Beyond Bodies on the Shelf

The (After)lives of McGill's Preserved Human Specimens

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Abstract

The preserved human specimens at what is now called the Maude Abbott Medical Museum at McGill University in Montreal are not stagnant museum objects in jars. The specimens have lived long and complex lives, many of which began in the nineteenth century. Through an adapted object-biography framework, I follow the paths taken by the specimens from collection, to preservation, cataloguing, and display, and finally to their recontextualization as pedagogical tools within and outside of the museum space or as memorial objects. This approach reveals how these bodily fragments shifted in meaning over time and space, and it shows how the development of these meanings were dependent upon the relationships formed with the humans that interacted with the specimens. Furthermore, an analysis which places the specimens at the forefront allows for a broader cultural study that encompasses conceptions of the body in life and death, medical education and professionalization, and class inequities of nineteenth and early twentieth-century Montreal.

Résumé

Les spécimens humains conservés dans ce qui est maintenant appelé le Musée médical Maude Abbott de l'Université McGill à Montréal ne sont pas des objets de musée stagnants dans des bocaux. Ces spécimens ont vécu des vies longues et complexes, dont beaucoup ont commencé au XIXe siècle. À l'aide d'un cadre adapté de biographie d'objets, je suis les chemins empruntés par les spécimens, de la collecte à la préservation, au catalogage et à l'exposition, et enfin à leur recontextualisation en tant qu'outils pédagogiques à l'intérieur et à l'extérieur de l'espace muséal ou en tant qu'objets commémoratifs. Cette approche révèle comment la signification de ces fragments corporels a évolué dans le temps et l'espace, et montre comment le développement de ces significations dépendait des relations établies avec les humains qui

interagissaient avec les spécimens. De plus, une analyse qui place les spécimens au premier plan permet une étude culturelle plus large qui englobe les conceptions du corps dans la vie et la mort, l'éducation médicale et la professionnalisation, ainsi que les inégalités de classe dans le Montréal du XIXe et du début du XXe siècle.

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INTRODUCTION

On the top of my must-see list during my 2018 trip to Montreal was the elusive Maude Abbott Medical Museum at McGill University.[1] Fascinated with the medical museums I had seen in books and on television from Europe and America, I was keen to see a collection of human organs floating in glass jars in-person, and in Canada. As I walked through the halls of the Strathcona Anatomy and Dentistry Building, I could feel the presence of the physicians, pathologists, anatomists, and students who had walked these halls before me – many of whom are commemorated on decorative plaques lining the hallways.[2] Distracted by the elegant architecture, I turned a corner to face a wooden-arched doorway adorned with the words "Medical Museum" in gold letters. I had found it.

Giddy with excitement, I marvelled at the bodily fragments suspended in liquid – some fluid was clear, and other jars were cloudy or yellowed. Some jars had black tar-like sealants around the tops, other sealants were nearly undetectable. The delicate mounts of many specimens were fascinating, with translucent strings or pieces of glass supporting the organs so as to not obscure the pathology. As I admired the intricate details of each preparation, I became aware that I was likely viewing the museum with a different approach than most visitors. To me, the jarred specimens were like pieces of art. The entire piece told a story, from the colour of the liquid to the label stating the collection date. The pathology of the specimen and the implications of the disease it represented was secondary.

This realization forms the foundation for this study. How can a human heart for example, be interpreted in different ways by different people? By what framework did the nineteenth-

[1] I visited just before the museum had closed for renovations. Since its reopening a few months later, the museum has gained some press coverage and its existence is now better known.
[2] A plaque for curator Maude Abbott was added in 2019, making her the first female to have her name formally recognized amongst the ninety-nine existing plaques which celebrate men.

century dissector approach the heart as he removed it from the body cavity? How was this same heart re-interpreted through the lens of the museum technician who mounted it, the curator who catalogued it, and the student who learned from it?[3] The answers to these questions reveal social and cultural complexities tied to the development of medicine and conceptions of the body in the nineteenth and early twentieth centuries. Through an examination of the paths followed by the specimens at the McGill museum from collection, to preparation, cataloguing, and display, and finally to their interpretation or re-interpretation as pedagogical tools or as objects of historical significance, diverse and fluid relationships between the viewer/user and the specimens become clear. [4]

The Life of a Museum: A Brief History

The current curator of the Maude Abbott Medical Museum, Richard Fraser, considers the contents of the museum to be "icons of death derived from the sick and injured."[5] The collection of these 'icons' began in 1822 as Montreal physician and co-founder of the McGill Faculty of Medicine Andrew F. Holmes preserved a remarkable malformed heart found at autopsy.[6] The collection gradually grew in the following decades through the autopsy and dissection practices of various faculty members and students. This process was slow, as there had been no

[3] This study only considers real human specimens in the museum, and predominately wet preparations. The museum also contains exquisite wax and papier-mâché models which would form an excellent foundation for a future study, however these objects are outside of the scope of this project.

[4] I am deliberately loose with the terminology I use to refer to the McGill museum because my study examines all prepared human specimens – both pathological and anatomical. Most often I will use 'McGill museum' or "medical museum" to refer to the collections at the McGill Faculty of Medicine as a whole. When necessary, I will differentiate between the 'anatomical museum' and the 'pathological museum' as it is historically relevant. I will only refer to the collection as the 'Maude Abbott Medical Museum' when considering the present iteration of the museum.

[5] Richard Fraser, "*Hic est locus ubi mors gaudet succurrere vitae*: Maude Abbott and the Malformed Heart," in *Women and the Material Culture of Death,* ed. Maureen Daly Goggin and Beth Fowkes Tobin (London: Routledge, 2013), 331.

[6] W. F. Holmes, "Case of Malformation of the Heart," *Transactions of the Medico-Chirurgical Society of Edinburgh* 1 (1824): 252-259. (According to Holmes' recent biographer Richard W. Vaudry, the first initial of the name of this article's author is a typographical error.)

practitioners trained in pathology at the Montreal General Hospital – the city's main source of specimens.[7] The rate of collection changed in 1876, however, with the appointment of William Osler as lecturer, and later professor of the Institutes of Medicine (physiology, histology, and pathology). With post-graduate training in the latest pathological techniques in Berlin, Osler established a thriving pathology program in Montreal that bridged the Montreal General Hospital with the McGill classroom.[8] Through William Osler's extensive autopsy practices during his time at McGill from 1876 to 1884, the largest and most celebrated assemblage of specimens in the McGill museum was formed, doubling the number of specimens that were held in the collection prior to Osler's arrival.[9] The museum expanded to house thousands of anatomical and pathological specimens, including wet preparations, macerated bones, and microscopic slides.

The intention of the museum was to provide a source of anatomical and pathological knowledge in visual and often tactile form. As architectural historian Annmarie Adams has suggested, the museum's proximity to Montreal's major hospitals completed the "all-important loop of knowledge that linked doctors, patients, students, and specimens."[10] The specimens were the physical embodiment of medical knowledge of disease, and were bolstered by accompanying texts regarding case histories which facilitated the connection between ante- and post-mortem observations. The specimens were used as visual aids to didactic lectures and were viewed as medical 'facts' in material form, yet they were also interpreted as evidence of the collectors' proximity to rare medical cases. As McGill's collection grew, particularly in the first decade of the twentieth century, so too did its prestige on the international stage.

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[7] Joseph Hanaway, Richard Cruess and James Darragh, *McGill Medicine, Volume 2: 1885-1936* (Montreal and Kingston: McGill-Queen's University Press, 2006), 12.
[8] Michael Bliss, *William Osler: A Life in Medicine* (Oxford: Oxford University Press, 1999), 77.
[9] Annmarie Adams, "Designing the Medical Museum," in *Healing Spaces, Modern Architecture, and the Body*, ed. Sarah Schrank and Didem Ekici (Taylor & Francis Group, 2016), 188.
[10] Ibid., 173.

The first chair of the Pathology Department, John George Adami was an advocate for museums, having spent much of his leisure time at the Fitzwilliam Museum at Cambridge while completing his education.[11] However, he had done little in his first few years in the position at McGill to advance the museum beyond its disorganized conglomeration of jars.[12] His appointment in 1892 included the role of custodian of the museum (the first time that a faculty position was dedicated to the care of museum); however, his priorities laid in the collection of specimens, rather than their organization. In 1898, Adami appointed Maude Abbott as assistant curator of the museum, and assigned her the herculean task of organizing and preserving the collection. Museum curators were generally male at this time, though some women gained entry as assistants.[13] The full curatorship that Abbott was granted shortly thereafter was a rare privilege in the male-dominated field. A graduate of Bishop's College medical school in Montreal, Abbott had recently returned to Canada from postgraduate training in Europe.[14] Though she had intended to establish a private practice in Montreal, she was encouraged by William Osler to make the most of her position as assistant curator of the medical museum by developing an organized cataloguing system and transforming the museum into a valuable supplement to medical pedagogy at McGill.[15] The museum quickly became Abbott's obsession.

Abbott remained the primary champion of the museum for three decades, with the exception of a brief two-year period in the 1920s when she held the position of Acting Chair of Pathology and Bacteriology at the Woman's Medical College of Pennsylvania.[16] The museum

[11] Marie Adami, *J. George Adami* (London: Constable & Co .Ltd., 1930), 13.
[12] Maude E. Abbott, "Professor J. G. Adami and the Medical Museum of McGill University," in *J. George Adami: A Memoir,* ed. Marie Adami (London: Constable & Co. Ltd., 1930), 151-52.
[13] Kate Hill, *Women and Museums 1850-1914: Modernity and the Gendering of Knowledge* (Manchester: Manchester University Press, 2016), 25.
[14] H. E. MacDermot, *Maude Abbott: A Memoir* (Toronto: The MacMillan Company of Canada Ltd., 1941), 58.
[15] Maude E. Abbott, "Autobiographical Sketch," *McGill Medical Journal* 28, no. 3 (October 1959): 140-41.
[16] Maude E. Abbott, *Autobiography* (unpublished, c. 1926), McGill University Archives, Maude Elizabeth Abbott Fonds, MG 1070, 000-0684.01.26.

transformed dramatically during her curatorship. The collection grew through incoming donations, and through the implementation of a set of instructions to medical practitioners to preserve specimens in order to fill gaps in the collection. Furthermore, a separation between the anatomical and pathological collections was established, and the physical museum space evolved through a number of renovations and relocations.[17] While Abbott was in Pennsylvania, the pathology collection was moved to the newly-built Pathology Institute, where it remained under the care of long-time museum technician Ernest Lionel Judah.[18] Upon her return, Abbott was assigned the curatorship of the "Medical Historical Museum," which contained Osler's autopsy specimens and the heart specimens that Abbott had collected for her own research.[19]

Enthusiasm for the medical museum collections waned in the 1920s. Part of this growing disinterest can be broadly explained by the increased reliance on microscopic laboratory work within the medical sciences, and a decreased emphasis on the surface-level visible changes of bodily tissues in disease. At the same time, the changing leadership in McGill's pathology department profoundly affected the museum's trajectory. Adami's successor as Chair of Pathology, Horst Oertel, was notably less enthusiastic about the museum. Tensions mounted between Abbott and the pathology department following Oertel's appointment. Abbott felt increasingly undervalued in her position as curator, and she observed a distinct decline in cooperation between the museum and the pathology department.[20] As historian Erin Hunter McLeary explains, Abbott witnessed "routine and intentional delays on the part of the hospital and autopsy staff in notifying the museum staff of material. These delays resulted in the

[17] For more information on the physical spaces, see Adams, "Designing the Medical Museum."
[18] Adams, "Designing the Medical Museum," 195.
[19] Fraser, "*Hic est locus*," 342.
[20] Maude E. Abbott to Dr. Adami, August 3, 1918, McGill University Archives, Maude E. Abbott collection, MG 1070 0000-0684.0.

degradation of potentially valuable museum specimens. Retained in the hospital for months, they were used as hand specimens before being sent, now useless, to Abbott's museum."[21] Despite these frustrations, Abbott remained in the role until her retirement in 1936.

The Medical Museum in Context

The McGill medical museum was part of a much larger network of similar institutions which gained popularity in the nineteenth century in the midst of shifting conceptions of disease, changing notions of valid scientific evidence, and the emergence of the exhibitionary complex.[22] These developments converged in the nineteenth century, forming the ideal environment for medical museums to flourish. Within this distinct milieu, human specimens became prized for their value as educational tools as well as for the attractive displays they formed on museum shelves.

At the turn of the nineteenth century, French pathologist Xavier Bichat developed an understanding of disease processes, built upon the work of anatomist Giovanni Morgagni, which had dramatic implications for the practice of medicine and the emergence of pathology as a specialty. He declared that diseases were the results of morbid changes of the tissues, which were visible, and could be pinpointed in the body.[23] This theory meant that physicians could perform autopsies on patients they lost in the clinic and decipher their ailments based on their observations of physical alterations of the internal structures. Sociologist N. D. Jewson argues that during this process of disease localization in the early nineteenth century, "the sick-man

[21] Erin Hunter McLeary, *Science in a Bottle: The Medical Museum in North America, 1860-1940*, (PhD diss., University of Pennsylvania, 2001), 238.
[22] Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London and New York: Routledge, 1995), 73.
[23] Russell C. Maulitz, *Morbid Appearances: The Anatomy of Pathology in the Early Nineteenth Century*, (Cambridge: Cambridge University Press, 1987): 37.

became a collection of synchronized organs."[24] Physicians were less concerned with how the patient felt or experienced the disease. Instead, their primary focus became the morphology of the internal structures of the body. Medical historian Jonathan Reinarz, however, argues that instead of "fading away," the patient re-appeared in medical museums in the form of their "most interesting fragments."[25] Therefore, as conceptions of disease shifted in the early nineteenth century, so too did the function of medical museums.

The collection of 'healthy' and 'diseased' or pathological specimens were equally important endeavors. Medical practitioners must be able to recognize healthy tissues in order to observe the morbid changes that occur in illness. At the same time, this process of defining bodily structures as 'normal' and 'abnormal' became engrained in culture at large, and was solidified through their presentations in medical museums. Art historian Andrew McClellan has pointed out that, "the categories, hierarchies, and canons museums use to order and explain their contents are culturally constructed."[26] This observation applies just as equally to cultural objects found in history museums as it does to human specimens found in medical museums. As historians Elizabeth Hallman and Samuel J. M. M. Alberti have argued, "scientists' and medical practitioners' definitions of what was 'normal' or 'abnormal' were made visible, thereby shaping perceptions of social and cultural as well as bodily differences."[27] The categories by which the displayed specimens were defined and organized were constructed by those that held power over the bodies of society.

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[24] N.D. Jewson, "The Disappearance of the Sick-Man from Medical Cosmology, 1770-1870," *Sociology* 10, no. 2 (May 1976): 229.
[25] Jonathan Reinarz, "The Age of Museum Medicine: The Rise and Fall of the Medical Museum at Birmingham's School of Medicine," *Social History of Medicine* 18, no. 3 (2005): 437.
[26] Andrew, McLellan, *The Art Museum from Boullée to Bilbao* (Berkeley: University of California Press, 2008), 110.
[27] Elizabeth Hallman and Samuel JMM Alberti, "Bodies in Museums," In *Medical Museums: Past, Present, Future,* eds. Samuel JMM Alberti and Elizabeth Hallman (London: The Royal College of Surgeons of England, 2013), 5.

Concurrently, changes to scientific epistemology impacted the ways in which anatomists and pathologists interpreted visual evidence. Historians Lorraine Daston and Peter Galison have pointed out a shift in mid-nineteenth century thought, away from a "truth-to-nature" approach in which specific 'ideal' specimens served as typologies, to a "scientific objectivity" approach which attempted to remove individual subjectivity and to view specimens as examples of variations.[28] Illustrations of body parts in medical atlases had begun to shift along with these changing ideas in the early nineteenth-century. Historian Michael Sappol demonstrates these changes in his exhibition catalogue *Dream Anatomy,* in which he shows how eighteenth-century medical illustrations depicted romantic imagery of flayed bodies and dancing skeletons against lavish backgrounds that were dripping with messages about morality, death, and the meaning of life. Anatomical imagery shifted in the nineteenth century, however, to show "bodies and body parts float[ing] in air, free from all context."[29] In other words, Sappol argues, "anatomy was cleansed of its association with death" as allegory was removed and illustrators sought to become more 'objective.'[30]

Anatomical displays followed a parallel path. Seventeenth and eighteenth-century anatomists created preparations with similar effects to their illustrated counterparts. Frederik Ruysch for instance, created extravagant "tableaux vivants" in which body parts (often those of babies or children) were preserved using proprietary techniques to create life-like effects, and were displayed alongside other objects to create intricate displays with complex allegorical meanings.[31] Bernhard Siegfried Albinus similarly used state-of-the-art preservation techniques to

[28] Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2010): 27.
[29] Michael, Sappol, *Dream Anatomy* (Washington: U.S. Department of Health and Human Services, National Institutes of Health, National Library of Medicine, 2006), 46.
[30] Ibid.
[31] Julie V. Hansen, "Resurrecting Death: Anatomical Art in the Cabinet of Dr. Frederik Ruysch," *The Art Bulletin* 78, no. 4 (December 1996): 663-679.

represent the 'ideal body' in his anatomical preparations, while combining objects to create displays with "elegant" commentaries on the anatomist's senses of touch and sight.[32] By the turn of the nineteenth century, these lavish metaphoric displays began to fade away as the rhetoric of 'objectivity' gained traction, and by the 1860s and 1870s, scientific objectivity became widely accepted as the ideal.[33] This ideological shift set the stage for the explosion of scientific medical museums; however, this shift in rhetoric did not produce a clean divide between the subjective and the objective, nor the 'scientific' and the 'artistic.' Daston and Galison consider the history of objectivity to be the history of the 'self,' and as such, they suggest that 'scientific selves' and 'artistic selves' were diametrically opposed.[34] However, this sharp division was not always the reality as 'scientific' medical practitioners and museum technicians often embodied their artistic selves to preserve and display specimens in visually pleasing manners, often drawing inspiration from art galleries.

Scientific medical museums grew in popularity amongst the medical profession during this transitionary period between 'truth-to-nature' and 'scientific objectivity.' Specimens were collected in order to illustrate typical morphologies of disease, yet at the same time the collection of multiple specimens exhibiting the same disease illustrated the variations that could occur from the ailment. Pathological museums were rife with these incongruities. While bordering on the ideologies of 'truth-to-nature' and 'scientific objectivity,' and while dancing between the objective and the subjective, these museums sought to define pathological or 'irrational' specimens by 'rational' classification and organizational systems. The systematic collection of

[32] Marieke Hendriksen, Hieke Huistra and Rina Knoeff, "Recycling Anatomical Preparations: Leiden's Anatomical Collections," in *Medical Museums: Past, Present, Future,* edited by Samuel JMM Alberti and Elizabeth Hallman (London: The Royal College of Surgeons of England, 2013), 78.
[33] Daston and Galison, *Objectivity*, 49.
[34] Ibid., 37; 246.

specimens was an activity that became synonymous with scientific disciplines in the late-eighteenth and nineteenth centuries, as practitioners in each field gathered knowledge of their respective subjects in material form for display in an organized and purposeful manner. Considering biologists and other natural history-related disciplines, architectural historian Carla Yanni has argued that, "collecting actually contributed to the development and legitimization of the discipline, because Enlightenment thinkers could present their collections systematically, and thus distinguish themselves from the courtiers who compiled supposedly disorderly 'curiosity cabinets."[35] The same effect was seen in the medical sciences, most notably for the field of pathology. Alberti has pointed out that, "before 1880, there were massive pathological anatomy collections, but few pathologists; yet these collections played a key (and overlooked) role in the construction of a professional community of pathologists around the turn of the century."[36] The systematic collection and display of pathological specimens demonstrated that the medical sub-field was a legitimate scientific endeavor.

All 'true' scientific disciplines had their own distinct museological institutions in the nineteenth century, each becoming embedded within the 'exhibitionary complex.' Medical museums quickly found their place within this scheme. Coined by museum theorist Tony Bennett, the 'exhibitionary complex' encompassed institutions such as natural history or science museums, art galleries, and World's Fairs, which conveyed messages of power, control, and order within society.[37] Historian Elsbeth Heaman has drawn further connections between these large exhibitions and the development of department stores and malls in Canada, as she suggests

[35] Carla Yanni, *Nature's Museums: Victorian Science and the Architecture of Display* (New York: Princeton Architectural Press, 2005), 3.
[36] Samuel J.M.M. Alberti, *Morbid Curiosities: Medical Museums in Nineteenth-Century Britain* (Oxford: Oxford University Press, 2011), 65.
[37] Bennett, *The Birth of the Museum,* 73.

that the world became influenced by fairs and exhibitions through a multidirectional "cultural osmosis."[38] Bennett considers the nineteenth and early twentieth centuries to be the golden age of the exhibitionary complex, during which hundreds of institutions were rapidly established across Europe and North America and were consumed with enthusiasm by the public. Museum historian Eileen Hooper-Greenhill considers the emergence of the 'modernist museum' to have been a key development within this period. She explains that, "the modernist museum was intended to be encyclopaedic, to draw together a complete collection, to act as a universal archive."[39] Though most school and hospital museums such as the McGill museum were generally not open to the public like those which Bennett, Heaman, and Hooper-Greenhill examine, medical museums became important models of the 'modernist museum.' They sought to collect and display anatomical and pathological knowledge in a comprehensive and encyclopaedic manner, yet they also shaped understandings of the 'normal' and 'abnormal' body. These conceptions of the body, represented within private hospital and school museum displays for practitioners and students, reached beyond the professional medical sphere. Physicians' perceptions of the body shaped their interactions with their patients, which would, in turn influence the perceptions of the public. Furthermore, media portrayals of medical experiments, or of incidents of grave-robbing for dissection subjects would influence cultural perceptions.[40] The public did not have to enter these medical museums to experience their

[38] Elsbeth Heaman, *The Inglorious Arts of Peace: Exhibitions in Canadian Society During the Nineteenth Century* (Toronto: University of Toronto Press, 1999), 108.
[39] Eileen Hooper-Greenhill, *Museums and the Interpretation of Visual Culture* (London & New York: Routledge, 2000), 126.
[40] For the influence of the media on public perceptions of medicine, see Bert Hansen, "New Images of a New Medicine: Visual Evidence for the Widespread Popularity of Therapeutic Discoveries in America after 1885," *Bulletin of the History of Medicine* 73, no. 4 (1999): 629-678; For stories of grave-robbing in Quebec media, see D.G. Lawrence, ""Resurrection" and Legislation or Body-Snatching in Relation to the Anatomy Act in the Province of Quebec," *Bulletin of the History of Medicine* 32, no. 5 (September-October 1958): 408-424, and Martin Robert, "L'émeute des fémurs: contestations étudiantes, dissections humaines et professionnalisation de la médecine au Québec," *The Canadian Historical Review* 102, no. 4 (2021): 525-544.

impact. However, art historian Mary Hunter argues that this influence was accompanied by potentially damaging consequences to practitioners' professional identities and integrities. She suggests that medical practitioners' fascination with the "grotesque" posed a threat to their "assumed neutrality" in the eyes of the public.[41] Though most of these medical museums remained inaccessible to the public, their influence as participants within the exhibitionary complex, and as adjuncts to medical care, leaked through their closed doors.

By the mid-nineteenth century, medical museums could be found in major cities across Europe and North America, often (though not always) associated with universities or medical colleges. The Anatomical Museum of Edinburgh University and John Barclay's collection at the Royal College of Surgeons of Edinburgh served as models for other medical collections, though the most aspirational museum was the Hunterian Museum in London.[42] Formed from the collection of eighteenth-century surgeon John Hunter, the Hunterian Museum opened at the Royal College of Surgeons in London in 1813. As the largest and most comprehensive collection of over 13,000 anatomical specimens, the museum inspired the formation of nearby museums at St. Thomas' Hospital in 1814, Guy's Hospital in 1825, and St. Bartholomew's Hospital in 1835.[43] In America, medical museums were established following the precedent set by those in London and Edinburgh, including the Army Medical Museum in Washington and the Mütter Museum in Philadelphia. Though smaller than many of these grandiose collections, the McGill

[41] Mary Hunter, *The Face of Medicine: Visualising medical masculinities in late nineteenth-century Paris* (Manchester: Manchester University Press, 2016), 12.
[42] Elizabeth Hallman, *Anatomy Museum: Death and the Body Displayed* (London: Reaktion Books Ltd., 2016), 167.
[43] Samuel J. M. M. Alberti, "This Post Mortem Palace: Accommodating the Hunterian Museum," In *Science Museums in Transition,* eds. Bernard Lightman and Carin Berkowitz (Pittsburgh: University of Pittsburgh Press, 2017), 71.

medical museum in Montreal grew to become an inspiration to its foreign counterparts by the early twentieth century, under the care of curator Maude Abbott.[44]

Methodology

The McGill medical museum has been the focus of very few studies, and of those few studies, none have centred the specimens in their arguments. Maude Abbott appears most frequently at the forefront of the literature, though architectural historian Annmarie Adams has occasionally moved beyond this trend to explore the evolving physical spaces of the museum. Adams' chapter, "Designing the Medical Museum" follows the museum's architectural developments through time and examines the impacts of physical and spatial elements including the museum's structure, layout, and lighting.[45] Though her chapter takes a material turn, the specimens are nonetheless secondary to the settings.[46] I intend to conduct a study of the McGill medical museum that places the human specimens at the forefront, drawing inspiration from material-culture studies.

My approach is influenced by 'object biography' frameworks, which can be found in literature by historians, museum-studies scholars, and anthropologists.[47] This technique was

[44] In a letter sent to Abbott in 1910, William Osler wrote, "it must be very satisfactory to you to feel that your work is appreciated both in and outside of Montreal." William Osler to Dr. Abbott, February 9, 1910, Osler Library, Osler collection, P100, box 102 30-7-2 folder 326-1.6. Many custodians of museum collections sought her advice throughout the rest of her life. For example, in 1934 the superintendent of the Greenville City Hospital in South Carolina asked Abbott for advice regarding the development of a new hospital museum. The superintendent wrote to Abbott on the advice of her colleague who had explained that Abbott was "an authority" in medical museums. Byrd B. Holmes to Dr. Maude E. Abbott, April 2, 1934, McGill University Archives, Medical Museum Collection, RG 41 38-80-6.

[45] Adams, "Designing the Medical Museum."

[46] Adams has also undertaken research on Holmes Heart, though this paper is unpublished. Annmarie Adams, "A spatial history of the Holmes heart," unpublished paper delivered at the European Association for the History of Medicine and Health, Birmingham, UK, August 27-30, 2019.

[47] Anthropologists Hans Peter Hahn and Hada Weiss consider the term "itinerary" to be more appropriate than "biography," because "biography" implies a distinct beginning and end, and socio-economic and cultural influences often shift objects' meanings in ways that a "biography" may not be able to encompass. I agree with their arguments against the term 'biography,' however I am less concerned with semantics for this study. I adopt the term 'object biography' because it is more widely recognized by material-culture scholars. Hans Peter Hahn and Hadas Weiss,

made popular in 1984 by anthropologist Igor Kopytoff, who proposed that the "careers" of objects should be examined more closely.[48] He suggested that researchers examining objects should ask questions including, "what, sociologically, are the biographical possibilities inherent in its 'status' and in the period and culture, and how are these possibilities realized? Where does the thing come from and who made it? What has been its career so far, and what do people consider to be an ideal career for such things?"[49] Kopytoff demonstrates how these questions can be narrowed in order to adapt to specific objects by using the example of a car in Africa. He explains that a "wealth of cultural data" could be obtained by conducting a biography of the car, including information about, "the way it was acquired, how and from whom the money was assembled to pay for it, the relationship of the seller to the buyer, the uses to which the car is regularly put, the identity of its most frequent passengers and of those who borrow it, the frequency of borrowing, the garages to which it is taken and the owner's relation to the mechanics."[50] His model is a form of 'transactional history,' in which human relationships to the objects are examined as the objects changed hands. In this way, Kopytoff's framework suits an examination of the McGill museum's specimens, as they passed through numerous hands during their 'careers.'

Kopytoff's object-focused approach has been adopted and adapted by scholars in multiple humanities disciplines, though not without criticism. Those who critique this method argue that 'true' artifact studies should gain the majority of their information through the object itself – the materials it was made from, markings or indications of use, and its design and form.

"Introduction: Biographies, travels and itineraries of things," in *Mobility, Meaning & Transformations of Things,* eds. Hans Peter Hahn and Hadas Weiss (Oxford: Oxbow Books, 2013), 1-14.

[48]Igor Kopytoff, "The Cultural Biography of Things: Commoditization as Process," in *The Social Life of Things: Commodities in Cultural Perspective,* ed. Arjun Appadurai (Cambridge: Cambridge University Press, 2013), 66.

[49] Ibid.

[50] Ibid., 67.

Critics challenge the heavy reliance on textual evidence by scholars who have adopted object biography techniques.[51] Despite these critiques, object biography approaches are still widely used, and have made their way into the medical history field.

Samuel J. M. M. Alberti has adopted object-centred research methods for analyses of specimens within the medical museums of Britain, though in a modified manner. He has said that some researchers who have adopted object biography approaches have placed too much power on the objects, and in doing so they have obscured the role of the humans who interact with the objects. Alberti argues that, "people imbued things with value and significance, manipulating and contesting their meaning over time," suggesting that objects do not create meaning in isolation from society.[52] To mitigate this oversight, Alberti approaches much of his research by examining, "relationships between people and people, between objects and objects, and between objects and people."[53] I believe that this approach forms the ideal framework for an examination of the specimens within the McGill medical museum – one that uses an adapted object biography technique which considers the complex meaning-making processes that occurred through the interactions between objects and humans. For this reason, Alberti's book on the "career path" of specimens in British medical museums entitled *Morbid Curiosities* provides inspiration for this study.[54]

My analysis will not trace the path of a single specimen through time and space as traditional object biographies tend to do. Instead, I consider the specimens as a group, illustrated by some notable examples, as most of the specimens have followed very similar paths. In chapter

[51] Claire L. Jones, "Surgical Instruments: History and Historiography," in *The Palgrave Handbook of the History of Surgery*, ed. Thomas Schlich (London: Palgrave Macmillan, 2018), 245.
[52] Samuel J. M. M. Alberti, "Objects and the Museum," *Isis* 96, no. 4 (December 2005): 561.
[53] Ibid.
[54] Alberti, *Morbid Curiosities*, 23.

one I explore the origins of the specimens and the paths they followed before they arrived in the museum. I examine the processes of dissection and autopsy in Montreal, and I consider the routes of donated and internationally-collected specimens. Through these processes, the fragments transitioned from their roles as vital, functioning parts of a whole – as elements of a human being with an individual identity – to objectified specimens, manufactured for the benefit of the medical elite. In chapter two I follow the specimens as they became incorporated into the collection at the McGill medical museum. I examine the processes of preservation, cataloguing, and display, as the specimens were imbued with new meanings through their interpretations as objets d'art and as physical embodiments of medical 'facts.' Finally, in chapter three I explore the human-specimen relationships that persisted after the bodily fragments transitioned to museum objects. Once the specimens landed on the display shelves, their 'careers' were far from stagnant. I examine their roles as pedagogical tools, handled and manipulated by McGill medical students, I explore the transformation of some specimens to objects of historical significance, and I consider the displacement of some specimens from the core museum collection as they became elements of temporary exhibits.

An examination of the McGill medical museum which privileges the specimens in this way reveals much about the medicalization and objectification of the body in the long nineteenth century. Humans interacted with bodily fragments at each stage of their 'careers,' and imbued them with a range of meanings as they were ascribed new roles beyond their original functions. An analysis of these new meanings and the processes by which they were formed at the McGill medical museum allows for a much broader cultural study that encompasses conceptions of the body in life and death, and medical education and professionalization in nineteenth and early twentieth-century Montreal.

CHAPTER 1

Forming the Collection: Subjects and Objects

In 1910, three years after a major fire ripped through the McGill medical building known as 'Old Medical,' Maude Abbott mourned the loss of "the treasures of generations of teachers, and the fruits of the labours of so many individuals."[55] The specimens that had been preserved in jars and displayed on the shelves of the McGill anatomy and pathology museums represented decades of meticulous autopsy and dissection work conducted by McGill medical students, faculty members, and their international colleagues. The fire was not simply a loss of materialized medical knowledge, it was also an erasure of the products of long hours spent toiling over rapidly decomposing corpses. Though displayed with pride, the specimens followed arduous, sometimes seedy paths before they found their homes on the shelves. This chapter examines the 'lives' of the specimens before they landed on the museum technician's desk in Montreal. I will follow the locally-sourced specimens as they transitioned from their state as a functioning part of a living human to their roles as objects of interest embedded in subjects on the autopsy or dissection table. I will also consider the role of the international scientific network in the furnishing of the McGill medical museum.

Autopsies and the Search for 'Interesting Fragments'

The museum began with the birth of a boy named Isaac N. Throughout his short life of twenty-one years, Isaac carried with him the first specimen of the McGill Medical museum: his heart.[56] Isaac had come under the care of Montreal doctor Andrew F. Holmes, who attempted to

[55] Maude E. Abbott. *Curator's report of donations received in the museums of the Medical Faculty of McGill University: with descriptive list and index of specimens*, (Montreal: 1910).
[56] Holmes, "Case of Malformation of the Heart," 252. Though Holmes cites Isaac N's age as twenty-one, there has been some conflicting evidence indicating that he could have been older. Annmarie Adams spoke about this issue at a conference in 2019. Adams, "A spatial history of the Holmes heart."

treat the young man as he suffered from heart palpitations and violent attacks of chest pain and vomiting.[57] Following a long and valiant fight through advancing and compounding symptoms, Isaac passed away on February 9, 1822.[58] Throughout his account of Isaac's illness in the *Transactions of the Medico-Chirurgical Society of Edinburgh*, Holmes used the pronoun "he" when referencing his patient. When Isaac was placed on the autopsy table in front of the doctor, however, he became "the body."[59] As Holmes examined 'the body,' he found that the heart exhibited a rare congenital condition. Holmes removed the organ from Isaac's body and preserved it in a jar, thereby creating the first specimen of what became the McGill medical museum. Isaac lost ownership of his organ the moment that Holmes' knife hit his chest. His identity was displaced from his heart, as the specimen became an admired feature in the museum and a highly valuable teaching tool over the following centuries. Abbott wrote that the attraction to the heart laid in its "remarkable combination of interesting features and circumstances," which included the unique presence of three chambers in the organ, and the fact that the autopsy was performed in the year of the medical faculty's founding, in the presence of the faculty's founders.[60] The heart became known as the 'Holmes Heart,' and is still a central feature of the museum to this day.

Throughout the nineteenth century the primary means by which the McGill museum secured pathological specimens was through autopsies. A survey of the case studies attached to

[57] Ibid.
[58] The year of death is unspecified in Holmes' report. We know that Isaac passed away on February 9, and the report was published on March 5, 1823. Cardiologists Anthony R. C. Dobell and Richard Van Praagh have pointed out that the preparation of the manuscript and its transport by ship to Edinburgh for publication within a month seems quite short, thereby suggesting that the death could have occurred in 1822. However, there is no consensus. Anthony R.C. Dobell and Richard Van Praagh, "The Holmes heart: Historic associations and pathologic anatomy," *American Heart Journal* 132 (1996): 439.
[59] Ibid., 256.
[60] Maude E. Abbott, *Atlas of Congenital Cardiac Disease* (Montreal & Kingston, McGill-Queen's University Press, 2006, First published in 1936), vii.

the museum specimens demonstrates a continuity of attitudes towards the patients' bodies. Just as Holmes' view of Isaac changed from a human patient to an objectified body the moment he was placed on the autopsy table, Holmes' successors similarly detached the patient from the body the moment the patient passed away. The museum's catalogue entry for a ruptured fatty heart collected by McGill physician and pathologist William Osler at the Montreal General Hospital exemplifies this phenomenon in a similar manner as Holmes' report. The patient was a 60 year old brewer named R. T. who was an "active, ablebodied [sic] man."[61] One evening he felt faint while walking up the "St. Lawrence Main Street hill" on his way home from work, and he passed away the following morning.[62] Osler performed the autopsy with a colleague at the Montreal General Hospital. In the report in the museum's catalogue, the tone shifted between the clinical history and the post mortem description. The clinical history referred to the man as a whole entity, not a collection of parts experiencing failure. The post-mortem, however, strictly referred to the heart as a singular object. The man was no longer of concern. Instead, the heart became the main character.

Historian Samuel J. M. M. Alberti has pointed out that in many cases, "living bodies began to be objectified, pathologized, as soon as they were diagnosed."[63] This early objectification can also be seen in some of the McGill cases. In 1877 doctors Robert Palmer Howard and William Osler reported the case of Mr. H. H. W., a 60 year old merchant and politician who had first experienced cardiac complications in 1866 after a half-hour walk up a slight incline on his way to the railway station.[64] The doctors noted that following this incident,

[61] William Osler, "Rupture of Fatty Heart," *Myocardium* (1880), McGill University Archives, Medical Museum collection, RG 41, container 10, 38/81/1.
[62] Ibid.
[63] Alberti, *Morbid Curiosities*, 212.
[64] Robert Palmer Howard and William Osler, "Localized Fibroses of the Myocardium in Atheroma and Thrombosis of the Coronaries. From a Case of Augma Pections with Typical Attacks Extending over ten years. Death from failing Compensation," 1877, McGill University Archives, Medical Museums collection, RG 41-38-81-3.

Mr. H. H. W. was no longer able to walk quickly. The report refers to the patient by his name or with the pronoun 'he,' until the doctors report the patient's declining conditions in the two years before his death. They recorded that, "in the summer of 1876 the ankles began to swell…heart sounds feeble and free from murmur. Jugular veins distended…a diagnosis of 'weak fatty heart' was made. Died Sept. 29, 1876."[65] In this case, the patient's humanity was conceptually and rhetorically removed before his death, and his living body was viewed as a collection of pathological parts.

Though not new, the autopsy process became particularly salient in the nineteenth century as developments in the understandings of disease shaped physicians' and surgeons' perceptions of bodies as 'pathological parts.' French pathologist Xavier Bichat's understanding of disease as visible morbid changes of the tissues was fundamental to this process, as this new framework allowed for the localization of disease within the individual structures of the body. French physician René Laënnec took Bichat's theories a step further, as he sought to connect these physical changes which were visible after death with observable symptoms during life.[66] Laënnec's research involved extensive post-mortem work combined with an active clinical practice to bridge the autopsy room with the clinic.

The accumulation of a vast collection of bodily fragments obtained during autopsies represented this new knowledge in material and tangible form. In an 1897 pathological report from the Montreal General Hospital, pathologist Wyatt Johnston explained that autopsies produced a higher volume of unique pathological specimens than routine dissections because the relatives' consent was required before an autopsy was performed, and when a physician faced

[65] Ibid.
[66] L.S. Jacyna, "The Localization of Disease," in *Medicine Transformed: Health, Disease and Society in Europe, 1800-1930,* ed. Deborah Brunton (Manchester: Manchester University Press, 2004): 14.

"rare and exceptional cases…more trouble is naturally taken to obtain this consent."[67] In other words, the rarer the case, the more valuable and sought-after the patients' 'fragments' became. Of course, there were always exceptions to the rule where consent was not obtained despite the need for the body's highly-valuable parts. Osler for instance, was said to have performed a "covert autopsy" in order to obtain adrenal glands from a patient with Adison's disease as teaching specimens.[68] The procedure, performed under the cover of nighttime darkness, required Olser to grease his forearm, insert his hand into the body's rectum, and break the wall behind the rectum in order to reach the "coveted teaching specimen."[69] The body therefore, was simply the receptacle within which the specimen was contained.

The Osler collection became, and remains, one of the most prized assemblages in the McGill museum. Born in Bond Head, Ontario, Osler began his medical training in Toronto, though he transferred and completed his degree at McGill in 1872 where his interest in the study of pathology began.[70] Reflecting on Osler's training, Maude Abbott wrote that the specimens displayed in the museum during his studentship were "among the sources on which his genius fed, and from which he drew his inspiration."[71] His post-graduate training overseas subsequently built upon this fascination through visits to major European sites of pathological innovation. During a fifteen month stay in London, Osler regularly visited the pathology museum at Guy's Hospital, and attended museum classes which centred on the study of diseased organs through

[67] Wyatt Johnston, *Pathological Reports: Montreal General Hospital No. III , Reference Index of Post-Mortems from 1883-1895* (Montreal: Gazette Printing Co., 1897), iv.
[68] James R. Wright Jr, ""Osler Warned": Was William Osler a Grave Robber While at McGill or Was He a Victim (or Perpetrator) of One Final Practical Joke?" *Clinical Anatomy* 31 (2018): 633.
[69] Ibid.
[70] Bliss, *William Osler*, 64.
[71] Maude E. Abbott, "The Pathological Collections of the Late Sir William Osler and his Relations with the Medical Museum of McGill University," *The Canadian Medical Association Journal,* The Osler Memorial Number (July 1920), 3.

the examination of museum specimens.[72] Following his stay in London, Osler continued to the German-speaking centres of pathological innovation – Berlin and Vienna – where eminent pathologists Rudolf Virchow and Carl von Rokitansky were producing significant innovations in the field. In Berlin, Osler attended demonstrative courses in pathology conducted by Virchow, in addition to Virchow's Monday morning post-mortem examinations.[73] Following his post-graduate training, Osler secured a position as a lecturer of the Institutes of Medicine (physiology, pathology, and histology), and a year later he became the chair of that department. The knowledge he obtained overseas came with him to Montreal.

Almost immediately upon his return to Montreal Osler began conducting autopsies at the Montreal General Hospital. Neurosurgeon and biographer Harvey Cushing recalled that Osler "had been still more influenced during his brief sojourn in Berlin by Virchow," and that, "in unravelling the mysteries of a fatal malady he felt the same profound fascination that had kept Bichat, Laennec, and many other brilliant and industrious young men for years at the autopsy table."[74] In 1876, Osler's extensive autopsy practice led to his appointment as the official Pathologist to the Montreal General Hospital.[75] He continued to perform autopsies at a dizzying rate throughout his time at McGill. By the time he left Montreal in 1884 he had conducted 780 to 790 autopsies at the Montreal General Hospital, the products of which doubled the existing museum collection.[76] Abbott mused that during his time at McGill, Osler "was not only a pathologist, but also, essentially and to a remarkable extent, a museum collector."[77] To Osler, the

[72] Ibid., 69.
[73] Harvey Cushing, *The Life of Sir William Osler, vol. 1* (Oxford: Clarendon Press, 1926): 110.
[74] Ibid., 146.
[75] Ibid., 71-72.
[76] Joseph Hanaway and Richard Cruess, *McGill Medicine, Volume 1: The First Half Century 1829-1885* (Montreal & Kingston: McGill-Queen's University Press, 1996), 72; Cindy Stelmackowich, "Gender, Fate and McGill University's Medical Collections: The Case of Curator Maude Abbott," in *The Fate of Anatomical Collections*, eds. Rina Knoeff and Robert Zwijnenberg (London & New York: Routledge, 2016), 55.
[77] Abbott, "The Pathological Collections of the Late Sir William Osler," 2.

diseased organs of the unlucky hospital patients represented material forms of pathologic knowledge, which were to be meticulously prepared and documented. Abbott explained that "each specimen has been neatly chiselled down by him to show the lesion freed from encumbering details, and remains of pathological interest in the advanced knowledge of-today."[78] In this way, the autopsy was not just a process by which knowledge could be produced or obtained; it was an art, and Osler's 'chiselled' specimens were his artworks, placed on display in the museum. One such 'chiselled' specimen was the ruptured fatty heart collected by Osler. The autopsy revealed a large clot in the heart, a laceration on the surface of a ventricle, and an advanced stage of "fatty degeneration."[79] Osler carefully and artfully removed the heart from the

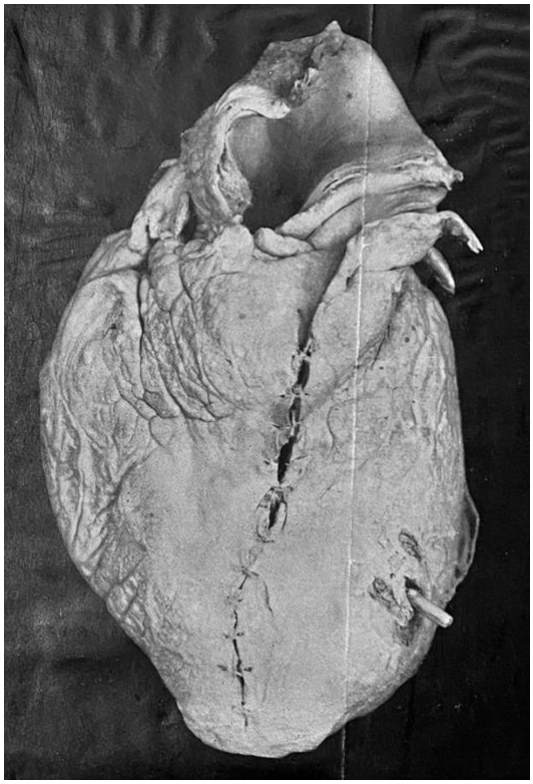

Figure 1: Photograph of the ruptured fatty heart, post-autopsy, before mounting, 1880, McGill University Archives, Medical Museum collection, RG 41, container 10, 38/81/1.

[78] Ibid.
[79] William Osler, "Rupture of Fatty Heart."

body, in the first stage of its transformation from a vital organ of an active Montreal brewer to a preserved museum specimen (Fig. 1).

The autopsy method that Osler followed was developed by Virchow, who similarly considered the process to be an art. According to pathologist Walter G. J. Putschar in his introduction to a 1973 reprint of Virchow's book *Post-Mortem Examinations,* autopsies before Virchow's developments were typically performed by unqualified individuals in unsystematic methods, often for the sole purpose of examining single organs of interest.[80] Virchow instituted a systematic set of protocols in which the body was thoroughly and carefully examined. Putschar notes that this technique was specially developed in part to ensure that all observable changes could be preserved for display in a museum.[81] This new approach was also designed to be distinctly different from anatomical dissections in the ways in which the performer handled the knife. Virchow explained that, "in the ordinary way of making preparations [for anatomical dissections], the young student is taught to hold his knife as he would a pen. The object is to make short, fine cuts, in order to expose muscles, nerves and vessels, and to follow them out and show them clearly."[82] By contrast, he suggested that, "an autopsy in which short incisions only are employed, is an unduly tedious affair…In examinations for pathological purposes, we save time, and gain increased insight and clearness [sic], by making free incisions."[83] He continued, "for all ordinary purposes of pathological dissection I now grasp the handle of the knife in the palm of my hand, so that when I stretch out my arm the blade appears as a direct prolongation."[84]

[80] Walter G. J. Putschar, "Introduction," in *Post-Mortem Examinations and The Position of Pathology Among Biological Studies* by Rudolf Virchow (New Jersey: Scarecrow Reprint Corporation, 1973): iv.
[81] Putschar, "Introduction," iv.
[82] Rudolf Virchow, *Post-Mortem Examinations and the Position of Pathology Among Biological Studies,* translated by T.P. Smith (Philadelphia: P. Blakiston, Son & Co., 1896): 35.
[83] Ibid., 36.
[84] Ibid.

Virchow's instructions therefore, added an additional element to the metaphor. While the autopsy was the art form and the specimens were the artworks, the knife was the artists' tool.

Though Osler conducted a vast amount of autopsies privately, he also integrated the procedure into the curriculum for McGill's medical students. Early in his teaching career at McGill, Osler instituted post-mortem courses based on Virchow's systematized approach.[85] Osler and his students performed autopsies for the Montreal General Hospital in an outbuilding behind the hospital which contained a small stove, "a wooden table, a bucket of warm water and a meagre supply of instruments."[86] The Faculty of Medicine annual announcements described these courses in the following manner: "The Autopsy Room of the General Hospital is in the charge of the Professor [Osler], and the post-mortems are performed by the Students in rotation, under his supervision. System and thoroughness in inspection are insisted upon, the method followed being that of Virchow."[87] The methodical instruction of Virchow's technique functioned as a way to train students to view the body as system of interworking fragments which have value both inside and outside of the body, and to develop the practical skills required to perfect the art of the autopsy.

Collecting and Dissecting 'Subjects'

Autopsies effectively provided the McGill museum with unique pathological specimens; however, the bulk of the anatomical or 'normal' specimens were derived from dissections.[88] Though generally different from autopsies, dissections were similarly viewed as an art. For

[85] Bliss, *William Osler*, 86.
[86] Geo E. Armstrong, "Student Reminisces-Montreal Period," *Bulletin of the International Association of Medical Museums: Sir William Osler Memorial Number* IX (1926): 176.
[87] McGill University, *50th Annual Announcement of the Faculty of Medicine, Session of 1882-83* (Montreal: John Lovell & Son, 1882): 6.
[88] This is not to say that dissections never resulted in unexpected findings. See for example: Francis J. Shepherd, *Notes of Abnormalities Observed in the Dissecting-Room of McGill University, From October, 1875, to May, 1897* (Montreal: Gazette Printing Company, 1880).

example, the McGill Faculty of Medicine annual announcement for the 1856-57 school year explained that, "the Demonstrator of Anatomy will be in attendance, and devote himself assiduously to the instruction of the pupils in the art of dissecting, and the acquisition of anatomical knowledge."[89] However, historian Michael Sappol describes the art metaphor slightly differently for dissections. He explains that, "the body became a canvas; the dissection became a work of art, the student an artist."[90] In his description, the dissectors' incisions on the body, not the body's rescued fragments were the works of art. In fact, Mary Hunter has drawn attention to the connections that were frequently made between dissectors' tools and the tools of artists and writers in the nineteenth-century.[91] The art of performing clean and thorough dissections was so valued that the McGill Faculty of Medicine awarded prizes for students who executed the "best examination on the fresh subject."[92] Contrasting the treasure hunt of the autopsy, most of the specimens preserved from dissections were considered commonplace. Therefore, the cadavers used in dissections were typically less valued for their 'interesting fragments,' and were instead valued for their roles as 'subjects' on which anatomy students could perfect their art.

Of course, there were exceptions to these routine dissections. Sometimes the lines between dissections and autopsies were blurred, particularly when they were performed outside of educational contexts. For instance, an infant born with "Iniencephalus with dorsal and lumbar Spina Bifida and Notencephalus" was dissected by gynaecologist Dr. A. R. Griffith, and was

[89] McGill College, *Annual Announcement of the Faculty of Medicine of McGill College, Montreal, for the Session 1856-57* (Montreal: John Lovell, 1856), 7.
[90] Michael Sappol, *A Traffic of Dead Bodies: Anatomy and Embodied Social Identity in Nineteenth-Century America* (Princeton: Princeton University Press, 2002): 80.
[91] Mary Hunter, "Intern, Orderly, Artist Corpse: Emerging Masculinities in Henri Gervex's *Autopsy at Hôtel-Dieu*," *Oxford Art Journal* 38, no. 3 (2015): 419.
[92] McGill University, *Annual Calendar, Faculty of Medicine: 53rd Session 1885-86* (Montreal: John Lovell & Son, 1885), 35.

preserved for use in the McGill medical museum (Figs. 2 & 3).[93] The dissection was undertaken

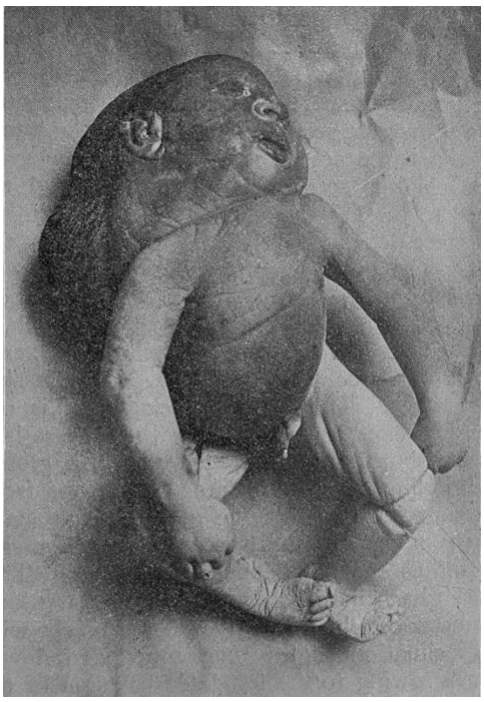

Figure 2: Photograph of a case of iniencephalus, anterior view, pre-dissection, ca. 1905. McGill University Archives, Medical Museum collection, RG 41 38/81/6.

Figure 3: Photograph of a case of iniencephalus, posterior view, pre-dissection, ca. 1905. McGill University Archives, Medical Museum collection, RG 41 38/81/6.

to better understand the malformations of the body and to create an effective and striking display of the rare pathology, not to learn the cause of death. Griffith's report in the *Vermont Medical Monthly* explained the appearances of each body part, normal and abnormal, in a similar manner to an autopsy report; however, the completed dissection was described to have been undertaken to show the "opening in occipital bone, interior of skull, lateral rotation of skull to the left, and attachment of the left side of the occipital bone to the lateral processes of the cervical and 12th dorsal vertebrae (Fig. 4)."[94] Indeed, the post-dissection photograph reveals this careful operation, in which the right side of the infant's skull had been cut away, showing the interior structures of

[93] Maud E. Abbott [sic] and F. A. L. Lockhart, "Iniencephalus," reprinted from the *Vermont Medical Monthly* (December 25, 1905 and January 15 1906): 30-38, McGill University Archives, Medical Museum collection, RG 41 38/81/6.
[94] Ibid., 38.

the remaining parts of the skull, and the skin was removed from the shoulders to the hips, revealing the ribs, spine, and connective tissues. This rare condition, which presented itself

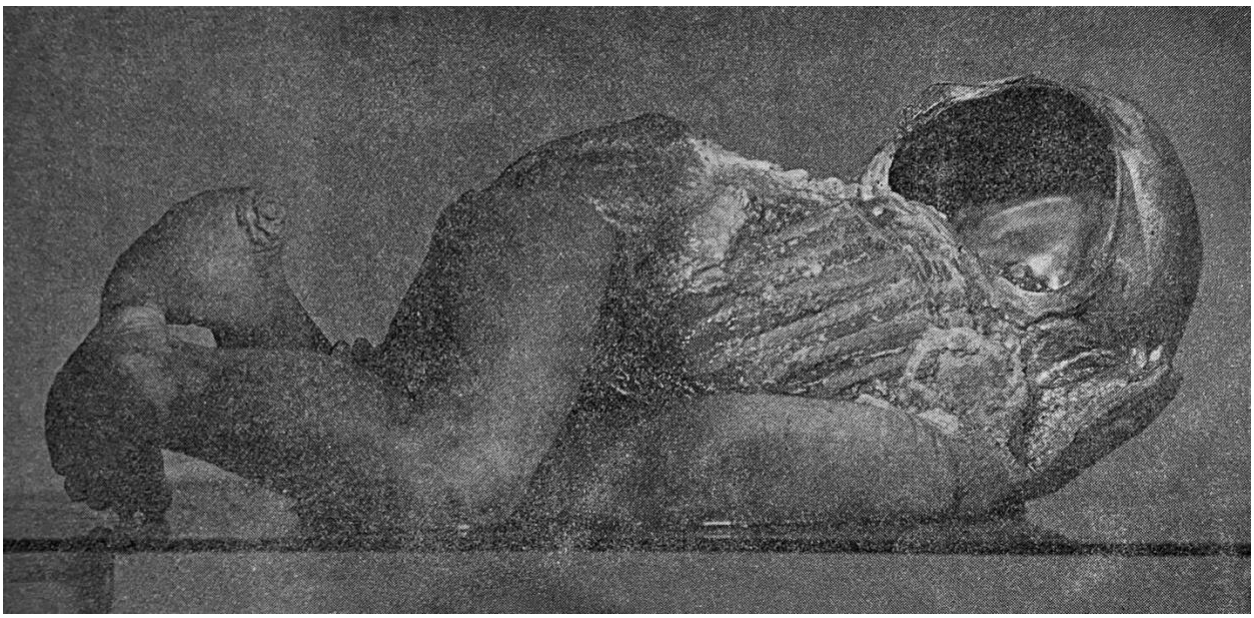

Figure 4: Photograph of a case of iniencephalus, post-dissection, ca. 1905. McGill University Archives, Medical Museum collection, RG 41 38/81/6.

during Griffith's routine practice, created a learning opportunity for Griffith and for the readers of his report as he recorded his findings similarly to detailed autopsy reports. However, the strategic dissection was undertaken with the goal of creating a striking yet informative specimen for the museum.[95]

Before medical practitioners could undertake such dissections in their own practices, they were required to perform a prescribed number of dissections as students. These procedures had long been staples of medical education. Their role as a practical means for the student to map out and identify the structures of the body remained the focus of official publications and lectures delivered by professors and anatomists throughout the nineteenth century; however, many

[95] The museum currently holds a specimen exhibiting the same pathology, which is associated with the same original catalogue number as Griiffith's specimen. However, upon examining the specimen with curator Richard Fraser, it was determined that it did not match the photos in the report based on the dissection cuts. As of May 2022, the current location of the specimen in Griffith's report is unknown.

historians have revealed the complexities of their functions. Rachel N. Ponce for instance, has uncovered the weaknesses of cadaveric research and dissections, running contrary to the typical scripts espoused by professors. She has shown that while professors sought to convey the "beauty and elegance" by which cadavers freely displayed the nature of the human body, the students were instead required to perform dissections in putrid rooms clouded by odours of chemicals and putrefaction, with cadavers that may have been temporarily preserved, thereby lessening their likeness to nature.[96] Ponce further argues that physicians and professors remained committed to the process of dissections as a way to "align themselves with the profession's most distinguished researchers, those who had skillfully teased much needed knowledge from the cadaver and enabled the profession to separate itself from the rampant errors of the past."[97] The cadaveric body therefore, symbolized a tradition for the professors, whereby the dissector could embody their idolized predecessors as they manipulated the subject on the table. Similarly, Sappol explains that, "in the dissecting room, the student was asked to retrace the explorations of the anatomical greats, and in doing so invested himself with their greatness."[98]

Michael Sappol and Ruth Richardson have also examined the social dimensions of dissections as rites of passage that attempted to desensitize and masculinize the medical student. A fundamental requirement for the execution of proper dissections was the dissector's detachment from the human body in front of him. As Richardson explains, "the study of anatomy by dissection requires in its practitioners the effective suspension or suppression of many normal physical emotional responses to the wilful mutilation of the body of another human being."[99]

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[96] Rachel N. Ponce, ""They Increase in Beauty and Elegance": Transforming Cadavers and the Epistemology of Dissection in Early Nineteenth-Century American Medical Education," *Journal of the History of Medicine and Allied Sciences* 68, no. 3 (July 2013): 338.
[97] Ibid., 375.
[98] Sappol, *A Traffic of Dead Bodies*, 78.
[99] Ruth, Richardson, *Death, Dissection and the Destitute*, (London: Routledge & Kegan Paul, 1987), 30.

Therefore, not only was the cadaveric body a tool by which to obtain anatomical knowledge, it also functioned to train the students' emotional responses and shape them into stoic medical practitioners. Sappol has taken this understanding a step further, arguing that, "mastery of the dead body – the display of clinical detachment in the dissecting room, the will to dissect – is thus equated with masculine honor."[100] According to Sappol, the act of dissecting was considered a "masculine performance," whereby successful performers concealed their 'feminine' emotions of fear or mournfulness.[101] While this behaviour was widely idealized, historian Michael Brown complicates this notion in his forthcoming book as he shows how many surgeons showed emotion in their practice.[102] As the students attempted to enact a carefully-defined form of masculinity within the shared experience of dissections, a "fraternity of dissectors," was often formed, composed of young men who were "masters of the body through reason and force of will."[103] Hunter has similarly considered this 'masculine performance' through Henri Gervex's 1876 painting of a Paris autopsy. She argues that the "guise of medical objectivity" obscures any suggestion of emotion or "homoerotic yearning" which may have resulted from the dissectors' interactions with the naked male body.[104]

While we lack the narrative sources from McGill students that would confirm their experiences and thoughts, a staged dissection image from the McGill Faculty of Medicine demonstrates these themes, and suggests that the McGill medical student experience was likely similar to those examined by Sappol, Hunter, and Richardson (Fig. 5). The 1884 photograph matches those collected by John Harley Warner and James M. Edmonson in their richly

[100] Sappol, *A Traffic of Dead Bodies,* 217.
[101] Ibid.
[102] Michael Brown, *Emotions and Surgery in Britain, 1793-1912* (Cambridge: Cambridge University Press, 2022).
[103] Ibid.
[104] Hunter, "Intern, Orderly, Artist Corpse," 410.

illustrated book *Dissection: Photographs of a Rite of Passage in American Medicine 1880-1930.*[105] The photographs in their book demonstrate the phenomenon of student dissection photography which were thoughtfully staged and filled with allegorical imagery, and which

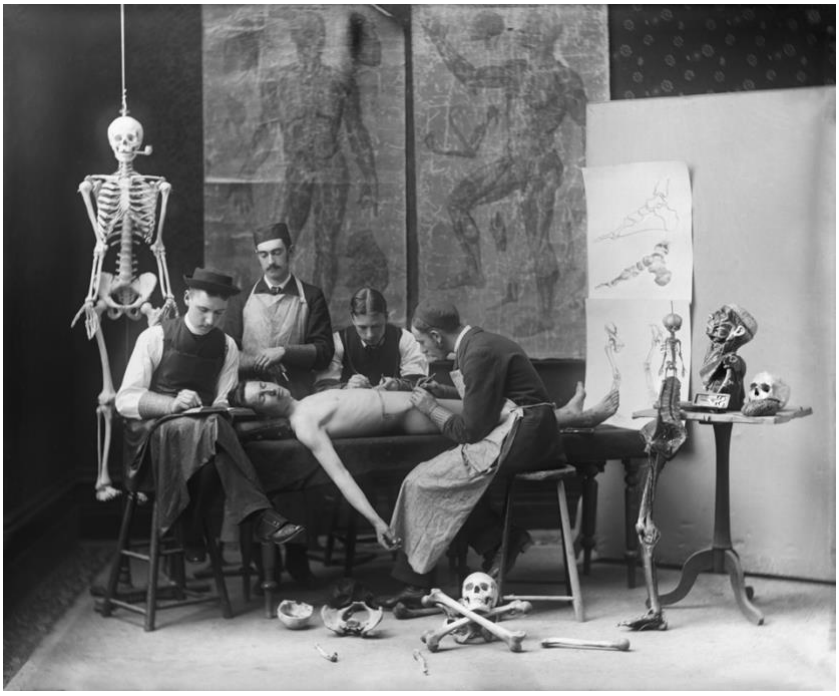

Figure 5: Anatomy study, McGill medical students, Montreal, QC, photograph by Wm. Notman & Son, 1884, McCord Museum, II-73328, public domain.

highlighted the fraternal bonds formed through the process of dissection. The McGill image contains these same allegorical symbols, including the intentionally-placed skull and crossbones. The four medical students surround the cadaver with calm composure. Furthermore, similar to the Gervex painting analysed by Hunter, two of the male students are shown dissecting the cadaver's lower abdomen close to the groin, though as Hunter argues, the 'guise of medical objectivity' obscures any suggestion of homoeroticism. This photograph helps to fill some of the gaps left behind by the lack of textual sources regarding students' attitudes towards dissection at McGill. The cadaver acted as a tool to educate the students on anatomical structures, yet it also

[105] John Harley Warner and James M Edmonson. *Dissection: Photographs of a Rite of Passage in American Medicine, 1880-1930* (New York: Blast Books, 2009).

carried complex emotional and social implications within the medical space. The deceased body functioned as a social regulator to train young doctors and surgeons to suppress 'homoerotic yearnings' and emotions, and to perform as stoic and masculine figures of authority and power.

As highly coveted tools, cadavers were required by medical schools in sizeable and steady supplies. The needs of the McGill Faculty of Medicine were no exception. While a significant body of scholarship including Richardson's and Sappol's monographs has extensively explored the social, political, and cultural ramifications of the urgent need for bodies in nineteenth-century Britain and America, considerably less scholarship has examined these issues in a Canadian context.[106] All McGill medical students were required to complete a series of dissections in order to qualify for their degrees – a requirement that not only functioned as a way to obtain practical anatomical knowledge, but also to keep pace with their prestigious European counterparts. As extensive dissection provisions and facilities became a mark of a well-endowed medical school, a steady stream of bodies served the dual purpose of supplying educational tools for the students while boosting the schools' reputations.[107] In order to attract prospective students, McGill's annual announcements ensured students that the school was well-equipped with an "ice-house" within which cadavers were stored, and that "arrangements have been made by which a plentiful supply of subjects will be constantly procured."[108] These 'arrangements,' however, often involved illicit and unsavory activities that mirrored the sordid tales from American and British medical schools.

[106] For the most comprehensive accounts of nineteenth-century dissections in Quebec, see: Martin Robert, *La fabrique du corps médical, dissections humaines et formation médicale dans le Québec du XIXe siècle*, PhD thesis, Université du Québec à Montréal, 2019, and Robert, "L'émetue des femurs."
[107] Sappol, *A Traffic of Dead Bodies,* 116.
[108] McGill College, *Annual Announcement, 1856-57,* 7; 11.

An ever-present conflict between the needs of the medical schools and the social and moral treatment of the deceased created much tension in Europe and North America in the nineteenth century. Richardson has pointed out that British medical practitioners and the public had come to agree on the need for students to develop "dexterity in surgical technique," and that this skill was best obtained through practice on cadavers as opposed to the bodies of living patients."[109] However, the mode by which the practice subjects were obtained was highly controversial. Stories abounded of families discovering that the graves of their loved ones had been desecrated by grave-robbers or resurrectionists, who sold the bodies to medical schools to use as dissection subjects. In 1828, eminent British anatomist Sir Astley Cooper was clear about the practice of purchasing bodies for dissections, stating that, "the anatomists of London were completely at the feet of the resurrection men."[110] As the demand for bodies increased and riots amongst furious citizens came to a violent head, England enacted their seminal Anatomy Act in 1832, which aimed to legally provide medical schools with a sufficient supply of bodies without the need to rely on resurrectionists.

Just over ten years later, the Legislative Assembly of the Province of Canada passed its own anatomy act in 1843.[111] The act stated that "the bodies of persons found dead publicly exposed, or who immediately before their death shall have been reported in and by any Public Institution receiving pecuniary aid from the Provincial Government, shall be delivered to persons qualified as hereinafter mentioned, unless the person so dying shall otherwise direct."[112] In other words, the hospitals, jails, and asylums that received government funding were to report any deaths that occurred within their institutions, and the bodies of the deceased would subsequently

[109] Richardson, *Death, Dissection and the Destitute*, 120.
[110] House of Commons, Great Britain, *Report from the Select Committee on Anatomy*, (London: 1828), 17.
[111] Lawrence, ""Resurrection,""408.
[112] Ibid., 408.

be sent to the medical schools. However, a significant flaw of the act was that there were no penalties for non-compliance. Therefore, few institutions followed the act, and a deficit of cadavers remained. An anonymously-written editorial in an 1883 edition of the *Canada Medical and Surgical Journal* proclaimed that, "we are informed that the authorities of the Lunatic Asylum at Longue Point have been burying yearly, thirty or forty unclaimed bodies of friendless patients dying there. And why? Is it because it pays better to get ten or twelve dollars for burying a body than to notify the Inspector of Anatomy and get nothing?"[113] Indeed, in his scathing account of McGill's anatomy practices, surgeon and anatomist Francis J. Shepherd recalled that "the only institution which fulfilled the law was the Montreal General Hospital which religiously handed over to McGill all unclaimed dead."[114] Though money may have played a role in the decision to bury the deceased rather than to notify the Inspector as the anonymous writer suggested, it is also possible that religion may have influenced these practices. The asylum, for instance was a Catholic institution, run by the Sisters of Providence.[115] The Montreal General Hospital, on the other hand, was not founded upon religious principles, which makes Shepherd's word choice rather ironic.

Despite the 1843 act, McGill's anatomy professors were still in desperate need of bodies, and therefore continued to rely on the work of resurrectionists. Shepherd claimed that during his student days from 1869 to 1873, "nearly every subject for dissection was obtained illegally, by the old method of 'body-snatching.'"[116] Upon his return to the school two years later as a Demonstrator of Anatomy, Shepherd found that he was forced to accept exhumed bodies from

[113] "Wanted – A New Anatomy Act," *Canada Medical and Surgical Journal* 11, no. 8 (March 1883): 501; McGill's dissection room records, discussed below, indicate that many bodies were sent to the school from the Longue Point Lunatic Asylum. These records began shortly after changes in legislation were imposed in April 1883.
[114] F. J. Shepherd, *Anatomical Reminisces* (Montreal: printed for private circulation only, 1919), 1.
[115] A. Bellay, *Histoire de L'Hospice St-Jean-De-Dieu a la Longue-Pointe* (Montreal: Arbour & Laperle, 1892).
[116] Shepherd, *Anatomical Reminisces,* 1.

resurrectionists due to the shortage of legally-supplied bodies. He recalled that most of the body-snatchers were French medical students who used the thirty to fifty dollars they earned per body to pay for their medical school fees.[117] Most of the bodies used by Shepherd were exhumed from the Cote des Neiges Catholic Cemetery. He explained that,

> The dead poor, not being able to pay expenses of the vault, were buried in winter in very shallow graves in a certain corner of the cemetery, and those freshly made graves were marked by the guardian and the students went up at night, disinterred the bodies, buried usually the previous morning, removed all clothing, wrapped them in blankets and tobogganed them down Cote des Neiges Hill. Many weird tales are told of accidents and the bodies rolling off the toboggan.[118]

The cemetery effectively severed any ties between the clinic and the dissection table where the patients' humanity may have lingered through case notes associated with the body. If the body had not been objectified by physicians before death, it certainly became so, as resurrectionists eagerly snatched the cadaver from the soil in exchange for a paycheck.

Just as the practice of body-snatching led to public outrage in Britain, the indignation of the Quebec public grew as the incidents of illegal exhumation became increasingly apparent. The anonymous author in the 1883 *Canada Medical and Surgical Journal* editorial lamented,

> During the present Winter Session, hardly a week has passed without some body-snatching case being reported in the newspapers. In former years, although, probably quite as many bodies were snatched, the work was more skillfully done and fewer scandals came to light. The reckless way that, during this winter, vaults have been broken into and graves rifled out their contents, has given rise to a considerable amount of popular resentment and a demand for more stringent measures for the detection of the culprits on the one hand and a more efficient carrying out of the Anatomy Act on the other.[119]

While the body-snatchers' work was becoming sloppy and was attracting the attention of the public, the fact that vaults were broken into meant that the wealthier public was also becoming

[117] Ibid.
[118] Ibid., 2.
[119] "Wanted – A New Anatomy Act," 501.

vulnerable to the dissectors' knife. The threat of having one's body stolen by body-snatchers and defiled by medical students had previously been a matter of concern for the poor, who were unable to afford more secure burials. As the threat grew to include the members of society with a higher degree of affluence, public officials took notice.

In April of 1883, an amendment to the act was imposed, which included a punitive clause for institutions who did not report their dead. The amendment stated that any institution that failed to notify the Inspector of Anatomy of a body would be fined $100 to $200, and that medical schools would be similarly fined if they were found in possession of a body not obtained legally through the inspector.[120] The Inspectors were to "impartially" distribute the reported cadavers to medical schools in relative proportion to their student body, and in exchange, the Inspectors would receive $10 for each supplied body.[121] Historian Martin Robert points out that a few isolated cases of graverobbing occurred after this amendment; however, he suggests that the 1883 act was impactful enough to almost completely eliminate these activities.[122] These strict measures meant that all persons involved were encouraged to keep meticulous notes of all transactions in order to prove the legality of their activities and to avoid fines. The new amendment was enacted in the same month that Richard Lea MacDonnell was appointed Demonstrator of Anatomy at McGill, and from the outset he recorded all annual purchases in a ledger scribbled at the back of the dissecting room records. For instance, he listed the "purchase of 44 subjects" for $445.00 during the 1887-1888 school year, alongside other expenditures like "petty disbursements" and "Drugs & Chemicals."[123]

[120] "The New Anatomy Act," *Canada Medical and Surgical Journal* 11, no. 9 (April 1883): 565.
[121] Ibid.
[122] Robert, "L'émeute des femurs," 541.
[123] Medical Faculty, McGill College, *Dissecting Room Record: 1883-1891*, unpublished.

The process of dissection, therefore, attached a range of meanings to the deceased body and its fragments. To students, the body was simultaneously an educational tool by which they could obtain medical knowledge, as well as a social tool against which their masculinity and ability to control their emotions were measured. Students further attempted to assert their dominant social position as masters of the body through interactions with cadavers, which contributed to the formation of fraternal bonds. Through the process of furnishing the dissection room with cadavers, bodies were also highly objectified by students and professors as they were viewed as objects within a monetary exchange system. Alberti has drawn connections between the objectification of cadavers and the objectification of the living body through slavery and pornography, suggesting that "human remains, like the objectified living, are treated as instruments; they are fungible; they are violated and dismembered; and they are treated as property."[124] Cadavers and the potential museum specimens they contained were assigned monetary values through the black market, and the body's role as a benefit to the economy was subsequently solidified though the policies imposed by the 1883 amendment. The value of the removed specimens were also assigned separate valuations from the whole body. The McGill museum for instance, recorded an estimated value of $20,000 for "6000 specimens in glass jars, mounted and unmounted" in 1918.[125] Historian Erin Hunter McLeary has pointed out that, "the poor's lack of money that made them unable to control the disposition of their bodies was ironically linked to that same body's monetary worth in the museum market."[126] The bodies of

[124] Alberti, *Morbid Curiosities,* 101.
[125] Medical Museum, McGill University, "Estimated Value of Museum Furniture, Equipment and Specimens in the Medical Museum, McGill University," June 16, 1918, McGill University Archives, Medical Museums collection, RG 41-38-80-3.
[126] McLeary, *Science in a Bottle,* 109.

the poorer classes were therefore represented in fragmentary form in the McGill museum, poised to serve the educated elite after death.

International Sources and Donation Networks

Supplementing the specimens collected in the autopsy and dissection rooms in Montreal were large numbers of specimens derived from international sources. A significant number of specimens were donated to the McGill museum from individual collectors or established medical museums. Alberti suggests that, "gifted body parts brought with them to collections different meanings and value than those that arrived straight from the ward. For giving is rarely altruistic."[127] While Abbott argued that a museum should "constitute a storehouse of scientific facts," and that the "personality of their creator" should remain separate, specimen donations were pivotal for the development of the McGill museum, and as such, their donors were often celebrated.[128] Though donated specimens were not displayed separately from those collected by dissection or autopsy locally, they were nonetheless distinguished through reports, faculty announcements, and catalogues.

A common theme explored by many historians of medical museums is the notion that specimens were commodities within an intellectual exchange network. Lisa O'Sullivan and Ross L. Jones for instance, have interpreted these nineteenth-century specimens as "prized intellectual anatomical currency," by which scientific collectors were bound.[129] This idea is two-pronged; First, there is the notion of specimens as commodities, and second is the conception of the intellectual exchange network. I have touched on the monetary value of specimens and the processes by which human bodies were transformed into commodities; however, the role of

[127] Alberti, *Morbid Curiosities*, 85.
[128] McLeary, *Science in a Bottle*, 236.
[129] Lisa O'Sullivan and Ross L. Jones, "Two Australian Fetuses: Frederic Wood Jones and the Work of an Anatomical Specimen," *Bulletin of the History of Medicine* 89, no. 2 (2015): 258.

specimens as currency within cultural, social, and intellectual exchange networks warrants further consideration.

Prior to 1907, the majority of the specimens in the museum were derived from the work of doctors working in Canada. Though the Faculty of Medicine's annual announcements acknowledged that the faculty was "greatly indebted to many medical men throughout…different parts of the world for important contributions to the Museum," these international donations only appeared sporadically in the donation lists included in the announcements.[130] These slow rates of out-of-country donations drastically changed in 1907, however, due to two key events in the museum's history: the devastating fire, and the concurrent formation of the International Association of Medical Museums.

In the morning of April 16, a raging fire ripped through the medical building, destroying thousands of valuable specimens in the pathological and anatomical collections. An anonymous author of an editorial in the *Montreal Medical Journal* likened the fire to "the disasters in a Greek tragedy."[131] The author explained the damage as such:

> The pathological museum is destroyed, save for the front room in which most of the specimens are safe. The anatomical department is completely destroyed…The loss falls with especial weight upon Dr. Shepherd who has seen the work of a lifetime destroyed. Not a vestige of his precious collection of anatomical specimens remains. It is appalling to think that the splendid examples of diseases of the osseous system, which were displayed at the last meeting of the Canadian Medical Association in Montreal are gone forever.[132]

Abbott tallied more than two thousand specimens were destroyed in the pathological collection alone.[133] Among the losses were "the whole collection of Salivary, Biliary, Pancreatic, Renal,

[130] McGill University, *Faculty of Medicine Annual Calendar: Sixty-Seventh Session 1899-1900* (Montreal: John Lovell & Son, 1899), 76.
[131] "New Disaster to McGill," *Montreal Medical Journal* 36, no. 5 (May, 1907): 333.
[132] Ibid., 334.
[133] Abbott, *Curator's Report,* 4.

Vesical, Prostatic Calculi, and Enteroliths," the obstetrical and gynaecological collections, and a number of heart anomalies.[134] Approximately one thousand specimens were saved from the fire, which formed the new nucleus of the McGill collection; however, the losses were significant.[135]

Alberti argues that a consequence of the systematic collection and display of bodily fragments in museums is that they were "universalized, becoming metonymic for all examples of a particular malady."[136] While McGill certainly valued the specimens collected by its own staff, they were nonetheless replaceable with similar specimens from other sources, so long as they represented the same pathologies. The bodily fragments, therefore, were first divorced from their individual human identities as they were removed from the body, and were further detached from their new identities as specimens within particular collections, as they became exchangeable and replaceable. So long as the McGill museum could quickly find replacements for the specific pathologies they had collected previously, they would be able to restore the museum to its former glory.

By a matter of sheer coincidence, the International Association of Medical Museums was gearing up to release its first bulletin around the same time that the fire ripped through the museum, thereby providing the ideal forum for Abbott to publish a plea for support. Abbott was secretary and treasurer of the association, which was to be composed of "active workers connected with leading Medical Museums."[137] The first meeting was held in 1906, where the organizing committee established that the goal of the association was to facilitate the "interchange of Museum material."[138] As Abbott was the chief editor of the association's

[134] Maude E. Abbott, "Appeal for Specimens for the Medical Museum of the McGill University," *Bulletin of the International Association of Medical Museums* 1 (May 15, 1907).
[135] Abbott, *Curator's Report,* 4.
[136] Alberti, *Morbid Curiosities*, 98.
[137] Maude E. Abbott, "Introductory Statement," *Bulletin of the International Association of Medical Museums* 1 (May 15, 1907).
[138] Ibid.

Bulletin, she grasped the opportunity to shape the first edition around the needs of her museum. She provided a detailed list of lost assemblages, which, she plead, "Pathologists are earnestly asked to assist in replacing, by the contribution of duplicate specimens or of material that can be spared from their own Institutions."[139] Through the establishment of this forum, museums around the world could rid themselves of duplicate (disposable) specimens, to help their colleagues fill gaps in their collections. Therefore, some specimens were interchangeable, exchangeable, and replaceable within the professional network.

By 1910, Abbott reported the donations of three thousand pathological and three hundred anatomical specimens, with donations from the Army Medical Museum in Washington, the Museum of St. Bartholomew's Hospital in London, Professor Orth of Berlin, and a promised donation from Arthur Keith of the Royal College of Surgeons in London.[140] Notably, Abbott listed the specimens which were received from "institutions abroad" before the specimens received from local institutions.[141] International donations continued to be received by Abbott for decades after the fire, and as Abbott's exquisite knowledge of cardiac anomalies became widely recognized by the 1930s, many heart specimens were sent her way. For instance, the heart of a four-year-old with Down Syndrome was donated to the museum by George M. Robson of the University of Pennsylvania. In Robson's letter regarding the donation, he told Abbott that the donation was made at the request of the patient's father, Elliott Cutter, a Professor of Surgery at Western Reserve University in Ohio, and that he "wishes the heart to be added to the collection in your museum."[142] This comment demonstrates how the McGill museum became an admired

[139] Maude E. Abbott, "Appeal."
[140] Abbott, *Curator's report,* 5.
[141] Ibid., 1.
[142] George M. Robson to Maude E. Abbott, August 17, 1931, Osler Library, Maude Abbott collection, 606-16.

institution nation-wide, and that to donate a specimen to the museum was considered by many to be an honour.

The value of international connections in the formation of medical museums has been examined by a number of historians. Elizabeth Hallman for instance, has explored the Aberdeen medical museum in her monograph *Anatomy Museum: Death and the Body Displayed,* by using a "relational approach" to consider the "diverse social relationships" involved in the collection and display of body parts.[143] She considers the development of medical museums to be part of a larger process of collection and display which was "informed by the social relations, cultural encounters and politics of imperialism and empire."[144] Indeed, the exchange of human specimens was largely contained to physicians and pathologists within an arm's reach of the British Empire, and often these exchanges involved specimens derived from Indigenous individuals which were 'othered' by the collectors. This objectification and othering of human fragments forms the foundation for Lisa O'Sullivan and Ross L. Jones' analysis of the collection of two Australian fetuses by anthropologist and anatomist Frederic Wood Jones.[145] They examine the exchange of the specimens as well as the data pertaining to the specimens amongst scientists in the British Empire; however, they make it clear that "it is precisely the implications that flow from the identification of the fetuses as *specimens* rather than human remains or relics" that grounds their analysis.[146] Therefore, while the international exchange of specimens for display in medical museums was key for the success of most institutions including the McGill museum, it was the process of objectifying the human fragments as specimens – as objects of study or display – that facilitated these trans-national connections.

[143] Hallman, *Anatomy Museum*, 19.
[144] Ibid., 134.
[145] O'Sullivan and Jones, "Two Australian Fetuses."
[146] Ibid., 245.

Conclusion

Reflecting on the lifecycles of anatomical specimens, Alberti claims that "its incorporation into the collection was perhaps the most significant event in the life of a museum object."[147] I argue, however, that the steps followed by the specimens *before* they were added to the collection were more significant, as bodies were transformed from human to specimen on the dissection and autopsy tables. In other words, as Alberti says elsewhere, "through the processes of exchange and preparation, the body was rendered material culture."[148] The bodies that passed through the dissection or autopsy rooms in Montreal, or that arrived at McGill through international exchange underwent the most significant transformation in their lifecycle before they hit the museum shelves. Most often, the bodily fragments that furnished the shelves of the McGill museum were derived from poor populations, whose disarticulated parts served to educate and inform members of society with greater power and influence. The objectifying and othering of bodies remained pivotal for this process, and enabled the free exchange and display of human specimens. As I have shown in this chapter, the humanity of the subjects was removed at the moment of death (and sometimes before) by the McGill anatomists, pathologists, and students; however, the bodies and their fragments were valued and interpreted in various ways by different people and in different situations. In the next chapter I follow the specimens as they moved from the dissection and autopsy rooms to the museum's preparation room to be mounted, tagged, catalogued, and displayed, and I explore the additional layers of meaning ascribed to the specimens along the way.

[147] Alberti, *Objects and the Museum*, 565.
[148] Alberti, *Morbid Curiosities*, 100.

CHAPTER 2

Preservation, Classification, and Display: When Art and Science Collide

Former Assistant Keeper of the Wellcome Museum of the History of Medicine, Ghislaine Lawrence, has suggested that, "exhibition techniques – the interior design, case construction, lighting, typography…seem often regarded as in some way invisible…or are marginalized by some practitioners."[149] She argues, however, that these elements significantly shape the ways in which the displayed objects are interpreted by the viewers, and that these techniques have histories and cultural connotations in their own right.[150] Similarly, historian and sociologist Steven Shapin has observed that the laboratory assistants and technicians who conducted labour behind-the-scenes "have been almost wholly invisible to the historians and sociologists who study science."[151] While Shapin is concerned with the technicians of laboratory experiments such as those conducted by chemist Robert Boyle in the seventeenth century, his assertion nonetheless can be extended to museum technicians. The processes that precede the display and use of museum specimens are complex and dynamic, yet these are crucial activities, and the individuals that perform them are often neglected in historical and contemporary discussions of museums.

Following the extraction of the desired body parts by McGill professors, students, or international colleagues, an immense amount of work was undertaken to transform these parts into attractive, functionable, and sustainable museum objects. The bodily fragments had to be chemically treated, carefully mounted, accurately labelled, and artfully displayed. At the McGill museum in the late nineteenth and early twentieth centuries, much of this work was divided between Maude Abbott and museum technician Ernest Lionel Judah, and was supplemented by

[149] Ghislaine Lawrence, "Object lessons in the museum medium," in *Objects of Knowledge*, ed. Susan Pearce (London: The Athlone Press, 1990), 117.
[150] Ibid.
[151] Steven Shapin, "The Invisible Technician," *American Scientist* 77, no. 6 (November-December 1989): 556.

the expertise of osteologist Jules F. D. Bailly, and McGill pathology and anatomy professors. At each phase, the objects were subject to re-interpretation through encounters with these actors, each of whom brought different objectives, expertise, and perspectives to these interactions.

In this chapter I explore the ways in which the meanings of the bodily fragments were re-conceptualized through the process of preservation, cataloguing, and display. During this process, the specimens were often considered as objects of beauty which required the utmost care to preserve and enhance their aesthetic qualities, and simultaneously as elements within an intricate library of medical facts, for which accuracy and detail was paramount. This phase introduced new dichotomies to the ways in which the specimens were interpreted. Mary Hunter has examined memetic representations of the body in the late nineteenth and early twentieth centuries, and she points out the conflicting claims of realism in paintings, photographs, and wax models.[152] A consideration of preserved specimens as a medium by which the body was represented and displayed complicates this discussion. They were not simply memetic representations of the body; they were the actual body parts. Therefore, they were the ultimate form of realism; however, the processes of preserving, mounting, labelling, and displaying the specimens necessitated subjective intervention. The meanings of the specimens during this phase were fluid, and they shifted between the human-specimen encounters.

"Artistic Care and Scientific Accuracy": Preserving Body Parts

The careful preservation of human remains in western society occurred long before medical museums became popularized in the mid-nineteenth century. Perhaps the most well-known mode of cadaver preservation is the process of mummification developed by the ancient

[152] Hunter, *The Face of Medicine.*

Egyptians, who used aromatics, salts, and the sun to halt putrefaction.[153] Innovative preservation techniques were further developed in the seventeenth and eighteenth centuries, which allowed for the creation of intricately detailed preparations. Dutch anatomist and surgeon Frederik Ruysch pioneered a number of new preservation techniques in the late seventeenth century during his appointment as Praelector Chirurgiae et Anatomie at the Amsterdam Surgeon's Guild, which granted him the legal right to undertake a prescribed number of dissections per year.[154] When the anatomical theatre was not in use for publicized dissections, it provided a space for the display of preserved human remains for reference by physicians. Ruysch developed an innovative injection method to preserve cadavers and dissected body parts for their prolonged display in the theatre – a technique which led twentieth-century zoologist Francis J. Cole to designate Ruysch the "apostle of the injection method."[155] Cole paraphrased a passage from the *Dictionnaire historique de la medicine* which described some impressions of Ruysch's preservations by his contemporaries as such:

> All the bodies which he injected preserved the tone, the lustre and the freshness of youth. One would have taken them for living persons in profound repose – their limbs in the natural paralysis of sleep. It might almost be said that Ruysch had discovered the secret of resuscitating the dead. His mummies were a revelation of life, compared with which those of the Egyptians provoke but the vision of death. Man seemed to continue to live in the one, and continue to die in the other.[156]

Ruysch's methods remained influential into the nineteenth century. Scottish anatomist Andrew Fyfe for instance, recommended the application of the "Ruyschian Art" in the 1810 edition of his treatise *A Compendium of the Anatomy of the Human Body,* in which he described three different

[153] J. N. Gannall, *History of Embalming, and of Preparations in Anatomy, Pathology, and Natural History,* trans. R. Harlan (Philadelphia: Judah Dobson, 1840), 17.
[154] Hansen, "Resurrecting Death," 663.
[155] F. J. Cole, *A History of Comparative Anatomy: From Aristotle to the Eighteenth Century* (London: MacMillan & Co. Ltd., 1944), 305.
[156] Ibid., 309.

injection techniques and suggested that the required instruments "are always to be had at the surgical instrument makers."[157]

According to art historian Julie V. Hansen, Ruysch's injections of wax and quicksilver concoctions produced specimens that were simultaneously designed for teaching through the demonstration of "medical data," and for the contemplation and aesthetic appreciation by his peers.[158] Similarly, Ruysch's student Bernhard Siegfried Albinus created anatomical preparations to illustrate the "perfection and elegance of human anatomy."[159] Many of the preparations created by these anatomists were placed within a larger tableau, or they were adorned by other decorative materials in order to produce displays that carried meaningful allegorical sentiments. Whether for education or for moral enlightenment, much of the value of these preserved specimens laid in their aesthetics.

Though the use of preserved body parts in elegant allegorical displays fell out of fashion in the nineteenth century, attention to their appearances did not. The term 'beautiful' was often used by medical practitioners and museum technicians alike to describe specimens. This sentiment could frequently be found in case reports or autopsy reports, for instance, when a doctor or pathologist encountered either an anomalous pathology or a textbook-perfect organ. For example, in an undated case report of an aortic aneurysm at the Montreal General Hospital, William Osler and William A. Molson observed a cavity that was "filled in ¾ of its extent with beautifully stratified fibrin."[160] The term was also a common descriptor in nineteenth-century

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[157] Andrew Fyfe, *A Compendium of the Anatomy of the Human Body: Intended Principally for the Use of Students…Prefixed with the Ruyschian Art and Method of Making Preparations to Exhibit the Structure of the Human Body* (Philadelphia: Benjamin C. Buzby, 1810), 16.
[158] Hansen, "Resurrecting Death," 671.
[159] Hendriksen, Huistra and Knoeff, "Recycling Anatomical Preparations," 77.
[160] William A. Molson and William Osler, "'Healed' Saccular Aneurysm of the Transverse Arch of the Aorta Nearly Filled with Laminated Clot, and Involving the Origin of the Dilated Innominate Artery. Pressure upon the Trachea. Erosion of Sternum," McGill University Archives, Medical Museum collection, RG 41-38-81-5.

dissection manuals to describe the techniques that produced the most attractive specimens. American anatomist William E. Horner frequently used the adjective in his manual, *The United States Dissector*. For example, he explained that quicksilver injections would render the lymphatics and lacteals "beautiful and interesting."[161] Furthermore, preserved specimens often gained attractiveness through their proximity with other similar preparations. For instance, in a report of the cardio-vascular specimens held in the McGill medical museum, a grouping of preservations was described as a collection of "myocardial lesions associated with coronary disease, which form together a beautiful and complete series."[162]

An adept museum technician would preserve and enhance the beauty of the specimens, and McGill's technician, Ernest Lionel Judah, was often hailed for his skill. For example, a reviewer of the 1908 Annual Congress of the American Laryngological Association marvelled at the McGill museum which had been toured by the attendees, writing that, "the mounting was done with that artistic care and scientific accuracy which has given the pathological department of McGill University a world-wide reputation."[163] The author then offered his thanks to "Mr. E. L. Judah for the expert mounting displayed."[164] Abbott similarly recognized the benefits of Judah's artistry, acknowledging that, "to the artistic mounting of the specimens by the preparator, Mr. Judah, much of their usefulness to the students is also due."[165] By the late nineteenth century, the preservation of human specimens in 'artistic' and 'accurate' manners became common elements of professional medical discourse. Surgeon and librarian John S. Billings proclaimed in 1888 that "the anatomist comes to the museum quite as much to see

[161] William E. Horner, *The United States Dissector, or Lessons in Practical Anatomy* (Philadelphia, Lea & Blanchard, 1846), 36.
[162] "CARDIO-VASCULAR," McGill University Archives, Medical Museum collection, RG 41-38-81-3.
[163] J. T. R., "American Laryngological Association," *Montreal Medical Journal* 37, no. 6 (June 1908): 449.
[164] Ibid.
[165] Maude E. Abbott, "The Museum in Medical Teaching," *The Journal of the American Medical Association* XLIV (1905): 939.

methods of mounting and preservation as to see the specimens themselves."[166] The matter of greatest concern which affected both the aesthetics and scientific accuracy of the specimens was the preservation of colour. This issue was a concern for Ruysch in the seventeenth century, and it remained a matter of debate through the early twentieth century.

For much of the nineteenth century, anatomists and pathologists created their own chemical recipes and techniques to preserve the vitality of cadavers and their parts. These recipes were based on their own trial-and-error, and were used to preserve large parts of bodies for lengthy dissections, as well as the smaller parts for museum specimens. For instance, Osler preserved the specimens he collected "in alcohol or Sappey's fluid and suspended [them] in well-stoppered jars."[167] McGill anatomist and surgeon, Francis J. Shepherd, also wrote in 1880 that, "I have tried various materials for preserving subjects, such as chloral and glycerine, arsenic, carbolic acid, camphor, &c., but find none succeed so well as chloride of zinc. For every subject I use three-quarters of a pound dissolved in one pint and a half of water; I also add a little nitrate of potash, to keep the muscles in a good colour."[168] In this instance, Shepherd strove to preserve the colour of the cadaver's muscles for the duration of his dissection demonstrations, not for long-term display. Nonetheless, the colour of the muscles was of the utmost importance even in the short-term.

Historian Rachel N. Ponce has explained that the preservation and enhancement of the colours of body parts during the dissection process aided the dissector and prevented confusion which could lead to inaccurate cuts.[169] However, she also argues that his process counteracted

[166] John S. Billings, *Medical Museums: With special reference to the Army Medical Museum at Washington* (The President's Address, delivered before the Congress of American Physicians and Surgeons, September 20, 1888): 24.
[167] Alvin E. Rodin, "Osler's Autopsies: Their Nature and Utilization," *Medical History* 17 (1973): 44.
[168]Shepherd, *Notes of Abnormalities*, 1.
[169] Ponce, "They Increase in Beauty and Elegance," 352.

many anatomists' claims that cadaveric dissections were the best methods by which the student could become acquainted with the human body, because the "colorful cadaveric specimens" became "idealized" representations of the body, thereby rendering the preserved cadavers no more useful than wax models.[170] The process of conserving and enhancing the colours of cadaveric body parts during dissection was an art that was supplementary to the art of dissection itself, which could produce "marvels of beauty" on the dissection table.[171] In this way, the manipulation of the body for the purposes of visual enhancement rendered the body itself an artistic medium akin to wax, graphite, and later, photography, which were all adopted into the anatomical arts, and which toyed with the boundaries of reality and realism. Hunter, for instance, explains that wax, which was widely used for creating detailed and complex anatomical models, was "associated with reality and rationality through its connections with the scientific world, but it was also linked to spectacle and fantasy."[172] Each medium was manipulated by artists, surgeons, and scientists, in an effort to create images that fit their versions of "reality," yet they were manipulated nonetheless, in manners that sought to appease the eye. The body, on the dissection table or distributed into glass jars, became a medium by which the medical 'artists' could portray their idealized imagery.

Specific directions for the management of the specimens which were identified during dissection for long-term preservation were developed at the McGill museum by the early twentieth century. The primary concerns of these directives were the preservation of the colour and integrity of the specimens. Once the specimens had been "trimmed and dissected," small

[170] Ibid., 352-354.
[171] Ibid., 352.
[172] Mary Hunter, ""Effroyable réalisme": Wax, Femininity, and the Madness of Realist Fantasies," *RACAR: revue d'art Canadienne/Canadian Art Review* 33, no. 1/2 (2008): 43.

sections were often removed for microscopic examination.[173] Judah provided a brief description of the types of sections that could be taken so as to not "disfigure" the specimen, and argued, "why ruin the appearance of the specimen when it is absolutely unnecessary?"[174] Speed was of the utmost importance for the preservation of the specimen's colour in the moments following dissection. Judah instructed, "if you are going to get colour results, the material must be taken straight from the autopsy table and put into Kaiserling. Refrigeration absolutely ruins it: it must be out of the frying pan into the fire!"[175]

The Kaiserling solution to which Judah was referring was developed by German pathologist Johann Carl Kaiserling in 1896. The key element of this preservative was formalin, a derivative of formaldehyde, whose fixative properties had been recently discovered.[176] Kaiserling's formulation proved far superior to all previous modes of wet-specimen preservation, as Alberti explains, "it hardened tissue far faster than alcohol, keeping the colour, and…preserving the cellular structure of the specimen. It was non-flammable, and best of all, *cheap.*"[177] Judah adapted the solution for use at the McGill museum with great success. In response to a series of questions posed through the *Bulletin of the International Association of Medical Museums* regarding the preservation of specimens, Judah, Abbott, and Assistant Curator Joseph Kaufmann explained,

1. Kaiserling's solutions, Nos. I, II, and III, are used almost exclusively in our Museum, with excellent results.
2. Glycerine added in equal parts to Kaiserling No. III, helps to restore the color of the specimens when these have been left too long in the second solution.
3. and 4. The results, in so far as retaining good colors are concerned, depend entirely on the condition of the color when the specimen was received, the manner in which it is

[173] *Regulations for the Conduct of the Medical Museum, McGill University, And Outline of Cataloguing System Applied* (Montreal: n.p., 1920-21), 1, McGill University Archives, Medical Museum collection, 38-80-2.
[174] E. L. Judah, "A very important thing is this," McGill University Archives, E. L. Judah collection, MG 4067, container 1, folder 4.
[175] Ibid.
[176] Alberti, *Morbid Curiosities*, 115.
[177] Ibid., 115-16.

> fixed and the amount of color which the specimen has retained after it has gone through the various Kaiserling solutions. A specimen which is put through properly, in our experience, will retain its color well for about ten years.[178]

While Judah was initially "very skeptical as to the ultimate use of Kaiserling," he found that skill and precise measurements produced satisfying results.[179] The process he followed involved submerging the specimens in three different versions of Kaiserling; The first solution, in which the specimen was to be placed "fresh from the autopsy or operation," would remove the colour from the specimen while fixing it to prevent putrefaction, and the colour would return upon transfer to the second solution, "in the same way as…a photographic plate."[180] Many contributors to the *Bulletin of the International Association of Medical Museums* explained their own adaptations of the Kaiserling process, and many relied upon Judah's method as a foundation. The preservation of a specimen's colour was a top priority for museum technicians, curators, and medical practitioners. An 'accurate' colour allowed for a better understanding of the healthy or pathological body part, while it also formed an aesthetically pleasing objet d'art.

Additional factors that influenced the specimen's appearance were the jar in which it was placed and the mount on which it was supported. Judah explained in 1911 that,

> Since the days when the sole idea of preserving wet pathological and anatomical specimens was to suspend them in jars of fluid, regardless of their anatomical position, or their proper colours, considerable progress has been made. With the Kaiserling method of preserving colour, and the square museum jars, which neither magnify nor distort the specimen in fluid, and with a glass frame standing on the bottom of the jar, the specimen is held in perfect shape and the natural appearances are retained.[181]

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[178] Maude E. Abbott, Joseph Kaufmann, and E. L. Judah, "From the Pathological Museum, McGill University, Montreal, Canada," *Bulletin of the International Association of Medical Museums* (edition unclear, likely 1910): 41.
[179] E. L. Judah, "Personal Modifications in the Technique of the Kaiserling Methods of Colour Preservation," *Bulletin of the International Association of Medical Museums and Journal of Technical Methods,* no. 8 (December, 1922): 62.
[180] Ibid., 63.
[181] E. L. Judah, "Mounting Moist Specimens," *The Canadian Medical Association* Journal 1, no. 4 (April 1911): 335.

To Judah, the flat sides of square-shaped jars were paramount for elegant displays of human specimens which perfectly exhibited their morphology or pathology. Jars which did not interfere with the visibility of the specimen were of the utmost importance. In 1915 he published an article that outlined the specifications of the jars that had been "worked out and verified during the past fifteen years" at the McGill medical museum.[182] Ranging in size from small "eye jars" of 4x4x1 centimetres to large "intestine and artery jars" of 29x15x7 centimetres, the vessels were made to order "without foot or lower border or projecting upper rim."[183] Judah had been purchasing the jars directly from a manufacturer in Germany, though shortly after the publication of his article the Second World War halted their transport, and he was "unable to re-establish [his] connection with Germany," thereby forcing him, begrudgingly, to purchase jars from a "jobber."[184] His jar specifications received great attention by museum curators who frequently referred to his article in their own accounts in the *Bulletin*. His article also had an influence on the glass market. For instance, the Canadian manufacturer, the Hughes Owens Company Ltd., published an advertisement for their new museum jars, which they boasted were "made to conform with the standards laid down by E. L. Judah, Curator of Museums, McGill University, Montreal, Canada."[185] When selecting an appropriate jar for the specimen, Judah advised that smaller jars should be chosen, suggesting that, "the smaller the jar which can be used, the neater the specimen looks."[186] He further warned that the uneven surface of an unpolished jar "will throw

[182] E. L. Judah, "Series of Sizes for Square Museum Jars in Use at the Medical Museum of McGill University, Montreal, Canada," *Bulletin of the International Association of Medical Museums*, no. 5 (1915): 89.
[183] Ibid.
[184] E. L. Judah, "Museum Jars," McGill University Archives, E. L. Judah collection, MG 4067.
[185] The Hughes Owens Company, "Museum Jars," McGill University Archives, E. L. Judah collection, MG 4067; There is no date on this advertisement; however, it is notable that Judah was listed as the Curator of Museums. He was appointed this position in 1923 when Maude Abbott had taken her leave to the Women's Medical College in Philadelphia.
[186] E. L. Judah, "Glass Frame Technique," 1, McGill University Archives, E. L. Judah collection, MG 4067, container 1, folder 3.

shadows on the specimen."[187] Judah's artistry laid in his ability to recognize the minute details which affected the appearances of the specimens.

The mechanisms of mounting were also points of discussion amongst museum curators and technicians. Judah was a proponent of the use of glass frames to hold the specimens in place within the jars, thereby securing the optimal positions by which their pathologies could be viewed. This process was meticulous. Judah explained that, "as all jars are hand made, they vary. Frames have to be made for each individual jar, they are very seldom interchangeable."[188] Judah's glass frames were handmade by fusing soda-glass rods into a square, onto which the

Figure 6: The fatty heart as it appears today, photograph by Joan O'Malley, Maude Abbott Medical Museum, used with permission.

[187] E. L. Judah, "COVER," McGill University Archives, E. L. Judah collection, MG 4067.
[188] Judah, "Glass Frame Technique," 3.

specimen would be tied on the top, bottom, and sides with fine thread.[189] This process produced expertly-mounted specimens which allowed for the pathology to be easily observable, and which minimized visual distractions. The glass frame and thread method was applied to the fatty heart collected by Osler, mentioned in chapter one. A close examination of a contemporary image of the specimen reveals this mounting apparatus (Fig. 6). The soda rod frame creates a ghostly border around the heart, and delicate threads connect the heart to the frame at the top and sides.[190]

In 1903, Abbott summarized the benefits of the recent advances in preservation and display techniques:

> Today a well prepared museum specimen, its colors preserved almost as in life, properly mounted to resemble as closely as possible its position in the body, and carefully dissected to display the extend and relations of the lesions, presents appearances very similar to those of the postmortem-room, and sometimes shows the morbid process even more clearly and with greater advantage to the student.[191]

The care and attention displayed by Judah in his preservation and mounting practices demonstrate the ways in which the specimens were considered to be simultaneously objects for medical education and as objets d'art. Their preserved and enhanced visual appearances benefitted medical instruction and research, and also created eye-catching artistic displays which caught the attention of colleagues and international visitors. Despite the artful approach to specimen preservation and mounting exhibited by Judah, he did not consider the museum to be a "display museum," but rather a "specimen library."[192] The intention was not for the objects to

[189] Ibid.
[190] Curator Richard Fraser believes the mounting apparatus is original, though he thinks that the jar has been replaced. (Based on a conversation with the author on May 20, 2022).
[191] Maude E. Abbott, "On the Classification of Museum Specimens," reprinted from *American Medicine* V, no. 14 (April 4, 1903): 2.
[192] E. L. Judah, "Metal to metal," McGill University Archives, E. L. Judah collection, MG 4067, container 1, folder 16; In this assertion he is referring to the museum after it had been moved to the Pathological Institute in the 1920s. His attitude towards the museum before this move is unclear.

remain static on the shelves, but rather for them to be akin to library books on shelves, intended for ongoing reference and circulation. This attitude aligned well with Abbott's views of the museum as an ordered collection of medical "facts."[193]

A Division of Facts: Classifying and Cataloguing

Abbott's biographer, Hugh Ernest MacDermot wrote that Abbott "had her own peculiar methods of work, in which system and orderliness were conspicuously absent…Her desk usually looked as if the papers had been deposited on it by a passing gust of wind, which might just as easily take them all off again."[194] This observation, however, does not mean that Abbott shunned organization within the museum space. Quite the contrary, in fact. MacDermot added that, "everything she did was quite clear in her own mind, and no one ever found her at a loss for details."[195] Indeed, perhaps the most impactful contribution that Abbott made to the McGill medical museum was the implementation of a carefully-ordered cataloguing system, and the publication of an accompanying print catalogue. According to Abbott, her classification and cataloguing system formed "an ordered plan that constitutes the keystone of all the Pathological Collections of the University."[196] Abbott's museum practice, therefore, contrasted her personal habits if MacDermot's observation was correct.

As an adjunct to the irony of Abbott's practices and habits, historian Cindy Stelmackowich has pointed out the connection between the introduction of modern archival classificatory and organizational instruments like the filing cabinet in the 1890s and Abbott's implementation of an ordered classification system in the museum.[197] She notes that the 1890s

[193] Abbott, "The Museum in Medical Teaching," 936.
[194] MacDermot, *Maude Abbott: A Memoir*, 83.
[195] Ibid.
[196] Maude E. Abbott to Dr. Martin, December 12, 1932, McGill University Archives, Medical Museum Collection, RG 41 38-80-6.
[197] Stelmackowich, "Gender, Fate and McGill University's Medical Collections," 60.

saw "an enthusiasm for ledgers, record holders, business files, cabinets, clerical supplies and instrumentalizing products," and she argues these new apparatuses and the classifying systems that they supported imposed "powerful new meanings and functions [onto the] newly classified objects of knowledge."[198] Indeed, for Abbott, the specimens were valuable as materialized medical "facts," yet she argued that, "it is in the presentation of series of specimens in an ordered sequence that the strength of the museum system lies."[199] To cement her stance, she added that, "the organized museum is to general pathology what…travelling to see new countries is to the study of geography."[200] The implementation of an ordered system imparted new meanings and new values to the previously disorganized mass of specimens, as it allowed for the organization of medical knowledge in material form.

By the late nineteenth century, surgeons, as users of medical museums, were increasingly discerning regarding the organization of museums, as the level of clarity in the displays and classification systems affected their abilities to conduct research. Many of these opinions were recorded in their travel reports, and many were publicized. Surgeon Nicholas Senn, for instance reported that the specimens in John Hunter's museum in London "are so arranged that any subject in anatomy, physiology and pathology can be looked up and studied in a remarkably short time with the aid of a complete index, which can be found in its proper place in each section."[201] Contrasting Senn's favourable report of the Hunterian museum, a critical account of the Dupuytren Museum in Paris was published in the *Lancet* in 1900, which reported that the museum was "inconveniently crowded with preparations," and that the "high glass cupboards

[198] Ibid., 60-61.
[199] Abbott, "The Museum in Medical Teaching," 936.
[200] Ibid.
[201] Nicholas Senn, *Four Months Among the Surgeons of Europe* (Chicago: Office of the Association, 1887), 41.

are…filled to overflowing with specimens."[202] The anonymous author lamented that "on attempting to form some idea of how the specimens were arranged it was found difficult to make the method detailed in the catalogue conform to the actual arrangement in the collection."[203] In a disorganized museum, the specimens became impediments and barriers to research and education. A well-ordered museum with a simple classification system, however, improved the functionality of the specimens.

Abbott noted that since the museum's beginnings in 1824, the collection "has been a cherished object of the teaching staff, who have always used it largely in illustrating their didactic lectures."[204] These demonstrations, however, were conducted at the discretion of each professor, not as components of a cohesive program, and the disorganization of the collection likely made the location of particular specimens for these demonstrations difficult. Abbott acknowledged that "several attempts" at classification and order had been made prior to her appointment as Curator, yet the challenge of deriving a system that was simple, logical, and that allowed for the ongoing expansion of the collection proved insurmountable at the time.[205] Just months before Abbott's appointment, McGill pathologist Wyatt Johnston proposed the implementation of an adapted form of the Dewey decimal system of library classification. The system had been developed for anatomical classification in medical libraries in Zürich; however, the system had yet to be applied to pathology.[206]

In his book *Morbid Curiosities,* Alberti asks how British pathologists effectively "arrange[d] this unruly mass of deviant material, to bring together body parts from countless

[202] "A Visit to Some of the Paris Museums," *The Lancet* 156, no .4017 (August 25, 1900): 622.
[203] Ibid.
[204] Ibid.
[205] Abbott, "Autobiographical Sketch," 142.
[206] Ibid.

individuals into a coherent whole."[207] For Abbott, the solution was, in fact, division. She described her adaptation of the Dewey system as such:

> The descriptive numbers are made up of figures only. A decimal point is used, and *the anatomic condition is represented by numbers before, the pathologic by numbers after the decimal point.* The particular specimen is indicated by a small index figure to the right of the full number…The whole collection is divided into 10 main divisions, the 10 systems of the anatomic classification, and the organs of each system are arranged under it. Under each organ again the lesions affecting it are classified, while the individual specimens showing the same condition stand in the rotation of their index figures.[208]

Alberti describes the entity formed by the specimens in a pathological museum as a "multi-authored, diseased body," which no longer represents the body of an individual, but rather forms a "*dividual* body" (emphasis original).[209] He suggests that through the relations formed by the carefully ordered bodily fragments in museums, "pathologists make something new from the corpses of the patients, generating synthetic knowledge about disease and the body."[210] Similarly, museum historian Eileen Hooper-Greenhill has suggested that museum objects were considered to be "sources of knowledge in themselves," as we have seen with Abbott's interpretation of the specimens as 'facts,' yet through specific and orderly arrangement and classification, "both the meanings of the individual objects and a substantive body of information about particular disciplines would be explicit in the relationships between the objects."[211] Abbott's approach to classification, which systematically divided the preserved body parts, allowed for new relations to be formed between the re-arranged specimens which, in turn, generated an ordered and materialized body of medical knowledge.

[207] Alberti, *Morbid Curiosities,* 137.
[208] Abbott, "On the Classification of Museum Specimens," 5; 8.
[209] Alberti, *Morbid Curiosities,* 8.
[210] Ibid.
[211] Hooper-Greenhill, *Museums and the Interpretation of Visual Culture,* 127.

This new classification system improved the functionality of the specimens, making them more easily accessible and more meaningful for students and instructors; however, the museum still lacked a detailed printed catalogue of each specimen. As shown above, museum catalogues were frequently referenced by medical practitioners who visited museums, in order to locate their intended objects of study with ease, and to gain a greater understanding about the clinical histories related to the specimens. Jonathan Reinarz has also pointed out that printed catalogues allowed the collections to reach larger audiences, and they allowed potential visitors to learn which objects were held in the museums before they arrived.[212] To many medical practitioners and museum curators, the existence of a detailed catalogue to accompany the objects on display was the mark of a quality medical museum. A reviewer of the catalogue of the Pennsylvania Hospital Pathological Museum for instance, proclaimed that, "without a good descriptive catalogue a museum is of very little use."[213]

To remedy this shortcoming, Abbott undertook the task of compiling and publishing a detailed descriptive catalogue of the pathological specimens in the McGill museum. This lengthy project was undertaken with the financial and emotional support of William Osler, who argued that a quality catalogue acts as a museum's "showman."[214] Distinct from many other museum catalogues, Abbott endeavored to approach the catalogue through a collaborative process that involved members of McGill's teaching staff who were experts in their particular fields. She argued that the catalogue was developed on a "more detailed and scientific scale" than others that were created through collaborative processes, as was evident through the "extent and

[212] Reinarz, "The Age of Museum Medicine," 422-23.
[213] W. O., Review of "Supplement to the Descriptive Catalogue of the Pathological Museum of the Pennsylvania Hospital," *American Journal of Medical Sciences* 84 (1882): 229.
[214] William Osler to Miss Abbott, December 25, 1905, Osler Library, Osler collection, P100, box 102 30-7-2, folder 326-1.6.

thoroughness" of the McGill catalogue.[215] In order to fulfil this 'scientific' goal, Abbott detailed a set of instructions for the collaborators regarding the types of information that was required about each specimen, and the format in which this information was to be conveyed. The cataloguing was to be undertaken in the following manner:

1. Catalogue number followed by TITLE stating essential points in specimen.
2. DESCRIPTION OF SPECIMEN TO CONSIST OF –
    a. Anatomical statement of organ or organs included in specimen, and relations or situation of these.
    b. Pathological description of outer surface, cut surfaces, etc.
3. Clinical history. Give initials, sex, age, points in personal history bearing on specimen, duration of disease, history of present illness.
4. Post Mortem notes –
    a. Give all points in the anatomical diagnosis bearing on the condition.
    b. Give the Pathologists [sic] description of those conditions in the specimen visible and not well seen in the preserved organ at the time of autopsy.
    c. State results of Microscopic examination.
5. Give reference including Museum Entry Number, and Hospital No.
6. State Donor's name.[216]

The collaborators were then encouraged to write an introduction to the catalogue entry to highlight the important qualities of the pathological anomaly or the clinical history. The draft catalogue entry for the fatty heart collected by Osler demonstrates this format (Fig. 7). The catalogue was published in sections over many years, with a disruption resulting from the fire in 1907. The catalogue was never fully completed; nonetheless, it was put to good use. In the same year that the fire destroyed hundreds of specimens in the museum, the published section of Abbott's catalogue was listed as a required textbook for the Special Pathology course in McGill's Faculty of Medicine annual calendar.[217]

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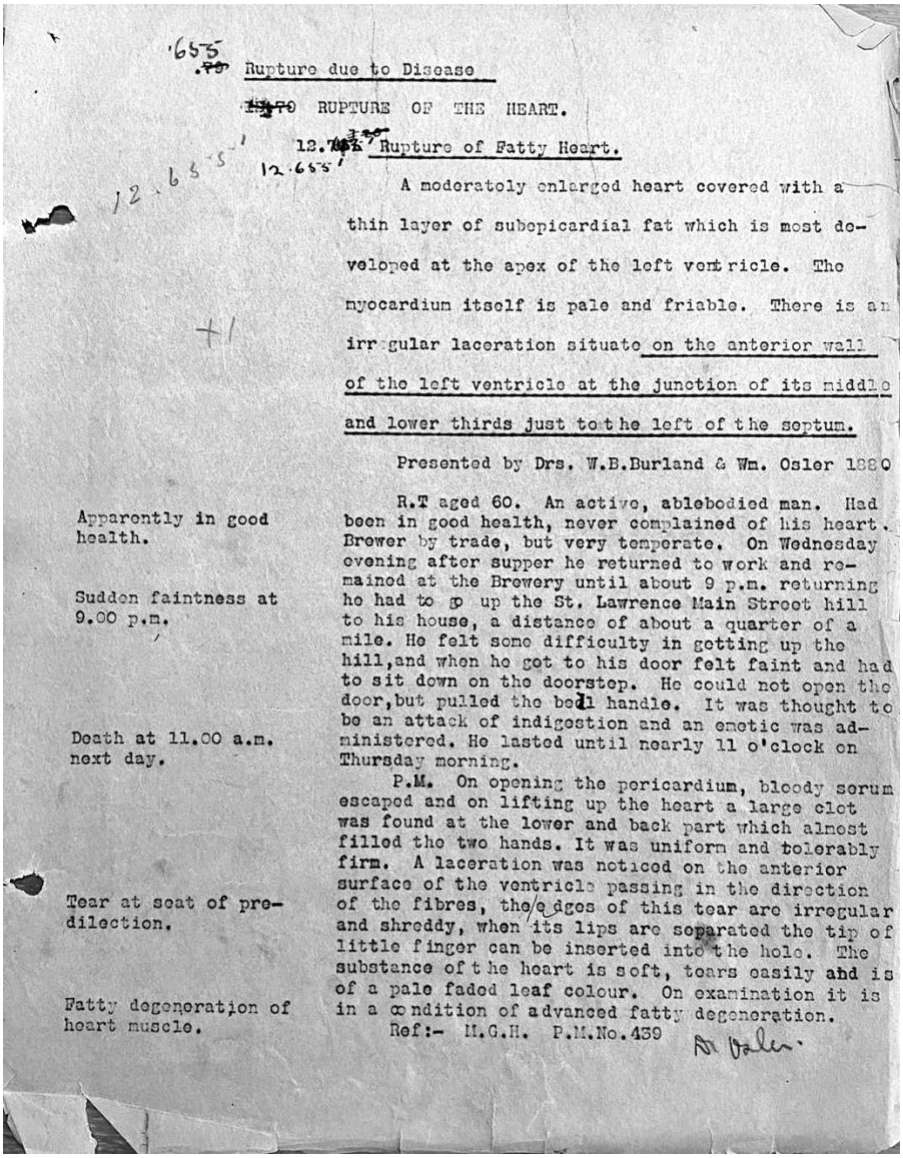
[215] Maude E. Abbott, *Descriptive Catalogue of the Medical Museum of McGill University: Part 1V: Section 1 The Haemopoietic Organs* (Oxford: The Clarendon Press, 1915): x-xi.
[216] Maude E. Abbott, *Directions to Collaborators on the Descriptive Catalogue,* McGill University Archive, Medical Museum collection, 38-80-1.
[217] McGill University, *Annual Calendar, Faculty of Medicine: seventy-sixth session, 1907-1908* (Montreal: The Gazette Printing Co., 1907), 55.

Much of Abbott's work in the museum involved the division, organization, and classification of the pathological specimens. The development of the detailed classification



'655
Rupture due to Disease

~~1370~~ RUPTURE OF THE HEART.

12.~~655~~ Rupture of Fatty Heart.

12.655

12.655

+1

A moderately enlarged heart covered with a thin layer of subepicardial fat which is most developed at the apex of the left ventricle. The myocardium itself is pale and friable. There is an irregular laceration situate on the anterior wall of the left ventricle at the junction of its middle and lower thirds just to the left of the septum.

Presented by Drs. W.B.Burland & Wm. Osler 1880

Apparently in good health.

Sudden faintness at 9.00 p.m.

Death at 11.00 a.m. next day.

Tear at seat of predilection.

Fatty degeneration of heart muscle.

R.T aged 60. An active, ablebodied man. Had been in good health, never complained of his heart. Brewer by trade, but very temperate. On Wednesday evening after supper he returned to work and remained at the Brewery until about 9 p.m. returning he had to go up the St. Lawrence Main Street hill to his house, a distance of about a quarter of a mile. He felt some difficulty in getting up the hill,and when he got to his door felt faint and had to sit down on the doorstep. He could not open the door,but pulled the bell handle. It was thought to be an attack of indigestion and an emetic was administered. He lasted until nearly 11 o'clock on Thursday morning.

P.M. On opening the pericardium, bloody serum escaped and on lifting up the heart a large clot was found at the lower and back part which almost filled the two hands. It was uniform and tolerably firm. A laceration was noticed on the anterior surface of the ventricle passing in the direction of the fibres, the edges of this tear are irregular and shreddy, when its lips are separated the tip of little finger can be inserted into the hole. The substance of the heart is soft, tears easily and is of a pale faded leaf colour. On examination it is in a condition of advanced fatty degeneration.

Ref:- M.G.H. P.M.No.439

Figure 7: Draft catalogue sheet for the fatty heart, McGill University Archives, Medical Museum collection, RG 41, container 10, 38/81/1.

system and the accompanying catalogue created a way for Abbott and her collaborators to assess the collection, form new connections between specimens, and identify gaps. In her role as curator, Abbott became a gatekeeper for the collection, as she stipulated that "only those

specimens found worthy of a place in the Museum are to be catalogued."[218] As a consequence of these systems, the values of new specimens were determined by how they compared to those which already held a place in the museum – their value increasing if they filled a gap. In this way, the meanings of the specimens became more complex. At the same time, the detailed and ordered cataloguing system had spatial implications for Abbott. The benefit of Abbott's classification system meant that new acquisitions could be added to the collection indefinitely. As the specimens were arranged in a manner that corresponded to the catalogue, this meant that new specimens could be incorporated without the need to rearrange the existing collection. However, space became a matter of concern for Abbott, notably upon the development of the smaller Medical Historical Museum.[219] In 1932 she wrote to the Dean of the Faculty of Medicine to argue that the museum should not be "encroached upon" by the other museums in the building, "not only because most of these specimens are valuable in themselves for teaching or research, but also for the reason that these are classified, catalogued and cross-indexed on an ordered plan…which makes it possible to expand."[220] The catalogue and classification system influenced the ways that the specimens were used and displayed, and the organizational plan had significant implications for the ongoing development of the museum.

The specimens were valuable as individuals for their pathological anomalies and for the details which accompanied their clinical case histories, yet they also became incorporated into the collective 'dividual body' of the medical museum as they were selectively chosen to fill gaps in the collection. Furthermore, as Stelmackowich has explained, the technologies of

[218] Ibid.
[219] This museum has been called a number of different names including the Museum of the History of Medicine, the Medical Historical Museum, and the Central Museum.
[220] Abbott to Dr. Martin, December 12, 1932, McGill University Archives, Medical Museum collection, RG 41 38/80/6.

classification and cataloguing employed at the McGill museum "ascribed specific meaning to this collection for the students and teachers" by "transform[ing] the sick population into the serviceable materials of medical knowledge."[221] While the collection had been used for teaching and research prior to the implementation of these technologies, the classification system and printed catalogue enhanced its functionality and facilitated the formation of new connections and meanings. Following the detailed cataloguing process, labels were added to the specimens which listed the specimens' catalogue number and highlighted key elements of the pathologies and case histories. These labels acted as the textual layer of a multi-faceted display process.

"Harmonious to the Eye and Ear": Building an Attractive Museum

In 1888, John S. Billings proclaimed that, "the aphorism that a first-class museum would consist of a series of satisfactory labels with specimens attached means a good deal."[222] Similarly, Judah suggested that the labels were of "equal importance to the specimen itself."[223] Furthermore, he eloquently advised the members of the Antiquarian and Numismatic Society of Montreal to "remember that the exhibition case is like a musical instrument, and the labels represent the musical results of your work, which must be harmonious to the eye and ear of the beholder."[224] The importance of specimen labels had become a matter of great importance by the late nineteenth century. Curators, technicians, and pathologists struggled to find a balance between the application of detailed and informative textual labels, and allowing the specimen to be fully visible with limited visual distractions. According to Judah, "too many labels, or too

[221] Stelmackowich, "Gender, Fate and McGill University's Medical Collections," 63.
[222] Billings, *Medical Museums,* 33.
[223] E. L. Judah, "The Tagging of Museum Specimens," *Bulletin of the International Association of Medical Museums,* no. 4 (August 1, 1913): 45.
[224] E. L. Judah, "The Arrangement and Administration of Museums," Read before the Antiquarian and Numismatic Society of Montreal (November 19, 1926), McGill University Archives, Judah collection, MG 4067, container 1.

large a set of labels will disfigure your [display] case."[225] Technicians like Judah wanted the artistry of their specimen mounts to be on full display while using the labels as a means to identify and locate each of their preparations. Pathologists and instructors desired to have the pathological lesions visually unobscured for educational purposes while using the detailed labels to connect the pathologies with their clinical histories.

As a solution to this challenge, a label-card system was enacted at the McGill museum. A small label would be applied to the lower right corner of the front of each specimen jar which displayed the specimen's unique catalogue number. On the upper right hand corner of the back of the specimen jars, a second label would be applied, which listed the accession number which was first ascribed to the specimen when it entered the museum, as well as the corresponding hospital number, and the donor's name.[226] These labels were designed to be small enough so as to not obscure the specimen, while providing essential data. Small labels indicating the unique accession or 'entry' numbers were also sewn onto the backs of the specimens themselves "in an inconspicuous place."[227] An example of this sewn label can be seen on the back of Osler's fatty heart specimen, which displays the number 143 in black ink on a small rectangular tag that is mere millimeters wide (Fig. 8). The application of these labels proved to be a significant challenge for museum technicians. So finicky was the labelling process, that Judah considered the process to be "one of our many bugbears."[228] Just as the ideal preservative fluids were determined through trial and error, so too were the modes of labelling. Judah devised an intricate technique involving the use of paraffin to attach the labels to the jars.[229] Larger and more

[225] Ibid.
[226] Joseph Giroux, *Regulations for the Conduct of the Medical Museum, McGill University, and Outline of Cataloguing System Applied (Revised Session 1920-21),* McGill University Archives, Medical Museum collection, 30-80-2.
[227] Judah, "The Tagging of Museum Specimens," 46.
[228] Judah, "The Arrangement and Administration of Museums."
[229] Judah, "The Tagging of Museum Specimens."

detailed cards were attached to the tops of all jars which were placed on the museum shelves (not those in storage).[230] These cards were intended "for the immediate information of the student,"

Figure 8: Photograph of the back side of the preserved fatty heart, showing the sewn label, photograph by Laura Bergen, 2022.

and contained "the catalogue number and title of [the] specimen, and a summary of the main points in the clinical history and autopsy findings, [and a] reference and name of [the] donor."[231]

The process of labelling was an extension of the classification and cataloguing process, whereby numerical and textual data were physically linked with the objects.[232] The labels made the conceptualized classification system visual and material, and they enhanced the pedagogical value of the specimens by rendering the case notes and the corresponding pathologies inseparable. At the same time, the labels were pivotal elements of the museum aesthetics. The visual impacts of the individual specimens and the design of the museum as a whole were affected by the quantity and attractiveness of the labels.

[230] According to curator Richard Fraser, the location of the original cards remains unknown. (Based on a conversation with the author on May 20, 2022).
[231] Judah, "The Arrangement and Administration of Museums."
[232] For more on the linkage of data with specimens, see O'Sullivan and Jones, "Two Australian Fetuses."

The labels were one of many design elements that were considered in the shaping of the ideal medical museum. I have examined design on the small scale thus far; the aesthetics of the individual specimens, their jars, and their labels. The remaining design elements can be considered on a progressively expanding scale. The arrangement of the jars on the shelves, for instance, could impact the visitor's viewing experience. As we have seen above, the reviewer of the Dupuytren Museum in Paris complained that the shelves were too crowded and that they impaired his ability to view the specimens properly. Not only were the shelves too crowded, but the specimens were also inconveniently placed. He suggested that, "it would be a great improvement if the more interesting specimens were arranged at such a height that they could be examined without having to look too high or too low for ordinary comfort."[233] Judah also considered spacing and arrangement to be important, as he argued that, "crowded cases give an impression of crowded ideas."[234] Therefore, as the specimens in the McGill museum were arranged according to Abbott's classification system, care was required to reduce overcrowding and to properly space each specimen.

Further expanding the design scale, we can see the great importance that lighting had on the attractiveness of the displays, the ability to properly view the specimens, and on the preservation of the specimens themselves. Prior to the fire in 1907, the museum was located in the building known as Old Medical, in a space that Annmarie Adams calls a "doughnut-in-a-box."[235] In this space, the specimens were arranged around the perimeter of a rectangular room with a large skylight in the centre, which bathed the specimens with light. This skylight design had become commonplace in public art museums following the opening of the Louvre in the late

[233] "A Visit to Some of the Paris Museums," 622.
[234] Judah, "The Arrangement and Administration of Museums."
[235] Adams, "Designing the Medical Museum," 174.

eighteenth century.[236] Following the fire, the museum was moved to the newly-built Strathcona building, and was placed in a space designed with ample lighting through large windows. The reliance on natural light became a matter of great frustration, however. Judah recalled that, "when the Strathcona Museum was built in 1910 very little was known about scientific museum display and lighting. With white walls, black cases, and sunshine streaming through the windows, the reflection from the glass was so great that very little was seen except the image of the observer."[237] Indeed, the first major concern regarding natural lighting was that it could not be controlled. To the students of his museum techniques course, Judah advised; "Sunlight being unreliable even during the summer months, it is important that adequate allowance be made for artificial lighting when plans of a building are being considered. Light must be at all times under absolute control, if you are to obtain the various effects so necessary for Museum Exhibits."[238] The second major concern of natural lighting was its detrimental effect on the specimens. Sunlight quickly faded the colours which museum technicians had worked so diligently to preserve. Judah explained that, "direct sunlight, which was considered so necessary a few years ago, streaming through your museum windows, is most injurious to material."[239] Directed to an audience of museum curators and librarians with a range of materials in their collections, Judah added; "In fact there is no colour to my knowledge, which the sun will not fade, dry up or utterly ruin."[240] To remedy this issue in the Strathcona building, roller blinds were added to the windows in 1911.[241]

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[236] McClellan, *The Art Museum,* 132.
[237] E. L. Judah, "McGill University Library School: Museum Lighting," McGill University Archives, Judah collection, MG 4067, container 1, folder 16.
[238] E. L. Judah, "Museum Exhibits: Lecture for Library School Used in Part for The Summer Course in Medical Museum Technique," McGill University Archives, Judah collection, MG 4067, container 1, folder 16.
[239] Ibid.
[240] Ibid.
[241] Museum Committee, *Minute Book* (Montreal: McGill University, 1909-1918), 57, McGill University Archives, Faculty of Medicine collection, RG 38, container 2, file 51.

As electric lighting became more financially accessible in the early twentieth century, the ideal lighting techniques became a matter of great discussion. Judah was a proponent of the "3 to 1" lighting technique that had been applied to store windows, in which a "light value of 3 is indirectly reflected on the object to be shown with a value of 1 at the point from which the exhibit is to be viewed."[242] He warned, however, that when using lighting within display cases, "care must be taken that the lights inside the [display] box are not reflected in the jar."[243] Lighting techniques were matters of aesthetic and practical concerns. Improper lighting could cast unsightly shadows on the specimens, rendering them unattractive and less visible. Natural light could also damage the integrity of the specimens, thereby lessening their values as pedagogical and research objects.

Finally, concerns about lighting were closely tied to issues of wall colour. Judah closely studied the designs of art galleries, and announced to the attendees of his museum techniques course that, "apart from colour preservation and information of that nature, I get most of my techniques from popular museums."[244] He added that, "you will also find a great deal can be learned from various Art galleries throughout the country, as to lighting and colour effect."[245] Furthermore, in 1934 he advised Alice E. Johannsen, a recent McGill graduate, that, "there is no better training for a Science Museum Director than work in a well administered Art Gallery."[246] Three days later, he advised Johannsen that, "Art Galleries are also much more advanced in Canada than Museums."[247]

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[242] E. L. Judah, "Display Boxes for Showing Museum Specimens," McGill University Archives, Judah collection, MG 4067, container 1, folder 16.
[243] Ibid.
[244] E. L. Judah, untitled lecture for museum techniques course, McGill University Archives, Judah collection, MG 4067.
[245] Ibid.
[246] E. L. Judah to Miss Alice E. Johannsen, August 20, 1934, McGill University Archives, RG 41 c. 16.
[247] E. L. Judah to Miss Alice E. Johannsen, August 23, 1934, McGill University Archives, RG 41 c. 16.

The walls in the museum space at Old Medical were painted white, with a deep olive green behind the specimens.[248] Judah was not pleased with the use of dark colours in museums and galleries. He noted that, "in visiting other museums or art galleries in the older European cities, you will notice that a dark maroon colour is used on many of the walls and hangings, etc. While this particular shade of maroon undoubtedly reduces the reflection, it absorbs a great amount of light and darkens the interiors so tremendously."[249] Instead, he preferred the use of a lighter, neutral colour. He suggested that, "a light warm gray obtained without the use of black is very pleasing and is quite serviceable, it is the color that I am using in several museums here at McGill University, which gives the minimum amount of absorption and the maximum amount of light without reflection."[250] Reflection, as we have seen, obscured the viewing of the specimens in their entirety, thereby rendering them less meaningful for education and research, and lessening their aesthetic appeal. Unfortunately, in 1932, the Director of the National Museum of Wales, Cyril Fox, conducted a survey of McGill's many museums and was disappointed by the settings in which the medical specimens were housed. He suggested that in the anatomical museum, "the backgrounds of the cases might be improved to eliminate reflection," and in the medical (historical) museum, "the backgrounds of the otherwise excellent cases might be improved."[251] Paint colour went hand-in-hand with lighting in museum design plans, as they both greatly affected the use and attractiveness of the specimens.

[248] McGill University, Faculty of Medicine, *Illustrations of the Medical Faculty, McGill University* (Montreal: E.M. Renouf, 1898).
[249] Judah, "The Arrangement and Administration of Museums."
[250] Judah, "Museum Exhibits." N.B. this document was written after the museum was divided into a series of smaller museums in the 1920s. McGill had eleven museums on its campus by this point. Judah was curator of a number of these museums including the Ethnology museum.
[251] Cyril Fox, *A Survey of McGill University Museums* (Montreal: McGill University, 1932), 21.

Conclusion

The meanings of the specimens shifted as they moved from the dissection and autopsy rooms to the museum preparation room where they encountered new observers. As a highly skilled technician, Judah treated the specimens as objets d'art, which were to be preserved and displayed in the most aesthetically pleasing manner. Lorraine Daston and Peter Galison have similarly shown how the careful preservation and colour-enhancing techniques employed by William Hunter in the late eighteenth century rendered his specimens pieces of art, even before they were reproduced in drawn renderings.[252] In their influential book, *Objectivity*, the authors show how the concept of scientific objectivity took hold in the mid-nineteenth century, whereby practitioners of many scientific disciplines sought to eliminate personal bias in their practices. The process of preserving and displaying specimens, however, was a decidedly subjective operation. Though Judah strove for 'accuracy' in his work, preserving and mounting specimens required a skilled, discerning, and artistic eye. Furthermore, the labels attached to the specimens, their placement within the museum space, and the space itself impacted the visual appeal and functionality of the preserved body parts.

Abbott's classification system similarly added new layers of meaning to the museum specimens. As Andrew McClellan has neatly explained; "All museums rely on classification and display to give their contents coherence and meaning. Classification and arrangement are the lifeblood of any collection; collections differ from mere accumulations of objects by virtue of criteria of selection and a subsequent ordering of what is collected into meaningful categories and/or a sequence."[253] Abbott's decimal system divided and ordered the specimens into 'meaningful categories,' which consequently made the specimens more valuable and useful for

[252] Daston and Galison, *Objectivity*.
[253] McClellan, *The Art Museum*, 111.

the McGill students and faculty. Both artistic and encyclopaedic approaches were required to mould the McGill medical museum into the renowned and highly-functional teaching museum that it became under Abbott's direction. Indeed, before Abbott was recruited, the museum did not make much progress under Adami's directorship because, as his colleague suggested, "his interest in the museum was artistic or aesthetic."[254] The specimens required a dedicated team that would treat the specimens as delicate objets d'art and as functional, materialized medical 'facts.'

As the specimens became more functional and meaningful, they were mobilized in a number of ways inside and outside of the museum space. In the final chapter, I examine the ways in which the preserved, mounted, and labelled specimens were used and re-interpreted. Their meanings were further moulded by encounters with students in educational settings, or with medical professionals through temporary exhibits, and certain specimens were also considered valuable for their historical provenance or for the names associated with the specimens' collection. These scenarios facilitated new human-specimen encounters with observers that approached the specimens through different perspectives.

[254] MacDermot, *Maude Abbott: A Memoir*, 70.

CHAPTER 3

Mobilizing and Memorializing

Students, professors, and surgeons extracted the body parts, museum technicians and medical practitioners preserved and mounted them, and Abbott ordered and classified them. Once the specimens became embedded within the McGill museum collection, they began new lives as educational tools, and as objects of commemoration and admiration. These new meanings were ascribed to the preserved bodily fragments through encounters with new observers, and through return encounters with individuals who re-engaged with the body parts in their preserved and mounted forms. The body parts had been severed physically and figuratively from the cadavers, and had been transformed from visceral pieces of diseased flesh to beautiful and functional pieces of art.

In these new forms, the specimens were mobilized for medical education, for use in informative travelling displays, and as memorial objects. In this chapter, I explore the functionality of the specimens in these forms, within and outside of the museum space, and I examine the ways in which their meanings were further impacted by new human-specimen encounters. The physical and conceptual transformation of the specimens which resulted from the process of preservation, classification, and display promoted new ways of seeing and interpreting the bodily fragments, which were translated through educational programs and specially curated displays. Furthermore, many of the specimens acquired new meanings over time as they became objects of historical importance. As Erin Hunter McLeary explains; “The museum was one node in a network that connected patient, physician, hospital, laboratory, classroom, and exhibition; as specimens left the patient to enter the laboratory or left the museum to enter the classroom, they connected the network’s nodes as they acquired function and

meaning."[255] In this final chapter, I connect these remaining nodes, and explore the new functions and meanings ascribed to the specimens through the human-specimen encounters which occurred in these diverse settings.

Living and Speaking Body Parts: Specimens in Education

In 1888, surgeon Jonathan Hutchinson suggested that, "what we want is objective teaching; and this, I think, is beginning to be perceived on all hands. To that end nothing seems to be more important than the formation of good educational [medical] museums."[256] The use of museum specimens in medical education, however, was not a new concept in 1888. For instance, William Hunter was known to pass around his smaller specimens during the classes he held at his Windmill Street medical school, thereby providing students with a tangible and detailed illustration of the theories presented during his lectures.[257] His late eighteenth-century practice provided a model by which nineteenth-century lecturers and professors could follow. Elizabeth Hallman suggests that the display of anatomical and pathological preparations during lectures provided a necessary supplement to the practice of dissections. She argues that "museum displays…enabled students to see, in advance, versions of the anatomical interiors that they were about to uncover in their own dissections."[258] In a way, Hallman is describing a circular process, whereby students examined preserved body parts in preparation for the dissections they would soon perform, which may lead to the preservation of new body parts for reference by future students. She further claims that upon performing their prescribed dissections, students found

[255] McLeary, *Science in a Bottle*, 74.
[256] Jonathan Hutchinson, "The Bradshaw Lecture on Museums in Their Relation to Medical Education and the Progress of Knowledge," *The British Medical Journal* (December 8, 1888): 1258.
[257] Hallman, *Anatomy Museum*, 130.
[258] Ibid., 214.

that "not all anatomical structures could be examined in detail during dissections."[259] Museum specimens, therefore, afforded students the opportunity to view the structures up close.

As mentioned in chapter two, the specimens in the McGill museum had been used for demonstration purposes since its inception. The Holmes Heart, for instance, was a popular specimen for classroom instruction, used frequently by Osler in his lectures.[260] Francis J. Shepherd used specimens in his classes as well, as indicated by the *Dissecting Room Record* which noted that a body of a female patient who had died at the Longue Pointe Asylum was "used by Shepherd for organs, for 1st year exams."[261] It is unclear if Shepherd preserved these organs for long term use or if he demonstrated them fresh, which was also a common practice. However, by the 1896-97 school year, eight years later, the museum's preserved specimens were demonstrated in Anatomy, Medicine, Surgery, Midwifery, and Gynaecology classes at McGill.[262] In 1900, two years after Abbott's appointment, Adami explained that the teaching of special pathology in Medicine "best takes the form of a series of weekly conferences over museum specimens, the different systems being reviewed in succession, oral examinations being held upon the gross anatomical conditions characterizing the various departures from the normal."[263] Prior to Abbott's appointment, the specimens in the McGill museum played an active role in medical education as a supplement to the students' dissection practice. Abbott, however, breathed new life into the program.

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[259] Ibid.
[260] Helen MacMurchy, "Dr. Abbott's Place in Medicine," *McGill Medical Journal* X, no. 1 (1940): 44.
[261] Medical Faculty, McGill College. *Dissecting Room Record,* 70.
[262] McGill University, *Calendar of the Faculty of Medicine: Sixty-Fourth Session, 1896-1897* (Montreal: Gazette Printing Co., 1896), 46-52.
[263] J. G. Adami, "On the Teaching of Pathology," Reprinted from the special number of the *Philadelphia Medical Journal on Medical Education* (September 1, 1900): 7-8.

On a visit to Baltimore in 1898, Abbott visited Osler, who suggested that she read an article written by Jonathan Hutchinson in 1893 about his medical museum.[264] Though his museum was still in its infancy, Osler lauded it as "the greatest place I know for teaching students."[265] In a reflection on this pivotal moment in Abbott's career, physician W. W. Francis mused; "Thus the seed was sown that influenced all her future work."[266] Indeed, a driving factor in Abbott's extensive cataloguing and classification work was the desire to improve the functionality of the museum for medical education, motivated by Hutchinson's work and Osler's encouragement.

At the same time, her close interactions with the specimens through the cataloguing process allowed her to become increasingly familiar with their pathologies and case histories, which proved to be a valuable prerequisite for the development of her educational program. Abbott described the beginnings of her program as such:

> The *Museum Teaching* was a quite spontaneous development. As I came to know the specimens intimately, the students began dropping in and asking questions about them, and Dr. Adami, who as Professor of Pathology held the title also of Director of the Museum, put up a notice for the final year, stating that those students who wished to have the specimens demonstrated to them might arrange with me for this at hours mutually suitable. Very soon the entire final year had enrolled itself in groups which came weekly in rotation, so that I met every student once weekly in serial demonstrations which covered all the material that was worth studying by the end of the session.[267]

This voluntary program was held at 8:00 a.m. every weekday, during which time the attendees would examine a pre-selected assemblage of specimens, introduced in anatomical order. These hands-on interactions were followed by quizzes and discussions to place the specimens in conversation with their corresponding case notes.[268] Additionally, Abbott devised a system by

[264] W. W. Francis, "Maude Abbott - Hero-Worshipper," *McGill Medical Journal* X, no. 1 (1940): 40
[265] Quoted in W. W. Francis, "Maude Abbott - Hero-Worshipper," 40.
[266] Ibid.
[267] Abbott, "Autobiographical Sketch," 143.
[268] Abbott, "The Museum in Medical Teaching," 938-39.

which instructors could submit requests for specimens for classroom or clinical demonstrations. The less 'valuable' specimens would be transported in "strong baskets" and were held by the borrowers for up to forty-eight hours.[269] Just as Abbott became the 'gatekeeper' for incoming specimens, she was also judicious about the mobilization and the handling of the specimens within and outside of the museum space. The museum demonstrations became so popular amongst the students that the program became embedded into the curriculum in 1905, where it remained until 1922.[270] The museum's invigorated educational value also attracted attention from those outside of the school. Educator Abraham Flexner, for instance, recognized its value in his influential 1910 report on medical schools in the United States and Canada, calling the museum the "most famous on the continent."[271]

While the preservation and mounting techniques had been improved by Judah, the value and meanings of the specimens as educational tools were most affected by Abbott's work – both her technical organization system and her animation of the specimens. Her organization system influenced the order in which the specimens were demonstrated, facilitating new ways of conceptualizing the various pathologies of the body. At the same time, her demonstrations infused life into the deceased body parts. McLeary has argued that in courses at other schools during which specimens were shown, "the dripping, reeking specimens fished out of jars…repelled many students."[272] However, it appears as though Abbott was the catalyst required to shift the students' perspectives at McGill. The Dean of the Long Island College of Medicine, Adam Miller, for instance, proclaimed that, "to see a medical museum with Maude Abbott is to

[269] Ibid., 937.
[270] Abbott, "Autobiographical Sketch," 144.
[271] Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* (New York: The Carnegie Foundation, 1910), 324.
[272] McLeary, *Science in a Bottle,* 204.

have every specimen live!"[273] Similarly, physician Helen MacMurchy recalled that, "Dr. Abbott made events live and specimens speak."[274] Abbott's eternal respect and admiration for the specimens effectively animated the fixed body parts, and imparted within the students a drive for knowledge. This transformation occurred through the demonstration of human and comparative anatomy specimens. For instance, former student Elizabeth MacKay recalled;

> Our contacts with Dr. Abbott in the classroom were unfortunately few, but they left us with an enduring impression of her enthusiasm and learning. I recall the first of these occasions, a demonstration in congenital cardiac disease, with particular vividness: the row of students perched on stools; the table full of perplexing museum specimens; the tray containing the huge, dripping, and to me at least, totally incomprehensible reptilian heart, donated by some fishmonger; and Dr. Abbott moving from exhibit to exhibit, as completely immersed in her subject as were her fingers in a pair of enormous rubber gloves. The situation had its amusing side; yet she could not fail to impart something of her own zeal even to those of us who as yet knew little about her theme.[275]

Eileen Hooper-Greenhill has argued that in the late nineteenth and early twentieth centuries, "museum pedagogy was based on the idea of the possibility of the realisation through objects of universal laws that could be taught in the same way at all times and in all places."[276] Though Abbott believed that the museum specimens represented objective medical 'facts,' her unique mobilization and animation of the specimens complicates Hooper-Greenhill's theory. Her museum program could have been reproduced in other museums, with specimens that exhibited the same pathologies, yet Abbott's 'zeal' imparted new value and meanings onto the specimens in a manner that would have been difficult to replicate at other institutions. The specimens at the McGill museum were brought back to life through Abbott.

The specimens were further mobilized for alternative educational purposes by Judah. In the 1930s he led a course on medical museum techniques, which attracted students from Canada

[273] Quoted in Donald De F. Bauer, "Dr. Abbott - Student and Teacher," *McGill Medical Journal* X, no. 1 (1940): 52.
[274] MacMurchy, "Dr. Abbott's Place in Medicine," 47.
[275] Elizabeth MacKay, "Dr. Abbott and the Students," *McGill Medical Journal* X, no. 1 (1940): 48.
[276] Hooper-Greenhill, *Museums and the Interpretation of Visual Culture*, 126.

and the United States. These attendees included medical doctors, pathological laboratory staff, and other staff from various universities, and many of the attendees were women.[277] Lectures included instruction on mounting, colour preservation, labelling, and exhibits, in which he shared with the attendees the technical expertise he gained through years of trial and error.[278] A dissemination of his unique methods did not necessitate the duplication of his successes, however. He warned potential students that, "during the two weeks available, only the theory of Museum work can, of course, be acquired; mechanical dexterity, which is so essential, comes through years of patient endeavour."[279] Just as medical students developed dexterity and trained their senses for complex medical and surgical work, museum staff similarly had to train their senses and develop the manual skills to be able to see and manipulate the specimens from the perspective of an adept museum technician. As shown through Judah's work in chapter two, this perspective differed from that of a medical doctor or pathological laboratory technician, which meant that many attendees required a re-training of the hand and eye to adapt to this new art form.

Throughout the lectures, Judah used specimens to illustrate the effects of 'good' and 'bad' techniques, and to demonstrate the processes of preservation and mounting. For instance, a list of "material required for lecture no. 4" included a "specimen to show square holes from badly taken Microscopic sections,…specimens mounted in half glycerine and half water,…tuberculosis intestins [sic] for Medical Museum,…[and] specimens to show colour methods."[280] Hand-written check-marks are placed beside each of these items on the list,

[277] E. Lionel Judah, *McGill University Summer Course in Medical Museum Technique: Announcement* (Montreal: 1934), McGill University Archives, Judah collection, MG 4067.
[278] Ibid.
[279] Ibid.
[280] E. L. Judah, "Material Required for Lecture no. 4," McGill University Archives, Judah collection, 38-80-3.

suggesting that they were successfully retrieved for demonstration. The specimens that were selected for demonstration during Judah's museum techniques course were largely viewed by members of the medical profession, yet the attendees were required to limit their medical eye, to become less concerned with the clinical implications of the pathologies, and instead to view the specimens as malleable museum preparations that required an artistic eye and a delicate hand. While Abbott mobilized the specimens for the education of medical students, Judah mobilized the specimens for the re-education of the medically-trained eye. In these demonstrations, the pathologies took a back seat to museum technique and artistry.

Both of these modes of education point to an incongruity in Abbott's interpretation of the specimens. Through she viewed the specimens as 'facts' which were to convey the necessary medical knowledge on their own, the specimens nonetheless required the intervention of a trained expert to animate them and to translate their intended messages. Abbott's 'zeal' animated the specimens for the students, as she drew attention to their unique pathologies, aided by the additional textual interventions of the labels and cards. Judah animated the specimens for established professionals, and drew attention to 'good' and 'bad' museum technique, rather than the pathologies. For Judah's demonstrations, the labels and cards were viewed less for the implications of the clinical information they contained, and were instead considered for their appearances and for the modes by which they were affixed. The museum specimens did not speak for themselves as Abbott had idealized. Instead, human intervention was required to attach meaning to the specimens, and to mould these meanings for particular situations and audiences.

Histories Preserved in Body Parts

In her analysis of natural history collections, museum theorist Susan M. Pearce has argued that the process by which a specimen is selected through contemporary ideological

frameworks, removed from its natural context, and organized alongside other materials transforms the natural object into a "humanly defined piece."[281] I have shown how the process of dissection and autopsy, preservation and mounting, and cataloguing and organizing transformed the human specimens at the McGill museum in a similar manner. However, the additional 'humanly defined' meaning of historical significance was ascribed to a subset of these specimens, which in many cases had little to do with the specimens' pathologies.

The collection of specimens during wartime was a practice with a dual purpose. First, the specimens were valuable for their demonstrations of rare pathologies and injuries. Second, they represented the valour and sacrifice of the soldiers and surgeons on the front. United States Surgeon General Joseph K. Barnes wrote in his 1870 book on the medical history of the Civil War that the Army Medical Museum in Washington was "an eloquent and instructive history of the Medicine and Surgery of the War, and without which no history could have been completely illustrated."[282] The specimens collected during the American Civil War and preserved in the Army Medical Museum were simultaneously a specimen library for education and research, and an enduring reminder of the hardships of war. The Washington museum deeply influenced the development of the McGill museum, beginning with Abbott's visit to the institution shortly after her appointment as assistant curator.[283] The Army Medical Museum remained connected to the McGill museum through specimen donations, particularly after the fire in 1907. The McGill museum now holds a collection of mounted bones exhibiting various war injuries, including a lumbar vertebra with a bullet lodged inside, and a forearm that was amputated at Gettysburg due

[281] Susan M. Pearce, "Museum Objects," in *Interpreting Objects and Collections,* ed. Susan M. Pearce (London: Routledge, 1994), 10.
[282] Joseph K. Barnes, *The Medical and Surgical History of the War of the Rebellion (1861-65)* (Washington: Government Printing Office, 1870), vi.
[283] Abbott, *Autobiographical Sketch,* 41.

to gangrene.[284] Therefore, by extension, the Montreal Museum became a space in which the history of the American Civil War was preserved in material form.

The First World War was considered by some Canadian medical practitioners to be an ideal opportunity to preserve rare specimens. As such, an elaborate process was developed by which specimens would be preserved on the front, and sent to Montreal, with the goal of developing a Canadian War Museum. The Canadian Army Medical Service, of which Adami was a member, endeavored to salvage "material of all sorts" from fallen Canadian soldiers, which were to be sent to Canada for preservation and display.[285] The Royal College of Surgeons of London, which housed the great Hunterian Museum, agreed to act as a "clearinghouse" for specimens collected from Canadian, British, and Australian soldiers.[286] The Canadian specimens were shipped to Abbott, Judah and technician Joseph Giroux at McGill, who were to mount the specimens and prepare them for display. The collection was considered to be "of the utmost value in the education of the Canadian Army Medical Corps" during the war, and simultaneously a "fitting memorial to future generations of the sacrifices of our troops."[287] The inspiration for this museum was once again derived from the Army Medical Museum, which, to Adami and Judah was "the model…for all medical histories of campaigns."[288] They explained that, "the very knowledge that such a History is to be prepared makes it essential that material from important cases be preserved for illustration and study in the quiet years following the rush and hurly-burly

[284] These specimens can be viewed on the museum's website, which lists the battles during which the specimens were collected. McGill University: Maude Abbott Medical Museum, "Specimens," accessed May 13, 2022, https://www.mcgill.ca/medicalmuseum/exhibits/warbones/specimens.
[285] "Canadian Collection of Medical War Specimens," *The Lancet* (August 17, 1918): 215.
[286] James R. Wright, Samuel J. M. M. Alberti, Christopher Lyons, and Richard S. Fraser, "Maude Abbott and the Origin and Disappearance of the Canadian Medical War Museum," *Archives of Pathology & Laboratory Medicine* 142 (October, 2018): 1293.
[287] "Canadian Collection of Medical War Specimens," 215.
[288] J. G. Adami and E. L. Judah, "On the Preservation of War Material for Museum Purposes," reprinted from *The International Association of Medical Museums Bulletin,* 5 (June 1, 1915): 1.

of the war."[289] This single statement demonstrates the dual meanings that the war specimens were to hold; objects of commemoration, memorialization, and remembrance, containing valuable historical significance, and objects for education and research. Furthermore, an anonymous reviewer of an exhibition in which a selection of Canadian war specimens were displayed commented that, "the whole affords a striking idea of the human interest there is in the records of the sufferings undergone by the soldiers, and the endeavours made by the medical services to counteract those sufferings."[290] The war specimens therefore, were ascribed value by the 'human interest' of those within and outside of the medical sphere, through the historical significance of the battles in which they were collected.

Many of the specimens at the McGill museum gained historical significance over time, or their values were enhanced through their association with a particular donor, collector, or deceased 'subject.' In some instances, this additional layer of meaning held more significance for some viewers than others. For example, a blackened heart which can still be found on display in the museum today has been dubbed the "Drake Heart," for it belonged to McGill professor and surgeon Morley Drake. This heart held a special significance for Osler, as he succeeded Drake in his professorial role at the University. During a return visit to the McGill museum after Osler had left his position at the school, he instantly recognized the heart and proclaimed, "Good Lord! I owe my position in life to that heart; it's dear old Dr. Drake's; it started to peter out when I came home from abroad in 1874, and I stepped into his shoes!"[291] He further remarked that, "if that heart had not petered out when it did, in all probability I would not be where I am now."[292] Unlike most of the museum's specimens which had severed ties with the names of the people

[289] Ibid.
[290] "Canadian Collection of Medical War Specimens," 215.
[291] Quoted in Francis, "Maude Abbott – Hero-Worshipper," 40.
[292] Quoted in Cushing, *The Life of Sir William Osler*, 130.

from which the body parts were removed, Drake's name was included in the museum's log book and on the specimen's descriptive card, which both stated that the organ was "the heart of the late professor Drake."[293] To some viewers, the name on the card would have meant little, and instead the heart would have been a useful object of study for its demonstration of aortic stenosis. To Osler, however, this specimen held more personal than scientific value.

We have also encountered another, similar case in which additional meanings were ascribed to a specimen through time, in the previous chapters. The Holmes Heart is a prime example of this phenomenon. As discussed in chapter one, it was initially collected and preserved for its unusual pathology. Professors such as Osler frequently demonstrated the specimen in their classes to illustrate this anomaly. However, the significance of the specimen was multiplied by the name of its collector, McGill Medical Faculty co-founder Andrew F. Holmes. Hallman has similarly observed this phenomenon in her analysis of medical museums, noting that some specimens "have the potential to acquire memorial significance – as when they are viewed as reminders of the anatomists who dissected them in the past."[294] According to Abbott, after Osler had left the school, the heart "had stood upon the shelves of the Pathological Museum for many years without a reference and its interesting history seemed to have passed beyond the ken of the present generation."[295] Without the anecdotal transference of knowledge regarding the specimen's collector by enlightened instructors, the specimen's value laid solely in its pathology for many years. However, in the process of cataloguing the museum's collection, Abbott flagged the unique specimen and asked Osler about its history. He "remembered it

[293] These annotations and a description of the heart's history can be found on the museum's website: "15-Heart: Aortic stenosis," McGill University: Maude Abbott Medical Museum, accessed May 12, 2022, https://www.mcgill.ca/medicalmuseum/exhibits/maude-abbott-medical-museum-osler-collection/specimens/valvular-disease/15-heart-aortic-stenosis.
[294] Hallman, *Anatomy Museum*, 31.
[295] Maude E. Abbott, "Museum Notes," *Montreal Medical Journal* 30, no. 7 (July 1901): 524.

perfectly," and directed Abbott to Holmes' report on the heart in the *Edinburgh Medical Journal.*[296] She set to work rediscovering the history of the heart and, once again, she breathed new life into the specimen.

Abbott re-published Holmes' article in the *Montreal Medical Journal* in 1901, which she introduced by stating, "this specimen which presents a condition of great pathological rarity as well as of clinical significance, is also most interesting to Montrealers and to those at McGill from a historical point of view."[297] In this introduction, Abbott solidified the heart's dual meanings as an object for teaching and research, and as a historical artifact. These compounding values led Osler to view the Holmes Heart as "the corner-stone of the collection."[298] Former director of the Mütter Museum in Philadelphia, Robert D. Hicks, has explained that, "the permanent exhibit [at the Mütter Museum] contains specimens that many people return to visit as though they are old acquaintances."[299] The Holmes Heart has similarly become an 'old acquaintance' for many visitors to the McGill museum — it is, in essence, the 'heart' of the museum. This process of re-discovery may have also impacted Abbott's professional identity, as she connected to the 'great men' before her through the heart. A "feminine misfit in an exclusive male environment," she used the Holmes Heart as the springboard from which to launch her subsequent successful career in congenital heart disease research.[300]

Though less publicized, a heart exhibiting a gun-shot wound was also described to be "interesting also historically" in a museum document, for its association with Holmes.[301] Holmes conducted the autopsy of a young man who was shot during a riot while trying to force his way

[296] Ibid.
[297] Ibid., 522.
[298] Francis, "Maude Abbott – Hero-Worshipper," 40.
[299] Robert D. Hicks. "The Disturbingly Informative Mütter Museum," in *Medical Museums: Past, Present, Future,* eds. Samuel JMM Alberti and Elizabeth Hallman (London: The Royal College of Surgeons of England, 2013), 177.
[300] MacDermot, *Maude Abbott: A Memoir,* 60; Fraser, *Hic est locus,* 340.
[301] "Rupture of the Heart," McGill University Archives, Medical Museum Collection, RG 41-38-81-2.

up a staircase. The case was reported by Holmes in 1845 because he considered the injury, which lacked a perforation of the pericardium, to be "of unique character," which would feature prominently in a hypothetical "'receuil' of medical curiosities."[302] To Holmes, the specimen was a remarkable scientific exemplar, which, though rare, "may hereafter become useful."[303] Decades later, however, the specimen adopted a new meaning as a historical artifact, through which viewers could gain a sense of proximity to the eminent physician and medical faculty co-founder.

As discussed in chapter one, the fire of 1907 destroyed hundreds of valuable specimens. In a letter sent from Berlin shortly after the fire, Charles Ferdinand Martin (McGill Faculty of Medicine Dean from 1923-1936) consoled Abbott by stressing the ease with which many of the specimens could be replaced; however, he lamented that "the new ones will lose the special historical interest."[304] Fortunately, despite the great loss of specimens which had been collected by Shepherd and Adami, Abbott acknowledged that, "much of the most valuable material" was salvaged, and that much of this valuable material still held "historic interest."[305] Among these specimens were the Holmes Heart and a series of specimens collected by Osler during his time at McGill. Valued as much for their pathologies as they were for their histories and for the names to which they were attached, these specimens formed the "nucleus" of the restored museum in the Strathcona Building.[306] To Abbott, Osler's specimens represented "in visible and tangible form, the first stepping-stones in a great career."[307] She further argued that his specimens "are of the utmost biographical interest, and as such they are an asset of immense value in the history of

[302] A. F. Holmes, "Gunshot Wound of the Heart Without Perforation of the Pericardium," *The British American Journal of Medical and Physical Science* 1, no. 9 (December, 1845): 227.
[303] Ibid.
[304] C. F. Martin to Dr. Abbott, April 30, 1907, Osler Library, Maude Abbott collection, series 3, folder 56.
[305] Abbott, *Curator's Report,* 5.
[306] Ibid.
[307] Maude E. Abbott, "The Pathological Collections of the Late Sir William Osler," 92.

modern medicine."[308] Therefore, the body parts that were once valued as life-sustaining organs for the living patient were harvested for educational and scientific use, and were subsequently re-interpreted as historical artifacts, while in most cases becoming associated with the collector rather than the original patient. Lisa O'Sullivan and Ross L. Jones have eloquently explained this phenomenon as it occurred through specimen exchange networks. They suggest that,

> At least some of the resonance of these specimens is centred around the charismatic authority of the original scientist with whom they become associated, as proof of both authenticity and intellectual credibility and importance. As tangible remnants of past scientists and past scientific practices, they take on a rhetorical role apart from their specific possibilities for knowledge production and become instead evidence of the importance of scientific endeavor, and material homage to the work of individual scientists.[309]

The Osler and Holmes specimens became associated with the authority of their collectors, and they acted as a historical record of the 'scientific endeavors' that were conducted at McGill.

While Abbott was on leave at the Women's Medical College of Philadelphia, a new Pathological Institute was built on the McGill campus. Most of the museum specimens were moved to a new museum space in the Institute; however, a smaller collection including Osler's specimens and the heart specimens that Abbott had collected remained in the Strathcona building to form the Medical Historical Museum.[310] In this way, the historical meanings attached to these specimens were solidified through their spatial environments.

Travelling Stories

Some specimens were further re-interpreted through their selection for travelling displays. External displays functioned as an extension of the museum, through which the medical knowledge that was held in the McGill museum could be recontextualized and shared. These

[308] Ibid., 91.
[309] O'Sullivan and Jones, "Two Australian Fetuses," 263.
[310] Fraser, "*Hic est locus,*" 342.

displays allowed a wider audience to engage with the specimens outside of the museum walls. Unfortunately, the precise nature of many of these exhibits is difficult to trace. Though Abbott curated a number of external exhibits on behalf of the museum, few sources remain which speak to the design, specimen selection, intent, or reception of most of these exhibits. Furthermore, the exhibit that Abbott curated for the Chicago World's Fair in 1933, which remains one of the best documented exhibits, displayed only images and texts but no specimens. However, the exhibit at the centenary meeting of the British Medical Association (BMA) can provide some insight into the use of the McGill museum's specimens outside of the museum space.[311]

Displayed in London in July 1932, the exhibit was designed to illustrate the development of the heart and to show the products of Abbott's research on congenital cardiac disease. Abbott compiled a collection of photographs, drawings, charts, and specimens to form the densely-packed display, which was divided into two sections to illustrate each theme (Fig. 9).[312] Approximately fifty human and animal specimens, mounted on glass frames and preserved in

Figure 9: Photograph of Abbott's exhibit at the Centenary Meeting of the British Medical Association, photograph by the London Panoramic Company, London, 1932, Maude Abbott Medical Museum, used with permission.

[311] Annmarie Adams presented an excellent paper at the 2022 Maude Abbott and the Medical Museum Symposium regarding the Abbott's exhibits and their physical spaces. Her paper has also provided the name of the photography company cited in the caption of figure 9. Annmarie Adams, "Curating Abbott: The Architecture of Medical Exhibits 1931-33," unpublished paper delivered at the Maude Abbott and the Medical Museum Symposium, Montreal, QC, March 18, 2022.

[312] Maude E. Abbott, "Centenary Meeting: The McGill University Exhibit, Development of the Heart and the Clinical Classification of Congenital Cardiac Disease," *The British Medical Journal* 2, no. 3756 (December 31, 1932): 1197.

square jars, were placed in front of the pictorial display on two tiers of shelving.[313] An anonymous reviewer of the exhibit wrote that the exhibit "was a model of what can be achieved in museum display by combining specimens, models, charts, and illustrations to show all aspects of a single disease."[314] The McGill exhibit was one of many exhibits that were spread across four rooms during the BMA's centenary meeting, forming an ephemeral, temporary museum.[315]

In a lecture for his course on medical museum technique, Judah told his students to "remember, and remember well that in laying out an exhibit, you are writing a story as it were."[316] The stories that Abbott told through her BMA exhibit were complex and multi-layered. Most simply, her exhibit told the story of the development of the healthy and diseased heart. Abbott was committed to the idea that the two sections would prove complementary. In a discussion about the possible reproduction of her exhibit after the London meeting, she argued, "I do not think it would do to break it up by showing only a part, as the point of it is that it tells a coherent story."[317] However, the exhibit also carried with it a number of sub-stories, some more prominent than others. According to Abbott, the exhibit generated many of the diverse meanings and interpretations that I have discussed thus far, with varying degrees of significance. In her account of the exhibit in *The British Medical Journal,* she neatly summarized the multiple meanings and values that could be ascribed to specimens as she explained,

> The artistic merit of the many fine medical art drawings interpolated in the wall display, and the *skilful technique* manifested in the mounting and stencil labelling of the specimens, made this exhibit one of the most *attractive* parts of the museum. Its chief value, and its really exceptional interest, however, lay not so much in these features, or in the scientific and *historic importance* of the many unique cases portrayed, as in the fact that this collection, representing as it did the fruits of many years of investigation,

[313] Ibid.
[314] "The Pathological Museum," *The British Medical Journal* 2, no. 3735 (August 6, 1932): 271.
[315] Ibid.
[316] Judah, "Museum Exhibits," 14.
[317] Maude E. Abbott to Dr. Martin, August 26, 1932, McGill University Archives, Medical Museum collection, RG 41 38/51/5.

> revealed the expansion from a relatively small nucleus of original observations of an *ordered whole*, and told a coherent story in which were made apparent the aetiological basis of congenital cardiac disease and the clinical significance of the various groups into which antenatal lesions fall (emphasis added).[318]

While the clinical implications of the medical knowledge conveyed through the exhibit were of the utmost importance for Abbott, she nonetheless acknowledged the aesthetic and historic attributes held by the specimens, and the significance of careful organization of the specimens in the development of medical narratives.

The specimens that were selected for display were consequently divorced from their roles as elements of the 'dividual body' within the McGill museum space. One such specimen was a heart showing a "defect at the lower part of the interauricular septum, with cleavage of anterior segment of mitral valve."[319] The heart was found during an autopsy performed by Adami, of a "strong well-developed man, aged 35" who had presented with perforative appendicitis in 1910.[320] The heart had been removed from the man's chest, preserved and mounted, assigned the catalogue number 14.121[10], and was integrated into the 'dividual body' of the McGill museum. Over twenty years later, the heart was separated from its adopted home as it was recontextualized as one of seven "extremely interesting cases" that comprised Group 2, section B of Abbott's exhibit at the British Medical Association centenary.[321]

Following its success in London, the exhibit was shown at conferences in Atlantic City and London, Ontario.[322] While Abbott insisted that the exhibit's two sections remain together, the specimens that were displayed were subject to change. For instance, an examination of a list

[318] Abbott, "Centenary Meeting," 1197.
[319] Ibid.
[320] J. G. Adami, "Persistent Ostium Primum," in *14.1 Cardiac Anomalies*, ed. Maude E. Abbott (McGill University: Montreal, n.d.) Osler Library, Maude Abbott collection, 3-7-1 box 302.
[321] Abbott, "Centenary Meeting," 1198.
[322] According to email correspondence with Annmarie Adams on June 13, 2022.

of specimens for the "Travelling Exhibit on Congenital Cardiac Disease," prepared sometime after the 1932 exhibit reveals that the man's heart discussed above remained a core element of the display, while two of the three specimens donated by Kornel Terplan of the University of Buffalo in 1934 were integrated into the exhibit for later iterations.[323] Abbott intended to keep the core message of the exhibit in-tact, and to continue to tell a cohesive story, yet the continuous mobilization of specimens across borders and between institutions, and ongoing discoveries and developments in cardiac research necessitated (or created the opportunity for) flexibility in the individual objects of display. As shown above, Abbott believed that the original 1932 exhibit told a coherent story of congenital cardiac disease – it was not lacking in substance. Therefore, Terplan's specimens were not added to the exhibit's subsequent iterations to fill a gap, but to supplement her existing narrative.

The 1932 exhibit at the British Medical Association reveals the multiplicity of forms by which the specimens were interpreted, and often re-interpreted. Some specimens used in the exhibit, such as a selection of Osler specimens, contained historic connotations, as acknowledged by Abbott. Before this exhibit was compiled, the Osler specimens had been placed within the Medical Historical Museum at McGill to honour their historic values. However, a selection of these specimens were removed from this collection, and became integrated within the new travelling collection.[324] They retained their historic significance, yet this association was lessened within the new context of the congenital cardiac disease exhibit. They were mobilized to tell a new story. Travelling exhibits changed the ways in which the selected specimens were

[323] Maude E. Abbott, *Travelling Exhibit on Congenital Cardiac Disease* (McGill University: Montreal, n.d.) Osler Library, Maude Abbott collection, 606-15.
[324] The exact specimens that were used can be determined by cross-referencing the list of specimens in the *Travelling Exhibit on Congenital Cardiac Disease* booklet with the museum catalogue.

viewed and understood, as they were placed within new settings, and were examined by new audiences.

Conclusion

Hallman suggests that, "death is not always the end of social life for bodies."[325] Nor did the fixation of specimens in sealed jars signify the end of their mobility. Many of the human specimens in the McGill museum lived complex lives and were ascribed new meanings following their accession. Social anthropologist and museum studies scholar Sandra H. Dudley points out that, "it is inherent in the very nature of the museal process that the material things museums display are almost always distanced from the viewer in ways that do not replicate human relationships with things in the real world outside."[326] Indeed, the intricate and artistic mounting of the specimens in the McGill museum reformatted the human body parts, and divorced them from their 'real world' environments of the human body container. In these new forms, viewers were free to develop new associations with the bodily fragments within the settings of the museum, classroom, or temporary exhibit.

These new interpretations of the specimens in the McGill museum were guided by the expertise of Abbott and Judah. They animated the body parts in ways that resonated with their respective audiences, and in doing so they facilitated new human-specimen relationships. Contrary to Abbott's interpretation of the specimens as 'objective facts,' they were nonetheless imbued with 'humanly defined' meaning and significance. The specimens with which students interacted within the classroom or within the museum space were interpreted differently from the specimens displayed in the Canadian War exhibit or the British Medical Association Centenary

[325] Hallman, *Anatomy Museum,* 8.
[326] Sandra H. Dudley, "Museum Materialities: Objects, sense and feeling," in *Museum Materialities: Objects, Engagements, Interpretations,* ed. Sandra Dudley (London: Routledge, 2013), 8.

exhibit, from the specimens memorialized in the Medical Historical Museum, and from the specimens demonstrated by Judah in his museum techniques course. Whether the animation of the specimens occurred actively within instructional settings, or passively within curated displays, the new interpretations of the body parts which had been divorced from their human containers and 'real world' settings were shaped by McGill's museum experts. Within these diverse settings, complex and multi-layered meanings were ascribed to the bodily fragments following their transformations into museum specimens.

CONCLUSION

The McGill museum's role in medical education, along with Abbott's influence, began to wane in the 1920s. By 1922, the pathological museum contained approximately 7440 specimens, with roughly half on display and half in storage.[327] However, in 1923 the Pathological Institute was built, and the museum fell victim to the departmental re-organization initiated by the Chair of Pathology, Horst Oertel.[328] The formal museum course was removed from the curriculum, and Abbott was relegated to the newly-formed and much smaller Medical Historical Museum where she stayed until her retirement in 1936.[329] In addition to the tensions between Oertel and Abbott regarding the supply of specimens discussed in the introduction, they also encountered philosophical differences. Erin Hunter McLeary explains that Oertel's perspective of medical museums differed greatly from Abbott's as he believed that museums were "personal and idiosyncratic creation[s]," which reflected the ideals of the institution and the perspectives of the collector/curator.[330] This idolizing of subjectivity within the museum space aligned with Oertel's philosophy of university lectures, as he believed that, "a lecture is not a simple recital of sequential facts and theories, but a personal view and interpretation of a matter taken as a whole from a uniform standpoint and as the lecturer has formulated it in his own mind after years of careful thought and research."[331] Consequently, he decreed that the Chair of the department should direct the specimen selection and the development of exhibits, and that the museum staff should be subordinate to the Chair.[332] Furthermore, Oertel's pedagogical focus laid not in

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[327] McGill University, *Announcement of the Faculty of Medicine for the Session 1923-24, Ninety-Second Session* (Montreal: The Gazette Printing co. Ltd., 1923), 68.
[328] MacDermot, *Maude Abbott: A Memoir*, 125.
[329] Ibid., 189.
[330] McLeary, *Science in a Bottle*, 233. See McLeary, *Science in a Bottle* for more details on the tensions between Abbott and Oertel.
[331] Horst Oertel, *On Universities and University Methods of Instruction and Study: An address before the Medical Undergraduate Society of McGill University* (Montreal: 1919).
[332] McLeary, *Science in a Bottle*, 233.

specimen demonstrations, but in autopsy practices, and as a result, the museum's presence within the Faculty of Medicine's annual announcements began to disappear.[333]

Though the specimens continued to be mobilized through travelling displays and through Judah's museum techniques course in the 1930s, the prominence of the pathological museum and its role in medical education at McGill declined as Abbott's 'zealous' animation, which had once brought the specimens to life, diminished. The decline of the McGill museum was not an isolated event, as this phenomenon occurred across North America and Europe in the years surrounding the Second World War. Jonathan Reinarz, for instance, shows how the development of medical specialisms and an increased focus on clinical training contributed to the decline of the museum at the Birmingham medical school, thereby signaling the end of what he termed the "age of museum medicine."[334] Furthermore, historian Ken Arnold suggests that an "explosion" of 'historical' medical museums in the twentieth century replaced the 'educational' medical museums.[335] Each institution experienced these changes in different ways, and the specimens were variously impacted. At McGill, the meanings that Oertel ascribed to the specimens – as reflections of the views of the collector – influenced the trajectory of the museum.

Sandra Dudley argues that "the museum object can be said to have two forms, both of which are composites rather than solely the physical thing itself. In the first form…the substantive object is simply one element in an informational fusion of data – some of which happen to be material and some ideational. In the second, the museum object consists of an enmeshing of the physical thing and human, sensory perceptions of it."[336] As shown through the

[333] Adams, "Designing the Medical Museum," 182.
[334] Reinarz, "The Age of Museum Medicine," 435-36.
[335] Ken Arnold, "Museums and the Making of Medical History," in *Manifesting Medicine: Bodies and Machines,* eds. Robert Bud, Bernard Finn, and Helmuth Trischler (Amsterdam: Harwood Academic Publishers, 1999), 154.
[336] Dudley, "Museum Materialities," 6.

adapted object-biography framework of this study, the preserved human specimens in the McGill medical museum fully embodied these two forms; They represented materialized medical data, and their values were interpreted and sometimes re-interpreted through human-specimen interactions. However, the 'data' presented by the specimens was never without human intervention. Perceptions of the 'data' of the pathologies presented by the specimens were shaped by the cleanliness of the dissector's cuts, the artistic skill with which the specimens were mounted, the information conveyed through the labels, the space in which they were displayed, and the methods by which they were animated. All of these factors contributed to the complex and multi-layered meanings that were ascribed to the specimens, as they encountered a range of actors who brought with them unique perspectives through which the specimens were perceived.

As Hallman argues, "when human body parts enter anatomy museums' social lives, their post-mortem existence becomes entwined with the lives of people involved in those museums."[337] This phenomenon was clearly experienced by the specimens at the McGill museum. Specimens provided the ultimate test for medical students even before they were removed from the body and placed on the museum shelf, as the students attempted to enact the forms of masculinity and objectivity that constituted the idealized medical man, through the practice of dissections. The body was necessarily objectified through dissections and autopsies as it became a collection of parts. The students re-encountered the specimens in their preserved forms during demonstrations in the classroom or in the museum space, in which new ways of interpreting the body parts were promoted. Valued at first for their unique pathologies, the specimens were subsequently re-evaluated as objets d'art, as the technical skills with which they were mounted impacted the ways in which they were perceived. As a museum technician, Judah

[337] Hallman, *Anatomy Museum,* 41.

interpreted the specimens through a different lens than the physicians, surgeons, and medical students, though the artistry exhibited in the museum was nonetheless recognized and valued by some of these actors as well. Perceptions of the specimens, and the meanings attached to them were further impacted by their mobilization in temporary exhibits, within which they were recontextualized to tell particular stories, or through their placement in the Medical Historical Museum which secured their values as memorial objects. As the human body parts were removed from their 'real world' environments, they began dynamic and complex new lives as museum specimens.

The challenges of conducting an adapted object-biography study of a group of specimens are numerous, particularly when the primary question involves an examination of peoples' opinions, emotions, and attitudes towards the specimens. In this way, this study may find a kinship with the increasingly popular field of the history of emotions, and may complicate the perceptions of the field of the history of medicine. Michael Brown, for instance, is currently undertaking similar discipline-blending research during a multi-year project that aims to "understand how surgeons conceive of their work and their relationships with patients in terms of feeling."[338] This study of the McGill museum has involved similar objectives, as it has sought to understand how medical professionals, students, and museum staff conceived of the specimens and their relationships with the preserved body parts, and consequently, how these 'feelings' shaped the meanings ascribed to the specimens. As I have demonstrated, this adapted object-biography approach at times necessitates a greater consideration of contextual clues in order to tease out the complex and dynamic human-specimen relationships. However, an examination of

[338] "Home," Surgery & Emotion, accessed June 24, 2022, http://www.surgeryandemotion.com. Michael Brown also provides an excellent example of the bridging of these two disciplines in his forthcoming book about emotions and surgery. Brown, *Emotions and Surgery in Britain*.

the paths followed by the McGill museum's specimens from dissection and autopsy, to mounting and display, and finally to their multiple forms of mobilization, which incorporates these contextual elements, reveals the ways in which the meanings of the specimens shifted through time and space.

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