

## Towards a History of Medical Education in Provincial England

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### *Introduction*

Although the project on which this paper is based commenced in 2003 following the receipt of a Wellcome University Award to support research into the history of medical education in provincial England, its origins date back at least another decade. The history of education has been a subject with which my work has engaged since undertaking an MA in labour history at the University of Warwick, when I researched the question of skill in the Midland printing trade between 1870 and 1914.<sup>1</sup> Among a number of other themes, my thesis addressed the history of apprenticeship, in this case technical training in the provincial brewing trade.<sup>2</sup> Brewers' apprentices have been described by historians as privileged apprentices, which includes printers, as well as medical students, given the large premiums these pupils paid for their instruction.<sup>3</sup> When I commenced a history of Birmingham's teaching hospitals (1779-1939) in 2000, my research finally turned to this latter group of very privileged pupils. Over the course of the project, I designed my current research on the history of medical education in provincial England. Along with the Birmingham school of medicine (which dates back to 1825), the project includes medical schools in Bristol (1833), Liverpool (1834), Newcastle (1834) and Sheffield (1828) and it is with the preliminary findings of this research that this presentation deals.

The history of medical education is not a neglected subject. Nearly every school in this country, as well as those in North America, possesses a published history. Generally, these histories mark particular anniversaries, usually centenaries and trace the progressive growth of these institutions from fledgling medical schools to thriving university faculties. As one might expect of such publications, they are usually free of scandal and represent what has been described as a heroic tradition in the history of medicine. As a result, by the late 1980s and 90s, both the curriculum and the history of medical education in this country were regarded as in need of reform.<sup>4</sup> While the curriculum changed in 1993 as a result of proposals put forward by the General Medical Council in their document *Tomorrow's Doctors*, the history of medical education remains in some need of revision.<sup>5</sup>

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<sup>1</sup> J. Reinarz, 'Labour and management in the Midlands printing trade, 1890-1914', (Unpublished MA dissertation, University of Warwick, 1994).

<sup>2</sup> J. Reinarz, 'The Social History of a Midland Business: Flower & Sons Brewery, Stratford-Upon-Avon, 1870-1914', (Unpublished PhD Thesis, University of Warwick, 1998).

<sup>3</sup> C. More, *Skill and the English Working Class, 1870-1914* (London, Croom Helm, 1980), pp. 104-5; J. Reinarz, 'Fit for Management: apprenticeship and the English brewing industry, 1870-1914', *Business History*, 43, 3 (2001), 33-53.

<sup>4</sup> V. Nutton and R. Porter, *The History of Medical Education in Britain* (Amsterdam, Rodopi, 1995), p. 1.

<sup>5</sup> [http://www.gmc-uk.org/education/undergraduate/tomorrows\\_doctors.asp](http://www.gmc-uk.org/education/undergraduate/tomorrows_doctors.asp), accessed 12 November 2006.

### *Eighteenth-century developments*

The history of modern medical education is regularly traced back to the teaching of Hermann Boerhaave (1668-1738) and the medical school at Leiden during the first years of the eighteenth century. Combining lectures with regular excursions into the wards of a small local teaching hospital, Boerhaave's clinical methods in particular travelled as far as the students who came from across Europe to attend his sessions in bedside pedagogy.<sup>6</sup> While his methods reformed medical instruction at schools throughout the continent, his influence on this side of the channel was first noticeable at Edinburgh, where a number of Leiden graduates incorporated bedside teaching at the town's infirmary into the curriculum of the city's recently-established medical school.<sup>7</sup> The importance of practical teaching was only underlined by the work of Scottish-trained anatomy instructors, such as William Hunter (1718-83, who taught his hands-on methods from schools in London from the middle of the eighteenth century. Over the remainder of the century, the popularity of his and many other classes, both in the metropolis and provinces, stimulated a trade in dead bodies that has attracted some attention from medical historians.<sup>8</sup> It also stimulated various hospital practitioners in London, beginning with those at St Bartholomew's and St Thomas's, to develop the educational side of their institutions. With the pathological work of the Frenchman Xavier Bichat (1771-1802) on the localisation of disease, such classes only grew in popularity and the practical work of dissection became even more rooted in medical education.

Unlike the Hunters and Bichat, the first provincial instructors in England have largely been forgotten. While less remembered, their classes were also less regular, many being occasional classes running for perhaps a year or two and were rarely, if ever, publicised again. For example, Thomas Tomlinson, a Birmingham surgeon, advertised a course of anatomical demonstrations in 1769, which attracted many local apprentices, as well as a few qualified practitioners.<sup>9</sup> Charles White delivered a similar series of lectures in Manchester in 1783.<sup>10</sup> Like the lessons of Tomlinson and those who delivered primarily anatomical lectures, these tended to attract primarily surgeons, physicians having undertaken a far less practical, university-based education. Many others took their pupils onto the wards of hospitals where they held honorary appointments, though training remained relatively unstructured and involved following a master on his weekly rounds. One exception appears to have developed in Liverpool, where ship-surgeons were trained and examined at the local infirmary until the abolition of slavery in 1807.<sup>11</sup>

Ordinarily all medical examinations were undertaken by the ancient licensing bodies in London, Scotland and Ireland. In England, these included the Royal College of Physicians (founded 1518), Royal College of Surgeons (founded 1745) and the Society of Apothecaries

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<sup>6</sup> G. A. Lindeboom, *Herman Boerhaave: the man and his work* (London, Methuen, 1968).

<sup>7</sup> D. Guthrie, 'The Influence of the Leiden School upon Scottish Medicine', *Medical History* 3 (1959), 108-122.

<sup>8</sup> R. Richardson, *Death, Dissection and the Destitute* (London, Routledge, 1993).

<sup>9</sup> T. Tomlinson, *Medical Miscellany* (London, 1769), p. 94.

<sup>10</sup> C. J. Cullingworth, *Charles White, a great provincial surgeon and obstetrician of the eighteenth century* (London, H.J. Glaisher, 1904).

<sup>11</sup> J. A. Shepherd, *A History of the Liverpool Medical Institution* (Liverpool, Liverpool Medical Institution, 1979), p. 19; A. A. Gemmill, *The Liverpool Medical School, 1834-1934* (London, University Press of Liverpool, 1934), p. 7.

(founded 1617). Examinations were conducted by their Councils of Examiners, usually comprising the most eminent and, for this reason, intimidating medical men of the day. As their names suggest, the Councils were not established to instruct pupils, though both established libraries from an early stage, thereby providing an essential educational infrastructure. As a result of such a lax approach to education, the licensing bodies came into competition with the private anatomical schools which rose in the second half of the eighteenth century. Comprising many of the same individuals who acted as examiners, the Royal College of Surgeons dealt with the threat of the private anatomy schools in a very reactionary manner, namely by refusing to recognise attendance on their courses.<sup>12</sup> The Society of Apothecaries, on the other hand, championed the development of a medical curriculum in 1815. While its Council recognised the courses run by the new provincial medical school, that of the surgeons recognised only those of the London and Scottish schools.

### *The emergence of the provincial schools*

The provincial schools emerged despite this opposition, led by Manchester in 1824.<sup>13</sup> Appropriately, the second school appeared in Birmingham, which was recognised as England's second city by century's close. Although regional differences in the evolution of schools are immediately apparent, the case of Birmingham effectively serves as a model to understand the general development of other provincial schools at this time. For example, its founder, William Sands Cox (1802-75), like many other founders of provincial schools, was locally born and trained, having been apprenticed to his father, Edward Townsend Cox, a Birmingham surgeon. However, William also bridges two traditions in the history of medicine. After acquiring a recognised qualification to practice medicine, he travelled to London where he worked the wards of Guy's and St Thomas's hospitals, before attending private classes in Paris. Soon after returning to Birmingham in 1825, he advertised his own series of anatomical demonstrations and lectures.<sup>14</sup>

The activities of these provincial pioneers in pedagogy have been interpreted by historians in the past. Ian Inkster, for example, has referred to such enterprising provincial practitioners as 'marginal men'.<sup>15</sup> Not excluded as a result of their race, as Robert Park's theory of the marginal man in society originally suggested, these medical men were regarded as marginal in the wider medical community which was at this time centred in London.<sup>16</sup> Unlike their provincial contemporaries, these movers and shakers were men of wider horizons. Many, however, were simply filling an awkward gap between qualification and establishing lucrative

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<sup>12</sup> Z. Cope, *The Royal College of Surgeons of England: a history* (London, Anthony Blond, 1959), p. 43.

<sup>13</sup> S. T. Anning, 'Provincial Medical Schools in the Nineteenth Century', in F. N. L. Poynter (ed.), *The Evolution of Medical Education in Britain* (London, Pitman Medical Publishing Company Ltd., 1966), p. 121.

<sup>14</sup> J. T. J. Morrison, *William Sands Cox and the Birmingham Medical School* (Birmingham, Cornish Brothers, 1926).

<sup>15</sup> I. Inkster, 'Marginal Men: aspects of the social role of the medical community in Sheffield, 1790-1850', in J. Woodward and D. Richards (eds), *Health care and popular medicine in nineteenth century England: essays in the social history of medicine* (London, Croom Helm, 1977), pp. 128-163.

<sup>16</sup> R. Park, *Race and Culture* (Glencoe, IL, The Free Press, 1950), p. 356.

private practices and offered courses to fill their free time and acquire some extra funds.<sup>17</sup> The stagnation of medical education in London also provided an opportunity to market their newly acquired knowledge. In any case, each also had their own personal reasons for entering the field of medical education. In Cox's case, he was encouraged to found provincial classes by Edward Grainger, a local practitioner, who founded the Webb Street anatomical school in London, with whom he lived while a student in the capital.<sup>18</sup>

Despite their differences, each school founder established courses which aimed to comply with the regulations of the Society of Apothecaries and, eventually, the Royal College of Surgeons. Upon completing local courses in anatomy, botany and surgery, among many others, students still proceeded to London where they undertook 6 to 9 months of dressing on the wards of the large teaching hospitals in order to qualify for their professional examinations. In general, the first provincial schools trained surgeon-apothecaries, not physicians, who continued to attend universities. Trained as surgeons, the founders of schools generally taught anatomy and described themselves as anatomists. In this respect, the man behind the establishment of Liverpool medical school, Richard Formby, was unusual as one of the few physicians to promote a provincial school.<sup>19</sup> In order to maintain the support of the local medical community, teaching positions were also offered to the most established and eminent local practitioners, some of whom were physicians. While this usually guaranteed some additional support, founders also benefited from the private teaching materials possessed by these senior practitioners.

Most provincial schools offered clinical training soon after their establishment, though time spent on a hospital ward in the provinces was not initially recognised by the main medical licensing bodies. Additionally, opportunities for clinical instruction appeared good on paper, but were far from perfect in reality. For example, most instructors coordinated their lectures and ward rounds around busy private schedules. As a result, though advertised in school prospectuses, clinical hours were subject to change and were occasionally cancelled for a variety of reasons. As such, there is some truth to the belief that many students had to pay for the privilege of clinical work, despite being promised considerable hospital experience on enrolment. The informal nature of clinical instruction, however, changed significantly in 1839. It was in this year that provincial hospitals were recognised for clinical instruction by the Royal College of Surgeons.<sup>20</sup>

It was only a few years earlier that proper school buildings had been constructed. For this reason alone, it was in the 1830s and 40s that the provincial schools actually began to resemble educational institutions. Not only did many acquire purpose-built buildings, but many began to organise themselves on more sophisticated lines, establishing management committees and keeping regular minutes. Most were run like businesses, with limitations. In the case of Liverpool, the school was actually incorporated as a limited liability company, the only provincial medical school to be organised on such lines.<sup>21</sup>

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<sup>17</sup> S. Jacyna, 'Theory of medicine, science of life: the place of physiology in the Edinburgh medical curriculum, 1790-1870', in Nutton and Porter, *The History of Medical Education in Britain* (Amsterdam, Rodopi, 1995), p. 146.

<sup>18</sup> Morrison, *William Sands Cox*, p. 7.

<sup>19</sup> T. C. Gray, *Dr Richard Formby: Founder of the Liverpool Medical School* (London, Royal College of Physicians, 2003).

<sup>20</sup> Cope, *The Royal College of Surgeons of England*, p. 46.

<sup>21</sup> T. C. Gray and S. Sheard, *A Brief History of Medical Education in Liverpool* (Liverpool, University of Liverpool, 2000), p. 6.

Besides permanent buildings, most school founders also amassed extensive museum collections. In general, this development has been overlooked by medical historians who appear more attentive to the evolution of laboratory medicine and other signs of modern medical instruction and research. Museums, however, were very important to the mission of the first provincial schools. One might even refer to these collections of specimens as the jewels of schools.<sup>22</sup> Generally, specimens were used to illustrate lessons. Prior to the passage of the Anatomy Act in 1832, bodies were not always available in numbers required for teaching. According to the witnesses appearing before the 1834 Select Committee on Medical Education, whether or not a school was recognised as a teaching establishment depended very much on the possession of a suitable museum collection.<sup>23</sup> These institutions were also open to the public and were enlarged as a result of subsequent donations. This might also explain why they always comprised more than simply specimens of morbid anatomy.

Libraries, on the other hand, were slower to be established. At a number of institutions, libraries and reading rooms were left to the management of students.<sup>24</sup> The majority, in contrast to museums, were small in size, generally comprising a few periodicals and a collection of books left by a deceased member of staff. While important to instruction, the library also represented theoretical knowledge, which took a back seat to new empirical methods of instruction, as represented by dissection and ward rounds. Given the slow growth of school libraries, students continued to rely on local practitioners who regularly opened their private libraries.

Though provincial schools were entirely dependent on increasing the enrolment of pupils, medical school archives only rarely shed light on the earliest provincial medical students. In fact, students are hardly ever mentioned in ledgers and early reports.<sup>25</sup> According to financial details, the average annual attendance at most schools was between six and twelve pupils. Of course, most minutes eagerly advertised exact numbers in good years. In general, schools appear to have attracted local boys and advertised their courses in regional newspapers. Most also introduced early prizes in order to attract prospective students.<sup>26</sup> Describing themselves as a safer option to schools in the metropolis, staff at provincial schools nevertheless regularly complained about the poor discipline of their students and large sections of minute books discuss issues such as student discipline, or a lack thereof.<sup>27</sup>

### *The rise and fall of Birmingham medical school*

At the same time that students began to receive prizes, so too did some schools themselves begin to collect prizes. For example, Birmingham received its royal title in 1836.<sup>28</sup> Shortly afterwards, it received another prize in the form of considerable financial support from the Revd Samuel Warneford, a long-time patient of the school's founder, William Sands Cox. Like most of the

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<sup>22</sup> J. Reinartz, 'The Age of Museum Medicine: the Rise and Fall of the Medical Museum at Birmingham's School of Medicine', *Social History of Medicine*, 18, 3 (2005), 419-437.

<sup>23</sup> *Report of the Select Committee on Medical Education* (PP, 1834, XIII), pp. 71-2.

<sup>24</sup> S. T. Anning and W. K. J. Walls, *A History of the Leeds School of Medicine: One and a Half Centuries, 1831-1981* (Leeds, Leeds University Press, 1982), p. 33.

<sup>25</sup> H. A. Ormerod, *The Early History of the Liverpool Medical School from 1834 to 1877* (Liverpool, Liverpool University Press, 1945), p. 46.

<sup>26</sup> Gemmell, *The Liverpool Medical School*, p. 13.

<sup>27</sup> Ormerod, *The Early History of the Liverpool Medical School*, p. 38.

<sup>28</sup> Morrison, *William Sands Cox*, p. 58.

charitable funding dispensed by Warnesford, this donation also came with strings attached. Though first and foremost a medical school, Cox's venture was slowly transformed into a theological college. In exchange, Cox received the support required to expand medical instruction. This included the ability to acquire those specimens specifically required to support lectures. Additionally, Warnesford advanced the funds required to build a hospital specifically for teaching medical students. The Queen's Hospital opened to patients and students in 1841 and remained Birmingham's second largest hospital for the next century.

Further changes were introduced in 1843 when the introduction of a charter created Queen's College Medical School. Modelled on an Oxford college, the school now possessed residential wings and a chapel. Significantly, other medical schools also introduced changes in these years. Liverpool medical school, for example, moved to a new building in 1844.<sup>29</sup> Unlike other schools, Birmingham could claim that all of its students were superintended and offered religious guidance. They were less forthcoming when it came to disclosing just how many students were attracted to what was rapidly becoming the premier provincial medical school.

While the development of schools, such as Birmingham, appeared at times unique, these local examples of provincial medical education also reflected national changes in medicine. This was especially the case after 1858, when the General Medical Council created its register of qualified medical practitioners. Nationally, medical examinations became subject to the control of a single administrative body and some legislative control over medical education had been introduced. As a result, the self-directed nature of medical education began to disappear over the last decades of the nineteenth century.<sup>30</sup> The curriculum remained under the control of the ancient licensing bodies, only now non-compliance meant non-recognition on the medical register. While this does suggest schools did little more than introduce changes advocated by eminent practitioners in the capital, this sort of generalisation tends to obscure the creative nature of conformity at medical schools in these years. What is far clearer is that at this time some of the weakest schools, including those in Exeter, York and Nottingham, found it hard to compete with regional leaders and ceased to exist.<sup>31</sup>

While this should have been a golden age for schools such as Birmingham, given Warnesford's generous financial support, population growth in the region, as well as improvements in transportation, these were trying times for the school and its founder. Despite his huge investment in the school, theology appeared to be the only successful department at Birmingham medical school. As Cox's reputation declined locally, so too did student numbers. Birmingham was also going through a period of non-conformist revival, which did not improve enrolment at a school that was openly Church of England. Cox's critics also openly objected to his poor management of the school, most decisions having been made privately and with little consultation. As a result, a rival school was started in these years. Things only grew worse for Cox when funding ran out following Warnesford's death.<sup>32</sup>

The problems at the medical school remained unresolved for approximately a decade. Eventually, reorganisation was carried out, but at the hands of the Charity Commissioners, and not school staff. Unlike the ledgers kept by Cox in the years leading up to the crisis, the conflict

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<sup>29</sup> Gray and Sheard, *A Brief History of Medical Education in Liverpool*, p. 6.

<sup>30</sup> I. Loudon, 'Medical education and medical reform', in Nutton and Porter, *The History of Medical Education in Britain* (Amsterdam, Rodopi, 1995), p. 230.

<sup>31</sup> H. Merskey, 'The first Nottingham medical school: 1833-1835?', *Medical History*, 12, 1(1968), 84-9.

<sup>32</sup> Reinarz, 'Healthcare in the Second City: a history of Birmingham's teaching hospitals', *Birmingham Historian*, 26 (2004), 20.

as described in the report of the Charity Commissioners is especially revealing. An Act of Parliament 1867 eventually dissolved Queen's College and separated school and hospital. Birmingham's two medical schools were then successfully merged and run on more transparent lines than in past decades. Shortly afterwards all evidence suggests the reputation of the educational institution had recovered. Cox's reputation on the other hand did not. Leaving Birmingham in 1868, he is next mentioned in an annual report in 1875, which announced his death.<sup>33</sup>

### *Late nineteenth-century reorganisation*

Reorganisation characterised much of medical education in the following two decades. Provincial medical schools in general were regularly merging with local colleges in these years.<sup>34</sup> Among other things, affiliation allowed medical schools more easily to offer their students a larger curriculum. This in particular would be requisite if these schools were ever going to be able to train physicians. Once merged with arts colleges, it did not require much lateral thinking to recognise that these schools could be the seeds of new educational institutions.

First and foremost, the merging of medical schools with local arts and sciences colleges allowed staff more effectively to teach the preliminary sciences. Attendance on a course of physics, for example, was required by the General Medical Council in 1876.<sup>35</sup> When the preliminary education of medical students was enlarged in 1892 to include the biological sciences, these changes were far easier to incorporate into the curriculum. Besides such curriculum changes being determined outside the provinces, teaching staff was more often being recruited nationally. While the merger with arts colleges had its benefits, medical schools offered much in return to the higher education institutions with which they merged. For example, by joining with medical schools, most provincial colleges significantly improved enrolment. In the case of Birmingham this was equivalent to approximately 100 students.<sup>36</sup> With university status, achieved in Birmingham in 1900, these medical schools could finally grant their own degrees. In the case of Liverpool, the medical school began to award its own degrees in 1882. As importantly, many provincial medical schools were finally opened to female students.

### *Conclusion*

As this brief summary should suggest, a history of provincial medical education offers many fresh perspectives on medical education in this country. Primarily, it allows historians to rethink a London model, which has so long dominated histories of English medical education. What the evidence from the English provinces demonstrates is that local solutions to national questions were being discussed at medical schools throughout this period. It also demonstrates that provincial schools very quickly became equally influential in determining developments in medical education during the nineteenth century. Though originally looking to London, Edinburgh, Dublin and their examination bodies during their earliest days, provincial schools

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<sup>33</sup> Birmingham City Library, Local Studies, Queen's Hospital, Birmingham, Annual Report, 1875.

<sup>34</sup> C. Bruce Perry, *The Bristol Medical School* (Bristol, Bristol Branch of the Historical Association, 1984) p. 14; Morrison, *William Sands Cox*, p. 156.

<sup>35</sup> Gemmell, *The Liverpool Medical School*, p. 14.

<sup>36</sup> E. Ives, D. Drummond and L. Schwarz, *The First Civic University: Birmingham 1880-1980* (Birmingham, University of Birmingham Press, 2000), p. 55.

rapidly became influential institutions in their own right and future changes in medical education tended to be locally led. Besides looking primarily to London, these provincial educational bodies also looked to each other and actively competed for students. An examination of their histories also says much about the communities in which they were situated. So, too, do the crises and conflicts that have often been left out of their official, commissioned histories. Finally, by including these turbulent episodes in their research, historians can begin to challenge existing positivistic accounts of these schools and contextualise some of medical history's most enduring heroic narratives.