piano. I visit Oxford sometimes and it still feels like home, even though it was a shock to find the Radcliffe Infirmary demolished; a symbol of how much has changed since my student days. One big change has been the increased proportion of women in the medical profession.

Sexism: then and now

About half the doctors in the UK are now female. This has probably encouraged a kinder less "macho" culture with better work-life balance but sexism is still apparently rife, even if less overt than it used to be. In a large recent survey of women doctors over 91% of the 82% who responded felt that because of their sex they had been discouraged from certain specialties, had their clinical ability undervalued, received unwanted comments or physical contact [1]. I wonder whether the non-responders had perceived an equally high frequency of abuse. This year, the BMA has launched a 10-point plan to "stamp out sexism" towards female healthcare staff [2]. Sexism can also lead to the differential care of male and female patients, but that is a separate topic not covered here.

Jenny Barraclough with dog Buddy in Auckland

Sexism can be divided into "benevolent" and "hostile" types[3]. Benevolent sexism involves the well-meant but sometimes patronising assumption that because women are more empathic but less robust than men they are better suited for some specialties (such as general practice, paediatrics or psychiatry) than for others (such as cardiac surgery, orthopaedics or intensive care), need to be protected from the more arduous aspects of medicine, and will inevitably want to marry and have children. Even in these days of gender fluidity these assumptions may be valid in many cases, but unthinking application of stereotypes can limit women's self-confidence and career opportunities. It could also give them unfair advantages if male consultants charmed by pretty young women, or female ones keen to support their own sex, favour women candidates over more able men.

As an example of hostile sexism, I remember a case presentation when a female student was reduced to tears by aggressive questioning from a visiting male surgeon. Nobody challenged him. I never experienced hostility from men myself, but there were a few older nursing sisters who openly objected to female medical students. I was humiliated when one such woman ordered me to leave the operating theatre because she said the outline of my bra was visible through my hospital gown. I expect that relations between the medical and nursing professions have become more cooperative and harmonious now that both include a more equal gender balance, and nursing has become an academic discipline.

I appreciated compliments on my appearance from male doctors if they were respectful, though occasional off-colour remarks such as "How nice to have a female student who doesn't look like the back of a bus" were embarrassing. I was sexually harassed when the houseman on my medical firm took a fancy to me. What began with comments on my dress or hairstyle progressed to inappropriate suggestions and physical touching in the ward office, and twice he followed me home at night. I rejected his advances and he eventually gave up. On two occasions later in my career – not in Oxford! - I was groped in taxis by male consultants. These incidents were unpleasant, though I don't believe they caused me any lasting psychological trauma. It never occurred to me to report them to anyone in authority. The results of the BMA survey suggest that, despite the modern influence of the #MeToo movement and widespread opportunities for lodging complaints and requesting support, such harassment still goes on and women are still hesitant to report it. They may not know how to say "no" to senior males, fear not being believed, or be wary of prejudicing their career prospects.

Is there a risk that the current awareness and sensitivity regarding sexism could lead to it being over-diagnosed? Men and women do tend to have contrasting qualities, whether due to inborn characteristics or social conditioning, which may indeed make them fitted for different specialties. Light flirtation and banter between the sexes, like the moderate use of black humour, can ease the tensions of medical practice. While damaging variants of sexism are clearly unacceptable, it would be sad if every remark with a vaguely sexual flavour was labelled as abuse, and if efforts to prevent discrimination against women worked to the detriment of men.

I write these comments from an outsider's perspective, having left Oxford Medicine some years ago to live on the other side of the world.

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1967 Oxford Clinical School Summer Intake

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2. *Stone, L et al (2020). With the best will in the world; how benevolent sexism shapes medical careers. Medical Education 54(2)94-7.*

Stepping beyond your comfort zone

Miss Florence Wilcock (Sanderson) *(Magdalen College, 1987)*

Obstetrician and podcaster @TheObsPod @TEDxNHS speaker. Interest in perinatal mental health , improving women's experience of maternity care. Providing good quality information for women about obstetric issues.

Inspired by my Oxford medical student attachment, I chose a career in O&G. I fell in love with the specialty, the mix of surgical and medical, the adrenaline highs of acute decision making and the rewarding experience of being part of a usually joyous and profound life event. As a consultant with young children wishing to work part-time, I chose to sub-specialise and be an obstetrician only. It was an unusual decision. I was an oddity in loving the labour ward. People challenged me 'you will get bored'.

As I approach our 30 year medical school reunion, I can tell you I have never been bored. Initially I was a young and naïve doctor who thought I could change the system from within. I became clinical director and subsequently divisional director. I was passionate about clinical leadership and frustrated with my consultant colleagues who weren't. I felt I was making a difference and improving things for women. But I was working like a Trojan trying to juggle clinical and managerial commitments with longer and longer hours. Then a change of chief executive and it all came tumbling down. I was burnt out. It was almost career ending.

Miss Wilcock demonstrating 'the Lithotomy Challenge' at the start of her TED Talk

I had always prided myself on listening to and understanding women, trying to provide individualised care, especially following my own experiences of giving birth. In 2014, just before I became unwell, I had a leadership role at the London Maternity Clinical Network. I partnered with Gill Phillips aka @WhoseShoes, using the Whose Shoes board game incorporating experiences of staff and women as a co-production tool. We were running vibrant workshops, building relationships, and sparking action to improve maternity experience. A grass-roots movement on social media, #MatExp, sprang to life. Women and families attending, some of whom had made formal complaints, were surprised to discover just how much the staff they talked to cared and how helpless we professionals can feel within the system. Working with Gill was energising, she was like a naughty big sister egging me on. I started to see the benefits of more disruptive ideas, pushing myself out of my comfort zone, but also enabling others who felt they needed 'permission' to act.

I came across NHS Change Day (now NHS Fab stuff). **Inspired by the ice bucket challenge I hit upon the idea of a Lithotomy Challenge**, obstetricians and midwives trying out lithotomy to understand what it feels like for the women. I did it for an hour feeling vulnerable and exposed despite wearing clothes with people gawping and talking across me. Maternity staff elsewhere followed suit. I wrote a blog about my experience and got the bug for writing. When we won funding for a national maternity experience project titled Nobody's Patient, focusing on women falling between gaps in services I found my creative side writing the required monthly project reports as Stella's stories, newsletters, and videos.

> **"I started to see the benefits of more disruptive ideas, pushing myself out of my comfort zone, but also enabling others who felt they needed 'permission' to act.**

Having fun has been key. If people remember an enjoyable workshop chatting over tea and cake or playing a board game, they are more likely to follow through, maintain relationships and improve things. Over the years, we have rewarded action with small tokens. It's amazing what people will do for a badge or miniature croc. At one workshop on International Women's Day a challenge to dance led to one of the fathers leading fifty or so delegates, babies and all in a brief dance resulting in giggling, clapping and a sense of what we can achieve together.

The strap line for the Maternity Transformation Programme is: 'Safe and personalised care with an emphasis on choice'. Co-production and genuine involvement of people using services from the beginning, co-designing and creating is the direction of travel of the NHS but the reality is this can be messy and uncomfortable for those in power. What people think is a priority can be totally different to what staff see as the problem. We need to be open minded and flexible when things do not align. This can be difficult in the constraints of a tight budget and limited staffing or when we are required to account for a particular project to hospital management.

In maternity, we are fortunate as we have Maternity Voice Partnerships (MVP) who bring women, families, and staff together at local level to work through improvements together. These are now formalised in the wake of maternity scandals, however tensions remain. Can we be brave enough as NHS leaders to let go? We co-produced a #MatExp musical on the Expo NHS main stage, with over 30 people from maternity services up and down the country coming together singing about the progress being made. We thought it would be celebrated, a true demonstration of co-production, but our initiative was frowned upon by the powers that be.

My personal creative journey is ever evolving. In 2019 I heard a talk about podcasting providing health information in a more accessible way. I was inspired. Researching, I found midwifery podcasts but not an obstetric one, so I started a podcast: TheObsPod. I take clinical topics and my experiences and try and make sense of them for staff, students, and families. I signpost to relevant guidance. I am trying to demystify the role of the obstetrician and provide useful information. I have had positive feedback that it has helped women ask questions and have discussions with their own obstetricians. Students and midwives contact me and tell me how useful it is to hear the obstetric view.

Last year on the spur of the moment I bunged in an application to speak at TEDxNHS and was accepted, resulting in me lying on-stage legs in the air in August 2022 giving my talk 'Birth Should be Special'. I wanted to share my passion for improving women's experience of maternity care. My talk has had over 42k views to date.

So no, it's never boring being 'just' an obstetrician, my career has had twists and turns I never could have imagined. Leaving my comfort zone and embracing my creative side has brought fantastic rewards hopefully not only for myself but for families undergoing maternity care.

Doctor stereotypes 2023:
Attributes and Personality Traits of Doctors


Dr. Neil Snowise *(Corpus Christi College, 1974)*
Visiting Senior Lecturer Centre for Pharmaceutical Medicine Research, Kings College, London

Much has been written about the personality of aspiring doctors, and we may all have occasionally wondered if we were suited to the particular profession, which we choose to follow. A recent Opinion Piece in JAMA, in March 2023, describes some of the many qualities which make a good physician. These include passion, curiosity, commitment to lifelong learning, scientific aptitude, empathy, resilience and integrity, among others. It's not just the professional media which discusses attributes of doctors. The Times, in April 2023 (in a piece about the junior doctor strikes) provides their view of the virtues of a good doctor - empathy, compassion, altruism and integrity.

Such serious views appear in stark contrast to the daily banter between medical colleagues, where light-hearted, humorous, tongue-in-cheek exchanges are often the norm. Prejudice and stereotypes in medicine have become exaggerated for the purpose of work¬place amusement.

We chase grumpy radiologists, growling at anyone who dares disturb their dark sanctuary, and dithering psychiatrists. Surgeons are either cavalier or too preoccupied with their private patients, while the carefully cultivated image of the busy GP is not universally bought into by colleagues. And so the list goes on.

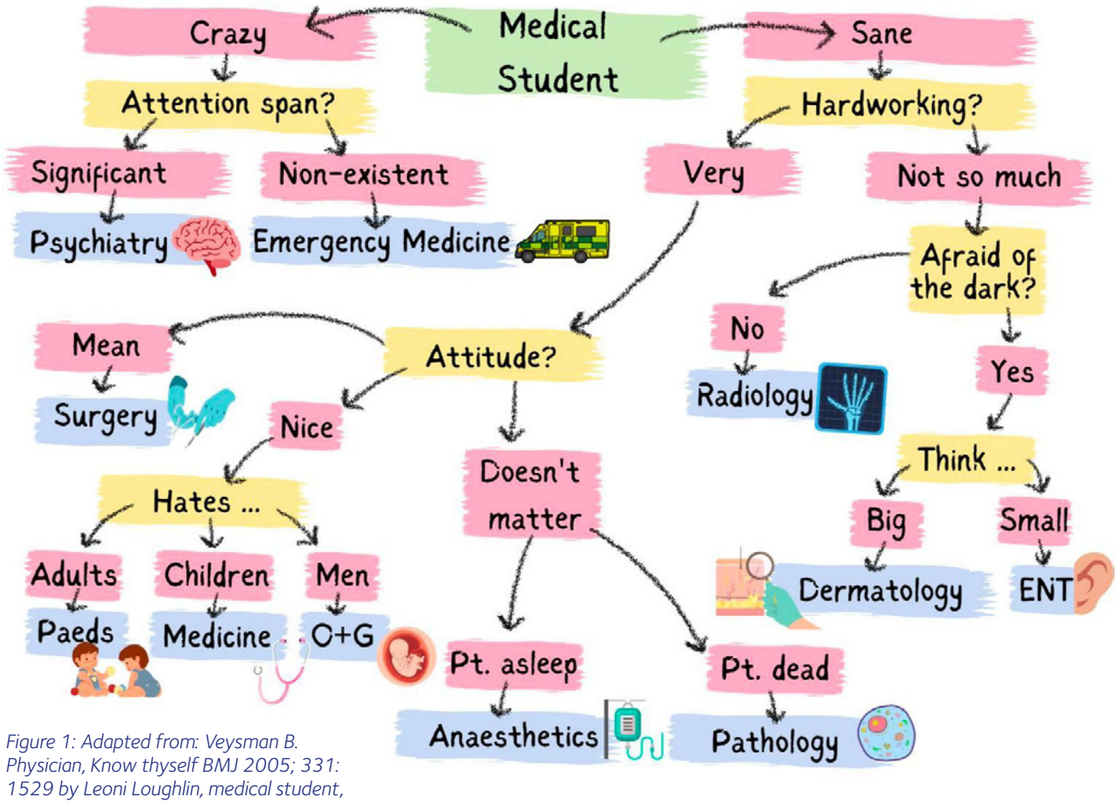
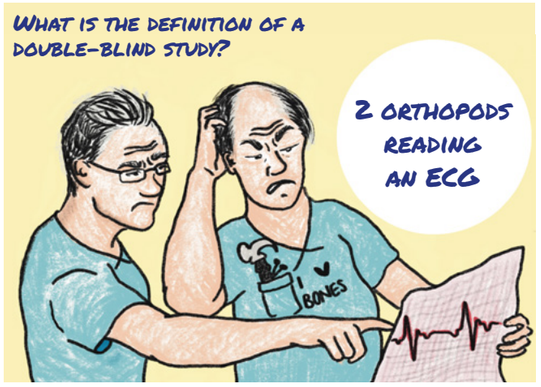
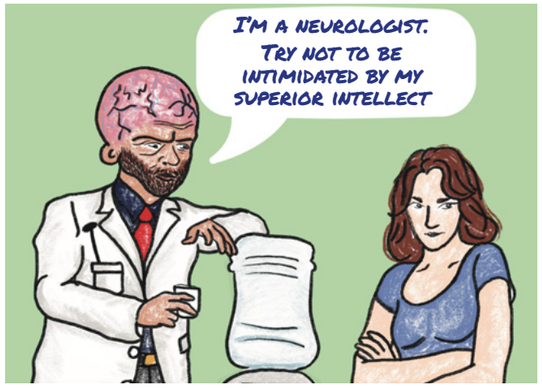


Figure 1: Adapted from: Veysman B. Physician, Know thyself BMJ 2005; 331: 1529 by Leoni Loughlin, medical student, Balliol College





Are there differences between physicians and surgeons?

The late Richard Asher, eminent endocrinologist at the Central Middlesex Hospital, once wrote of 'The mind of the Physician, and that structure which corresponds to the mind in the Surgeon...'

Several studies have attempted to measure doctors' personality traits, usually using the Five Factor Model, which assesses agreeableness, conscientiousness, openness to experience, neuroticism, and extraversion. Between specialities, moderate differences exist. Surgeons showed higher conscientiousness but lower agreeableness and neuroticism than other specialists. In one study, paediatricians were the most extravert whereas psychiatrists scored high in openness but low as extraverts. Various theories abound to explain the many and varied findings. For example, the challenging and risk-taking aspects and the meticulous nature of surgical specialisation may attract those who do not have a tendency to experience negative emotions in response to stressful duties and situations. Of course, we all know colleagues whom we can pigeon-hole into whatever category we choose! Perhaps some degree of personality testing might help younger colleagues choose their speciality (Figure 1).

Reassuringly, one study showed that healthcare professionals (HCPs) had lower levels of dark triad personality traits (Machiavellianism, narcissism and psychopathy) compared with the general population. But should we be concerned that within the HCPs, surgeons displayed a significantly higher level of narcissism and psychopathy? This probably won't worry the surgeons who have been found to be taller and better looking than physicians, in a BMJ published study, as well as being voted the most attractive type of doctor, on a dating website "for singles in uniform & for those who like them." Unfortunately for psychiatrists, this latter sentiment did not extend equally to everyone in the medical profession.

What about orthopaedic surgeons?

Orthopaedic surgery makes a significant contribution to improving the quality of life for patients. Many orthopaedic procedures are of increasing interest to these aging authors, yet there appears to be a persistent mismatch, between the accepted benefits of surgery and the image of the orthopaedic surgeon.

30 years ago, medical publications described the orthopaedic surgeon as a man of enormous build and great strength, if perhaps a little slow. This stereotype of the strong but intellectually limited orthopaedic surgeon has persisted over the years.

Historically, orthopaedic surgeons are often the target of humour and mocking from their anaesthetic colleagues. Making fun of the orthopaedic surgeons has, inevitably, spread on-line and You Tube has had over two million views of a humorous animation between the two specialities (www.youtube.com/watch?v=3rTsvb2ef5k).

Is this attitude justified? Not at all. The BMJ seems to have singled out studies designed to show that orthopaedic surgeons live up to their stereotypical image, but they have failed miserably. A well-publicised study found that orthopaedic surgeons have higher intelligence and more strength, compared with their anaesthetic colleagues, contrary to the authors' expectations.

It's probably time to change the record and revise the humorous repertoire in theatre.

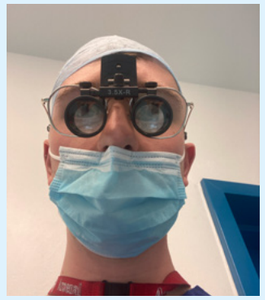
The Editor welcomes your suggestions to aptly describe your medical colleagues.

References are available from NGS.

Cartooons and graphics
by Miss Leoni Loughlin
Year 5 medical student Balliol 2018.

Why The Junior Doctors' Strikes Aren't Going Anywhere (Yet)

Dr Oliver Skan *(Keble College, 2014)*
Meakins McClaran Medal Winner. Graduated 2020 (expedited for COVID). Currently F3 doing plastic surgery with CST number for London, ENT/plastics for October 2023.



I remember getting the Oxford Tube down to London as a second-year medical student in early 2016 to take part in the junior doctors' march. I was starting to pay more attention to politics, and the idea that Jeremy Hunt would impose such an unpopular contract on public sector workers peeved me. I remember feeling part of something large – an historic day, junior doctors walking out for the first time in 40 years, wall-to-wall media coverage, people chanting, singing songs and raising signs. The atmosphere was resolute – I felt completely sure that the junior doctors would 'win', how could they not?

> *"Even with loupes on its hard to see how the government thinks a 2% pay rise is acceptable this year.*

The reality was more complicated. The initial deal put to the membership in 2016 was rejected, and the revised 2019 deal was accepted on a turnout of 28% members. While certain victories were won, the 2% pay rise each year for four years, when inflation is currently running at 10%, has proved intolerable. It's worth noting that even without the current spike in inflation, the government's own target for inflation is 2%, and the Bank of England's monetary policy reflects this. The contract was never due to be a pay 'rise' but would keep pay static in real terms.

In September 2016, the BMA called for a 5-day strike at relatively short notice. It was forced to U-turn on this after vocal opposition from doctors (junior and senior) who felt this wouldn't be safe for patients given the lack of contingency planning this allowed. Fast forward 7 years, and the attitude of junior doctors has changed significantly. 77% BMA members voted in the ballot and 98% voted in favour of strike action. Importantly, junior doctors are supporting longer walkouts, and the withdrawal of all care – including emergency care.

So what's changed?

Why have doctors gone from lobbying the BMA against strike action to the current wholehearted support that industrial action enjoys.

First and foremost, doctors have been stung before. In 2012, free hospital accommodation for newly qualified doctors was abruptly withdrawn, amounting to a 30% loss of income. The hard-fought 2019 deal was felt to be inadequate by many. Even getting to that point took many months and multiple strike days. Doctors are entering these disputes understanding that you won't win significant improvements without serious actions.

Secondly, in the intervening seven years, pay has further deteriorated. The BMA has done a fantastic job of communicating this message with clarity – a real terms pay cut since 2008/2009 of a staggering 26.1%. These figures are shocking, and hard to argue with. The government's counterargument to this centres around the fact that wages across most professions have recently deteriorated in real terms, due to inflation triggered by various global geopolitical events. However, while it's true that pay in all professions has been impacted by covid, the inflationary effects of the war in Ukraine, and the blatant economic suicide of Brexit, junior doctors' pay had been deteriorating for some time prior to these events. Meanwhile, it's worth noting that MPs have seen only 0.6% real terms pay cut since 2010. The COVID pandemic demonstrated junior doctors' inherent value to society. Further, more and more junior doctors now take time out of training (the F3 year being the norm now) to practice abroad in places like Australia - many bring home stories of being treated considerably better by their employers. For this cohort of doctors, the government's 'race to the bottom' logic simply does not pass mustard - we know our worth, and in the face of severe pay erosion (both in absolute terms and in comparison, to other professions) we are increasingly compelled to act.

Thirdly, junior doctors are more acutely aware of several 'social contracts' that have been broken. At medical school, the general perception was that if you work hard in medicine, you might not be rich, but you'll be comfortable. It is becoming clear that this is no longer the case. On a junior doctor's salary, the idea of owning a home in London without significant family support is a pipe dream for most. Another assumed 'contract' was the understanding that if you work hard, you'll get good training opportunities. As a surgical candidate, it's become increasingly apparent that getting good surgical training at junior levels is more down to luck with staffing levels than anything else. Finally, there have been the innumerable small deteriorations in working conditions over the last decade. I would challenge anyone to find a junior doctor who has access to an overnight on-call room, a locker, an adequate study budget, and reasonably priced hospital parking. These aren't life or death issues, but they all add up.

The final critical piece in allowing the strikes to continue is the support of our colleagues. Junior doctors cannot walk away from wards that don't have emergency cover. I can't speak for other departments, but in the department, I was working in, the consultant group were thoroughly supportive of the strikes. They learnt how to use referral software, organised emergency lists, and kept the department running.

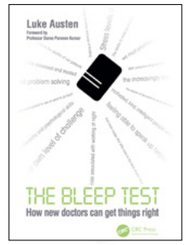
The consultants I have encountered have set an inspiring precedent for supporting colleagues during industrial action. The consultant body is being balloted on 15th May about their own potential industrial action. I can be sure that any decisions by the consultants to demand better pay and working conditions will be met with total support from their junior colleagues.

At the end of 2022, there were already 8,728 medical vacancies in England, totalling 5.9% of all medical posts. How this pay dispute ends is unclear; what is clear is that doctors cannot continue to be undervalued in this way if there are to be any doctors left in years to come.

The Bleep Test: How New Doctors Can Get Things Right

Dr Luke Austen *(Pembroke College, 2012)*
Graduated from The University of Oxford in 2018 and is currently a trainee in ACCS Anaesthetics. He is working towards a career in Intensive Care Medicine.

An Extract from Chapter 1



A well-known principle in cognitive psychology is the 'stress-performance' curve, which suggests that the relationship between one's stress levels and their performance takes the form of a bell-shaped curve. Too little stress and we are inadequately stimulated to perform at our best. Too much and we become overloaded, panicked, and unable to usefully deploy our skills. It seems that there is a Goldilocks zone where our stress levels can be just right. Another name for this phenomenon is the 'Yerkes–Dodson' curve, named after the scientists who developed the theory by adjusting the stress (in the form of electric shocks) applied to mice completing a maze task.[1]

In his book Peak Performance under Pressure: Lessons from a Helicopter Rescue Doctor, emergency medicine consultant Stephen Hearns suggests that there are three key contributing factors to the position we find ourselves in on the Yerkes–Dodson curve: our physiological stress response, information overload and, 'cognitive appraisal'[2]. Cognitive appraisal is, "how we perceive the magnitude of the situation, the risks involved and our personal ability to overcome them"[2]. If we perceive that attempting to address a problem will be extremely risky for either the patient or for ourselves, and that our problem-solving resources are likely to be overwhelmed, we are pushed to the right on the stress-performance curve.

Early in my Intensive Care job onboard the University Spaceship, I experienced a mixture of all three 'Hearn' elements, leading me to freeze at just the wrong moment. Near the end of the day, a nurse calmly approached me at the desk and asked if I was free. I was, and I assumed from her manner that this would be a menial task. Saying nothing else she led me into a side room to the patient. Still saying nothing, she jabbed her finger in the air towards her patient's monitoring screen, which was angled towards the other side of the room. I craned my head around – and stopped. The patient's systolic blood pressure was only 40 mmHg.

I froze. The way the nurse had responded to this peri-arrest situation by calmly fetching the most junior doctor on the entire ICU was so bizarre, so out of kilter with what the scenario demanded, that I was mentally thrown. Despite having completed the first year since graduating, I was truly back to square one when it came to assessing this intubated, critically unwell patient. I was not primed for such a situation, and the sudden and unexpected change of cognitive pace created such a massive physiological stress response that I entered the state of freezing, rather than fight (beginning resuscitation) or flight (rapidly fetching help). In my head I wanted to ask for the patient to be tilted into a Trendelenburg position right away, to increase the venous return to the heart, but my lips wouldn't say the words. Luckily, before I had time to snap out of it, a Senior Sister assumed control and pulled the crash buzzer. The team arrived and rapidly diagnosed the problem, which turned out to be a kink in the line supplying noradrenaline to the patient. Once unkinked, the blood pressure was soon corrected.

My inexperience meant my cognitive appraisal of the scenario was different to that of the more senior doctors. As we progress in our training and build a mental bank of similar scenarios, even the most dramatic changes in a patient's condition, such as severe desaturation or acute hypotension, begin to become more routine. We perceive them as less threatening, enabling us to calmly achieve cognitive flow and address the issue. That's not to say it becomes easy. It is simply that with further experience, a greater proportion of the thinking can be offloaded to our intuitive, automatic System[1]. Implicit, almost procedural recall of key points, algorithm steps and drug doses for use in peri-arrest scenarios comes to the fore. Understanding the type of cognitive processing we are likely to be relying on in various situations and at different stages of our progression is paramount not only for junior doctors, but also for the seniors who supervise and train us.

The Bleep Test: How New Doctors Can Get Things Right, published by CRC Press 'is available at www.thebleeptestbook.co.uk

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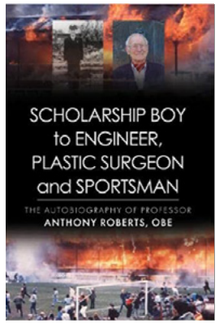
1. Yerkes RM, Dodson JD. The relation of strength of stimulus to rapidity of habit-formation. Journal of Comparative Neurology and Psychology. 1908; 18(5):459–82. doi:10.1002/cne.920180503
2. Hearns S. Peak Performance under Pressure: Lessons from a Helicopter Rescue Doctor (Kindle edition). Bridgwater: Class Professional Publishing; 2019.

Alumni Books

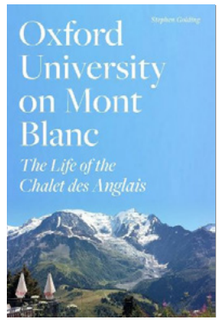


Scholarship Boy to Engineer, Plastic Surgeon and Sportsman

by Prof Anthony Roberts OBE (Clinical Medicine 1969 – 1972)

From his early life as a tuberculous child of a poor divorced mother, treated with a new antibiotic, via a career in engineering.... via clinical medicine at Oxford, he became a Plastic Surgeon at Stoke Mandeville. He has worked in four wars and six disasters and his next autobiographical book 'Plastic Surgery in Wars, Disasters and Civilian Life' is to be published in February 2024.

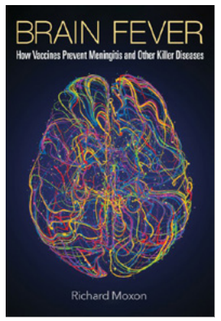
All proceeds from Anthony Roberts's book donated to Restore - Burn and Wound Research.



Oxford University on Mont Blanc: The Life of the Chalet des Anglais

by Stephen Golding (University College 1972)
Emeritus Fellow of University College, Chairman of The Chalet des Anglais Trust

The 'Chalet des Anglais' on Mont Blanc, home to the longest-running university reading party, is a unique survivor from Victorian and Edwardian Oxford, established in 1891 and continuing today. The story of this remarkable institution has never previously been reported. The chalet is a unique lens through which to understand what is meant by a collegiate university and also to illustrate the implications of close student-tutor relationships over the last century.



Brain Fever: How Vaccines Prevent Meningitis and other Killer Diseases

by Richard Moxon FRS

"This is a wonderful book that recounts the story of one of the great figures in vaccinology, Richard Moxon. A pioneer in the field whose work led directly to several of the most important vaccines for meningitis, Moxon tells the story of how this field developed over his career, utilising a range of tools such as genomics to better discover powerful immunogens. His story bridges continents and many areas of science, from basic to translational. His contributions to the field are reflected in the book, as is his role in the program that produced one of the major Covid vaccines. It is an engaging story about a leading scientist and his contribution to this most important field."

Sir John Bell Regius Professor of Medicine

Royalties shared between: Meningitis Research Foundation and Meningitis Now

Ultra-Processed People Why Do We All Eat the Stuff That Isnt Food - and Why Can't We Stop?

by Chris Van Tulleken

"This is a crusade of a book against evil ultra-processors, full of entertaining anecdotes and dire warnings. In a field where the science remains nebulous, the broad definition of ultra-processed food (UPF) makes it very difficult to disentangle the evidence. The author criticises big food giants (with some justification) for being selective with their data presentation, but then falls into the trap of insisting that a pre-defined simple truth will emerge. For example, he states "In the case of obesity, the completed jigsaw will show that activity is not a significant contributor, and that the primary cause is ultra-processed food and drink", while conceding that the field is complex. He has captured the public attention, and communicates this important topic with energy and drive. However, I was left wondering whether pomegranate molasses, one of Ottolenghi's core ingredients, might be consigned to the UPF bin?"

Dr Sarah Ball

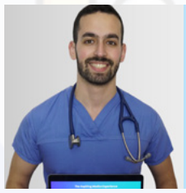
CONGRATULATIONS

At the time of going to press we received news of a special alumnus distinction:

Professor Sir John Irving Bell is appointed Companion of Honour (CH) in the King's Birthday Honours lists for his transformation of the University's research and innovation ecosystem, enabling billions of pounds of investment in research programmes, equipment and infrastructure. The development of the Oxford AZ COVID-19 vaccine would not have been possible without his vision to build vaccines research in Oxford over the past 30 years.

'A King's Honour, for the work I have done in medicine and life sciences, reflects the efforts of the very large number of people across the sector who have made this one of the UK's strongest disciplines.'

Talent is Everywhere, Opportunity is Not



Mr Yusuf Ben-Tarifite *(Balliol College, 2018)*

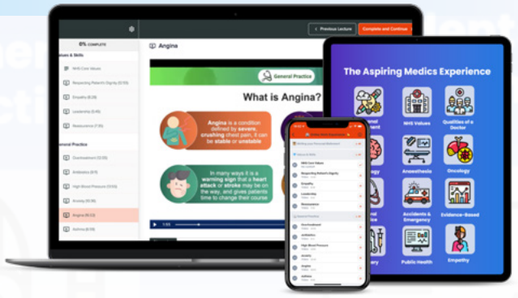
Growing up in a council house estate and coming from a family with no healthcare professionals, I appreciate how talent is everywhere, but opportunity is not. From a low-income household to the dreamy spires of Oxford University, I am incredibly grateful to be able to study here at Oxford Medical School and it has been my mission since 2018 to level the playing field and to tackle the information, inspiration and skill gap that still permeates the medicine application process.

A week before freshers' week in 2018, I founded The Aspiring Medics, a social enterprise helping students to get into medicine. It started off with £200 I had as pocket money from the summer of Year 13. Through the years, it has grown from an idea with a small group of friends to a thriving social enterprise with over 50 medical students and doctors in our community. Working with a team of 10 medical students across the UK **we have created an Online Work Experience Course which is, and will always remain, completely free.** So far the project has given over a thousand state school students free access to our online work experience and interview courses

It is difficult for 15–17-year-olds to organise hospital work experience, especially those with no school mentors or medical connections. I vividly remember emailing more than 500 doctors individually from a directory of London hospital doctors to try to organise work experience. Only 5 replied and offered me work experience, but that was plenty! Nowadays with more red tape, it's even harder for students to access hospital work experience. Medical School Admissions Departments are aware of this and accept work experience in many forms such as volunteering at a phone line service, care home or pharmacy. Post-COVID, there has been a massive shift towards Online Work Experience. Although this may be seen by many medicine applicants as inferior to in-person hospital work experience, I believe that Online Work Experience is here to stay. Advantages include more time, plus videos to explain a disease from first principles, so that students can understand symptoms and treatments. This is exactly the how the idea for The Aspiring Medics Online Work Experience Course came about during the start of the pandemic.

We recently launched a FREE Online Work Experience Course containing over 15 specialties with each specialty containing

> *"..... level the playing field and tackle the information, inspiration and skill gap*



videos of anonymised patient case studies to enable students to find out if medicine is the career for them, understand NHS values and understand of the responsibilities of a doctor. No matter your connections or your network, you will be able to shadow a consultant cardiologist online or gain an insight to heart surgery. In the next lesson, you can learn about neurosurgery and then what a GP clinic is like. This will also help to inspire the next generation of doctors and ensure that their motivations to go into medicine are well thought out and they are making an informed decision.

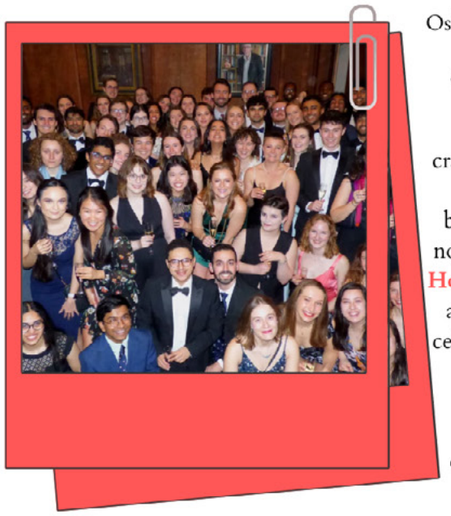
It has certainly been challenging to grow a social enterprise whilst at medical school but through delegating, creating automated emails and learning from mistakes, we've been able to continuously grow. The mainstay of our access work comes from our website containing guides on every step of the application process and our YouTube channel of nearly 5,000 subscribers, in which we create weekly videos for aspiring medics on the NHS, current medical issues, work experience, entry exams as well as medical school interviews. From using our phone as cameras, after receiving an Innovation Grant from the UK Government, we've been able to expand our equipment to film and edit videos using professional camera, microphone and lighting.

Our YouTube videos are popular especially with colourful infographics to help break down complex topics. By having medical students from across the UK, we've been able to showcase a range of perspectives and personalities. It's been a pleasure to work with such an amazing team of medical students that are also passionate about widening participation!
.The project is still in its infancy, and we are always looking for more medical students and doctors of all seniorities and specialties, clinicians and academics, to record more lectures.

If you share our vision of widening participation and would like to get involved in recording an online talk / lecture on a topic of your choice, please do get in touch and have a look at the below brochure link for further information - **https://drive.google.com/file/d/1E5_Req5Av5ByKhK_VqXkW7v1FCEzdg5l/view?usp=sharing**

OSLER HOUSE

Gokul Parameswaran
Osler House President 2022-23
Design by Leoni Loughlin
Osler LGBTQ+ rep 2022-23



How is it already summer? Punt season is here, Pimm's has been cracked open and students are starting to consume copious amounts of coffee as exams loom. Over the last 6 months, Osler House has been buzzing with activity from glamorous black-tie soirees to the not-so-elegant Bops. We finished for the New Year with the Osler House Christmas Party overflowing with mulled wine, mince pies and more Christmas decor than anyone asked for! In February, we celebrated the finalists finishing their exams with the first Osler Bop to sell-out in history, with nearly 150 attendees. To calm things down we then had our annual Halfway Hall Dinner at Corpus Christi, marking 5th years reaching the midpoint of the clinical course. And, finally, to top things off we had a couple more of the classic Osler Bops!

Beyond the big events, this year has also seen the rise of a bigger and bolder Osler spirit. In February, we introduced Ozzy the Octopus - Osler's very own mascot. Ozzy arrived in Oxford at the Finalists' Bop and has since made appearances at numerous sporting events, parties and some say even the wards. Our Osler spirit rose even further with the re-introduction of stash in the form of hoodies, sweatshirts and much, much more. This surge in Osler spirit culminated in our women's football team winning the coveted Cuppers trophy dramatically on penalties, in a fashion that puts even the Lionesses to shame. In other news, the societies under Osler House are flourishing like never before, arranging countless events - be it socials, conferences or lectures. To name just a few, the Obs and Gyne society put on their inaugural conference featuring prominent speakers and practical workshops; the Pediatrics society has created an excellent 6-part revision series on all things children and the Clinical Research Society has even organized a symposium that gives students a platform to present research they have undertaken.

With the year almost up, I can finally say Osler House has fully recovered from the pandemic! The student body is brimming with new and exciting ideas to bring the Osler community even closer together and I am excited to see what next year's committee has in store for us. I would also like to give my sincerest thanks to the current Osler committee for their hard work over the course of the last year!

Top-Bottom: Osler Halfway Hall, and victory for Osler Women's Football team at Cuppers!

OHBC News

Mr Iwan Raza *(Worcester College, 2018) OHBC Alumni Officer*

The last few months have seen huge success at the boat club.

Torpids

The men got their first bump in recent memory, a fantastic achievement given our difficulties in putting together a squad. Meanwhile, our incredible W1 continued their ascent up the bumps charts, ending the week +1 overall. For lots of our rowers in W1 and M1 it was their first-time racing in bumps. We're really proud that we have managed to teach them so quickly and put out such competitive crews with fewer resources and training time than most college crews.

Novice Regatta

This was the first year that Osler House has entered a novice regatta since our revival. The crew won their first race and unfortunately poor weather conditions prevented any further races, but it's an exciting milestone for the club as it continues to grow!

University Level Rowing

We have significant medical student representation at University level this year. Osler rower Rosie Lynch competed for OUWLRC in the lightweight boat race this year, and three clinical medical students Alison Carrington, Phoebe Mountain, and Maria Nielsen-Scott competed for OUWBC in the Varsity boat race. At Torpids, Ayman DeSouza competed for Christ Church and won headship with his crew. Osler Women's captain Grace Glover was also selected from the OUW development squad to represent Oxford at BUCS regatta!

Annual Charity Row to London - July

We are also excited to revive the annual row to London in July, which was cancelled last year following the death of Queen Elizabeth II. The event has raised significant amounts of money for charity and supported the boat club for several years so keep your eyes out for updates!

Alumni Thanks and Boat Renaming

I also wanted to give a massive thank you to all our alumni who have supported us financially this year. The cost of entering races and maintaining the boats has risen significantly this year and without your help we wouldn't have a boat club. Excitingly, we have also bought two concept2 blades so that W1 have a full set of women's blades and don't have to use the men's ones anymore! We've also re-vinyled our boats so that they all have OSG boat codes, and we plan to rename our new men's shell soon. If anyone has any suggestions for the name of our new boat (or any other queries) please get in touch with me at iwan.raza@worc.ox.ac.uk.

Alumni Rowing Invitation

If you handled an oar during your time in Oxford, for your college or Osler House, and would like to re-live the experience, we're planning to have VIIIs outings for medical alumni over the Meeting Minds event, during the afternoons of Friday 22 – Sunday 24 September. Don't worry if you feel a bit rusty – you'll have the opportunity to refamiliarise yourself before we go on the water, and one or two of the present OHBC members will join the boat to make sure it goes in the right direction. The cost will be £50 per person, to raise funds for OHBC, and will include tea and cake afterwards for survivors.

If you are interested, please get in touch before the end of August, by email to **david.sprigings@ouh.nhs.uk**

Access GEM Spring News

Ms Morganne Wimbourne
(Magdalen College, 2020)
for Access GEM team

Magdalen grounds and gardens are beautiful in May, and provided the perfect backdrop to the first annual AccessGEM Spring Party. It was a great evening of jazz music, conversation, wine, and nibbles. The evening raised funds for the new need-based bursary for future graduate entry medical students. The event was a great success, auctioning off a Formula One Race Weekend Experience at the Williams F1 Team factory for £450 amongst other donations! In total we've now raised more than £46,500 out of our £125,000 goal. The party will be held again next year, so do keep it on your radar.

We're so grateful to everyone who has supported us so far, and can't wait to see how much progress we make over the next academic year!

Tingewick

Miss Toluwani Duckworth-Essilfie *(Keble College, 2019)*

Tingewick has always felt like something of a rite of passage. As pre-clinical students, all that we knew were the shows. For us, it was 'The Goutfather' as Freshers and 'Doctor Flu' as Third Years with the gap in the middle due to the pandemic. Although all the clinical jokes would go above our heads, being introduced to Rita at such an early stage has meant that so many of us were keen to take part in Tingewick in some way. Being able to experience the pantomimes as a part of the audience was one thing, but being a part of the cast is another. This year, we finally had our turn (and the jokes finally started making sense)! Our contribution to Tingewick's legacy was a take on the Hollywood classic 'Legally Blonde' but with a clinical twist.

This year Tingewick came home and returned to Tingewick Hall. The show, a culmination of the efforts of the previous Tingewick Firm, was incredibly well-received. It was clear that all those late nights spent rehearsing in Osler House were worth it in the end. The money raised from the show, plus other fundraising events across their year was over £30,000. The show, for them, was the end. For us, it was simply the beginning.

As the next Tingewick Firm, our group of 29 medical students have a lot to live up to. This year, all our fundraising efforts are to support Oxford Hospitals Charity and Yellow Submarine. Our Firm is bursting with ideas for other fundraising efforts and we are keen to put on numerous events as well as take on various physical challenges. So far, we've already set up an online raffle with great prizes donated by generous local Oxfordshire businesses. Soon we have the National Three Peaks Challenge, and later some members will run the Oxford Half Marathon in a giant cardboard cut-out yellow submarine costume. We want to keep the spirit of Tingewick going for those who came before us, and those who will help continue the legacy after us.

> *"Tingewick is back! Bigger, better, and bolder than ever before.*
>
> Catherine Swales, 2023

We're all so excited to see where Tingewick goes next.

Tingeaid, our September production, takes place 7th to 8th September 2023 in Tingewick Hall.

The next Tingewick Pantomime takes place 29th November to 2nd December 2023 in Tingewick Hall. Tickets will be on sale later in the year.

Involving Patients in Medical Education: New Developments at the Medical School

Dr Catriona Gilmour Hamilton and **Dr Noemi Roy**
Co-Leads for Patient Involvement in Medical Education, School of Medicine and Biomedical Sciences since 2022.

Background

Globally, patient contributions to medical education are now a well-established indicator of excellence in the teaching of future doctors. More than their long-established roles as examination participants, or in clinical placements, there are now roles for patients to contribute across all areas of a school's activity: admission, assessment, teaching, curriculum development and governance. Involving patients embeds patient experience at the heart of organisational culture, better preparing students for their future professional lives: the understanding of the meanings of illness, the obstacles to participation in health care, and the constituents of good practice in healing, communication and inclusivity.

Although there is established excellent practice in some parts of the school, with patients involved as teachers and authors of the curriculum, we have been tasked with developing a framework to expand this good work, promoting good practice, facilitating new initiatives, and building a community of experienced patients to support the school and its students in future.

What does 'excellent' look like? Directions for the future

- There are established roles for patients with clinical signs, who agree to be examined at OSCE stations. We want to expand the role of patients in OSCEs, developing content that is designed by patients, and with patient assessors. We will also explore how patients can work as observers and examiners and how metrics of importance to patients – such as listening and interpersonal skills – might be assessed and incorporated into the marking system.
- The Patient and Doctor Course in years 1 – 3 provides opportunities for people to meet patients in general practice, but we would like to see more normalisation of collaborative partnerships, perhaps with longitudinal projects that buddy up students and groups of patients across the duration of the degree.
- We are also exploring ways in which patient experience might be used to augment the preclinical science teaching, harnessing the power of patient stories to illustrate the clinical significance of the science and help make the content resonate.
- We would like to develop roles for patients in the selection process and consider how patients might influence assessment and admission to medical school, challenging aspiring medical students in ways that are not included at present.
- In the fullness of time, we would like to see the medical school have an established faculty of experienced patient tutors and contributors – people who are using their experience of illness to guide curriculum content, develop new content and contribute to teaching and assessment, as well as training other patients and acting as a valuable resource for students and teaching colleagues across the 6 years.

Strengths and assets

This is a challenging brief, but there is huge enthusiasm and support for these initiatives. We benefit from well-established examples of excellent practice, such as the Expert Patient Tutor programmes in Year 5 Women's Health and Neurology, and many inspirational examples of patient involvement in courses and clinics across the student experience. Much of our task is to pull this together, share best practice and capture the impact on student experience. The Medical School at Oxford is also unusual in appointing people with designated responsibility for patient involvement. This critical first step is a visible expression of a commitment to ensuring patients' voices help to shape doctors of the future.

Dr Noemi Roy **noemi.roy@medsci.ox.ac.uk**

Dr Catriona Gilmour Hamilton **catriona.gilmourhamilton@medsci.ox.ac.uk**

Graduation Reunions 2023

50th/51st Reunion – April 20th

On a beautiful spring day in an otherwise dull, cold and sometimes wet April, the 50th and 51st reunions of Oxford Medical School took place in Worcester College. We were not a uniform cohort. The clinical course was shortened, and the two terms of the old "path and bac" course subsumed, while we were there. Consequently, some of us had matriculated in 1965, some in 1966, and some in 1967. Others were in the clinical intakes from Cambridge, and a few had transferred from other universities. Some had done pre-clinical research and moved years. This, plus the attendance of some partners and swapping of seats between courses, allowed much widening of conversation beyond simple reminiscence. John Morris reminded us of what things were like and told us of how things have changed: the biochemistry building with its paternoster is no more! We are all grateful to Emily Stone and Lyn Williamson for arranging such an enjoyable day.

Neville Goodman, Magdalen 1966

'I felt that Time had Stood Still and Flown Backwards as so many old memories came flooding back. Tyngewicke scenes, dinners in different colleges, formal, old flames punting, Eights Week bumps, pre-tutorial anguish, fiddling smoked drum tracings, ceremony and colour – but above all friendship and camaraderie based around the colleges and Osler house.

A Toast to old friends and colleagues. Many Happy Memories.'

Roger Bodley, Worcester 1966

> *"I felt that Time had stood still and flown backwards as so many old memories came flooding back.*

40th Reunion – June 3rd

The 40th anniversary of those who studied medicine circa 1977 to 1983 was held last night at Balliol College. Around 30 of us (plus guests) attended, plus our special guest (and my former clinical tutor and boss, Derek Jewell). From the fact that we had to be politely but firmly escorted from the venue by the college staff at a time later than advertised, I'd say the evening was a great success. Friends reunited! None of us had materially changed either physically or in character over the preceding 40 years. My thanks to Lyn Williamson and Emily Stone at OMA for organising a wonderful reunion. We'll meet again before long I hope so that some who couldn't come this time can attend.

Neil Bryson, Christ Church 1975

10th Reunion – June 10th

The 2013 clinical graduates gathered at Osler House on Saturday 10th June to celebrate their 10 year reunion. It was fantastic to meet on such a beautiful day and reminisce in the place where we made so many of our core medical school memories. The adults were well catered for with a delicious spread put on by What's Cooking Thame, whilst the toddlers were entertained by the soft play, ball pit and games in the garden. Thank you so much to the Osler House committee for generously providing the venue, and to OMA for their support in coordinating such a wonderful event.

Abigail Moore, St Hilda's 2007

30th Graduations Reunion – June 10th

30 years after qualifying, nearly 50 members of the graduating class of 1993 and their guests met for dinner at Balliol for a reunion organised by OMA. For many, it was the first time we had seen each other since that summer day in the Sheldonian, so an evening of reminiscing and revisting old haunts was enjoyed by all. Many thanks to John Morris for presiding and updating us with the changes Oxford Medicine has seen since we were last here, and especially to Emily Stone and the OMA team for all the hard work that goes into organising these events.

Simon Yarrow, Magdalen 1990

50th/51st Reunion Lunch

Worcester College did us proud
In catering for the alumni crowd
Fine dining clearly was the rule
No penny-pinching, insipid gruel

We met old friends and talked a lot
Though appearances may have changed somewhat
Conversation was all extremely prudent
We even included Cambridge students

The speeches brought us up to date
With changes in the building state
Some for better, some for worse
But all with good intent – of course!

Medical teaching's not altered much
The students still get the tutorial crutch
To support them in their failing learning
And to try in vain to get passion burning

We had apologies from those who could not attend
Hopefully not because unwilling to spend
They sent regrets at missing the fun and play
Though not for behaviour back in the day

But everyone seemed to have done ok
At least that's what I heard them say
So thanks to the organisers and, being candid,
I hope you benefited as much as we did.

Harvey Sagar, Brasenose 1966

2023 reunions to come:

20th Reunion (2003 Graduates) 8th July, Balliol College

(New) 5th Reunion (2018 Graduates) 30th Sept, Somerville College

Obituaries

Dr Michael Kenworthy-Brown (1936-2023)

Michael and I were partners at Jericho HC and friends for over 40 yrs. He was an exceptionally kind, caring professional who was justly proud of obtaining his MRCP by examination while young and working full time with triplets and a young son at home, and his FRCGP by election having been an early College member, this spoke of his knowledge and love of medicine and GP.

He was continually innovative, he was a founder member and active participant of the Oxford College Drs, a group which met regularly for fruitful exchanges. He much enjoyed his involvement professionally and socially with his own college, Oriel, while we increasingly looked after other colleges medically, now numbering eight. This student involvement developed into medical inductions and seeing all Freshers in October annually and welfare groups and regular meetings in each college, plus the introduction of invaluable college nurses.

In the 1970s, he took a session out of his extremely busy GP week to work hard with Dr Rosemary Rue in the ground breaking initiatives of encouraging Drs back into medicine (often female Drs having families) by setting up part time working and continuing medical education.

At the Jericho HC he introduced the first Yellow Fever travel service in Oxford. This stemmed from his close and long-standing involvement with Oxfam, for whom we did pre-, mid and post tour medicals on all their staff who they sent to work abroad. This unusual GP association with travel medicine flourished and we diagnosed Malaria, Dengue, Leishmaniasis, Schistosomiasis among others, and held regular meetings with Oxfam and Prof Chris Conlon for invaluable expert advice. We were one of the first Oxford practice to have a practice manager at Michael's suggestion and this was hugely beneficial. He introduced GP training, medical student teaching and hospital doctor training into the practice from early on. He also served on the Oxford LMC for years.

He much enjoyed the finer aspects of life, good wines and conviviality, escaping to France with his family as often as was possible.

An end of an era, a life well-lived.

Dr Judy Bogdanor

Mr Ian MacKenzie (1942-2023)

Ian Mackenzie trained in medicine at Bristol Medical school. He began his career in Oxford as a Senior Registrar in the mid-1970s and was appointed to a consultant post and readership a few years later. He later became a Professorial Fellow of St. Hugh's College, Oxford. He began his research career following a clinical research fellowship with the late Mostyn Embrey.

He led research into use of prostaglandins in O&G for more than two decades. This resulted in the use of these agents to induce labour and termination of pregnancy which revolutionised clinical practice worldwide. He expanded his research interests to include uterine angiogenesis and tamoxifen-induced genes. Throughout his career he also produced many other novel and ground-breaking insights into clinical practice: for example, his work was largely responsible for D&C being abandoned as a routine gynaecological procedure.

He continued publishing many years after his retirement in 2009 in both obstetrics and gynecology. Wanting to contribute more to research, he became a member of Oxford South Central Ethics Committee B in 2010 and was still working for the committee right up to his death.

It is, however, the profound support he provided to colleagues and medical students that he will be most remembered for. He was devoted to teaching and his ward rounds were universally popular and much enjoyed. His wisdom and considerable clinical experience also meant that he was the automatic choice for hundreds of medical and nursing staff who sought his care during their pregnancy. The love and respect felt for him by his colleagues and mentees clearly shines through whenever Ian is mentioned.

"Ian Mackenzie was my mentor for many years as a young doctor. He always struck me as immensely all-knowing and gifted in thought, action and word. A true gentleman and an exceptional surgeon. He inspired me to work relentlessly to be the best version of myself."

Prof Danny Tucker, Associate Professor of O&G, James Cook University, Townsville, Australia

"I had the honour of working as his registrar and SHO and again on research projects as a gynae onc SST. I learnt so much from him in terms of communication, integrity and his mentorship cannot be underestimated. He took time and interest in people, working with his junior trainees on research and audit projects, rather than expecting them to produce stuff for him that he then attached his name to. I learned a lot about how to be a consultant from watching him, both in terms of attitude, temperament and surgical ability. He thought before he spoke, based advice upon evidence and if he didn't know the answer, and the evidence did not exist to answer a clinical question, sought to find out for himself by audit and research"

Miss Jo Morrison, Gynae oncological consultant Taunton and Somerset NHS Trust

"He was a superb surgeon and obstetrician and an excellent supportive colleague. He spearheaded teaching of medical students in Oxford and trained many clinicians. He will be greatly missed worldwide."

Prof Margaret Rees, Reader Emeritus in Reproductive Medicine, and Supernumerary Fellow, St Hilda's College

Ian died peacefully at home in his sleep. He will be greatly missed worldwide. Our thoughts go to his wife Valerie and the family.

Professor Sally Collins

Dr Patricia Markus (1929-2023)

To put it simply, Pat Markus was a very special person and exceptional family doctor although she would not have been pleased with me for saying so publicly!

Pat was born in London in 1929 and spent her early childhood in Blackheath. From the age of 7 she attended a Catholic Boarding School in Hertfordshire where the philosophy focussed on kindness, community and learning - three words that best describe the attributes of a good Family Doctor. The same three words sum up the person I fondly remember from our GP Partnership in Thame.

She came up to Oxford in 1948 to study Medicine at St Anne's College. Academically gifted she still found time for sport and represented the University in fencing both in the UK and abroad. There was also a hint of rebelliousness in that the, then all-female, College had a 10.00pm curfew. Pat found she could break this by using the College coal delivery shute. It was at Oxford that she met Andrew who was also studying Medicine. They both moved to London to complete their clinical training, Pat at Bart's and Andrew, UCH. Whilst there, they were married at St Ethelreda's.

As was the norm after the war, Andrew was expected to complete his National Service which he did at the RAF Hospital in Wroughton, Wiltshire. On completion Andrew applied for GP Partnerships and in 1960 moved to Thame, back in Oxfordshire. Pat described this phase of her life as being "just the doctor's wife". The role was far from "quiet". She was expected to answer the phone, make appointments, sterilise the instruments, placate anxious patients and act as PA to Andrew as well as care for her growing family of children.

When Andrew's partners went on holiday, Pat would often step in and offer to help with the clinic lists. Soon, by popular demand from the patients, Pat was offered a partnership in her own right. She developed a loyal following with particular interests in child health, women's health and psychological problems. Those of us at Thame Health Centre who knew her well, remember her for her kindness, gentleness, calmness under pressure and a wonderful store of wise words. She always seemed to know what to say and, more importantly, when to say it. Pat nurtured many of us with her cooking, being a kind and generous host. She certainly nurtured my career and I still find myself passing on her wise words to the current cohort of Oxford Medical Students.

When Pat retired, Thame patients mourned the fact they had lost the best GP anyone could wish for and I felt I had lost my role model. She never sought the limelight, always happier to serve than to lead. But she was an influencer long before social media had invented the word. She would quietly plant wise thoughts in the right ear and things would happen in the fullness of time! Such an amazing skill.

After retirement Pat and Andrew explored the world and enjoyed their five children and fourteen grandchildren. As you would expect, Pat continued to give her energy back to her community becoming a local School Governor and later Chair. She supported the Friends of Thame Community Hospital. Perhaps her more taxing role was to become a visitor for Bullingdon Category A Prison. This position tested many of her skills but as you would expect, Pat rose to the challenge and subsequently became Chair of the Prison Visitors' Association.

Pat, thank you for your life, well-lived and well-loved.

Dr Ken Burch

In Memoriam

Mr Joseph D. Abrams (University College, 1945)
Notified in March 2023

Professor Roger J. Buckley (Exeter College, 1963)
Died October 2022

Dr Richard J. Cook (St John's College, 1966)
Notified in March 2023

Mrs Elizabeth N. Davies (Lady Margaret Hall, 1943)
Died January 2023

Professor Robert A. Dickson (Nuffield College)
Died March 2023

Dr Geoffrey A. Douglas (Oriel College, 1964)
Died February 2023

Mrs Rosamond A. Gallant (St Anne's College, 1965)
Died January 2023

Dr James M. Gumpel (Trinity College, 1954)
Notified in January 2023

Professor Henry M. Hodkinson (Brasenose College, 1949)
Notified in December 2022

Dr Roderick B. Macauley (Lincoln College, 1946)
Notified in February 2023

Professor Geoffrey A. Machin (Magdalen College, 1959)
Notified in September 2022

Dr Clare H. Matthews (New College, 1984)
Died December 2022

Dr Brian N. McQuade (Trinity College, 1943)
Notified in January 2023

Dr David C. Mills (St Peter's College, 1967)
Died March 2023

Dr Robert V. Ogilvie (Jesus College, 1962)
Died October 2022

Professor David G. Penington (Magdalen College, 1950)
Died January 2023

Dr Stanley R. Richardson (Merton College, 1949)
Notified in February 2023

Dr Alan M. Smith (Trinity College, 1947)
Died February 2023

Critic's Corner: OMLC Lecture Series


Dr Sarah Ball *(Somerville College, 1974)*
Conservation Geneticist and retired Consultant Paediatric Haematologist

William Osler and China
Monday 30th January 2023
Professor David Cranston

This was a talk of two halves. The first was a fascinating biographical resume of William Osler, one of the great founder fathers of medicine, interspersed with interesting facts (did you know that Mrs William Osler's great-grandfather was Paul Revere?), and with interesting quotes from Osler. The second half was an even more interesting presentation of high-intensity focused ultrasound (HIFU) as a precision surgical tool, developing from a collaboration with the National Engineering Research Centre for Ultrasound Medicine in Chongqing, China. Where there just happened to be a portrait of William Osler, and one of his inspirational quotes, forming the link between the two halves. As always, questions at the end of the talk provoked animated discussion - about the cost, the general availability of the technology (Oxford currently has the only machine in the UK), linking HIFU with MRI for targeted precision, validation and training. Watch this space.

Consent after Montgomery
Monday 27th February 2023
James Badenoch KC

This month's talk was very different from the usual talks in the series, being given by an eminent lawyer who had been instrumental in the Landmark Case of Mongomery v Lanarkshire Health Board 2015, hailed by many as "the most important UK judgment on informed consent for 30 years," by others as the law catching up with GMC guidance at the time. Our learned friend treated us to an entertaining and informative speech, without notes, blowing Bolam's principle out of the water, exposing the evils of medical paternalism, and explaining how the Landmark Case of Montgomery made it more difficult for the medical profession to try to defend the indefensible (absolutely nothing to do with the lawyers). This was debated hotly in the discussion session by members of the audience who might perhaps have been anticipating a broader view of the problems of consent.

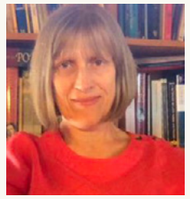
Remembering the Radcliffe Infirmary
Monday 27th March 2023
Ian Baxter

Ian Baxter (Keble 1976 History), had a very personal tale to tell about the Radcliffe Infirmary, where he had been admitted as an undergraduate for treatment of a pneumothorax. His lavishly illustrated talk took us through the history of the RI as a place and as a community, naming many usually unsung heroes who ran a tight but fair ship, infusing the building with a sense of dedication, determination, and strong personality. We also heard about the speaker's other main passion – railways - and in particular his very central role in establishing the Chiltern Railways line from London to Oxford, with an attitude of being prepared to be disappointed, but never surprised (a maxim his father had taught him when he was just knee-high). Many of the audience had been trained or had worked in the RI in its heyday, which led to a discussion including (often surprising but never disappointing) reminiscences about the social life, sleeping arrangements and local watering holes.

The fat lady ain't sung, just cleared her throat - challenges in rheumatoid arthritis for the post-biologic era
Monday 24th April 2023
Dr Catherine Swales

This was an all singing all dancing return to the familiar format of what the Oxford Medical Club lectures do best, a seamless fusion of science and clinical medicine by a very impressive speaker. Much of the talk was a reminder of how little we still know; the clinical syndrome of rheumatoid arthritis encompasses a wide pathophysiological spectrum. What are the triggers, the prodromes, what determines patterns of joint involvement, how to predict response to biological agents – and a reminder of the malign power of the perturbed immune system. I would have loved to have heard more about consistency of clinical and biochemical presentations between twins, the potential role of infectious agents in the pathophysiology of inflammatory arthritis – what about the gut microbiome I hear you ask? Challenges certainly remain, but the biologic era has not yet run out of steam.

A Connective Cornucopia
Monday 29th May 2023
Dr Frances Hall



Another fascinating rheumatology talk by another very impressive speaker, starting with a useful summary of the difference between innate and adaptive immunity for those of us who might be feeling a bit rusty (in immunology as well as knees), followed by a selection of weird and wonderful case histories illustrating different clinical syndromes. This was not just about curing the afflicted with clever science, but also how to establish management pathways, including access to targeted therapy for patients with rare autoimmune presentations. The speaker expertly batted away a question on fibromyalgia, but embraced the gut microbiome as a potential player. Once again, a reminder from this series of lectures that intelligent, science-led medicine is still very much alive and kicking.

For individual links to the videos of the lectures, please visit **https://www.medsci.ox.ac.uk/get-involved/alumni/events-and-reunions/oxford-medical-lecture-club** and click onto each lecture title for access to the video.

Radcliffe Infirmary-History Hidden in Plain Sight


Mr Ian Baxter MA MSc PGDip CQSW
(Keble College, 1976) Social Worker, Radcliffe Infirmary and John Radcliffe Hospital 1984-1989, and later Chiltern Railways and rail industry director. Setting up 'Friends of Radcliffe Observatory Quarter' in 2023

The University's Schwarzman Centre for the Humanities is rising at the heart of the former Radcliffe Infirmary site to complete what is now the 'Radcliffe Observatory Quarter'. Some elements of 2 centuries of Oxford health care, research and art (1770-2007) remain hidden in plain sight.

In the manner of the collages of Infirmary images on the walls of the corridor between the John Radcliffe Hospital II and the West Wing, Oxford Medicine's Summer 2023 cover illustrates these reminders of 'the Radcliffe' which a proposed 'Friends of the Radcliffe Observatory Quarter' hope to celebrate.

TOP ROW – NUFFIELD MATERNITY HOME
The Duchess of York, later HM Queen Elizabeth, the Queen Mother, opened the Nuffield Maternity Home at the Infirmary in October 1931, accompanied by Lord Nuffield who funded it. Its gate pillars to Walton Street remain today. The Friends would like to see the fine, elegant gates restored, as the Infirmary site's regeneration is completed, opening up visibility between the Quarter and Walton Street and Jericho.

SECOND ROW – ST. LUKE'S CHAPEL
A patient receives care in Henry Holiday's (1839-1927) stained glass in St. Luke's Chapel at the Infirmary. 2 figures sculpted by Laurence Bradshaw (1899-1978 and the sculptor of Karl Marx's bust in Highgate Cemetery), originally decorating the 1932 Nurses' Home, now grace the north wall of the chapel. Bradshaw's 'Mother and Child' was relocated from Nuffield's Maternity Hospital when it was demolished in 2008 to today's Nuffield Department of Primary Care Health Sciences on the modern extension to the former Out-Patients Department at the Infirmary. Hospital-commissioned art worth highlighting.

CENTRE COLUMN 3rd photograph and BELOW – RI BENCHES
Original RI Out-patients and 'Piccadilly' benches in the JRII-West Wing corridor today, with an illustration of these at the RI OPD in 1959. Replicas of such benches could add both history and aesthetics to Radcliffe Observatory Quarter buildings of today.

THIRD ROW (left/middle) – POST-2nd WORLD WAR INFIRMARY
The Harkness Medical and Nursing Teaching Building (1970) and Gibson Pathology Laboratories (1964) sit adjacent to the Radcliffe Observatory. The sole remaining post-war Infirmary buildings, they remain in use by Primary Care Health Sciences and Philosophy and Theology faculties. As a PGDip Theology student in 2016 I was brought to a rather stunned stand as I entered the Gibson Building for the first time since working in the RI in 1989, as it still very distinctly held the smell (in positive nostalgic terms) of the hospital.

THIRD ROW (right) – THE ORIGINAL TRITON FOUNTAIN
The University installed a superb replica of the Triton fountain in the Infirmary courtyard in 2012. The fragile Grade II-listed 1857 original, sculpted by John Bell (1812-1895), was splendidly repaired in parallel but is conserved in rather lonely isolation at Castle Mill Graduate Accommodation west of Oxford. The Friends wish to work with the University to find a space to best-display and interpret the first Triton within the Quarter.


FRIENDS of THE RADCLIFFE OBSERVATORY QUARTER

Being formed during Summer 2023 the Friends have received support from the University and medical alumni. If you would like to support this or receive further information please contact me on:

ian.baxter@slcrail.com / 07799864250
See 'Remembering the Radcliffe Infirmary'
https://www.youtube.com/watch?v=ZTnwHJCnY9g

Bittern, Otmoor. 'Hiding in Plain Sight'
c Dr John Reynolds (St Catherine's College, 1975) former Consultant Physician and Clinical Pharmacologist

Bitterns are wonderfully camouflaged and blend into the reed beds, making them hard to spot, even if you know they are there. The bird in this photograph knew I was just a few yards away, but decided to rely on its ability to hide, rather than take flight. Extinct a hundred years ago, there are now several hundred in the UK and 3 females raised young last year on Otmoor, just 4 miles from the John Radcliffe.