Science and/or medicine: the Cambridge medical curriculum controversy of the 1930s

'L'éducation nous faisait ce que nous sommes.'
(C-A Helvétius)*

Questions of education strike at the heart of what it means to be a member of society. In the same way, questions of medical education strike at the heart of what it means to be a doctor. Answering questions such as ‘what should medical students be taught?’ is essentially to decide what sort of doctors we want to have. It is not surprising, therefore, that the most heated debates on medical education should arise at the times of greatest upheaval in the medical profession. The recent revival of interest in this question has preceded as far back as the discussions of the first half of the 19th century (which resulted in the foundation of the General Medical Council), but also, perhaps most cogently, in the debates of the 1930s and 1940s, in which increasing political pressure for a state medical service both implicitly and explicitly provided a backdrop against which the various protagonists held their discussions.

At the University of Cambridge, advocates of the medical and natural sciences competed for the time, hearts and minds of the beleaguered medical students. Their debates, held in 1931 and 1933, centred around two issues: the reform of the medical curriculum, and the role of the leading figure in Cambridge medicine, the Regius Professor of Physic. In this article, these debates will be set in the wider context of contemporary discussions about medical education, and some tentative conclusions will be drawn about the lessons to be learnt from the events of half a century ago.

To set the scene, we begin with the words of the radical mathematician and philosopher Bertrand Russell. In the first chapter of his book *Education and the social order*, published in 1932, Russell considered the merits of educating people to be good citizens as opposed to good individuals [1]. He concluded that:

‘Considered sub specie aeternitatis, the education of the individual is to my mind a finer thing than the education of the citizen; but considered politically, in relation to the needs of the time, the education of the citizen must, I fear, take the first place.’

Russell’s views on the incompatibility of educating the individual and the citizen are echoed in the Cambridge controversy. The medical curriculum came under scrutiny as the depression brought many of the social, economic and political issues of health care to the fore. The debates started out as attempts to ensure that the average medical student profited from the Cambridge scientific environment; they began, in Russell’s terms, as a contribution to broader debates on the education of the ‘citizens’ of the profession. Under the influence of some of the leading scientists of the day, however, they were redirected. They became a defence of Cambridge science, concerned with the status of Cambridge medicine within the profession, and an assessment of the best way of enabling students to take advantage of new career structures in academic medicine. The issue became the education of particular ‘individuals’: an élite of gifted researchers upon whose shoulders the reputation of the medical school would rest in future.

Advocates of the first viewpoint espoused the ideal of Cambridge as a teaching centre, with the Regius Professor acting as a liaison between the university and the hospital, a role essentially equivalent to that of a dean of the medical school. Opponents of this vision saw Cambridge as the natural home of research rather than teaching; for them, the Regius Professor should be a scientist well-versed in the techniques of clinical research, who would train a small élite destined to take up high positions in the profession.

Revolution or reform? Cambridge as a centre of medical education

The movement towards rethinking the future of medicine at Cambridge started with a memorandum drawn up in 1929 by a medical lecturer at the London Hospital, Archibald Clark-Kennedy (Fig 1). Clark-Kennedy outlined the deficiencies of the curriculum, pointing out that the organisation of the science courses made it difficult for medical students to take both the Natural Sciences Tripos (honours examinations) and the MB examinations in anatomy and physiology. Few medical students took honours; those who

*Claude-Adrian Helvétius. *Discours XXX*, chapter 30; Helvétius (1715–1771) was a French philosopher who held that self-interest is the only motive of human action.
did were at a severe disadvantage, an embarrassing state of affairs when the major selling point of the Cambridge medical school was supposedly the opportunity to obtain excellent training in fundamental science [2].

An investigating committee, comprising the professors of physic (Sir Humphry Rolleston (Fig 2)) and pathology (Henry Roy Dean), and the physiologist E D Adrian, consulted supervisors and directors of medical studies throughout the University, and concluded that medical students arrived at Cambridge ill-prepared for the study of medicine, were overloaded by the amount of work required of them, and badly served by poorly coordinated courses. Their report was referred to a university syndicate, which recommended that, rather than attempt complex revisions of the Natural Sciences Tripos, an equivalent course in the medical sciences be set up [3]. Examinations in the basic sciences of chemistry, physics and biology were to become qualifications for the new course, in which all students were to take anatomy, physiology, general pathology, and an optional course in anatomy, chemistry, biochemistry or zoology. When the proposals came up for discussion on 25 October 1931, a crowded Senate House heard Rolleston and Clark-Kennedy claiming that their recommendations were the best solution to the potentially contradictory problems of lightening the student’s load while safeguarding the quality of the instruction received in the medical sciences [4].

The Cambridge medical students certainly approved of these ideals. Most of them were destined for general practice rather than academic medicine: most wanted to be good doctors rather than clinical scientists. Many of them were prepared to participate in a state medical service, and found themselves at odds with the strong currents of conservatism and elitism that ran through the discussions. Though there was a thriving radical element in Cambridge, few politically active scientists took part in the debate. Some, such as the radiologist Francon Roberts, reserved their contributions for arenas away from the university’s internal politics. Others allowed their political views to be overridden by their commitment to elitism; even the most strongly left wing scientists saw little contradiction between the existence of an intellectual elite and the tenets of their political positions [5].

If the more radical students were disappointed with the attitudes of their seniors in Cambridge, they found much to approve of in the pages of the medical press. One particular article published in the British Medical Journal in March 1932, entitled ‘The student in irons’, epitomises the growing turmoil of the times [6]. The author of this powerful attack on the prevailing system of medical education was C M Wilson (Fig 3) (later Lord Moran), the Dean of the St Mary’s Medical School and a Fellow of the Royal College of Physicians. His provocative article contained sections entitled ‘The way of salvation’, ‘Roads to freedom’, and ‘The tyranny of talk’; it dismissed the possibility of university
committees coming up with solutions, suggesting that the members’ vested interests always led to compromise where radical action was needed. Wilson stated that an individual of ‘luminous intelligence’ was needed who would take a ‘shining axe’ to the curriculum. ‘What is needed,’ wrote Wilson, ‘is not patchwork but something that smacks of revolution, something like a recasting of our whole studies that only such be kept as help towards broad educational needs’.

Wilson repeated these very words in a talk, entitled ‘The student’s liberty’, given to the medical students in Cambridge later that year [7]. Wilson began this talk by claiming that the medical course was run by ‘police methods’ which were ‘means of duress’ fettering medical students’ development. To illustrate the uselessness of university committees he told his audience that although a committee from Cambridge, Oxford and London had been set up, it had achieved nothing. Reform of the curriculum, Wilson told the students, ‘demands a profound revolution of thought. It demands a creative act which will draw up a charter of liberty’.

The Committee to which Wilson referred had been set up in mid-1932, and reported in April 1935; it recommended alterations in the curriculum which would help students ‘acquire that kind of culture which survives the forgetting of facts’, reduce the amount of material to be learnt, and more closely link the study of different subjects [8]. These were the ideals of Wilson, of the proposed new medical course at Cambridge, and of the students themselves; they were rules for producing ‘citizens’ of medicine. As Wilson prophesied, the proposals, intended to ensure that the average medical student could master both science and medicine, everywhere met the scepticism of those who believed that the issue at stake was that of science or medicine.

Science or medicine? Opposition to the proposals

In the debate of 1931, the strongest opposition to the proposals came from some of the distinguished scientists present at the debate, especially Sir Walter Morley Fletcher, Secretary of the Medical Research Council. Fletcher, in his best civil service manner, called the proposals ‘unwise’, and stated his views in unequivocal terms.

‘... in practice the Medical Sciences Tripos would become, as much past experience indicated, more and more vocational, in spite of what he knew to be the ideals and desires of the Syndicate. He thought that that would be a disaster to Cambridge science, and to the reputation of the medical school. He would go further—he thought it would be a national disaster: it would damage the contribution that Cambridge had to make to the country at large and to the medical profession in Britain.’

Fletcher’s characterisation of the proposals as a potential threat to ‘Cambridge science’ sits at the heart of his opposition. Whatever the merits of the proposed medical course (and there were few speakers willing to dismiss it out of hand), it disturbed too many vested interests to stand a chance of being instituted. One by one, senior scientists stood up to denounce the proposals: one derided them as vocational, and ‘a sorry substitute’ for the existing arrangements; another contended that they would ruin the reputation of the Cambridge school as the home of high class medical research; a third raised the spectre of Cambridge becoming no more than a ‘college of technology’. Even the young George Pickering, recently qualified from Cambridge and working in Thomas Lewis’ clinical research unit at the Middlesex Hospital, was ‘not particularly anxious’ to see preclinical studies at Cambridge controlled by the medical profession. Only the professors of pathology (Dean) and physiology (Joseph Barcroft), who had both been involved in drafting the proposals, spoke in their favour.

The strength of the opposition forced the syndicate to back down and settle for the complex business of revising the science courses to allow students who took honours in anatomy and physiology exemption from those subjects in the MB examination. Additional regulations were drafted to ensure that all medical students read for honours, though not necessarily in the natural sciences [9]. The amended report, discussed in October 1933, proved a sufficient compromise [10]. The new curriculum came into force in October 1934, and plans for a Medical Sciences Tripos were shelved, not to be resurrected until the aftermath of Lord...
Todd’s Royal Commission on Medical Education in the late 1960s [11].

The students had no option but to take the course offered to them, although some expressed misgivings during a debate on the changes held by the students’ Medical Society in May 1936. This debate was one of the first public expressions of the increasing politicisation of the medical student body in Cambridge of the mid-1930s; several speakers advocated shortened courses and state control of education as a means to facilitate medical provision throughout the country [12]. Another aspect of this event also reveals the extent of the scientists’ victory: presiding over the debate was the newly appointed Regius Professor of Physic, the former Guy’s physician, John Ryle (Fig 4), who was six months into his campaign to set up a department of clinical research in Cambridge.

Irony in victory—John Ryle’s clinical research

The potential influence of the sciences on medicine at Cambridge had been outlined by the American administrator Abraham Flexner in his 1925 volume Medical education [13]. His critique of the effect of the British medical education system on the development of the medical sciences was scathing, but his invective dulled when he discussed the Cambridge medical school.

‘In theory, and in many institutions in fact, the underlying sciences have now emancipated themselves from the hospital... it is not too much to say that if, at this moment, Great Britain possessed the necessary funds, an evolution, startling in its rapidity, would take place. Could the medical school at Cambridge be completed on a daring basis, English medicine might react as American medicine reacted to the stimulus of the Johns Hopkins Medical School.’

Flexner was fulsome in his praise of Cambridge science:

‘...the environment makes an enormous difference. Students pursuing even the elements of physics and chemistry in laboratories where Rutherford, Hopkins, and their disciples are at work and do elementary teaching, not only learn, but absorb something that is not contained in the syllabus’ [14].

That ‘something’ was the scientific spirit which Flexner claimed was directly equivalent to the ‘practical’ approach extolled by British clinicians [15]. He suggested that further development of the “unit” system of clinical research and teaching, begun in London after the first world war, in which bedside and laboratory work were closely correlated, was the best way to modernise medical education in Britain. This view was shared by the senior clinicians involved in running these units, many of whom were campaigning for the development of clinical research as a highly skilled, meritocratic path to consultant status, to replace the rich networks of patronage which had traditionally served as the routes of advancement.

Fig 4. J A Ryle MD FRCP, Regius Professor of Physic, Cambridge 1935–42.

Given Cambridge’s self-image as the home of the elite, it is not surprising that such developments were closely followed. In 1950 a committee comprising Sir Humphry Rolleston and eight eminent scientists reported on the future of the university’s second chair in medicine, which had lapsed on the death of J B Bradbury [16]. They expressed a desire to see a department of clinical research established in Cambridge, but found themselves in a ‘Catch-22’ situation: no respected clinical scientist would come to Cambridge without a department over which to preside, but no department could be built up without a high quality clinical scientist running its programme of research. The leading clinical scientist of the day, Sir Thomas Lewis, declined an invitation to become Regius Professor of Physic in 1932; Sir Walter Langdon-Brown (Fig 5), a leading clinician was appointed instead [17]. Langdon-Brown was only three years shy of the mandatory retirement age, and furious lobbying over his successor went on throughout his tenure.

The scientists wanted the Regius Professor to be a pure scientist, to balance the clinicians who held corresponding posts in the London medical schools; an influential group of Cambridge medical graduates based in London, on the other hand, were pushing for the appointment of a clinician-scientist such as Lewis, or Fletcher’s successor as Secretary of the MRC,
Edward Mellanby. To complete the picture, the clinicians of Addenbrooke’s Hospital wanted another Langdon-Brown, a clinician who would build up a new teaching programme and bridge the gap between the university and the hospital.

The appointment of Ryle in 1935 held out greater hope for the scientists than the clinicians, as Ryle came to Cambridge with the intention of devoting himself to clinical science. As it turned out, the choice of Ryle was, in a perverse way, absolutely inspired: it failed to satisfy anybody. The clinicians, though cordial in their welcome and helpful with Ryle’s research projects, were disillusioned with their failure to reform the curriculum, and had been denied the advocate for whom they had lobbied. The scientists, for whom the appointment of Ryle represented at least a partial victory, soon found him insufficiently versed in the running of a laboratory, and distinctly unsympathetic to their interests. They had been warned, however: in 1932, Ryle had written to the British Medical Journal in support of Wilson, and had criticised preclinical teachers of anatomy, physiology, and pathology at the universities for instructing their students as though the latter were destined to become anatomists, physiologists, and pathologists, rather than doctors [18].

Conclusion—The student still in irons?

Ryle’s views were, in fact, much closer to those which had formed the basis of the new medical course proposed in 1931 than to those of the scientists on whose cooperation he depended. The views that scientific interests were obstructing curriculum reform, and that emphasis should be put on teaching students how to learn, were also at the centre of the 1935 report of the Cambridge-Oxford-London Committee. They were also held by many of the writers who contributed to the discussions carried on in the pages of the medical press. Opinions expressed in articles such as the Lancet’s series of 1932-33—What is wrong with the medical curriculum?—will also sound familiar to anyone who has read any of the literature on the subject produced since the mid-1980s. The blurb on the back of Stella Lowry’s collection of essays from the British Medical Journal, Medical education, reads:

‘What’s wrong with medical education? Many medical graduates are unprepared for the realities of being a doctor. After five years of absorbing factual information, their creative thinking and problem solving skills are poor. Something is wrong with the way students are being taught [19].’

Are medical students still in irons, some 60 years after Wilson’s impassioned pleas for them to be set free? If so, can one draw any conclusions from these histories other than the terribly depressing one that little has changed in all that time? I would suggest that the lesson of the Cambridge medical curriculum controversy of the 1930s lies in the title of this paper: how questions of science and medicine became, through self-interest and intellectual inertia, a question of science or medicine. Questions of science and medicine are still at the centre of debates on medical education. As readers of Lowry’s excellent volume will be aware, the tendency to provide an ‘either/or’ answer has yet to be suppressed.

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