Between Profession and Performance: Displays of Anatomical Models in London, 1831-32

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For centuries, anatomical models in Europe have been displayed in many different contexts, and for a variety of audiences. In the early modern period they were on show in anatomy theatres during public dissections in the carnival season; in the eighteenth century they accompanied midwives and teachers of obstetrics; in the late nineteenth century models of embryos were an integral part of research activity and publications.¹ Scholarship on the history of artificial anatomies

has highlighted a number of recurring themes, including in particular the tension between education and entertainment in the display and use of models. Such accounts frequently identify entertainment with performance. This is not surprising, perhaps, as live performance was central to the commercial strategies of quacks and charlatans who used spectacular displays to raise interest in their wares and services. However, this conflation of performance and entertainment may obscure the presence of elements of live performance in other, more sober medical contexts. Live performance could, for instance, be part of educational displays in museums.

The present paper investigates how performative practices figured in professional contexts of model display as opposed to popular entertainment. This case study analyses the public demonstrations of model-maker Dr Auzoux in London in the early 1830s to highlight how displays for professional medical audiences drew on elements of live performance. The paper will also investigate audience responses to interrogate whether early-nineteenth-century medical professionals shared the preconceptions of modern historical scholarship in considering performance antithetical to medical professionalism.

**Dr. Auzoux and the serial production of detachable anatomical models**

Since the eighteenth century, medical practitioners explored the possibilities of different materials to produce three-dimensional models for teaching purposes. Midwives and obstetricians developed robust “obstetric machines” or “phantoms” in leather, wood, and textiles which did not look much like human bodies, but which enabled hands-on training of obstetric gestures. Especially in Italy and France, modellers had perfected the art of anatomical modelling in wax. These anatomical waxes achieved a high degree of naturalism in their depictions of the body and its interior, but they were rather fragile and did not allow for frequent handling. The “Holy Grail” of anatomical modelling remained elusive: the development of models which looked realistic while being robust and available for “dissection” into pieces. The Italian Felice Fontana, director of the Florentine Museo La Specola and its world-renowned production of wax models, attempted to produce “dissectible” models in wood, but the material proved impractical: it took a long time to produce...

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PANZANELLI Roberta (ed.), *Ephemeral Bodies: Wax Sculpture and the Human Figure*, Los Angeles, Getty Research Institute, 2008.

2 For demonstrations of anatomical models for visitors to the Florentine museum La Specola around 1800 see MAERKER Anna, *Model Experts*, op. cit., Chapter 4.

a single model, and the wood warped under changing temperature and humidity which made dismantling impossible.4

In their quest for detachable models, other modellers began to experiment with different materials: in Caen, the medical teacher Jean-François Ameline, for instance, turned to papier-maché.5 The material was then widely used to make toys, architectural ornamentations and furniture.6 Ameline mounted papier-maché onto real skeletons to achieve life-like, robust models. However, as he had mounted the material onto real skeletons his models were unique and not dissectible. In the 1820s another French doctor succeeded in his goal to develop models which were not only robust, but also detachable and suitable for serial production. Louis-Thomas-Jérôme Auzoux (1797-1878) from Normandy had started medical school in Paris in 1818.7 While he was not considered a particularly gifted student, he developed a fascination with anatomy and determined to develop a new kind of anatomical model. He may have seen Fontana’s failed attempt in wood, a copy of which was at the Paris Medical Faculty. Auzoux developed a new type of paper paste (which he called “terre”) as the basis for producing life-sized, detachable models of the human body. To highlight the novelty of this innovation, Auzoux coined a new name for his products: anatomie clastique, or clastic anatomy, from the Greek for “breaking, separating”.8 His life-sized homme clastique complet of 1858, for instance, consisted of 92 detachable pieces, extensively labeled to facilitate the identification of details, and the process of dismantling and reassembling the model.

Larger model parts had the French names labeled directly onto them; smaller details could be identified by means of small numbered labels and a matching tableau synoptique. Over 2000 details were labeled on the 1858 homme clastique. In addition to this labeling for identification, Auzoux’s models used a second labeling system of numbers accompanied by the picture of a pointing hand, indicating the order of

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4 For Fontana’s wood anatomy see e.g. CONTARDI Simone, La Casa di Salomone a Firenze. L’Imperiale e Reale Museo di Fisica e Storia Naturale (1775-1801), Florence, Olschki, 2002; MAZZOLINI Renato G., “Plastic anatomies and artificial dissections”, op. cit.; MAERKER Anna, Model Experts, op. cit., Chapter 4.
5 AMELINE Jean-François, Observations sur les pièces d’anatomie de M. le Dr Auzoux, Caen, impr. de Bonneserre, 1825.
dissection: thus the students’ hands were guided in the process of dismemberment. Furthermore, Auzoux’s papier-mâché models compromised between naturalistic and schematic colorings, heightening natural contrasts to facilitate the models’ use as teaching aids for lay audiences and beginners. Thus different strands of adjoining muscles for instance were painted in brighter and darker shades of red to facilitate their distinction. Another physical feature of the “dissection” of Auzoux models which enhanced their similarity to the dissection of a corpse was the use of an instrument, a steel spatula which replaced the surgeon’s scalpel.

The introduction of a new material had important implications for model production, distribution and use. No longer unique sculptures made by professional artists for wealthy patrons or institutions, now models could be molded and produced in series. Thus, they became affordable for a wider range of institutions and individuals. Their robust material allowed for hands-on interaction and global travel. With financial support from the government, Auzoux founded a factory in his small home town, Saint-Aubin d’Ecrosville in Normandy, where he employed on average around 80 men, women and children. In model production he adopted tools and techniques from local industries, such as bell-foundries and cider presses. Originally restricted to models of normal human anatomy, his product range came to include comparative anatomy, embryology, and botany.

The global marketing of the models

The various marketing strategies of the tireless Auzoux made his models a world-wide success. As the artificial bodies travelled from France as far as Brazil, Russia, and India, they captured the imagination of writers, artists, and diverse audiences. In 1867 an American doctor observed that “[e]very one knows the name of Dr. Auzoux, the famous fabricant of anatomical models, whose mannikins traverse the Atlantic, and find their way into every medical school in the United States”. By the 1860s, Auzoux had become a household name. He was even included in a nineteenth-century French textbook for American students, which used the scenario of one of Auzoux’s public lectures as an occasion to practice polite conversation: “À quoi Alexis assista-t-il un jour? À une leçon du docteur Auzoux. […] Qu’est que le docteur démonta pièce à pièce? Un homme artificiel.”

Auzoux actively engaged in creating a market for his products, using a wide range of approaches. These strategies frequently contained elements of live performance, and they required close attention to political and social concerns, to

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9 Medical and Surgical Reporter 17 (1867), p. 496.
changing contexts of model use, and to potential customers’ cultural sensibilities, both at home and abroad.\textsuperscript{11}

In addition to his factory in Normandy, Auzoux opened a shop in Paris, near the Medical School. In Paris he regularly lectured to medical students and lay audiences, and in 1839 he published a textbook which recreated his lectures, and which followed the tenets of the new public health movement, advertising anatomy as a means of social improvement. Auzoux also made use of innovations in printing technology which made printing considerably cheaper: he printed “spam letters”, standardised letters describing his latest product developments which the entrepreneur sent to schools and universities around the country to advertise his new models.

To demonstrate the models’ ability to teach anatomy to anyone, Auzoux also staged the public examination of his workers, who received anatomical instruction at the factory in Normandy. One eyewitness reported that “To prove the proficiency acquired by these peasant anatomists, Dr. Auzoux brought three of his workpeople, one man and two young women, to Dr. Fort’s anatomical class, and examined them before an amphitheatre crowded with students. The examination was long and minute, and conducted not only by Dr. Auzoux, but by Dr. Fort himself. The answers were invariably correct, and showed a minute and intelligent knowledge of anatomy, superior to that of many medical students presenting themselves for the doctorat. Dr. Auzoux, with just pride, pointed out the result as a striking proof of the utility of his preparations as a means of assistance in committing to memory the vast collection of anatomical details required in a medical education”.\textsuperscript{12}

The most important example of Auzoux’s claim that his detachable models could teach anatomy to anyone was the young Bouché. As his assistant in the early years of lecturing Auzoux employed one of his former factory workers, the young Bouché. Bouché had received instruction in anatomy and physiology when he started working in Auzoux’s Norman factory as a child, and his talent for these subjects soon earned him a promotion to assist in Auzoux’s lectures in Paris. There, Bouché made the acquaintance of Dr Antoine Clot, a French doctor in charge of developing European-style medical education in Egypt under Pasha Mehmet Ali. Clot recruited the young man as a lecturer and demonstrator in anatomy for his medical school near Cairo, where Bouché taught anatomy to students and laypeople using both models and dead bodies.\textsuperscript{13}

\textsuperscript{11} For a more detailed analysis of Auzoux’s marketing strategies see MAERKER Anna, “Anatomizing the Trade: Designing and Marketing Anatomical Models as Medical Technologies, c.1700-1900”, *Technology & Culture* 54/3 (2013), pp. 531-62.

\textsuperscript{12} *Medical and Surgical Reporter* 17 (1867), p. 496.

\textsuperscript{13} For a general account of Clot’s activities in Egypt see CLOT Antoine, *Mémoires de A.-B. Clot Bey*, edited by Jacques Tagher, Cairo, Institut français d’archéologie orientale, 1949.
The role of the medical profession

While many of Auzoux’s marketing methods since the 1830s targeted lay audiences, in the first years of development he focused on seeking the support of medical experts. In 1822 he submitted a prototype of a model to the Academy of Medicine. A commission of academicians wrote a favourable report which Auzoux subsequently published to publicize the Academy’s support. In their first report, the Academy stated that Auzoux’s model “layed bare all surfaces [of the body] as in a dissection”, and that it would “not fail to be useful to those who dedicate themselves to the study of medical sciences, and especially to those who practice medicine and surgery far away from large cities”. It was significant however that this early report by medical experts did not commit itself fully to saying that the models could replace dissection. The commission left open the question of the models’ purpose. By 1825, however, there were more explicit voices which limited the models’ claims to utility. A similar report by the Academy of Science recommended that the models would be useful for artists and “in places where it is too difficult to procure subjects [for dissection]”, but they also claimed that real corpses were “indispensable for those who wish to learn anatomy thoroughly”. This was echoed in another 1825 report by the Academy of Medicine, which stated that the models could be useful to medical students for “preliminary studies” – but not, presumably, as a full replacement of corpses. Thus, acclaimed medical teachers and scientific experts supported the models’ claims to accuracy, but they also limited models’ claims to utility.

Anatomical education and the problem of corpse supply

Another important aspect of Auzoux’s marketing strategy was to search for opportunities abroad. London in particular seemed a strategic location given the shortage of bodies for medical study in Britain in the early nineteenth century. In the 1820s, the Paris medical school was famous for putting the body (both living and dead) at the centre of medical teaching. Dissection and clinical observation were core

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elements of study, and the republican government after the French Revolution had enabled access to dead bodies by naming the Hôtel-Dieu and the Charité official providers to the medical school in 1798. The ample supply with bodies made Paris a Mecca for medical students from abroad. John Harley Warner has documented how in the early nineteenth century numerous students from the United States who had previously studied in Edinburgh and London came to Paris where corpses were plentiful and cheap (although students were simultaneously warned that the city was full of “temptations to pleasure and vice”). In 1806, one American student reported that in Paris, “those expenses … which attend the study of Anatomy are next to nothing”. Britain remained an important centre for medical study: American medical travellers praised London for its great hospitals (such as Guy’s, St Thomas’s, St Bart’s) and for its “elegant museums” such as the museum of the Royal College of Surgeons. They recognized the skills and erudition of British medical clinicians and scholars. However, access to bodies, and expenses thereof, were the decisive factors which led most Americans to spend significantly more time in Paris than in London. In 1848, still, an American student in Europe reported that “As for anatomical facilities, there is not a medical school, in any village in the United States, however small, which does not afford subjects for dissection cheaper and in great[er] abundance than either King’s College, or University College, or any other College in London […] for what they were paying for a single lower extremity in London, they might have dissected in Paris, from the first of November to the middle of April, […] and had their knives regularly sharpened into the bargain”. But American students were not the only ones seeking better medical education in France. The English medical press equally noted how many British students went to Paris in search of dissection experience: “hundreds of English students” went to Paris “seeking for those advantages which are denied them at home”. The shortage of bodies for medical instruction in Britain led to unsavoury practices of “bodysnatching”. Enterpriseing individuals stole the bodies of the recently deceased to supply anatomy schools with material, much to the dismay of relatives and the general public. The joint problems of anatomical education and bodysnatching became sufficiently pressing to spur the British government into action. A select


20 WARNER John Harley, Against the Spirit of System, op. cit., p. 35.

21 Ibid., p. 67.

22 Ibid., p. 71.

23 Ibid., p. 196.
committee was set up to “inquire into the manner of obtaining Subjects for Dissection in the Schools of Anatomy, and into the State of the Law affecting the Persons employed in obtaining or dissecting Bodies”.

For its inquiry, the committee questioned a wide range of practitioners, including prominent teachers of medicine and surgery such as President of the Royal College of Surgeons Sir Astley Cooper, but also two (anonymous) bodysnatchers. In their final report of 1828, the select committee recommended the system used by the Paris dissecting schools as a model for reform in Britain.

This marked difference in resources caused tensions between French and British medical teachers. In the early decades of the nineteenth century, the relationship between British and French medical community was characterized in even measure by collaboration and competition. As Jonathan Topham has shown, even during the Napoleonic Wars, when a trade embargo between the two countries theoretically should have made any exchange of goods impossible, medical and scientific books still travelled in both directions. However, the imbalance in access to corpses was noted not just by British physicians who lamented the fact that British students felt compelled to travel to Paris to study anatomy. The French also noted the problems of their British counterparts. The shortage of corpses for dissection was reported not just in medical journals, but also in the general press and other publications for the general public which reported that due to popular “superstition”, British doctors often were restricted to working on the bodies of executed criminals, or had to resort to employing “bodysnatchers”.

The scandal caused by the bodysnatchers Burke and Hare in Edinburgh in 1828, who procured bodies by murdering the living rather than stealing the dead, was reported by the French press, as was the ensuing public panic of being “burked” (être burké). Given these reports, Auzoux would have been well aware of the problems of British students to obtain bodies for anatomical studies, and in 1831 he travelled to London...
to demonstrate his models and to offer them as potential solutions to the problem of corpse supply.

**Demonstration and performance in London, 1831-32**

Auzouxx’s reception in London by the medical profession was shaped by a range of different and potentially conflicting attitudes to artificial anatomies and their public display. British medical teachers frequently employed a wide range of teaching tools in their lectures. Carin Berkowitz has highlighted the central role of visual aids for medical pedagogy in early nineteenth-century London. Surgeon-anatomist Charles Bell, for instance, used a combination of visual aids such as blackboard sketches, specimens and models in his lectures, and thought carefully about the production and use of illustrations in his publications for students and scholars.29 Wax anatomies were popular, but frequently criticized as mere entertainment, and morally suspect. As Alan Bates has shown, in the early decades of the nineteenth century Britons were suspicious of continental anatomical waxworks, which were denounced in the press as “filthy French figure[s]”.30 At the same time, displays of nature and science were central to nineteenth-century British culture. London in particular may have lacked the dissection opportunities of Paris, but it was the world’s capital of popular science. Public lecturers had made a living presenting natural philosophical lectures, demonstrations and experiments to paying audiences since the eighteenth century.31 Following the lead of the Royal Institution since 1799, during the early decades of the century numerous new institutions were founded to communicate science to the masses through public lectures: not just the Royal Institution, but also the London Institution, the Russell Institution, the Surrey Institution, and a range of Mechanics’ Institutes.32 The “season” for public lectures usually lasted from November to June.33 Many of these public lecturers also travelled around the country, as their eighteenth-century predecessors had done. Some institutions offered opportunities for laypeople to acquaint themselves not just with physical and chemical phenomena, but also with human anatomy: Birkbeck’s


32 For the early years of the Royal Institution see e.g. BERMAN Morris, Social Change & Scientific Organization: The Royal Institution 1799-1844, Ithaca, Cornell University Press, 1978.

London Mechanics’ Institution for instance advertised a course in human anatomy in 1827, which included a demonstration of a dissected body.34 In this context of activity, the location chosen by Auzoux for his stay in London is significant. In 1831 the medical entrepreneur took up residence in Leicester Square. This was a suitable location for the promotion of his new medical technologies, as the neighborhood was at the time home to a peculiar combination of public spectacle and medical culture. The square had hosted renowned anatomists and surgeons such as William Cruikshank and Charles Bell, and had until recently been the location of the Hunter brothers’ famous anatomy school and museum, as well as a museum of natural curiosities, the Holophusikon.35 In the year of Auzoux’s arrival the square had also seen the display of the murderers John Bishop and Thomas Williams, London’s answer to Edinburgh’s Burke and Hare. Bishop and Williams had been executed after the murder of an unnamed “Italian Boy” for dissection purposes. Their bodies in turn were dissected at King’s College and the Windmill Street anatomy theatre. Afterwards, “immense crowds” went to see their remains on display in Leicester Square, including wax portraits of their heads, with “[t]heir own hair, eyebrows, and eyelashes, preserved and arranged in their respective places”.36 Surrounded by other shows and spectacles such as these, the French doctor nevertheless chose to demonstrate his models to a more select audience, targeting doctors in particular. Auzoux opened his apartment to interested visitors for only one hour each day. He spent the rest of his time exhibiting his inventions at specialist institutions such as the Royal Institution, the Westminster Medical Society, and the Harveian Society. Auzoux’s young assistant Bouché reported home that English physicians were “eager” to see the papier-maché models, and that the artificial anatomies were the talk of the London salons. (Only the food, young Bouché complained, was “ridiculous”).37 Auzoux’s models were received favourably even in the highest echelons of British society. The royal physician Sir Henry Halford recommended the full-scale human model to the King himself for its utility as an “accessory means of instruction in our schools of medicine”, and the monarch ordered a copy to be sent to the newly founded King’s College in London.38 Responses to Auzoux’s models were generally positive, both in the medical and the general press. According to the London Medical Journal, for instance, he received “the

37 Letter by Bouché to Auzoux père, n.d. but 1832, Archives Nationales, AP 242, Box 4, dossier 8.
38 “Gift of His Majesty to King’s College, London”, The Athæneum 224 (11 Feb 1832), p. 98.
most flattering marks of approbation”. Local newspapers, following the royal lead, praised the Frenchman’s “ingenious” models, especially in discussions of the role of dissection for medical education and the problem of bodysnatching.

The features of Auzoux’s public displays in London were carefully chosen to appeal to his intended medical audience. He offered no demonstrations for the general public except in venues considered to provide respectable scientific education such as the Royal Institution. Auzoux used his former factory worker and assistant Bouché as living proof of his claim that anyone could learn anatomy with the help of his models. However, the entrepreneur was careful not to claim that his models could replace work with real corpses entirely:

M. Auzoux […] does not presume that the study of his model can supersede the necessity for dissection; but there can be no doubt that, by its assistance, the student may acquire a perfect knowledge of anatomy, at much less expense of time than he could by anatomical lectures or dissection alone. One great advantage this contrivance offers, is that the relative situation of every part of the human body may be repeatedly and deliberately viewed, so that this most important part of the science of anatomy may be indelibly fixed upon the memory.

This last claim, about the models’ “dissectability”, was central to Auzoux’s demonstration, which at its core was about the process of dismantling and reassembling the model. This feature of his demonstrations came to the fore in two accounts of the appearance Auzoux made in front of the Westminster Medical Society on 4 February 1832, published in two new and reform-minded medical journals, the Lancet (founded in 1823) and the London Medical and Surgical Journal (founded in 1828).

Auzoux’s supporter within the society, a Mr. Costello, introduced the model as “the most extraordinary representation of the human body which was ever invented”, a mechanism of “originality, beauty, accuracy, and extreme fidelity” which “wonderfully facilitated the study of anatomy”. Costello confidently proposed that using this model, even “a stranger to anatomy” could “in three months acquire a knowledge of the muscles, […] arteries, veins, nerves, lymphatics, […]”. In his demonstration Auzoux was accompanied by his friend and former fellow student,

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31 See e.g. Westminster Review 16 (1832), p. 490.
33 “Extraordinary Anatomical Machine”, London Medical and Surgical Journal 1/2 (11 February 1832), pp. 56-60, here p. 56.
34 Ibid.
urologist Dr Jean Civiale, who acted as his preceptor. According to the description of the meeting, “the removal of the artificial body from its case [...] occupied some time”.44 Auzoux took care to build up the suspense, starting with only one part of a model: an arm. The display was met with disapproval by one member of the audience who considered that medical debates should be the priority for the meetings of the Society:

Here Mr. Costello produced only a part of the work in question – the arm – which even of itself was an ingenious production. Upon going into a demonstration of the details, some objection was expressed by Dr. Somerville, who said that however pleased he might be with the exhibition, he had come with a view of hearing some medical discussion, and therefore was desirous that the usual time should be allotted to the debates.

However, Dr Somerville’s objections were not shared by his fellow society members, who were eager to see the demonstration: “This interruption met with much disapprobation from the majority of the assembly, whose interest now became more excited by the appearance of the whole figure”.45

When the full human model finally arrived it did not disappoint, and the discussion following the demonstration was lively. Dr Somerville, still combative, strongly denied any claims that models could replace dissection entirely. Any such suggestions, he argued, would only be fodder to those public voices in the debate preceding the Anatomy Act which denied the utility of dissection altogether.46 However, he was a lone dissenting voice in the meeting, as his peers applauded the French models and their maker. The anonymous doctor who wrote the report for the Lancet claimed that “It afforded us great pleasure to observe the facility with which the dissection might be accomplished, and in some parts the tout ensemble of the ‘region’ was striking for fidelity of imitation, and ... perfect accuracy of execution”.47

Conclusions

The uses of anatomical models both as tools of education and as means for entertainment posed a considerable challenge to model makers. Potentially, models’ popularity with the general public could be used to call into question their suitability for serious instruction.48 Thus, model entrepreneurs had to judge modes of model

44 Ibid.
46 Ibid., p. 705.
47 Ibid.
48 For an example of models’ utility for professional training being challenged due to their popular appeal see e.g. MAERKER Anna, “Florentine anatomical models and the challenge of medical authority
marketing and display well. In London, Auzoux was careful to distance his own demonstrations from popular public displays in and around Leicester Square. He restricted access to the models considerably, only opening his apartment to visitors for one hour every day. Beyond this, he actively targeted renowned physicians, and used the meetings of medical societies as platforms to publicize his products. This strategy paid off, especially when the King himself became a customer through royal physician Henry Halford. However, restricting his marketing efforts to an exclusive, elite audience did not mean refraining from live performance. As much as in Auzoux’s public lectures to general audiences in Paris, in London in front of medical experts live demonstration was a central element of model display. These demonstrations were carefully choreographed, beginning with a single arm before moving on to the life-sized complete human model. This display did not fail to take effect. Despite the medical profession’s avowed rejection of popular showmanship, many British physicians admired Auzoux’s performances. Thus, the case of the papier-maché models in London highlights forcefully that historians need to be careful not to conflate live performance with quackery, and to pay attention to the role of performance in the realm of professional, orthodox medicine.