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Annual Oration

Medical Education in the Future: Lessons from the Past

Royal Victoria Hospital, September 2013

Jack Crane

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ºMr Chairman can I thank you, and indeed all the members of the Medical Staff Committee for bestowing on me, a mere jobbing forensic pathologist, the honour of delivering this year's Annual Oration.

I started work as a doctor in this hospital as a pre-registration house officer in 1977 and now, in the latter years of my career, as I approach retirement, I feel very privileged indeed to be invited back to address the staff and students of this great institution. Also, can I take this opportunity to welcome so many distinguished guests, retired colleagues and friends who have so kindly honoured me by coming along to the Royal this morning to listen to my oration.

My being here at all, as a fellow member of the Medical Staff Committee of this hospital is due to the kindness, and dare I say wisdom, of a past Chairman of the Committee, the late Dr John Weaver. Following my appointment as a consultant in forensic medicine in 1985, John invited me to join the staff of the hospital. This association with the Royal, along with my appointment to the teaching staff of Queen's University, have meant more to me than all the appointments to government committees and public bodies during the past 23 years as State Pathologist for Northern Ireland.

Before I begin to talk about Medical Education – the topic I have chosen for my oration, I have an important duty, as have all distinguished orators before me, and that is to welcome the new medical students to this great hospital. And I want to emphasise the use of the term "hospital". To the patients who come through its doors, it is the Royal Victoria Hospital, the Royal or the RVH. It is **not,** and indeed never has been, the Eastern Health and Social Services Board, the North and West Belfast Trust or the Belfast Health and Social Care Trust. The welcome, ladies and gentlemen, to our new students is to the **Royal** with its longstanding tradition of excellent clinical and nursing care, compassion for the sick and outstanding clinical teaching – values which are as important today as they were when the first oration was delivered in 1826 by Dr James McDonnell in the Belfast General Hospital in Frederick Street.[1] I have no doubt that the welcome to new students then was warm and friendly despite, as one author of the time put it, medical students having "a reputation for wild fun, drinking and not doing much work".[2] Times have changed however and our students are now, at least for the most part, well behaved, sober and hard working. So the welcome to you today is no less friendly and I am delighted that you have come along this morning.

The beginning of your clinical studies is of course the start of your exposure to patients in the wards and outpatient clinics. This is an exciting and rewarding phase in your undergraduate medical career and, as Osler put it "The student begins with the patient, continues with the patient and ends his studies with the patient…".[3]

The privilege of being the Orator is the opportunity to deliver a lecture on a topic entirely of their own choosing although clearly related to medicine and, usually on a subject of relevance to the gathered audience. I was clearly conscious of the tradition of the Oration to welcome new students to the hospital and I therefore felt it appropriate to talk about some of the changes in medical education and in particular how, in my opinion, the role of the medical teacher has been downgraded and diluted over the years by changes in the medical curriculum, not just at Queen's but indeed in many medical schools in the UK.

According to Einstein "Teaching should be such that what is offered is perceived as a valuable gift and not as a hard duty".[4] That gift, I believe, at least in medicine, needs to be offered by teachers, by experts in their various specialties, by clinicians, and by enthusiastic clinical academics and not by so-called "e-learning", self directed learning or by downloading signs and symptoms on an application on your mobile phone.

The concern for the Chairman of Medical Staff and the Committee is that the Orator, having been given carte blanche for his oration, may embark on some personal crusade or vendetta causing embarrassment for all and indeed possible disgrace to the Orator himself. Such was the fate of the great physician Ignaz Semmelweiss who worked in Vienna in the 1840s and 50s and who is credited with inventing an antiseptic procedure to reduce the risk of puerperal sepsis in the maternity unit of the Vienna General Hospital. The

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medical staff of the Hospital in Vienna were so concerned about Semmelweiss's behaviour during his lectures and talks that they proposed a course of treatment for the ageing physician who was clearly suffering from organic mental illness.[5] The treatment involved blood letting, cold-water dousing and magnesium sulphate enemas. I hope that the current Medical Staff Committee do not feel it necessary to embark on such treatment for this Orator.

William Hunter, the great anatomist and obstetrician in the 1750s said that "To acquire knowledge and to communicate it to others has been the pleasure, the business and the ambition of my life".[6] He was regarded as a great teacher and this philosophy of "handing on learning", as Kenneth Calman has called it in his book on Medical Education, has also been of fundamental importance to me as a medical academic and similarly to many of my colleagues in both Queen's and the Royal.[7]

My own medical academic career began in 1979 when I was appointed University Tutor in Pathology. At that time the Professor of Pathology was Elizabeth Florence McKeown and when I suggested to her that I was quite interested in forensic pathology she replied – "Don't be silly, forensic pathology is only about sex and sudden death". Sudden death may be, but I am not so sure about the former assertion. In any event, it was under Florence's superb tutelage that my interest in pathology in general and in forensic pathology in specific developed. And therein lies the theme of my oration "Medical Education in the future …. Lessons from the past" because I believe that the foundation of a good medical education is embedded in a sound understanding of pathology, and indeed anatomy, and by the special relationship between medical teacher and student. I suspect that I may be looked on as a dinosaur by some modern medical educationists, but I remain of the view that some of the fundamentals of good medical teaching have been diluted, if not virtually lost altogether, as we modernise our undergraduate curriculum on the one hand and yet have not invested sufficiently in the recruitment and career development of enthusiastic clinical teachers on the other. Clinical teachers who can hand on learning by their skills at the bedside and in the tutorial room and not just in the research laboratory. This latter activity, a colleague of mine described, rather unkindly, as mouse molesting and rabbit raping.

Some years ago I was invited to deliver a lecture in Merton College Oxford and was privileged to dine in the College with the College Warden, College fellows and students. It was at a time when the GMC were imposing changes in the undergraduate medical curriculum on medical schools, and I asked the Warden how his College was implementing some of the radical changes being proposed by the GMC. He thought for a moment and then pointed to one of the many portraits of former College alumni. The picture was of William Harvey who was Warden of the College in 1645 and whose treatise "De Motu Cordis" or "on the motion of the heart and blood", described in detail the systemic circulation of the body.[8] The Warden said to me, "we have been teaching medicine here in the same traditional methods since William Harvey was our Warden – I don't think we need to change now. But of course he was incorrect.

All of us engaged in medical education, whether at undergraduate or postgraduate level, must embrace change and progress. Changes in the medical curriculum must reflect advances in medicine, the changes in our society and in the health of the population we serve. The General Medical Council, in their document Tomorrow's Doctors, put it like this - "we can at best strive to educate doctors capable of adaptation to change, with minds that can encompass new ideas and developments and with attitudes to learning that inspire the continuation of the educational process throughout professional life ….". [9]. However the same document also states "some of the present day art and science of medicine is fundamental to its practice and will certainly endure ….". [9] I firmly believe that pathology falls into such a category.

You may wonder why I earlier mentioned anatomy along with pathology but it is my view that they are so closely inter-linked that developing an understanding of the normal human body only serves to strengthen an understanding of disease and its effects. In the past much of the anatomical dissection was carried out on bodies ravaged by diseases such as tuberculosis and syphilis except where, when bodies were in short supply, unscrupulous body snatchers, such as Burke and Hare, saw a business opportunity in Edinburgh in the 1800s to murder inebriated victims by suffocation or "burking" and sell the bodies to the anatomist Dr Robert Knox.

One of the arguments put forward for reducing the amount of anatomy and pathology teaching in the curriculum is that much of what we learn as students is irrelevant to future medical practice and is rapidly forgotten by students as their undergraduate medical studies progress. However as Somerset Maugham the novellist, and a one-time physician at St Thomas Hospital London, said "You will have to learn many tedious things ….. which you will forget the moment you have passed your final examination, but in Anatomy it is better to have learned and lost than never to have learned at all".[10]

Maugham would not however appear to have been a fan of forensic pathology – he once said "Death is a very dull, dreary affair, and my advice to you is to have nothing whatsoever to do with it".[11] I can assure this audience that being a forensic pathologist in Northern Ireland during 30 years of the so-called "troubles" has been anything but dull.

The Medical School at Queen's has had in the past a strong tradition of pathology teaching due, in no small measure, to the influence of one man, John Henry Biggart who, in 1937, was appointed Professor of Pathology (Figure 1).

John Henry went on to become Dean of the Faculty of Medicine, an appointment he held for an unprecedented 27 years. He received a knighthood in 1967 and in 1972 was

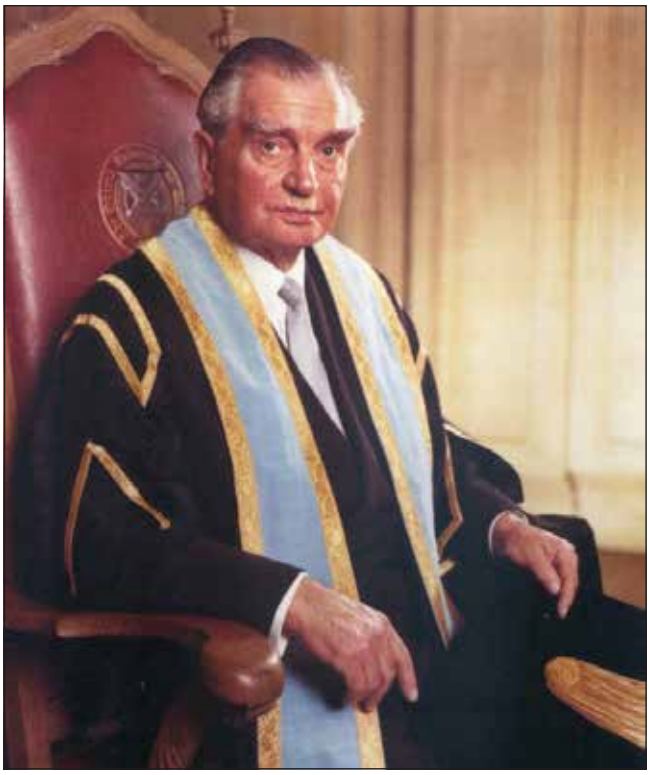

Fig 1. Professor Sir John Henry Biggart. A photographic copy of a portrait by Leslie Stuart, Belfast.

appointed Pro-Chancellor of the University. John Henry's influence on young doctors in training was immense. Between the 1950s and 1960s many of Ulster's most illustrious doctors spent a period of time working in the Institute of Pathology under John Henry's watchful eye.[12] In the book about his father, Denis Biggart wrote of these doctors "Each was expected to give his or her all, and more, to help achieve the high standards that he demanded. Each was proud to have been selected and imbued by his infectious enthusiasm for his subject and medicine in general. Each gave him the loyalty that his warm, personality inspired."[13]. That list of trainees included future professors of pathology, haematology, renal medicine, neuropathology, oral pathology, cardiology, dermatopathology, genetics as well as consultants in almost every branch of medicine.

John Henry was also very supportive of my own specialty of forensic medicine which, up until 1958, was part of his remit to teach to the students. When Tom Marshall was appointed the first State Pathologist for Northern Ireland in 1960 his new Department was supported and firmly embedded for many years in the Institute of Pathology and within the Medical Faculty. Links still remain, however the close relationship between the Medical School and the State Pathologist's Department has sadly been progressively lost over the years. Nevertheless it is still a great honour to have been appointed Honorary Professor of Forensic Medicine in the University in 1992 and I am indebted to all those in the University who have made this possible including successive Deans and Vice-Chancellors.

During John Henry Biggart's tenure as Professor of Pathology and indeed subsequently when Dugald Gardiner and later Florence McKeown became the Musgrave Professors of Pathology, postmortem examinations, or autopsies, were an important component of the day to day work of the Institute of Pathology. What is perhaps even more surprising is that this work was carried out, with enthusiasm, by those female doctors who Sir John had recruited into his Department, including Florence McKeown, Yvonne MacIlwaine and Ingrid Allen. However, women working in pathology is nothing new and this French engraving from the 1880s shows two female medical students or doctors about to perform an autopsy at the Medical Faculty in Paris.

At Queen's, autopsy pathology was an important component of the undergraduate curriculum. Students were expected to attend lunchtime postmortem demonstrations whereby the Professor of Medicine would present the clinical aspects of a case and the Professor of Pathology would then demonstrate the autopsy findings either confirming or refuting the clinical diagnosis. No-one who attended these lunchtime demonstrations in the old RVH mortuary with its Padua-like viewing gallery, could not have been impressed by these superb teaching experiences (Figure 2).

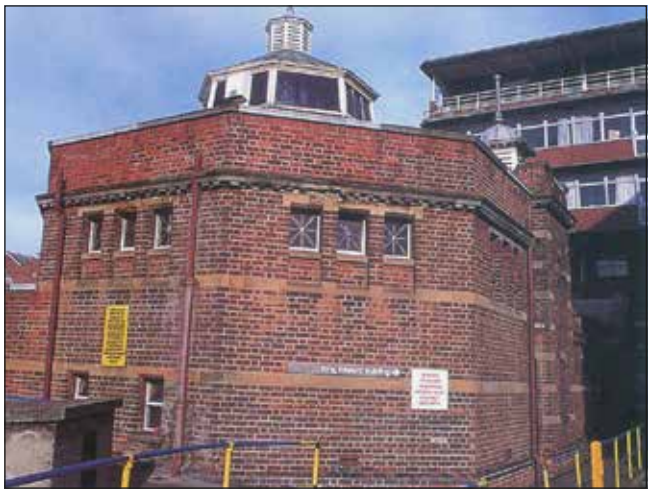

Fig 2. The old mortuary, Royal Victoria Hospital, Belfast.

Sadly, the consented hospital autopsy is almost extinct and only medico-legal postmortem examinations, carried out on behalf of the Coroner, take place today. The lunchtime postmortem demonstrations have also gone and for about the last 10 years, until, I am pleased to report, a couple of weeks ago, undergraduate medical students had no opportunity to ever see a postmortem. I say, until a couple of weeks ago, because with the support of the Dean and Professor Pascal McKeown and Professor Roy Spence, final year medical students are now being given the opportunity to see a postmortem examination being carried out – a lesson from the past for future medical education. But pathology has more to offer our students and young doctors **now** than ever before. Molecular pathology is a new and exciting discipline within pathology. Pathology is entering a new era that encompasses the development of molecular and genetic markers for

the diagnosis and classification of disease, particularly of malignancy. We are now in the realm of genome-based pathology and we must ensure that our students become enthused with these exciting developments in pathology by our research colleagues working in the Cancer Institute at Queen's.

So far I have made reference to a number of my own former colleagues and teachers who have made an impact on our Medical School, a lasting impression on our students and, perhaps above all, a healing hand on the sick so vividly depicted in the stain glass window at the end of the old main corridor. The role of the medical teacher has never been more important than it is today but it is a sad reflection on the current state of medical education that students rarely get the opportunity to spend sufficient time with gifted clinical teachers. Teachers who have so much to offer our students. Furthermore I believe that the university needs to do more to acknowledge the outstanding contribution which these clinicians make to undergraduate teaching.

Theodor Billroth, who is regarded by many as the father of modern abdominal surgery, was convinced of the importance of the personal influence of great teachers in forming the next generation of doctors. His advice to the University of Vienna in 1876 was "to secure for the universities the services of the most distinguished men of science, and to furnish them with the necessary equipment for teaching …".[14]. Our own university should seize that opportunity for the next generation of young doctors.

The GMC in its document "The Doctor as Teacher" set out a number of both professional and personal attributes of the doctor with responsibilities for clinical training and educational supervision, among these were an enthusiasm for his or her specialty, a personal commitment to teaching and learning, sensitivity and responsiveness to the educational needs of students and junior doctors, an understanding of the principles of education as applied to medicine and an understanding of research methods. [15]. But to me, personally, there is more – the good teacher must be able to inspire and motivate their students whether they be undergraduates or postgraduates.

Hero-worship might be putting it too strongly but Osler said "It helps a man immensely to be a bit of a hero-worshipper, and the stories of the lives of the masters of medicine do much to stimulate our ambition ….".[16]. This hospital has, without doubt, produced many such teachers in the past and at present and we must strive to ensure that it continues to do so in the future.

It might be invidious to single out any individuals from the many great teachers at the Royal but I feel that not to do so would be to do them, and indeed the hospital, a disservice. One physician, who had just retired when I qualified, was Frank Pantridge who was to become Honorary Professor of Cardiology at Queen's (Figure 3).

Frank Pantridge's legacy was the development of the world's first miniature defibrillator and the instigation of pre-hospital coronary care in the 1960s. It was said then, that Belfast was the safest place in the world to have a heart attack – today, we have the dubious reputation of having one of the highest incidences of ischaemic heart disease in the Western World. My personal acquaintance with Frank Pantridge was limited – as a house officer on Wards 5 and 6 on the old main corridor, Frank would call in for a cup of tea at about 11.30 pm, having spent a few hours in the Consultants' bar in the King Edward Building. On the first occasion that we met he asked me abruptly who I was and what plans I had for my career. I told him rather pompously that I wanted to become Professor of Forensic Medicine. Interestingly, he had spent some time in the Pathology Department under John Henry Biggart and he had told me that he had avoided postmortems whenever he possibly could. My last meeting with him was when he was awarded an honorary degree by Queen's University and when he saw me in the academic procession he left the company of the Vice Chancellor who was to escort him to the Whitla Hall and approached me. He then enquired whether I had managed to become Professor of Forensic Medicine. When I told him I had he shook my hand and offered me his warmest congratulations.

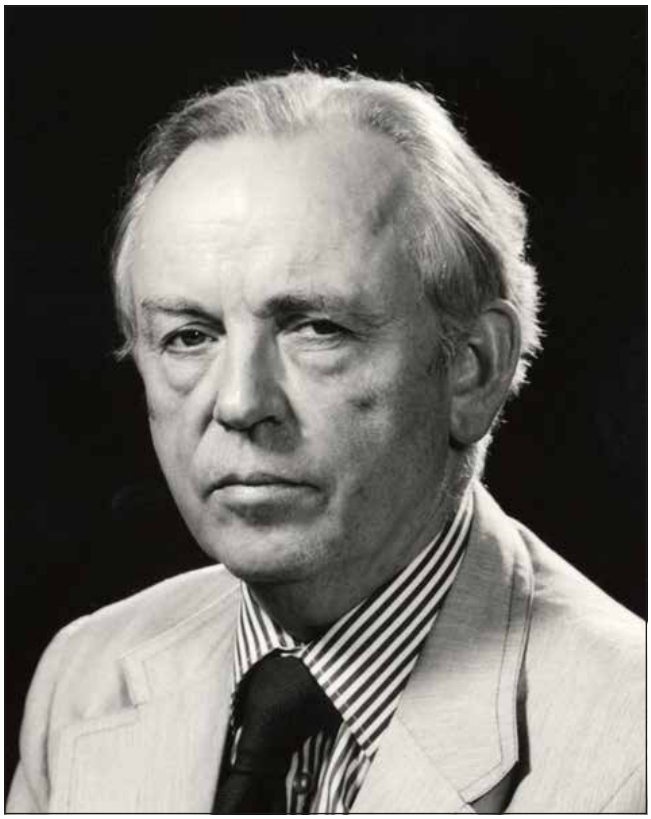

Fig 3. Professor J Frank Pantridge. CBE, MC.

Pantridge was only one of many great physicians and surgeons who made such an enormous contribution to the work of this hospital and who inspired several generations of students and young doctors. Others include Professor Gary Love, Professor Molly McGeown, Mr Willoughby Wilson and Professor George Johnston (Figure 4).

It has been a privilege to have been taught by them and to have been their colleague. All of us charged with the responsibility of teaching students and young doctors must emulate the dedication and commitment to this hospital, and indeed to Queen's, shown by these clinicians but the University also has a responsibility to acknowledge the contribution made by its clinical teachers. Whilst we have seen numerous senior academic appointments in the Medical School to develop the strong and now internationally recognised research at Queen's, on the other hand, it seems to me that there has been a progressive reduction in the appointment of clinical professors, whether in established chairs, personal or honorary appointments as well as in the dismantling of individual academic departments. We should be encouraging and rewarding academic excellence, not just in research but also in clinical teaching as it is the current and future generation of teachers who will inspire and motivate our students.

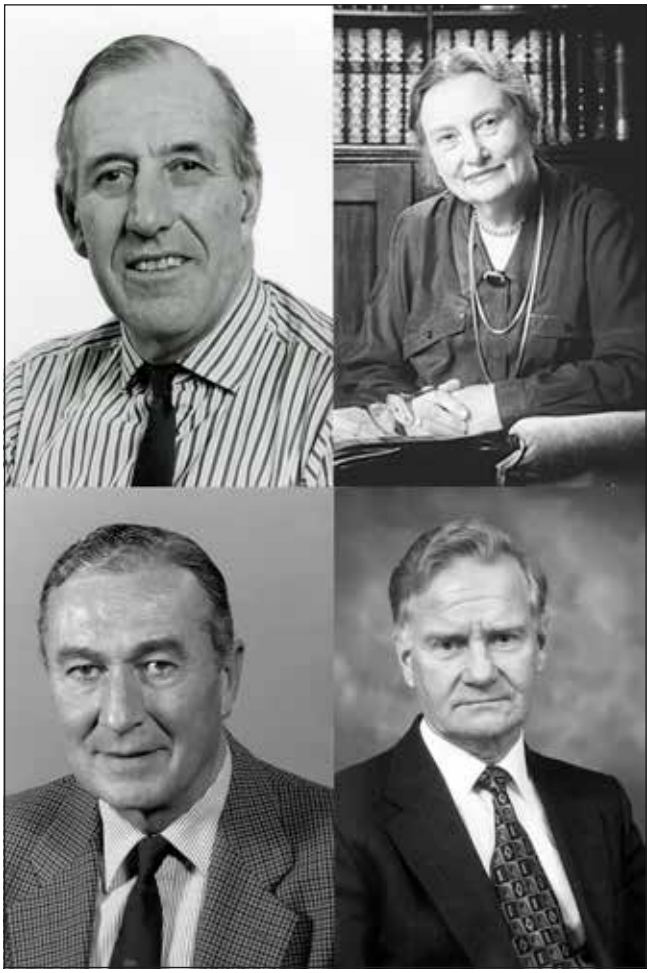

Fig 4. Clockwise from top left: Professor Gary Love, Professor Molly McGeown, Mr Willoughby Wilson and Professor George Johnston

No oration would be complete without reference again to Sir William Osler who is regarded by many as the Father of Modern Medicine. Born in Canada in 1849 he was instrumental in the creation of the John Hopkins School of Medicine and from 1905 until his death in 1919 he was Regius Professor of Medicine at Oxford University. To our new students who are about to embark on their first clinical clerkship, it is Osler you can thank for this privilege. He pioneered the practice of bedside teaching, making ward rounds with a handful of students. Osler said "I desire no other epitaph … than the statement that I taught medical students in the wards, as I regard this as by far the most useful and important work I have been called upon to do".[16].

Osler also had advice for clinical teachers "To have a group of cloistered clinicians away completely from the broad current of professional life would be bad for teacher and worse for student. The primary work of a professor of medicine in a medical school is in the wards, teaching his pupils to deal with patients and their diseases."[16].

Ladies and gentlemen than you so much for your indulgence this morning.

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