

INTERESTING TIMES

The Medical Curriculum in its First Fifty Years

BY ANN BROTHERS AND JOHN WALLER

THE DOMAIN OF the physician in the 1700s was said to be limited to as far as his finger could reach. Physicians tended to see their role as intuiting the nature of a malady on the basis of observing externally visible symptoms, for instance the odour and consistency of stools and the colour of the skin beneath the eyelid. Physic was a cerebral more than a practical activity and both treatment and medical training reflected this fact. Most therapies, bleeding and cupping in particular, were carried out by the lowlier surgeons, and most medical students

spent their time pouring over texts based on Galen's theories of ill-health, leavened with insights about the working of the body that had arisen out of the scientific revolution. Only during the late 1700s did this start to change as, especially in France after 1789, medical education became practical. Time once spent pouring over old texts was increasingly reassigned to walking the wards, examining patients and dissecting corpses. Pathological anatomy emerged as central to medical education in France and a new breed of hospital-trained physician learned to look deeper into the nature of malady. This approach, pioneered in revolutionary Paris, spread far, but did not happen overnight.

The rich documentary history of Melbourne's medical school allows us to chart the evolution of its medical curriculum during the 1800s as, in line with earlier developments in France, it became less bookish and more hands-on.

In 1858 Sir James Paget, lecturer in general anatomy and physiology at St Bartholomew's College and surgeon-in-ordinary to his Royal Highness the Prince of Wales, received a request from the Hon HCE Childers, first vice-chancellor of Melbourne University, for advice on setting up Melbourne's medical course. Sir James' pages of spidery writing conveyed his view that, at the time of embarking on medical study, preference should be given to students who showed a fair knowledge of English, as well as having the rudiments of one other modern language or any one area of science. He also felt that entrants should have sufficient knowledge of arithmetic to be able to keep accounts accurately, enough Latin to read prescriptions, and to be able to translate passages from at least one classical author. This emphasis on the classics sounds quaint, but Paget was anything but a reactionary. An ardent believer in the importance of anatomical investigation—he nearly died in 1838 after contracting typhus following a postmortem—but, like most of his peers, he also felt that physicians should have the well-rounded educations of gentlemen. They were to be more than just healers.

Paget also recommended that students receive a medical diploma after three years of study, a proposal not adopted by the University Council. Vice-Chancellor AC Brownless wanted to create higher standards than at any other school in the English-speaking world. So Melbourne students had to pass a rigorous five year curriculum. It was a gruelling course and



CLINIC IN THE MEDICAL WARD OF DR JOHN WILLIAMS AT THE MELBOURNE HOSPITAL, (c.1890s). DR WILLIAMS IS STANDING AT THE HEAD OF THE BED. Photo courtesy RMH archives

the students were vocal in complaining about their over long academic year and lack of term breaks. In a letter a few of them sent to the vice-chancellor and council in February 1865 they pointed out that: '... we have no rest from our studies from Easter till December, during which other students have two months vacation'.

Paget's advice on the duration of the course had been ignored, but he would have been gratified by the emphasis placed on dead tongues. Melbourne matriculants needed a high standard in Greek, Latin, English, arithmetic, algebra and Euclid and,

once at the medical school, they spent the first year studying still more Greek and Latin, plus chemistry and practical chemistry.

The professorial board did call for a strengthening of the course's science component, but all change was resisted until 1874. It would seem that in the early years, the University Council, and Redmond Barry in particular, were reluctant to venture too far from the traditional classical foundation studies of a 'proper' university education.

They relented somewhat under pressure from Professor Halford, a new appointment. The omission of natural philosophy, Halford observed, might diminish the Melbourne degree in British eyes. It was artfully done, and first year medical students were then exposed to more science.

Reflecting the trend of Paris medicine, after the first year there was some exposure to the body itself. Students received anatomy lectures six days a week as well as three courses on dissection. The quality of teaching and demonstration left much to be desired, but bookish learning had to some degree made way for the practical study of the body. Melbourne's students also spent time observing and diagnosing the living patient. Medicine was being relocated from the library to the hospital ward but not without some teething problems. In July 1865 the students had the temerity to make yet another complaint: that they weren't being given an opportunity to conduct ward rounds because of conflicting demands on their time.

Prof. Halford requires our attendance in the Dissection Room from 9.30-12.30am,...[o]ur lectures in Physiology commence at 3pm, thus leaving an interval of three hours between our work in which to attend Hospital Practice. But the physicians and surgeons in the Melbourne Hospital visit their wards at all hours of the day. Dr Robertson attends at 11.30 am, Dr Eades at 8am, Dr Cutts at 9am and Dr Brownless has no fixed time put down. Dr Barker attends at 9am and Dr Thomas at 11am some days and 3pm other days.

The students implored the board to make things more coherent. But there was no simple solution.

Until clinical teachers were appointed and paid through the university, it would prove difficult for either standards to be maintained or student needs to be properly met. In 1876

however, an outstanding new graduate, Harry Allen, was appointed demonstrator of anatomy and sub-conservator of the museum of anatomy and pathology and, later in the year, pathologist to the Melbourne Hospital. As Kenneth Russell notes in his *History of the Melbourne Medical School 1862-1962*: 'systematic teaching of pathology commenced with Allen's appointment, for he immediately set about building up the collection of specimens and, at the same time, establishing regular instruction for the students in the post mortem room'. Reflecting on the state of the curriculum when he started the course in 1871, Allen later recalled: 'There was no proper first year of Science. There was no students' laboratory for the first year chemistry which barely accommodated the unusually large class of thirteen freshmen in 1871. There was no practical class in Histology or Physiology. Pathology was only represented by some scattered teaching in the courses of Physiology, Medicine and Surgery, and there was no organised pathological teaching even in the post mortem room.' Allen rightly observed that in some areas Melbourne risked falling behind. Laboratory medicine, flourishing in some German universities since the 1830s, had led to significant progress in the understanding of disease and in the knowledge of physiology and biochemistry. Diagnostics were also being advanced by the use of laboratory techniques of analysis and calibration. By the late 1800s, other countries were playing catch-up and, under Allen, Melbourne followed suit.

During the 1880s, the old dissecting room was converted into a laboratory for practical physiology, physiological chemistry and histology. A curriculum review also saw sweeping changes—chiefly, the establishment of a proper first year of science, involving laboratory work in both biology and chemistry. Students benefited from the appointments of Baldwin Spencer to the new professorial chair of biology and DO Masson to a professorship of chemistry. Soon after his arrival in 1886,

Spencer drew up plans for a biology building. Construction began in 1887 and laboratory classes began in 1889.

Important, too, was the ever greater emphasis placed on clinical medicine and surgery, especially with the appointment of John Williams and Thomas Fitzgerald, respectively, as lecturers in these subjects at the Melbourne Hospital. Students now gained clinical experience in both inpatient and outpatient clinics, and this component was extended over four years, initially at the Melbourne



SIR JAMES PAGET. (c.1890)

Photo courtesy Medical History Museum collection



SURGERY AT THE MELBOURNE HOSPITAL, (c.1903). MR ROBERT STIRLING, SECOND FROM RIGHT, IS OPERATING. Photo courtesy RMH archives

Hospital, but from 1888, also at the Alfred Hospital. Greek and Latin, algebra and Euclid were being pushed aside as medicine became scientific.

By the 1880s another revolution in medical science was underway. In 1889 Professor Allen took twelve months leave to visit Europe to study developments in medical education, especially the great advances being made in pathology, and in the areas of histology, histopathology and bacteriology. An exciting time for a pathologist like Allen to be in Europe, this was the decade in which scientists in the laboratories of Pasteur and Koch provided the first

unambiguous evidence that micro-organisms were responsible for many infectious diseases. The germ causing tuberculosis had already been identified, and there was good evidence that bacteria caused cholera, typhoid and anthrax as well. Allen immediately recognised the significance of this work and was keen that Melbourne move with the times. On his return from Europe, Allen sent Thomas Cherry, a promising young graduate, abroad to receive training in pathological histology and bacteriology. Back in Melbourne in 1892, Cherry took practical classes in these cutting-edge subjects and by 1900 there was a purpose built bacteriology building.

As lecturer in physiology, CJ Martin, previously from King's College, London, enhanced the medical school's scientific profile. Often having to improvise and design his own apparatus, he advanced the study of experimental physiology setting great store by practical demonstrations, a commitment which the rest of the medical school began to share. In a *Speculum* editorial of 1889 there were complaints about some lecturers preferring to teach through lectures and bookwork than at the bedside of the patient. The editorial argued the need for 'more true clinics with cases before them, more instruction in diagnosis, in operations, in the great mass of knowledge that can not come out of books, but can only be gained in the wards'. There was still room in the course for modernisation and more of the senior faculty now acknowledged that the style of teaching needed an overhaul. Lectures were scaled back and some of the time freed up was assigned to new specialties. Instruction in gynaecology became compulsory, and optional classes were introduced on the diseases of children, the eye, the skin and the mind. There was stress on the practical throughout and, as a result, students received improved clinical instruction, especially after attendance at outpatient hospital departments became mandatory.

By the early years of the new century medical education at Melbourne University had come a very long way. Gone were the days of studying classics and parsing Latin verbs. Scientific medicine, informed by laboratory studies, had a firm footing in the curriculum. Students observed or performed experiments themselves rather than just taking notes in lectures and the time devoted to bedside learning had increased the students' contact with patients. It was a far, far better course than that in place at the school's inception, but medicine was constantly moving on and the following half-century would witness changes every bit as dramatic.

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