

## The Age of Museum Medicine: The Rise and Fall of the Medical Museum at Birmingham's School of Medicine

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**SUMMARY.** While much has been written in the last few decades on the history of medical education, less attention has focused on the subject of medical museums, which were central to instruction at medical schools during the nineteenth century. This article aims to readdress the question of provincial medical education in England and shed some light on museums, which, if one were judging by their rules, regulations, and costliness, were among the most important services offered by these educational institutions. Originally founded by innovative medical practitioners and supplemented with donations from wealthy patrons and local doctors, museums were reorganized, updated and enlarged into and beyond a subsequent era of hospital and laboratory medicine. Given their centrality to medical education before the Second World War, it is suggested this period might even be referred to as an age of museum medicine.

**KEYWORDS:** medical museums, medical education, Birmingham, anatomical specimens, collecting, provincial medicine, hippopotamus.

British medical school museums are neglected institutions. Despite a recent growth in the field of medical history, not to mention the existence of a vast literature of inspiring studies in the history and culture of museums, these sites of medical instruction have only rarely been discussed by historians. In fact, few histories of individual schools or medical education in general ever mention the existence of museums.<sup>1</sup> Those that do mention them very rarely provide any details relating to their development, organization, and evolution over the lifetimes of schools. Most are commemorated by a single snap-shot, usually depicting a parade of skeletons and as many jars as could be found in the average eighteenth-century apothecary's shop. Despite occupying hardly any space in their published histories, many square feet of the first British medical schools were devoted to museum accommodation. Most provincial schools possessed an anatomical museum if little else besides a lecture theatre and dissecting room in the mid-nineteenth century. By the end of the century, many schools had organized multiple collections. Specimens were donated by the earliest and most benevolent supporters of the provincial institutions and kept in specially-built rooms and galleries. Furthermore, much time was spent by staff and students in this space, as both classes and exams were conducted in museums. That they

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<sup>1</sup> See, for example, K. Waddington, *Medical Education at St Bartholomew's Hospital, 1123–1995* (Woodbridge, Suffolk, 2003); T. Bonner, *Becoming a Physician* (London, 2000); V. Nutton and R. Porter (eds), *The History of Medical Education in Britain* (Amsterdam, 1995); K. Ludmerer, *Learning to Heal* (New York, 1985).

should be overlooked in histories of medical education seems even odder, considering that museums were also one of the few spheres of medical schools that were occasionally unveiled to the public during special events, such as university *conversazioni*, or open days.<sup>2</sup>

For medical students, the museum was the site where theory first encountered practical learning, as ideas introduced in lectures were explained and illustrated with the help of preserved specimens. In Stephen Paget's memoirs, for example, the nineteenth-century surgeon suggests the museum at St Bartholomew's was not only a useful arena of instruction, but also the most important part of his education, far surpassing lectures and ward rounds in teaching value.<sup>3</sup> As evidenced by schools' earliest minute books, lecture theatres were often inhospitable. This made the museum a particularly welcome environment for young women studying medical subjects in the late nineteenth and early twentieth centuries.<sup>4</sup> Medical historians, on the other hand, are apparently far more interested in the emergence of laboratories and the birth of clinical instruction over the same period.<sup>5</sup> This article seeks to explore the history of what was undoubtedly a key branch of Victorian and Edwardian medical education. It relies on much new research undertaken in an effort to write a comprehensive history of medical education in Birmingham, while drawing on existing histories of medical schools, museums, and libraries in order to contextualize the paper more broadly. Finally, a closing section briefly considers the fate of the medical museum in the twentieth century and presents some reasons for the institution's decline since the Second World War.

#### *Historians and the Museum*

Histories of medical education have regularly considered the places and spaces of instruction. Foucault's renowned reflections on clinical medicine, for example, trace the birth of modern medicine to the post-revolutionary hospital clinic.<sup>5</sup> While challenging his conclusions, subsequent studies argue these changes were not peculiar to nineteenth-century France and occurred in other countries, if not an earlier century.<sup>6</sup> When not entirely preoccupied with the birth of

<sup>2</sup> W. Penman, 'The Introduction of the Edinburgh Quizzing System into American Medical Education', *Bulletin for the History of Medicine*, 52 (1978), 89–95, p. 91.

<sup>3</sup> S. Paget (ed.), *Memoirs and Letters of Sir James Paget* (London, 1901), pp. 43–4. See also J. Manton, *Elizabeth Garrett Anderson* (London, 1987), p. 119.

<sup>4</sup> Manton, *Elizabeth Garrett Anderson*, p. 121; K. Waddington, 'Mayhem and Medical Students', *Social History of Medicine*, 15 (2002), 45–64, p. 52.

<sup>5</sup> Recently, there has been a noticeable 'spatial turn' in medical history, which has concentrated some attention on places of medical teaching, including museums. Important works in this field are P. Krietsch and M. Dietel, *Pathologisch-Anatomisches Cabinet* (Berlin, 1996); J. Pickstone, *Ways of Knowing* (Manchester, 2000); S. Alberti, 'Placing Nature: Natural History Collections and their Owners in Provincial Nineteenth-Century England', *British Journal for the History of Science*, 35 (2002), 291–311; A. Kraft and S. Alberti, "'Equal Though Different": Laboratories, Museums and the Institutional Development of Biology in Late Victorian Northern England', *Studies in History and Philosophy of the Biological and Biomedical Sciences*, 34 (2003), 203–36.

<sup>6</sup> M. Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, trans. A. M. Smith (New York, 1973).

clinics, medical historians, as argued recently by John Pickstone, have also been concerned with the emergence of 'scientific' medicine, given their 'fondness for laboratories'.<sup>7</sup> Despite the first appearance of medical laboratories during this period, the nineteenth century also witnessed the proliferation of scientific museums in England. Moreover, the emergence of laboratories may have supplemented, rather than eclipsed, the museum.<sup>8</sup> Interestingly, the period preceding the era of 'hospital medicine' is regularly referred to by historians as one of 'library medicine', despite the fact that much medical instruction was undertaken in museums.<sup>9</sup> Equally important, a greater proportion of each school's income was devoted to the museum than its library. Consequently, as emphasized by the title of this article, it will be argued that this age in medical education might more accurately be described as one of 'museum medicine'. Few engaged in the task of education during these years underestimated the importance of these institutions to instruction in medicine. The first governors of Birmingham medical school, as this article will demonstrate, never doubted the museum's contribution to the success of their innovative educational venture. Neither did earlier generations of scientific and medical elites.

Often resembling nineteenth-century medical museums in their general appearance and lay-out, early modern museums, or *Wunderkammern*, fulfilled equally important educational functions. As has been argued elsewhere, it was their instructional qualities that made museums different from fairs and earlier collections of curiosities.<sup>10</sup> These places of 'organized walking', *Wunderkammern*, or curiosity cabinets, became regarded as ever more important to the mental and moral health of citizens.<sup>11</sup> Nevertheless, from their foundation, most of them were intended as inventories of the natural world benefiting primarily elites, or a single collector, who acquired knowledge, if not some control over nature, through the possession of objects.<sup>12</sup> Originally characterized by their exclusiveness, private collections, or rather the shaped knowledge they represented, were occasionally transferred to more public spaces, as, for example, in the case of the Medicis in fifteenth-century Florence, to legitimize the rule of particular individuals or a set of ideals. While often literally attaching analytical meaning to objects and displays, printed catalogues permitted such collections to reach a larger audience than their immediate visitors.<sup>13</sup> Some of the most enthusiastic of museum supporters opened the doors to such collections more widely and hoped that the 'rough and raucous' might learn to civilize themselves in these

<sup>7</sup> G. Risse, *Hospital Life in Enlightenment Scotland* (Cambridge, 1986); C. Hannaway and A. La Berge (eds), *Constructing Paris Medicine* (Amsterdam, 1998).

<sup>8</sup> Pickstone, *Ways of Knowing*, p. 73. See also Kraft and Alberti, "'Equal though different'", p. 204.

<sup>9</sup> Kraft and Alberti, "'Equal though different'", p. 207.

<sup>10</sup> E. Ackerknecht, *A Short History of Medicine* (New York, 1955), p. 134; C. Jones and M. Sonenscher, 'The Social Functions of the Hospital in Eighteenth-Century France', *French Historical Studies*, 13 (1983), 172–214, p. 173.

<sup>11</sup> T. Bennett, *The Birth of the Museum* (London, 1995), p. 3.

<sup>12</sup> *Ibid.*, p. 6.

<sup>13</sup> P. Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley, 1994), p. 1.

early public spaces.<sup>14</sup> Often showcasing particular prized objects and their unique properties, collections were continually reorganized into displays that illustrated general laws and tendencies, which were as varied as a museum's contents. Equally, museums publicized scientific culture formerly confined to scholastic discourse, attempting practically to reconcile the abstractions of philosophy with the realities of nature, if not simply seeking to alleviate the tedium of instruction.<sup>15</sup> The close association between visual stimuli and memory further aided its educational functions.<sup>16</sup> For many museum visitors, lessons learned in this setting were both the easiest to remember and the last to be forgotten. This fact alone convinced innumerable educationalists of the value of museum teaching.

While the reputations of some early modern collections grew in subsequent decades, the eighteenth century witnessed the emergence of many more local and specialized collections. This was often despite the cost of accumulating objects and mounting specimens, preservatives, glass containers and the cases in which items were housed. Given the great expense associated with museums, the proliferation of such institutions often reflected private affluence or the economic and social importance of particular trades and professional bodies. The many remarkable collections amassed by apothecaries or chemists, for example, while reflecting the increasing prosperity and professional interests of its practitioners, who progressively distanced themselves from their humble origins, also allowed their apprentices to familiarize themselves with their chosen vocation without the expense of travelling great distances in order to collect knowledge. In many ways, such collections replaced the need for travel, at least for students and museum visitors more generally, although not necessarily collectors.<sup>17</sup> As the reorientations of medicine in the early nineteenth century demanded that observation and the identification of normal and pathological organs be an ongoing part of a practitioner's work and training, the importance of museums to medical education, as in other areas of learning, increased.

In these same years medical education by way of apprenticeship commenced its decline. While indentured pupils in earlier eras may have learned about disease or therapeutics by examining various curiosities in the possession of their masters, the nineteenth-century reorganization of training took students out of domestic settings and consolidated dispersed and limited collections into substantial school museums. Although many of the first English medical schools emerged alongside hospitals, where students could usually expect to encounter examples of the cases their instructors lectured upon, teaching staff were quick to establish museums in order to ensure that at least one pathological manifestation of a disease was available for pupils to study during their classes or peruse at their leisure. Fortunately for medical instructors, these collections were also more easily updated than libraries, as many interesting specimens could be harvested from the least fortunate members of the English population, the sick poor.

<sup>14</sup> Findlen, *Possessing Nature*, p. 37.

<sup>15</sup> Bennett, *Birth of the Museum*, p. 28.

<sup>16</sup> Findlen, *Possessing Nature*, p. 9.

<sup>17</sup> E. Hooper-Greenhill, *Museums and the Shaping of Knowledge* (London, 1992), p. 79.

Another incentive that led medical practitioners to amass such pathological cabinets was that individuals and institutions with the largest and most complete collections, regardless of discipline, had always been recognized as authorities in their respective fields.<sup>18</sup> Consequently, museums were potentially useful to aspiring institutions, such as provincial medical schools. One indication of the status these comprehensive cabinets bestowed was that their proprietors had historically been called upon to arbitrate in professional disputes. Not surprisingly, in the early nineteenth century, when medical schools were first established in provincial England, those institutions quickest to accumulate specimens and organize them into museums also possessed a noticeable advantage over their rivals.<sup>19</sup> In most cases, these museum-oriented instructors emerged as the dominant medical educators in their towns, benefiting from the mid-century decline in the duties on glass and spirits, which greatly decreased the expense of augmenting collections.<sup>20</sup> In the case of William Sands Cox at Birmingham, the possession of a medical museum was one of the primary reasons the young surgeon was able to become a leading figure in medical education in provincial England during this period. Another, of course, was his accreditation by the Royal College of Surgeons in London. The recognition of any provincial programme of medical instruction often had more to do with a school's museum than the existing historical literature might lead one to expect.<sup>21</sup>

#### *Hippopotamus Heads and Human Remains*

Birmingham medical school's museum was central to instruction at the institution from its foundation in 1828. This is signalled by the speed of its establishment. It is also clearly expressed in the school's first minute book, dating from 1831. Besides the everyday administration of the school, the ledger lists each donation and change to this educational facility. In fact, its first entry is a request that lecturers 'solicit donations in order to develop a museum adequate to the purposes of the medical school'.<sup>22</sup> The first acquisition, surprisingly, was the head of a hippopotamus, for which instructors paid £10. Clearly not the most useful teaching specimen, the purchase, more than any other early item in the collection, indicates the grand scheme the school's governing council envisioned for medical education in the 'toy-shop of Europe'.<sup>23</sup> Although appearing unusual, the specimen was not that different from the first objects purchased at other schools.<sup>24</sup> Further early donations and acquisitions at Birmingham included

<sup>18</sup> Findlen, *Possessing Nature*, p. 257; L. Jardine, *Ingenious Pursuits* (London, 1999), p. 255.

<sup>19</sup> G. Qvist, *John Hunter, 1728–1793* (London, 1981), p. 73.

<sup>20</sup> T. C. Gray, *Dr Richard Formby: Founder of the Liverpool Medical School* (Liverpool, 2003).

<sup>21</sup> J. Dobson, 'The Place of John Hunter's Museum', *Annals of the Royal College of Surgeons of England*, 33 (1963), 32–40, p. 36. *Report of the Select Committee on Medical Education* (PP, 1834, XII), pp. 71–2.

<sup>22</sup> Birmingham University Library, Special Collections (hereafter BULSC), Birmingham Medical School, Minute Book, 1831.

<sup>23</sup> J. T. J. Morrison, *William Sands Cox and the Birmingham Medical School* (Birmingham, 1926), p. 89.

<sup>24</sup> S. Anning and W. Walls, *A History of the Leeds School of Medicine* (Leeds, 1982), p. 27.

various wax preparations, a complete collection of medicinal plants from Chelsea Gardens, as well as dried botanical specimens from Australia. Governors drew particular attention to a 'valuable gift of globes and [a] solar microscope', donated by Dr Edward Johnstone, the school's first president.<sup>25</sup>

Although its contents were wide ranging, human specimens were particularly sought after in the days before the passage of the Anatomy Act (1832). Even after 1832, bodies were not always available in numbers that permitted lecturers to illustrate all of their lessons.<sup>26</sup> As conservation techniques were generally in their infancy, despite the exquisite work of a handful of renowned European curators and craftsmen, many early specimens quickly deteriorated. Most commonly, the colours of tissue samples were liable to transform, and practitioners regularly sought out fresh objects to replace their oldest, spoiled items. Consequently, preserved specimens, or even wax reproductions, such as the pathological models provided by Joseph Towne (1808–79) for Guy's Hospital, were relied upon into the twentieth century.<sup>27</sup> Alternatively, where the scope of human collections was limited, comparative anatomy flourished, often to an unusual extent. A prevailing interest in animal remains among medical practitioners and curators, however, did not necessarily indicate a paucity of human material. According to the lecture notes of medical staff in Birmingham in the 1820s, the comparative investigation of animal and vegetable physiology was actively pursued in these years as it had 'a considerable tendency to throw light upon the functions and phenomena of the other'. For this very reason, a common hyacinth root was added to John Hunter's Museum in the early nineteenth century to demonstrate 'the analogy between animal and vegetable absorption'.<sup>28</sup> Alternatively, many animal organs were introduced to practical anatomy classes, for they were more easily dissected by students given an absence of connective tissues.<sup>29</sup>

The medical school also acquired books, averaging four a month. The same month the school purchased its hippopotamus, staff spent more than £100 on additional printed volumes.<sup>30</sup> Both library and museum grew quickest when lecturers retired or died and bequeathed entire private collections to the school. To some extent, this also explains why both facilities were often out of date in their earliest years. At times this was avoided by the actions of benevolent lecturers, who lent their collections to schools where they held appointments.<sup>31</sup> A coveted collection of private pedagogic tools that would significantly enhance a school's museum, could also help individuals acquire a sought-after

<sup>25</sup> BULSC, Birmingham Medical School, Minute Book, 1831.

<sup>26</sup> R. Richardson, *Death, Dissection and the Destitute* (London, 1988), p. 263.

<sup>27</sup> T. Haviland and L. Parish, 'A Brief Account of the Use of Wax Models in the Study of Medicine', *Journal of the History of Medicine*, 1 (1970), 52–75, pp. 73–5; C. D. O'Malley, *The History of Medical Education* (Los Angeles, 1970), pp. 116–17.

<sup>28</sup> *Ibid.*

<sup>29</sup> J. Darwall, 'Introductory Lecture to a Course of Lectures on Botany', *Midland Medical and Surgical Register*, 2 (1829), p. 127.

<sup>30</sup> BULSC, Birmingham Medical School, Minute Book, 1831.

<sup>31</sup> Thomson, *The Story of the Middlesex Hospital Medical School*, p. 34.

appointment.<sup>32</sup> Alternatively, a school's museum was equally important in attracting other instructors.<sup>33</sup> Clearly a key educational tool, medical museums appear at times to have been intended primarily for the use of lecturers, not students. Both museum and library were open to students only three times a week during this period and no items were to be removed without the sanction of the school's council. Furthermore, students often performed the work of librarians, but were never delegated similar control over museums.<sup>34</sup> Birmingham's was strictly managed by its first curator, William Sands Cox, the school's founder.

As at other provincial schools, subsequent curators at Birmingham tended to be less senior members of staff, or even privileged porters.<sup>35</sup> As Cox's duties increased at Queen's College, the school's managing committee finally began discussing the appointment of a full-time curator, an individual who possessed 'some advantages of education and manner beyond those which usually fall to the lot of a menial servant'.<sup>36</sup> These attributes were eventually found in William Babington, who was appointed curator for £50 annually, plus residence. Given the menial status of provincial curators, the appointment initially went to junior medical practitioners, the post being regarded as a stepping-stone to more senior teaching positions. The post of full-time curator, although providing certain professional advantages, hindered the far more lucrative cultivation of private practice, something few provincial practitioners could afford to neglect.<sup>37</sup> Babington, however, was a caretaker and primarily entrusted with supervising and maintaining the rapidly growing collection, as staff at the school continued to accumulate patients, and occasionally specimens. Although Babington's task was deemed to require less intellect, it always consumed substantial funds.

Once the museum was of a sufficient scale to illustrate lecturers' lessons, the curator was instructed to receive 5s. from every student using the collection. The fees were dedicated to the museum's upkeep, a policy common to many institutions.<sup>38</sup> Even the nation's primary medical collections, such as the Hunterian Museum, received their regular funding from pupils.<sup>39</sup> Desperate for subsidies, entry to smaller collections also tended to be restrictive. At Birmingham, governors were hesitant to charge members of the public, in order to encourage both visits and donations. Therefore, the museum, like other collections, was open to the public free of charge three days a week during summer, when most students took holidays.<sup>40</sup> In later decades, Cox began admitting the 'industrious classes' to

<sup>32</sup> *Report of the Select Committee on Medical Education*, p. 72; L. Jacyna, "'A Host of Experienced Microscopists': The Establishment of Histology in Nineteenth-Century Edinburgh", *Bulletin for the History of Medicine*, 75 (2001), 225–53, p. 238.

<sup>33</sup> R. Maulitz, *Morbid Appearances: The Anatomy of Pathology in the Early Nineteenth Century* (Cambridge, 1987), p. 191.

<sup>34</sup> Paget (ed.), *Memoirs and Letters of Sir James Paget*, p. 42.

<sup>35</sup> BULSC, Birmingham Medical School, Minute Book, 1831; Kraft and Alberti, "'Equal though different'", p. 226.

<sup>36</sup> BULSC, Birmingham Medical School, Minute Book, 1831.

<sup>37</sup> Maulitz, *Morbid Appearances*, p. 219.

<sup>38</sup> Alberti, 'Placing Nature', p. 302.

<sup>39</sup> *Lancet*, 4 September 1852.

<sup>40</sup> Alberti, 'Placing Nature', pp. 302–3.

the site once a week without charge, a scheme the Royal College of Surgeons were hesitant to adopt despite suggestions that such measures were in the national interest.<sup>41</sup> Occasionally underlying similar educational efforts until at least the mid-nineteenth century was the desire to counteract lingering 'prejudices against dissection'.<sup>42</sup> It was also hoped that some of the tens of thousands who 'flocked through the Museum' at Birmingham would contribute to the school's collection, all objects received being clearly labelled as 'public donations'.<sup>43</sup> This policy was eventually introduced at most medical museums and is recorded in the printed regulations that governed their management.<sup>44</sup>

To some extent, this might even explain why medical museums commenced their lives as collections of curios, as these generally appealed to original owners, who were not always medical practitioners. Such artefacts were far easier for lay members of the public to interpret than ordinary tissue and bone samples, but were appreciated also by medical experts. An article in the *Lancet* outlining the contents of the University of Edinburgh's anatomical museum, for example, laments the fact that the collection, second only to the Hunterian, comprised 'a very few monsters'.<sup>45</sup> Even worse, very few were 'of the human subject', the appeal of comparative anatomy apparently having increased the further one travelled north.<sup>46</sup> According to an historian of pathology, 'malformations, monstrosities and curiosities' comprised the bulk of most early medical collections and were replaced with more common pathological specimens when physicians realized the importance of correlating symptoms with anatomical lesions of autopsy.<sup>47</sup> A broad biological approach to medicine, however, was only strengthened in the 1850s with the discovery that 'the growth of a plant and of an animal [was] brought about by like histological changes'.<sup>48</sup> Collections were important also in regard to the emergence of new disciplines, including comparative anatomy, zoology, and archaeology. Once in museums, such specimens only drew in additional members of the public.<sup>49</sup>

For much of this period tickets to Birmingham's medical museum and library were sold by the principal booksellers in the city for a shilling. The collection was even made user-friendly by Dr James Johnstone, who produced the first museum catalogue, which was not only an up-to-date inventory of its items, but distinguished those belonging to the school from those loaned by members of the public. Like hospital annual reports, which listed all benefactors by name, these

<sup>41</sup> *Lancet*, 10 June 1843.

<sup>42</sup> J. Johnstone, *An Address delivered at the Birmingham School of Medicine and Surgery*, 6 October 1834 (Birmingham, 1834), pp. 6–7.

<sup>43</sup> BULSC, Birmingham Medical School, Minute Book, 1831.

<sup>44</sup> [Royal College of Physicians of Edinburgh], *Historical Sketch and Laws of the Royal College of Physicians of Edinburgh* (Edinburgh, 1891), p. 167; Alberti, 'Placing Nature', p. 303.

<sup>45</sup> *Lancet*, 2 January 1829–30. 'Monsters' was a technical term, its meaning varying with time and context.

<sup>46</sup> *Lancet*, 2 January 1829–30.

<sup>47</sup> G. Cunningham, *The History of British Pathology* (Bristol, 1992), p. 52.

<sup>48</sup> Jacyna, "'A Host of Experienced Microscopists'", p. 247.

<sup>49</sup> S. Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in Eighteenth-Century London* (Cambridge, 1996), p. 182.



printed inventories encouraged greater charity, as they allowed donors to associate themselves with yet another respected cultural institution, as well as members of the local scientific elite. More importantly, the value of collections increased markedly the moment such inventories were compiled.

#### *Classifying Donors and their Specimens*

The majority of the 68 donors listed in the first minute book of the Birmingham medical school are male (87 per cent). The first female donor appears near the end of the ledger, in 1836, when Lady Charlotte Law presented the museum with specimens of coral and a rhinoceros horn; in total, women comprised 13 per cent of donors. Other discernible groups are military men (7 per cent), who presumably collected items wherever they were stationed in the British Empire. Despite a number of repeat donors within this well-travelled group, they are not as numerous as clerical donors, who represented nearly 12 per cent of contributors. Even clergymen, however, were outnumbered by titled members of the local aristocracy (16 per cent), whose numbers greatly increased after the medical school obtained its royal charter in 1836.

Up until 1833, only one or two items had been presented to the school annually. Interestingly, most donations were made in summer, when the museum was open to the public. This changed significantly in May 1834, when eight separate donations were made in rapid succession soon after the medical school occupied a new and more elegant site in Paradise Street. Donations more than doubled the following year when eighteen individuals chose to deposit their private treasures in the school's museum. By 1837, the last year for which such evidence is available, the number reached twenty-one. Donations steadily increased for some time afterwards. Although medical practitioners undoubtedly provided the museum with nearly all of its human remains, physicians more often presented specimens of natural history and scientific instruments, such as globes, which, as Nicholaas Rupke suggests, were associated with gentlemanly learning, and, consequently, provided early provincial medical schools and their members of staff with 'badly needed prestige'.<sup>50</sup> As pointed out by Cox in 1838, the school's natural history museum was 'absolutely necessary to [the medical professional's] rank and station in society'.<sup>51</sup>

Of the sixty-eight donations listed, the majority were animals or preserved remains (see Table 1).<sup>52</sup> Half that number were minerals. On seven occasions the collection received fossils, which outnumbered preserved human remains by a single item. Human bone and tissue samples appear as often as do plants and insects. Far less often donated, but always present in any museum, were shells and ethnographic artefacts, including, in the case of Birmingham, the hunting implements of North and South American indigenous peoples.

<sup>50</sup> N. Rupke, 'Richard Owen's Hunterian Lectures on Comparative Anatomy and Physiology, 1837-55', *Medical History*, 29 (1985), 237-58.

<sup>51</sup> BULSC, Vaughan Thomas Collection, MSS 281/i/175.

<sup>52</sup> BULSC, Birmingham Medical School, Minute Book, 1831.

TABLE 1. *Objects donated to the Medical Museum at Birmingham, 1831–7*

Type of donation	Percentage of total (68)
Animals	32
Minerals	16
Fossils	10
Human specimens	9
Botanical	9
Insects	9
Ethnographic	7
Shells	6
Misc	3

*Source:* BULSC, Birmingham Medical School, Minute Book, 1831.

Three miscellaneous items received by Birmingham's committee include a pair of dies, Dr Johnstone's globes, and some preparations lacking proper descriptions. Many items arrived as part of larger, mixed collections. For example, minerals were often presented with fossils, while plants and animals also usually appeared together. On other occasions, donors are simply recorded as having deposited 'natural history specimens'.

As unspecific as some donations appear, the manner in which private collections were accumulated is even more obscure. In order to trace their origins one would need far more detailed sources than are available, such as letters and diaries, documents that, oddly enough, do not appear to have been kept by individuals who seem to have preserved every other item that came into their possession.

#### *The Escalating Cost of Museums*

Despite a number of generous benefactors, most donations to the museum were made in kind. Only £10 to £60 were received each month to supplement the fees received from students and visitors to the museum and library. Consequently, despite much public support and a museum collection that increased almost daily, funds for the regular maintenance of the building and its expansion were usually lacking. Some evidence even suggests that the school's committee found it difficult to keep their premises at Paradise Street in repair less than two years after moving to their new site. For example, in May 1836, members of the medical school committee reported a broken window in the library and regretted that the new woodwork had still not been painted.<sup>53</sup> Two months later, they revealed that many of the school's valuable preparations were being damaged for want of proper cases, and the institution still lacked a water supply. Although lecturers agreed to continue to finance the school at subsequent meetings, they

<sup>53</sup> BULSC, Birmingham Medical School, Minute Book, 1831.

were intent on keeping their contributions to a minimum. Most were hesitant to purchase every item required to illustrate their lectures, many choosing instead to lecture only in reference to existing collections. Public donations continued to materialize, but only rarely did the school receive items that actually complemented lectures. As a result, it is tempting to argue that lectures were very much influenced by the exotic items the school acquired from aristocratic patrons, who presumably emptied their homes periodically to make room for fresh acquisitions as tastes changed. Moreover, most specimens remained in collections long after they served any educational purposes, for curators required great courage to destroy items held in high esteem by their often eminent donors.<sup>54</sup>

A breakthrough occurred in March 1836, soon after the school acquired its royal charter. Samuel Warneford, a patient of the school's founder and supporter of many medical charities, presented the managing committee with £50, to be renewed annually, to purchase anatomical wax models and additional preparations, which came to be known as the Warneford Collection.<sup>55</sup> Considerable additional funds soon followed and the acquisition of specimens was no longer to be left to chance. Besides shelves and cases, the museum acquired a natural history collection for £1500 and, during the following summer, a committee was formed to purchase any remaining anatomical items lecturers required for teaching purposes.<sup>56</sup> By 1840, when the Hunterian Collection held approximately 20,000 specimens, the museum at Birmingham held nearly 2,000, and admitted students from 11 a.m. until 2 p.m. daily, while the library, still open only three days a week, contained 1,300 volumes; the slow growth of libraries alone leaves one questioning the description of this period as one of 'library medicine'.<sup>57</sup> Finally, in 1841, the school also built a hospital for the purpose of clinical instruction. Given the importance of museums to instructors at the first hospital medical schools, this did not spell the end of museum-based medical education.

As the medical school grew throughout the first half of the nineteenth century, so too did its museum. In fact, although the specimens once comprised a single, unified collection, a number of museum departments began to develop, mirroring the growth of specialisms in the medical field, and the medical curriculum. Usually commencing with an anatomical collection, medical schools also established pathology, materia medica, and obstetric museums. Each, in turn, attracted its share of attention, especially when still novel. For example, soon after it was created, Birmingham's obstetric museum was singled out in a report of February 1835, as it had just acquired 'two highly interesting specimens of disease of great practical value'.<sup>58</sup> This included the uterus of a woman, and the committee pointed out that the female resident of Coventry from whom it was

<sup>54</sup> Thomson, *The Story of the Middlesex Hospital Medical School*, p. 84.

<sup>55</sup> *Ibid.*

<sup>56</sup> BULSC, Vaughan Thomas Collection, MSS 281/i/177.

<sup>57</sup> V. Thomas, *An Address upon Laying the Foundation-Stone of the Queen's Hospital, Birmingham, June 18, 1840* (Oxford, 1840), p. 43.

<sup>58</sup> BULSC, Birmingham Medical School, Minute Book, 1831.

'torn' was in 'perfect health'.<sup>59</sup> In future, museums would put more emphasis on the life-saving skills of teaching staff.<sup>60</sup>

In marked contrast, the health of the medical school, despite its valued teaching specimens, was less certain in these years, primarily due to its close association with Revd Samuel Warneford. Always quick to attach strings to his numerous benefactions, Warneford had exercised similar control at Birmingham by insisting medical education in the city be linked to a rigorous religious training.<sup>61</sup> Given the comprehensive nature of this scheme, the museum's contents were, for a time, described to represent all God's creatures, rather than any controversial theory of human development, such as that put forward by Darwin.<sup>62</sup> Although this might have provoked little resistance in other cities, the decision to root medical education in an Anglican college during these years could only prove unpopular in a city like Birmingham with its large dissenting population. Consequently, enrolments at the school declined, while expenses increased due to the aspirations of governors, eager to transform what resembled a religious college into a university for the Midlands. By 1851, matters deteriorated further when a rival school, Sydenham College, was founded by staff at the city's General Hospital and began to attract an increasing share of prospective practitioners. Interestingly, although affiliated with the main hospital in the city from its inception, the new college was also quick to establish a museum.

In August 1848, the Medical Board of the General Hospital had impressed the importance of establishing a collection of morbid specimens of the human body illustrative of the elementary forms of disease. Granted the necessary funds by the general committee in December, the curators ordered specimen jars and drafted a set of museum rules by summer 1849. Resident officers were to collect such morbid specimens as were deemed worthy of preservation by physicians and surgeons, and maintain the museum catalogue, recording fully the nature of morbid changes and symptoms observed during the lives of the patients.<sup>63</sup> It is evident that some kind of unspoken anatomical *quid pro quo* operated at a number of provincial hospitals, whereby patients undergoing surgical interventions were promised operations in return for the physical manifestations of disease or deformity.<sup>64</sup> Curators of hospital museums, such as those found at the city's General Hospital and specialist institutions, were thereby afforded opportunities to conduct much valuable pathological research. For example, the curator at Moorfields Eye Hospital, Charles Bader, who also acted in the capacity of hospital registrar, was entrusted with 'all eyes removed by the members of staff' and disseminated the results of his observations in the hospital's journal, *Ophthalmic Hospital Reports*,

<sup>59</sup> Ibid.

<sup>60</sup> W. R. Merrington, *University College Hospital and its Medical School* (London, 1976), p. 159.

<sup>61</sup> Morrison, *William Sands Cox*, pp. 109–10.

<sup>62</sup> BULSC, Vaughan Thomas Collection, MSS 281/i/175.

<sup>63</sup> Birmingham Central Library Archives (BCLA hereafter), General Hospital, Birmingham, General Minute Book, 1843–1851, HC/GHB/12.

<sup>64</sup> R. Richardson, 'Organ Music', in T. Greenhalgh and B. Hurwitz (eds), *Narrative Based Medicine: Dialogue and Discourse in Clinical Practice* (London, 1998), 266–72, p. 267.

from its first appearance in 1857.<sup>65</sup> Unlike staff at Moorfields, those working at the General did not publish a quarterly journal. Given the intense rivalry that existed between the city's two medical schools, the hospital's medical officers were determined that their museum catalogue was not to be exhibited to anyone except officers of the institution, unless at the express wish of a member of the medical staff. Minutes do not mention the museum again until November 1859 when it was claimed that the pathological preparations in the surgeon's room were being destroyed for want of a curator. It was decided to transfer the majority of the remaining specimens across the road to Sydenham College.<sup>66</sup>

While the Sydenham's museum rapidly attained much renown, the Queen's College specimens further deteriorated with the institution's unfavourable reputation. With a decline in enrolment, scarcely any funds existed to pay its teaching and domestic staff, let alone maintain thousands of museum specimens. During the last, most controversial, years of the school, local newspapers even reported that the museum, once so important to instruction at the institution, had become an encumbrance, many important specimens having been lost or destroyed.<sup>67</sup> More durable, and ever popular, however, were its most exotic items. Any visitors paying the advertised three-pence entrance fee were provided access to 'two splendid specimens of giraffe, a hippopotamus, rhinoceros, but little else'.<sup>68</sup> An absence of teaching material had become noticeable, one visitor claiming 'the higher the galleries the emptier they are'.<sup>69</sup>

By the late 1860s, after much mismanagement and an investigation by the Charity Commissioners, Queen's College was reincorporated by an Act of Parliament, and Birmingham's two medical schools finally merged. Besides signalling the beginning of a dynamic period for medical education in the city, subsequent negotiations between the institutions further attest to the importance of anatomical specimens to early medical schools. For example, while the two institutions appear to have resolved most issues with little friction, a great struggle regarding the ownership of the College's museum ensued; similar struggles arose in Newcastle, where lecturers, unseated by the merger of two rival schools a decade earlier, stole the museum's best specimens.<sup>70</sup> Given that a considerable amount of his personal wealth had been loaned to the school during its financially most difficult period, Cox placed a lien on the collection, which, besides the building in which it was housed, existed as the school's single most valuable asset, and challenged the City Council's plans to remove many non-medical items to Aston Hall to form a natural history museum.<sup>71</sup> In stark contrast, the plight of lecturers at Sydenham College during the merger was less an economic

<sup>65</sup> E. Collins, *The History and Traditions of the Moorfields Eye Hospital* (London, 1929), p. 122.

<sup>66</sup> BCLA, General Hospital, Birmingham, Medical Committee Minute Book, 1855–68, HC/GHB/68.

<sup>67</sup> Birmingham Central Library, Local Studies, Report to the Charity Commissioners, 1863.

<sup>68</sup> *Ibid.*

<sup>69</sup> *Ibid.*

<sup>70</sup> D. Embleton, *The History of the Medical School, afterwards the Durham College of Medicine at Newcastle-upon-Tyne for Forty years, from 1832–1872* (Newcastle, 1890), p. 39.

<sup>71</sup> *Midland Counties Herald*, 29 October 1868.

burden than a result of their valuable anatomical collection, the entire staff having been excused the £25 qualification fee usually charged each individual assuming a teaching post at the school.<sup>72</sup> Transferred to the spacious, empty galleries at Queen's College, the anatomical specimens collected by staff at the General Hospital now formed the core of the school's revitalized anatomy and pathology museum.

Although the anatomy collection remained the largest one in the museum, additional collections materialized with the development of each new specialism in late nineteenth-century medicine. Seemingly, staff could not even contemplate a department without a museum. Even as late as 1935, when the university announced the formation of a Department of Industrial Hygiene, plans for a museum emerged simultaneously.<sup>73</sup> At times, museums even preceded departments and encouraged interest in new fields. For example, in 1913, the *Birmingham Daily Mail* suggested the city's university was ideally suited to a department of anthropology, as it already possessed an anthropological museum, much of it having formerly belonged to the medical school.<sup>74</sup> Founded in 1881, the city's dental hospital also inherited an existing odontological museum, commenced by Dr Dennis Vinrace and considerably enriched by John Humphreys, who presented it with his entire private collection of mammalian skulls. It contained 1,800 specimens by 1916.<sup>75</sup> The museum's first catalogue, also organized by Humphreys, who was appointed its curator in 1887, refers to many valuable objects, and not those one might normally expect to find in a dental museum, the most exceptional being the tusks of a mammoth and a microscopic set of teeth once belonging to a mole.<sup>76</sup> Other collections also continued to accumulate similar specimens, the most notable being received in 1917, when the medical school's managing committee proudly announced the arrival of a female orangutan.<sup>77</sup> Though unusual, the reappearance of such curiosities in late Victorian and Edwardian collections is easier to explain than for a previous era. Primarily, these additions succeeded a resurgence of interest in comparative anatomy following the publication of evolutionary and eugenic works, subjects evident in the research interests of staff in these years.<sup>78</sup>

#### *Medical Museums in the Twentieth Century*

Rather than permitting specimens to gather dust and deteriorate as had occurred during periods of financial hardship, such as that encountered by Sands Cox, most collections were regularly examined, enlarged, and re-catalogued in the twentieth

<sup>72</sup> Morrison, *William Sands Cox*, p. 143.

<sup>73</sup> BULSC, Birmingham Medical School, Medical Faculty Minute Book, 1933–6.

<sup>74</sup> *Birmingham Daily Mail*, 7 November 1913.

<sup>75</sup> BULSC, Birmingham Medical School, Medical Faculty Minute Book, 1911–16.

<sup>76</sup> J. Humphreys, *Catalogue of the Collection of Skulls and Teeth in the Odontological Museum of the University of Birmingham* (Birmingham, 1916).

<sup>77</sup> BULSC, Birmingham Medical School, Medical Faculty Minute Book, 1916–21.

<sup>78</sup> See, for example, the works of Bertram Windle (1858–1929), including *Congenital Malformations and Heredity* (Birmingham, 1888); *The Proportions of the Human Body* (London, 1892).

century. Some entries in minute books suggest specimens were occasionally in danger of being destroyed, however such claims appear more often to have been made when departments were expanding and seeking additional grants. Like voluntary hospitals threatening to close wards unless funds increased, department heads realized their bargaining power improved when the school's prized teaching aids appeared threatened. The destruction of specimens in these years was in fact very rare, largely due to their centrality to teaching. Equally important was the incorporation of medical schools to newly-founded provincial universities, as occurred at Birmingham in 1900. The chances of anatomical specimens surviving these years had also improved on account of the greater care with which they were treated prior to arrival in the museum. Most human tissue samples were placed in preservative fluids immediately following excision in operating or autopsy rooms. Furthermore, the introduction of agents, such as formalin, in the last decade of the nineteenth century better ensured the preservation of soft tissue that had previously swelled in glycerines or shrunk or turned opaque when brought into contact with spirits.<sup>79</sup> The new and elevated status of museums is perhaps best illustrated by the establishment of the International Association of Medical Museums, founded in 1906 by William Osler and Maude Abbott, to which Birmingham's Professor of Pathology, Robert Leith, was appointed a year later.<sup>80</sup> Given such a heightened level of interest and organization, medical museums were regularly maintained by at least one curator, who often supervised many assistants and students. The Association, meanwhile, encouraged the widest possible dissemination of preservation techniques, providing even the smallest provincial school with access to the skills and methods of adept and innovative museum curators.

The pathology museum at Birmingham was only one of the school's many collections upgraded in the first decade of the twentieth century. The conditions surrounding its renovation serve as a model for many other improvements carried out during these years. The museum was thoroughly inspected by an investigating committee appointed by the school's managing board, as occurred at other provincial medical schools at this time. It was subsequently recommended a yearly grant of £50, in which case the Professor of Pathology no longer had to deduct museum expenses from the department's yearly grant.<sup>81</sup> The team also suggested that additional funds be made available, as the Museum was 'not a Department, but a University interest'.<sup>82</sup> Of this sum, at least £20 a year was spent on preservative fluids; glass and exhibition jars cost £30. In addition, three honorary assistant curators were to help the eminent curator, Professor Robert Leith, who had recently overhauled the specimens and revised the catalogue. In future, all professors were to eliminate any duplicates and deficiencies in the collection. Previously museums and collections had been

<sup>79</sup> Collins, *History and Traditions*, pp. 138–9.

<sup>80</sup> BULSC, Birmingham Medical School, Medical Faculty Minute Book, 1906–11.

<sup>81</sup> University of Bristol Special Collection, University of Bristol Medical and Chemical Departments Minute Book, 1893–1909, DM 506/29.

<sup>82</sup> BULSC, Birmingham Medical School, Medical Faculty Minute Book, 1900–3.



*Opening of the new Medical School building by HRH The Duke of Gloucester and HM The Queen on 14 July 1938.*

Source: Centre for the History of Medicine, University of Birmingham Medical.

subject to reorganization only when schools or departments moved premises. Finally, as accommodation and lighting were considered insufficient, an architect was brought in to advise on doubling the size of the museum, and electric lights were introduced. Many school museums had relied on natural light until the twentieth century. The following year 100 additional specimens were obtained from other medical schools in exchange for the department's duplicate items.<sup>83</sup> Generally, such refurbishments recurred every eight to twelve years.

In subsequent decades, collections continued to expand. By 1920, pathology had again run out of space. Four years later, a museum was re-established at the General Hospital in order to improve clinical instruction, many medical practitioners by this time having grasped the 'limitation of absolute diagnosis by gross appearance'.<sup>84</sup> Other departments, such as dentistry, requested increased grants for equipment and additional wall cabinets in 1923. In the same year the International Association of Medical Museums commenced publication of its *Journal of Technical Methods*.<sup>85</sup> By 1932, the odontological museum was once again expanded.<sup>86</sup> At a time when the university considered rebuilding the medical school and transforming it into a showpiece of modern medicine, the museum collections featured more prominently than laboratories in the preliminary designs. For example, the new school's department of public health was to occupy 6,000 square feet, of which 5,000 were museum space.<sup>87</sup> Although this

<sup>83</sup> *Bulletin of the International Association of Medical Museums*, 3 (1910), p. 53.

<sup>84</sup> BCLA, General Hospital, Medical Committee Minutes, 1921–24, HC/GHB/78.

<sup>85</sup> BULSC, Birmingham Medical School, Medical Faculty Minute Book, 1921–4.

<sup>86</sup> *Ibid.*, 1932–6.

<sup>87</sup> *Ibid.*, 1929–32.



decision was omitted from the final plans, the Department of Pathology's museum was increased from 2,800 to 4,000 square feet in order to include the public health and forensic medicine collections.<sup>88</sup> In 1936, the museum was allotted an additional £10,000 and was renamed the Joseph Chamberlain Memorial Museum.<sup>89</sup> Three years later, in 1939, when the doors of the school finally opened to the public, the King and Queen visited the museum during their tour of the institution.<sup>90</sup> That same financial year, scientific and medical institutions in Great Britain reputedly purchased 42,998 gallons of alcohol, much of this being used to preserve museum specimens.<sup>91</sup>

The first decline in the use of museum collections in medical education is generally linked to the establishment of specialist medical institutions of a size that ensured most interesting teaching cases would be included among the hospital patient population and could be directly observed by students walking the wards. It has also been associated with the development of photography which allowed educational texts to be illustrated in greater detail and, eventually, colour.<sup>92</sup> The real downturn, at least in the English Midlands, seems to have been more closely tied to other developments in medicine. For example, when the school of medicine at Birmingham was relocated to a new building in Edgbaston in the late 1930s, many additional specialisms were emerging, and specialisms eventually bred sub-specialisms. As the medical curriculum and student numbers continued to expand after the Second World War, the space once occupied by museums was, albeit hesitantly, put to other uses, such as additional classrooms or even, ultimately, as at Birmingham, a computer cluster.

Occasionally, this post-Second World War decline was interrupted. In the case of England, a renaissance of sorts in museum teaching in medicine was noticeable during the early 1950s, led by Dr Cecil J. Hackett at the Wellcome Museum of Medical Science.<sup>93</sup> Recognizing that there was no longer any justification for extensive anatomical or pathological museums in medical schools, Hackett concentrated on the display of a limited number of general specimens, which would be of use to instructors from a variety of departments.<sup>94</sup> However, even such innovative work could only delay the inevitable. The introduction of computers accelerated these trends more recently, bringing students into contact with sources that even the largest libraries could never hold.<sup>95</sup> While many doubted museum collections could ever be comprehensive, this virtual alternative comes closest to achieving such totality. As a result, the museum has reverted to being a collection of 'curios', comprising only a few dozen preserved remains of local patients, which

<sup>88</sup> *Ibid.*, 1932–6.

<sup>89</sup> *Ibid.*, 1936–8.

<sup>90</sup> *Ibid.*, 1938–41.

<sup>91</sup> Cole, *History of Comparative Anatomy*, p. 448.

<sup>92</sup> Haviland and Parish, 'A Brief Account of the Use of Wax Models', p. 75.

<sup>93</sup> [Wellcome Foundation], *The Wellcome Museum of Medical Science, 1914–1964* (London, 1964), pp. 6–7.

<sup>94</sup> C. J. Hackett, 'The Undergraduate Teaching Medical Museum', in H. Clegg (ed.), *Proceedings of the First World Conference on Medical Education* (London, 1953), 529–38, p. 531.

<sup>95</sup> S. Asma, *Stuffed Animals and Pickled Heads* (Oxford, 2001), p. 274.

surround the perimeter of the students' computer cluster. Students at Birmingham rarely consult the remaining specimens, leading most, quite literally in this case, to turn their backs on these resources and look elsewhere for enlightenment.

#### *Conclusion*

It emerges from this study that the museum remained important to the Birmingham medical school from the early nineteenth century until the Second World War. From its establishment, the medical school possessed an anatomical and natural history museum. Both its founder and staff considered it of great importance to students' training. However, the collection's value extended beyond its purely pedagogic role. Cox's earliest anatomical collection caused members of London's examining bodies to recognize the courses at his provincial school. It was also a good advertisement for the school from the 1830s, and particularly useful in strengthening relations with local elites. Over the following decades, given numerous donations from those who desired some association with the city's 'royal' institution, the collection expanded more quickly than finances would ordinarily have permitted. Concerted efforts of its staff, even if sometimes questionable, helped to enlarge and fill gaps in collections. The museum was also opened to the public to assuage their fears, such as those commonly felt following the passage of the Anatomy Act. On such occasions, the museum did much more than prevent scandal. It provided medical schools and practitioners, especially during these formative years, with additional prestige, associating the school and its instructors with a worldly and relatively broad scientific knowledge, rather than simply the raw materials of vocational training. Not surprisingly, museums very quickly became the public face of medical schools. In regions where public venues were particularly limited and slow to develop, as was the case in Birmingham, this role was heightened.

Over the many decades addressed in this article, the collection at Birmingham represented the diversity and potential of medical education. With a tendency for lectures to be restricted by a curriculum set by the main examining bodies in England, the museum encouraged the formation of broader interests and fostered local specialisms. While the creation of smaller, more specialized, museums reflected developments in the medical profession more generally, collections in turn determined the emergence of new disciplines at schools and, by the end of the twentieth century, facilitated the transformation of medical schools into universities. Increased interest in clinical training did not necessarily spell the end of museum medicine. Museums did not only supplement the laboratory in the late Victorian period, as suggested in recent work, they also complemented what was being taught to medical students on hospital wards.<sup>96</sup> Just as medicine as practised on hospital wards is said to have become more 'scientific' during the late Victorian and the Edwardian period, medical museums, too, were being revised and reorganized along scientific lines. For example, some of the museum's bulkiest contents in the twentieth century were replaced with

<sup>96</sup> Kraft and Alberti, "'Equal though different'", p. 203.

microscopic slides. Many of these preparations were made by students who practised laboratory techniques using the original wet specimens found in museum collections. Additionally, the Edwardian period witnessed the introduction of new methods of display and preservation. Although much of this work, as in the past, was conducted by innovative members of staff at individual hospitals and schools, the diffusion of good museum practice was no longer reliant on these practitioners alone. The rapid diffusion of better preservation techniques in the last century, for example, was far more dependent on the efforts of international organizations, such as the International Association of Medical Museums.

What is less clear, and perhaps deserves to be examined in greater detail elsewhere, is the way in which museum education influenced students, practitioners, and medical practice more generally. For example, it has been argued that a medical gaze emerged in hospital clinics in the late eighteenth and early nineteenth centuries, which progressively depersonalized the medical encounter.<sup>97</sup> Although this might have been the case in clinics, perhaps such a relationship was developing long before medical students regularly entered hospital wards. After all, as has been argued persuasively elsewhere, despite the abundance of preserved specimens collected in museums, the human eye was, from the earliest days, and has remained the most important organ in this educational space.<sup>98</sup> Preserved in spirits and glass containers, anatomical and pathological specimens were to be observed, not touched or smelled. Furthermore, given that the first medical subjects that students encountered when commencing their studies were already passive, whether laid out on dissection tables or preserved in methylated spirits, the emergence of an iatrogenic approach to illness in these years appears almost inevitable. Much like hospital teaching in the Victorian period, museum instruction can be said to have been equally influential in transforming the individual patient into an object of clinical investigation.<sup>99</sup> Consequently, rather than simply fading away with developments in clinical medicine, perhaps the disappearance of the 'sick man' was equally associated with the appearance of patients, or simply their most interesting fragments, in medical school museums. In any case, what is more certain is that, over the same period, museums took some time to disappear from medical education.

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<sup>97</sup> N. Jewson, 'The Disappearance of the Sick Man from Medical Cosmology, 1770–1870', *Sociology*, 10 (1976), 225–44, p. 238.

<sup>98</sup> D. Haraway, *Primate Visions* (New York, 1992), p. 29.

<sup>99</sup> Lawrence, *Charitable Knowledge*, p. 27.