



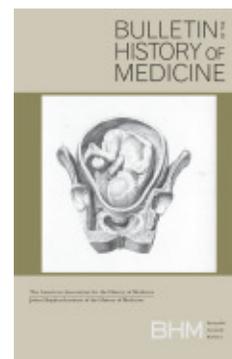
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Introduction: Beyond Illustrations:

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Introduction: Beyond Illustrations: Doing Anatomy with Images and Objects

CARIN BERKOWITZ

This forum engages with a central component of medical science and medical practice—the visualization of anatomy, pathology, and disease. It is about the collaborations among surgeons, medical men, and anatomists that were necessary to visualization, and about the authority bestowed upon an image or object that stands for a part of the body or a disease, and also bestowed upon the author of that object or image. It considers aesthetic choices and their social and epistemic contexts and consequences. But it is also about our practices as historians. How do we move beyond thinking of images and objects as simply illustrative? How do we pursue historical inquiry with them? And what are we responsible for conveying about their making and purpose in the images we ourselves display in our books and articles? This introduction provides a brief outline of the themes that structure the three articles collected here and begins to frame answers to such questions.

Identity, Expertise, and Authorship in Anatomical Specimens and Drawings

This forum highlights the importance of contexts of use in understanding visual displays in anatomy, in part by beginning historical inquiry with objects. Anatomy has long been studied through specimens and drawings, its objects serving to encapsulate a body of knowledge as well as delimit a subject under study.¹ In some cases, these objects became a part

1. Good introductory treatments of the historical roles of illustrations and specimens in anatomy include L. J. Jordanova, *The Look of the Past: Visual and Material Evidence in Historical Practice* (Cambridge: Cambridge University Press, 2012); Martin Kemp, “‘The Mark of Truth’: Looking and Learning in Some Anatomical Illustrations from the Renaissance and the Eighteenth Century,” in *Medicine and the Five Senses*, ed. William Bynum and Roy Porter

of collections that aimed to be comprehensive and to capture nature's diversity in serial, where in others they were representative, standing in for the "normal" or "optimal."² Sometimes they were paired with case histories, or sometimes, when specimens came from those still living, even debuted at scientific societies with their former bodies—the patient and what was formerly his arm or leg or tumor appearing side by side.³ In those instances, specimens served as research material. In others, they were used for teaching.

Anatomical specimens and anatomical models have always been important in the classroom, as have illustrations, often based on those specimens.⁴ The great anatomy collections of the seventeenth and eighteenth centuries—those of Frederik Ruysch, of John and William Hunter, of La Specola in Florence, and of Surgeon's Hall in Edinburgh—were built up as teaching collections. The history of these early collections suggests that they served many functions. Sometimes they taught a citizenry about order and discipline, enlightening them;⁵ in other cases, they were used

(Cambridge: Cambridge University Press, 1993), 85–121; Michael Sappol, *Dream Anatomy* (Washington, D.C.: U.S. Department of Health and Human Services, National Institutes of Health, National Library of Medicine, 2006); Samuel J. M. M. Alberti, *Morbid Curiosities: Medical Museums in Nineteenth-Century Britain* (Oxford: Oxford University Press, 2011); Samuel J. M. M. Alberti and Elizabeth Hallam, *Medical Museums: Past, Present, Future* (London: Royal College of Surgeons of England, 2013).

2. Nick Hopwood, Simon Schaffer, and Jim Secord, "Seriality and Scientific Objects in the Nineteenth Century," *Hist. Sci.* 48 (2010): 251–85; Lorraine Daston and Peter Galison, "The Image of Objectivity," *Representations* 40 (1992): 81–128; Nancy Siraisi, "Vesalius and Human Diversity in *De homini corporis fabrica*," *J. Warburg Courtauld Inst.* 57 (1994): 60–88; Eva Åhrén, "Studies in the Anatomy of the Nervous System and Connective Tissue (1875–76): Axel Key and Gustaf Retzius," in *Hidden Treasure*, ed. Michael Sappol (New York: Blast Books, 2012), 214–17.

3. Joris Vandendriessche, "Arbiters of Science. Medical Societies and Scientific Culture in Nineteenth-Century Belgium" (Ph.D. diss., KU Leuven, 2014).

4. See, for example, Andrew Cunningham, *The Anatomist Anatomis'd: An Experimental Discipline in Enlightenment Europe* (Farnham: Ashgate, 2010); Pauline Mazumdar, "Anatomy, Physiology and Surgery: Physiology Teaching in Early Nineteenth-Century London," *Can. Bull. Med. Hist.* 4, no. 2 (1987): 119–43.

5. Anna Maerker, *Model Experts: Wax Anatomies and Enlightenment in Florence and Vienna, 1775–1815* (Manchester: Manchester University Press, 2011).

to teach anatomy and natural philosophy,⁶ and in still other cases, they were accumulated as oddities.⁷

The nature of teaching collections changed over the course of the eighteenth and nineteenth centuries. Collections slowly became more comprehensive as normal anatomy came to occupy the center of collecting missions, rather than the peculiar, the curious, and the extraordinary. And with pathology increasingly recognized as an independent field within anatomy, such collections began to present an ordered pathology in much the same way as they provided an ordered view of nature through anatomy.⁸ As Domenico Bertoloni Meli describes in his article (“The Rise of Pathological Illustrations: Baillie, Bleuland, and Their Collections,” pp. 209–42), access to diseased bodies for the making of illustrations and specimens increased steadily over the eighteenth century, with techniques for representing those bodies visually becoming highly developed in countries where dissection was relatively uncommon. By the early nineteenth century, anatomy and disease had become fundamentally interrelated through pathology. Still, representing pathology systematically through illustrations or specimens presented problems that the representation of normal anatomy did not: problems of number of bodies (incomparably more were required for the making of a systematic atlas or collection of pathology), of organization, and of a new aesthetics of disease illustration.⁹ Features like texture and color that were crucial in pathology drawings presented new technical as well as stylistic challenges. Through the triangulation of different kinds of representation—some of which preserved color and appearance, others of which enhanced features the student was being trained to see, and others of which captured texture—

6. For just a few examples, see Alberti and Hallam, *Medical Museums* (n. 1); W. F. Bynum and Roy Porter, *William Hunter and the Eighteenth-Century Medical World* (Cambridge: Cambridge University Press, 1985); Simon Chaplin, “Nature Dissected, or Dissection Naturalized? The Case of John Hunter’s Museum,” *Museum Soc.* 6 (2008): 135–51; Helen McCormack, “Housing the Collection: The Great Windmill Street Anatomy Theatre and Museum,” in *My Highest Pleasures: William Hunter’s Art Collection*, ed. Peter Black (Glasgow: University of Glasgow Press, 2007), 101–16; Christopher Lawrence, “Alexander Monro *Primus* and the Edinburgh Manner of Anatomy,” *Bull. Hist. Med.* 62 (1988): 193–214.

7. Alberti, *Morbid Curiosities* (n. 1); John Appleby, “Human Curiosities and the Royal Society, 1699–1751,” *Notes Rec. Roy. Soc. London* 50, no. 1 (1996): 13–27; O. R. Impey and Arthur MacGregor, *The Origins of Museums: The Cabinet of Curiosities in Sixteenth and Seventeenth-Century Europe* (Oxford: Clarendon Press, 1985); Carin Berkowitz, “Systems of Display: The Making of Anatomical Knowledge in Enlightenment Britain,” *Brit. J. Hist. Sci.* 46, no. 3 (2013): 359–87.

8. Russell Charles Maulitz, *Morbid Appearances: The Anatomy of Pathology in the Early Nineteenth Century* (Cambridge: Cambridge University Press, 1987).

9. See L. S. Jacyna, “Pious Pathology: J. L. Alibert’s Iconography of Disease,” *Clio Med.* 50 (1998): 185–219.

representations of pathology came to define and constitute anatomically located disease.

Those drawings that conveyed anatomical and pathological knowledge, unlike their specimen counterparts, often bore clear traces of individual creators. But the question of whose expertise was on display in such drawings was an open one, much debated among artists and anatomists of the late eighteenth century.¹⁰ For those two groups, the context of use sometimes went beyond research and pedagogy; illustrated anatomy folios were sometimes meant for audiences of patrons, connoisseurs, or fellow artists. My own article in this collection, “The Illustrious Anatomist: Authorship, Patronage, and Illustrative Style in Anatomy Folios, 1700–1840” (pp. 171–208), is meant to suggest that the stylistic choices made for illustrations—in the violence or beauty of the images; in the shading, the backdrops, the type of dissection done and the type of line used to represent that dissection—were made to convey authorship and expertise to those audiences. That context of use can be discovered only through close interaction with books and their illustrations as material artifacts, rather than as content delivery mechanisms.

But our own twenty-first-century contexts of use raise new questions and new problems. Specimens were once people, sometimes patients, and the transformation required to make human remains into specimens presents logistical complications as well as ontological ones.¹¹ In their article in this volume, “Two Australian Fetuses: Frederic Wood Jones and the Work of an Anatomical Specimen” (pp. 243–66), Lisa O’Sullivan and Ross L. Jones deftly describe the collecting of indigenous populations’ human remains, and the subsequent stripping of human identity and its replacement with scientific identity in the work of specimens. Their work is a model for following changing contexts, beginning with the many ways specimens were situated in the original collecting projects of scientists like Frederic Wood Jones. Wood Jones’s collecting work was located at the intersections of anatomy, race science, physical anthropology, and evolutionary science, and that location lent a variety of contexts to the anatomical specimens

10. Martin Kemp, “True to Their Natures: Sir Joshua Reynolds and Dr. William Hunter at the Royal Academy of Arts,” *Notes Rec. Royal Society of London* 46 (1992): 77–88; Harry Mount, “Van Rymdyk and the Nature-Menders: An Early Victim of the Two Cultures Divide,” *Brit. J. Eighteenth-Cent. Stud.* 26 (2006): 79–96; Sappol, *Dream Anatomy* (n. 1). In this issue, see also Berkowitz, “The Illustrious Anatomist” (pp. 171–208).

11. See, for instance, Rina Knoeff, “Touching Anatomy: On the Handling of Preparations in the Anatomical Cabinets of Frederik Ruysch (1638–1731),” *Stud. Hist. Philos. Sci. C* 49 (2015): 32–44; Helen MacDonald, *Human Remains: Dissection and Its Histories* (New Haven, Conn.: Yale University Press, 2006); Cressida Fforde, *Collecting the Dead: Archaeology and the Reburial Issue* (London: Duckworth, 2004).

he gathered, specimens that themselves were evaluated alongside living people and animals. O'Sullivan and Jones trace the subsequent meanings of Wood Jones's multifaceted specimens through international networks of exchange and sale, hidden neglect in museums (even while the data derived from them circulated), and eventual "unmaking" as specimens and reframing as human remains. Their analysis offers one attempt to lead by example in answering the question of how one is to act as an ethical and responsible historian or museum curator when human subjects have been transformed into objects with various meanings and contexts by historical actors. However it may be for other scientific objects, questions of representation as a kind of violation or dehumanization are integral to the study of anatomy's objects and images, making the subject one that is both fraught and tremendously rich with meanings.

A Beginning

Eva Åhrén and I originally conceived the present thematic focus in 2011, after an AAHM meeting in Chicago that seemed to suggest that objects and images had become the concern of many in the field. The process of bringing together these three articles has included many whose work is reflected in museum exhibits, books, and articles elsewhere. With the generous support of the Philadelphia Area Center for the History of Science, Eva and I held a workshop in Philadelphia in the fall of 2012 that featured Shauna Devine, Ellery Foutch, Ross Jones, Anna Maerker, Erin McLeary, Lisa O'Sullivan, Michael Sappol, and John Harley Warner. We would like to thank all of them, as well as the *Bulletin's* editors, Mary Fissell, Randall Packard, and Carolyn McLaughlin, for contributions to an unfolding discussion about the place of objects and images in the history of anatomy.

This forum can only begin to gesture at what we all regard as the potential for scholarship on visual and object-based studies in the history of anatomy and medicine. Questions about the epistemological value of collections, about how we understand anatomy museums in contemporary research and teaching contexts, and about relationships among the gross, the microscopic, and the invisible, for instance, remain open for further exploration.

A real engagement with these questions ought to begin with the visual and material cultures of anatomy, but to do so, we will need to reframe our own historical practices, starting, most basically and yet importantly, with the images we include in articles. We ought to look to disciplines like art history and museum studies for best practices, including the scale and

size, materials/technique, as well as any known information about creators (anatomists, artists, engravers, etc.) in our captions. The very inclusion of such information opens up new questions—Why make books so big that they could not have been carried? How did the engraved image differ from the original drawing and were those differences significant to the anatomist who commissioned both? What do different artistic techniques contribute to texture or color? Articles like Bertoloni Meli's that examine color need a way to reproduce images of original objects and drawings in color. That has traditionally been impossible in history of medicine and history of science journals, but with the ability to create special accompanying image galleries for articles on journals' websites, color is something that can now be investigated and conveyed to journal readerships.

We hope that this forum suggests the power of treating images as more than simply illustrations, of beginning our historical inquiries with objects, and of displaying and conveying the forms of studied objects and images as thoroughly as possible, using the web to do what paper cannot.



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