Anatomy’s Photography

Objectivity, showmanship and the reinvention of the anatomical image 1860-1950

“There is, perhaps, no art that has made such rapid strides… as that of photography…. No science of modern times has more engaged the attention of philosophic investigators…. No science or art not strictly medical… will more richly repay the scientific physician.” So argued Ransford E. Van Gieson in an 1860 issue of the New York Medical Journal.

Intoxicated with photography, “this truly beautiful science” in “this the most progressive of all centuries,” the 24-year-old surgeon from Brooklyn, New York, made a pact with his medical readers: we physician-photographers will be vectors of science and modernity.

Like other ambitious young men in mid-century, Van Gieson was a convinced historicist: “modern times” were a new dispensation, an era of transformative discovery and invention, unlike any prior era. And, for Van Gieson, photography was an emblematic technology of modernity with unique epistemological virtues that could vitally contribute to the progress of scientific medicine. He helpfully listed some promising applications of the new form. For the anatomist, “photography… can secure accurate representations of anatomical specimens, which for faithful delineation, far surpass the most trustworthy engravings.” For the pathologist, “it can fix upon paper the most rare and curi-
ous specimens of disease.” For the surgeon, it promised to “present the exact appearance of the deformity in any given fracture, dislocation, or any external surgical lesion.” And if hospital and asylums would establish “photographic departments,” the form could document the condition of patients. (Van Gieson 1860, 17-18)

Van Gieson’s article serves as a representative text for what, decades later, a more skeptical writer would condemn as “the craze for medical photography” (Anonymous 1894). Because the crazy delight, in photographic apparatus and technique and the pleasures of viewing and showing photographic images, was problematic. The photographic anatomist positioned himself as an objective viewer, but was also an enthusiast and showman. His illustrations — theatrical, naked, grotesque, provocative — gained attention, but at the risk of offending colleagues who might see such work as careerist grandstanding or inebriated performance. Critics argued that scientific objectivity in anatomy should enact sobriety. Too much enthusiasm violated the modesty of the anatomical subject, the viewer and the entire profession, and undermined the pose of disinterested scientific investigation. The photographic anatomist risked being accused of vulgarity, could be stained by association with fairground anatomy, pornography and popular spectacles (Schwartz 1999; Sappol 2002). Reviewing the accomplishments and prospects of photographic anatomy in its first thirty years of existence, Wilhelm His, the eminent Swiss anatomist, dismissed “images, such as the topographical anatomy of Rüdinger, which are half photograph half painting,” because they “make a rather uncomfortable impression. Drawings, copied from the photograph and rendered in an appropriate manner, would be as creditable but more beautiful.” (His 1891)
Medical photography is scarcely a new topic for historians. Over the last 40 years, scholars have studied the photographic documentation of wounds, deformities and surgical procedures; photographic psychiatric clinics; medical portraiture; forensic medical photography; racial science; photomicrography; pathology; and medical cinema. But missing from this list is the field that for centuries stood at the heart of the medical curriculum, and whose images (and image techniques) enjoyed a privileged status in the hierarchy of medical print production: anatomy. For most historians of medicine, that subject seems adequately accounted for in Dissection (2009), Warner and Edmonson’s provocative monograph on dissecting-room group portrait photographs. But that volume never mentions the use of photographs in gross anatomical study and publication, nor does Objectivity (2007), Daston and Galison’s now-classic discussion of ideals of “mechanical objectivity” in science. Martin Kemp attends to the subject briefly in a 1997 essay and devotes a small portion of a chapter in Seen/Unseen (2006). Thierry Lefebvre contributes a short discussion of Eugène-Louis Doyen’s photographic anatomical work in his 2004 study of Doyen as filmmaker; and Bibliothèque Interuniversitaire de Santé (BIUS) has a good website devoted to Doyen (2006). Sarah de Rijcke has written a 2008 article on Jules-Bernard Luys’ photographs of brains and brain slices in mid-19th-century France. Kim Sawchuk has a brilliant 2012 article on the mid-20th-century anatomical photography of J.C.B. Grant. There is also a scattering of short articles written by physician-historians in medical journals. But that’s it: the historical scholarship on photography in gross anatomy is stunningly sparse.

It’s hard to say why. Maybe it’s because scholars have been detained by the abundant pleasures of the anatomical engraving and lithograph. Maybe it’s that photographic technologies failed to dominate anatomical illustration — were adjudged to be a failure.
by critics — until the Visible Human Project (1995) and the rise of the digital era. Or maybe it’s that photographic anatomy, by virtue of its indexical relationship to particular people, particularly dead and partitioned people, induces particular discomfort.

But the subject deserves closer attention. After Nikolaus Rüdinger commenced his pioneering photographic publication of the anatomy of the peripheral nerves in 1861, ambitious anatomists in Germany, France, Britain, North America, Sweden, Argentina, among other countries, began experimenting with photography and made many thousands of photographs. Over the decades, photographic anatomy became entangled with other scientific movements and technologies of medical modernity — topographic anatomy; composite photography; stereoscopy; the X ray; medical museology; racial anatomy; health education; cinema. The photograph also played a key role in the movement to modernize artist-made medical illustration. Lithographs and engravings were increasingly based on reference photographs (Swedish anatomist Gustaf Retzius used it in that way as far back as the 1850s); and many anatomical illustrations aspired to a photograph-influenced naturalism.

* * *

In all of this, photographic anatomy posed — continues to pose — ontological, ethical,
and aesthetic problems. Its images claim to represent the universal human body, use the rhetorical power of photographic naturalism to do the work of producing and circulating authoritative knowledge about “the human” as a universalist identity. Those same images also document the manipulation of the bodies of particular recently and not so recently dead people — on the dissecting table and in the anatomy laboratory, in front of the camera, in the dark room, on the draftsman’s table, and then on the page — bodies made into specimens, illustrations, evidence, display objects.

In the 1800s, the epistemological status, rhetorical power, and moral implications of photographic imaging were much debated. As historians of science have shown, photography could be deployed as a visual rhetoric of “mechanical objectivity” to trouble the idea that the beautiful and the true were predestined to converge (an assumption widely held across disciplines for centuries). The photograph provided a critique of the deceptions of aesthetics in the production of scientific images — could be used to demonstrate how artists missed important features and prettied things up to make an image more pleasingly regular and symmetrical. The photograph seemed to


offer a powerful alternative. Exponents of photography argued for, or just presumed, the relative epistemological virtues of the anatomical photograph versus painting and drawing (as reproduced by engraving and lithography), and versus specimen, cast, model, and even hands-on dissection.

Still, there was much opposition. Surgeons complained that the photographic cross-section or stereographic image was not a satisfactory proxy for the cadaver, could not
replace the iterative (and haptic) performance of dissection, could not replace the feel of hand with scalpel cutting into flesh. And the technology of photography itself was always problematic: despite an ongoing succession of technological improvements, it was hard to show depth and texture and color, hard to light the anatomical subject, hard to print the anatomical photograph on the same page as text, and hard to read the anatomical photograph. Photographic anatomists compensated for these technical limitations by drawing and painting on their photographs, creating hybrid forms that looked both photographic and painterly. To improve clarity they superimposed diagrams on top of the photograph or placed a detailed diagrammatic key on a facing page. The labor was intensive, requiring great skill, and resulting in growing skill and sophistication.

The skepticism of photography’s many critics was in part due to a moral argument, in part due to unarticulated qualms. Anatomy’s grotesquely detailed photographs blurred the boundary between respectable science and the popular anatomy show — between vulgarity and good taste. The photographic lens seemed to encourage showboating presentations of difficult anatomical detail. In contrast, the artist’s hand offered the reassurance of a mediating layer of civilization between the viewer and the sordid facts of the anatomical enterprise, a gauzy veil. If the enthusiasm for photography was fueled by the ever intensifying commitment to the use of new and ostentatiously modern

Pedro Belou, Revision Anatomica del Sistema Arterial, 2 vols. [1: Tecnica] (Buenos Aires, 1934). National Library of Medicine. Uncompromising commitment to using color photography, and the four-color print process, to show what a surgeon would see, and would need to see.
technologies to objectively document and analyze phenomena, the anatomical photograph contravened an emergent ethos of sobriety, a kind of visual abstemiousness that was increasingly becoming a convention, a requirement, of scientific presentation. That abstemiousness also had practical advantages: the artist-drawn illustration simplified anatomical features, boiled things down for the easier comprehension of students, teachers, and medical practitioners. For all of these reasons, photography failed to become the dominant technology of anatomical illustration.

*   *   *

Once upon a time, photographic anatomies were only seen by doctors and students. Now, years later, in entirely different settings we can breach their professional secret and share the privileged view. We may feel we don’t have the right (the images were produced long before there was any protocol of informed consent). Some people now argue that we should refrain from looking, or even be prevented from looking, to protect the photographic subjects and the moral standing of the medical profession as well as the viewer.

Yet we want to see. The dead are ghosts; the anatomical body is monstrous. Opened to view, the cadaver haunts us, appalls us, but also irresistibly charms us. We may be moved to deplore anatomical voyeurism: the dissected, cross-sectioned body seems to be more intensely “real,” more naked, in the medium of photography than in the most naturalistic artistic rendering. But our curiosity and pleasure in looking is justified. To see the anatomized photographic subject,
printed in a book 100 years old, is simultaneously to see ourselves and the Other, to experience a hidden existential and historical heritage. The charge of prurience never acknowledges that medical professionals have for centuries also taken ambivalent pleasure in showing and looking, and still do. Too often, the policing of historical photographs is used to keep non-medical viewers away, to protect professional privilege and a self-congratulatory culture of professional discretion in the name of protecting the privacy and modesty of medical “subjects” who are long dead. But who is really being

protected? Those subjects would be entirely erased from the historical record and memory were it not for their appearance before the camera. Beyond that, the photographic anatomical view helps us to historicize the ethics of viewing, past and present, puts current bioethical discourse and policies into historical perspective and under critical scrutiny. We get to see details that other kinds of anatomical representation

have omitted or suppressed. Lacking the photographic experience, our consideration thins out and loses salience. It’s just too easy to lock up the archive.

Anatomists were slow to embrace photography. When Nikolaus Rüdinger, Eugène-Louis Doyen and other anatomists finally took to it, they took liberties. They manipulated their photographs in theatrical and painterly ways, spectacularly cutting, slicing, posing and lighting their cadavers and body parts. (In some of Doyen’s images, the anatomical subject even appears to be wearing stage make-up!) The photographs were silhouetted, drawn on, colored, superimposed over other photos, cropped, diagrammed, and outfitted with a halo of captions. The artist’s pen and brush were as evident as the anatomist’s saw and scalpel — and all were subject to aesthetic impulses (especially in the

borderlands, the seemingly non-essential parts of the image where aesthetic impulses and decisions can run free of utilitarian justification). The resultant images were excessive. They put on a show on the page (or in the form of projected slides, on the lecture-hall screen), compelled their viewers to look and look again. That show referred

back to performances in the dissecting room, surgical theater, classroom and anatomical museum, but also staged the body in ways that have as much to do with the stage, art photography, and commercial graphic design as anything else.

We lack a good descriptive vocabulary for the aesthetics of photographic anatomy (and 19th- and 20th-century anatomical illustration generally). Art historian Martin Kemp proposes “non-style style” as a label for the scientific rejection of aestheticism. But that term hardly does justice to the varied aesthetic strategies deployed in photographic anatomies. Even if motivated by opposition to aesthetic distortion, photographic anatomists positioned their subjects, made gestures of repose or provocation, under the influence of widely-held assumptions about beauty, symmetry, order and taste.

In the early stages of my research on “anatomy’s photography,” I am now exploring a rich lode of photographic studies largely unknown to historians of medicine, science and visual culture — work done in Germany, France, Sweden, England, Scotland, Ireland, the United States, Canada, and Argentina between 1860 and 1950. My plan is to develop the topic into a richly illustrated monograph (and perhaps an exhibition) that shows off the varieties of anatomical photographic experience and contributes to the historical scholarship on photography and the visual culture and performance of medicine and science. I want to help make the astounding, grotesque, beautiful, and always evocative images of anatomy’s photography visible and accessible to scholars and the larger public — because anatomy’s photography is part of our common history, as unique and valuable as any UNESCO heritage site. That said, many of the photographs are difficult. Some people will not want to see them, and the issue of consent (never attended to in the historical moment in which the photographs were originally taken) now shifts to the viewer, who must be asked to give some kind of implied or explicit consent to see.

* * *

And so to begin (in the middle)... It's Paris, April 1910. The polymathic surgeon-anatomist Eugène-Louis Doyen takes to the stage to present, via lantern-slide projections, his colored photographs of machine-sliced cross-sections of “scientifically mummified” cadavers. The large assembly of medical students and professors of the Faculty of Medicine is outraged. A riot breaks out...

Michael Sappol
Swedish Collegium for Advanced Study, Uppsala
23 January 2017

ACKNOWLEDGMENTS

Many thank yous for support, assistance, encouragement and suggestions to Hagströmerbiblioteket (Stockholm); the National Library of Medicine, History of Medicine Division; the Swedish Collegium for Advanced Study; the EURIAS Fellowship Programme, co-funded by Marie Skłodowska-Curie Actions, under the 7th Framework Programme; and to Kate Womersley, Lukas Engelmann, Lisa Haushofer, Laura Nitsch, Paula Summerly, Eva Åhrén, Annelie Drakman, and Gertie Johansson.

SOURCES


___, Archives de Doyen 1-3 (Paris: Institut Doyen, 1910-1912) [medical journal].


Gustaf Retzius, *Das Menschenhirn; Studien in der makroskopischen Morphologie* (Stockholm: Norstedt, 1896).

___, *Cerebra simiarum illustrata; Das Affenhirn in bildlicher Darstellung* (Jena: Fischer, 1906).


___, *Die Anatomie des peripherischen Nervensystems des menschlichen Körpers* (Stuttgart: Cotta, 1870).


SCHOLARSHIP


