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Reenactment, Reconstruction, Recovery:
Nineteenth-Century Photographs in the History of Surgery

A Thesis submitted in partial satisfaction
of the requirements for the degree of

Master of Arts

in

Art History

by

Karlyn Charmaine Olvido

September 2017

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Dr. Susan Laxton, Chairperson
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The Thesis of Karlyn Charmaine Olvido is approved:

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Acknowledgements

My interest in medical photography began two years before I started graduate school. I am grateful for the people I have met along the way.

I thank, first and foremost, my advisor Professor Susan Laxton for her invaluable feedback and enthusiasm. My skills as a writer and researcher vastly improved because of her guidance. Additionally, the insight and expertise of my thesis readers Professor Liz Kotz and Assistant Curator Mazie Harris strengthened my project. Professor Jeanette Kohl led a constructive thesis writing seminar and generously offered sources that supplemented my thesis.

The inclusion of primary sources in this thesis would not have been possible without the Richard G. Carrott Memorial Fund, which afforded me the opportunity to travel to Philadelphia to conduct archival research. Caitlin Angelone and Chrissie Perella at the Historical Medical Library at the College of Physicians of Philadelphia and Elisa Stroh at the Barbara Bates Center for the Study of the History of Nursing at the University of Pennsylvania kindly helped me navigate the robust collections of their respective institutions.

Jackie Burns at the J. Paul Getty Museum, Leigh Gleason at the California Museum of Photography and Beth Lander at the College of Physicians of Philadelphia facilitated photography and helped secure permission to use images for figure illustrations.

The work of my colleagues in the Department of Photographs at the J. Paul Getty Museum sparked my interest in the history of photography and inspired me to attend graduate school to study the medium further. I am happy to have found a mentor in Associate Curator Paul Martineau, who provided valuable advice as I was considering graduate programs and museum careers. Charissa Bremer-David, Sarah Freeman, Marc Harnly, Mazie Harris, Virginia Heckert, Karen Hellman, Miriam Katz, Judy Keller, Matt Kluk, Arpi Kovacs, Corey Mack, Ernie Mack, Amanda Maddox, Jennifer Scofield and Marisa Weintraub have also been incredibly encouraging.

I could never thank my family enough for their tremendous support and sacrifices. They believed in me at times when I didn't believe in myself.

Lastly, I am exceedingly fortunate to have spent my time in graduate school with an awesome cohort. I thank them for laughing (and sometimes crying) along with me during these two years. I can't wait to cheer for their many future accomplishments.

K

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Introduction

> It is a precious conquest for science, and perhaps the most important application of photography to the reproduction of objects of nature; Never can art succeed in reproducing so strikingly the appearance of the microscopic field with its smallest details and all the circumstances which accompany the objects, their varieties of form, position.
>
> —Alfred François Donné, *Cours de microscopie complémentaire des études medicales: anatomie microscopique et physiologie des fluides de l'économie*

The medical field embraced photography shortly after Louis Jacques Mandé Daguerre shook the scientific community with his announcement of the daguerreotype process in 1839. The same year Daguerre presented his invention to the Academy of Sciences in Paris, French physician and cytologist Alfred François Donné used daguerreotype photomicrographs to study medical specimens. In 1844, with the assistance of photographer Jean Bernard Léon Foucault, Donné published *Cours de microscopie complémentaire des études medicales: anatomie microscopique et physiologie des fluides de l'économie*, which includes etchings of daguerreotypes depicting leukemia cells and platelets. [1] Additionally, Donné penned an ode to photography in the book, praising the medium's ability to render meticulous reproductions of bodily specimens, particularly solid organs particles, fluids and drops of blood.

Donné's book is just one example of the medical community's early praise for the camera's ability to clearly capture minute details, which was ideal at a transformative

[1] Donné presented his microscope-daguerreotype process to the Academy of Sciences on February 24, 1840. See Alfred François Donné, *Cours de microscopie complémentaire des études medicales: anatomie microscopique et physiologie des fluides de l'économie* (Paris: Ballière, 1844), 36-37.

period for Western medicine. Nineteenth-century medical training encouraged physicians to wean themselves of sole dependence on textual and verbal descriptions of illnesses. Instead, physicians examined the ill body and based their diagnoses on their observations. In studying texts that were published alongside these photographs, it is evident that photographs of patients and medical specimens were accepted as substitutes for the human body in the eyes of physicians.

Although medical photographs were made to cater to objective readings for scientific studies, they are framed with degrees of subjectivity. In the chapters that follow, I call attention to the photographer's decisions about cropping, lighting and staging physicians and patients for the camera. In doing so, I underline the inherent subjectivity of medical photography and its involvement in shaping the historical narrative of surgery in the United States. Despite the tendency to separate medical and art historical discourses, the divide between the two is not clear-cut. Indeed, in some instances, as I demonstrate in the two case studies in this thesis, it is possible for medical photography to occupy an ambiguous territory between art object and scientific document without diluting the significance of the two perspectives. Through an art historical approach, one can see that these medical photographs reached beyond their informational purpose to bolster the reputation of Western medicine.

I center my study on photographs that illustrate two crucial chapters in the American history of surgery. The first case study addresses a photograph of the first demonstration of the use of ether anesthesia for surgery. This presentation was an announcement to the medical community that painless operations are possible. This

seminal discovery led to innovations in surgical practices, such as amputations, that lead to recovery, rather than a direct path to suffering and death. Southworth & Hawes captured the event in their daguerreotype, which was later referred to as *Reenactment of the First Public Demonstration of the Surgical Use of Ether*.

The second case study is on a photograph that features one of the possibilities afforded by surgical anesthesia: a post-operation portrait of a Civil War solder by William H. Bell. This photograph features the result of a leg amputation and was published in the Army Medical Museum's educational book *Photographs of Surgical Cases and Specimens*. The publication aimed to inform medical professionals and students about new surgical techniques that resulted from severely traumatic battle injuries, such as gunshot and shrapnel wounds and infections acquired on the campgrounds.

To understand how nineteenth-century physicians regarded these photographs, I outline philosopher and historian Michel Foucault's description of the medical gaze as he defined it in *The Birth of the Clinic*. Foucault explains that physicians must view the human body as an object, rather than as part of a person, in order to find cures to ailments. The medical gaze carried over to the study of medical photographs because these images were typically seen as reliable reproductions of human anatomy.

Given that vision became the primary sense for learning in nineteenth-century science, it is reasonable to consider these medical photographs from a field rooted in visual analysis. As such, I also propose the use of an art historical approach with an emphasis on the way in which photographers framed a person or event through their

decisions about composition, lighting and cropping of a photograph. The resulting photograph, therefore, does not depict a disinterested image, but the photographer's unique encounter with the subject.

A European Invention in an Image-Saturated America

Photography and the practice of viewing photographs as accurate reproductions of nature migrated to the United States. Americans learned about daguerreotypy through word of mouth by the American inventor and portrait-painter Samuel F.B. Morse, who visited Daguerre's studio before his announcement demonstration to the Academy of Sciences. Additionally, following Daguerre's presentation, the French government requested the publication of an instruction manual for the complex process of making a daguerreotype.[2] The seventy-nine page pamphlet *Historique et description des procédés du Daguerréotype et du Diorama* was circulated in August 1839. The pamphlet included drawings of necessary tools, along with instructions, and was translated into five different languages, including English. It arrived to the States on September 20, 1839, and medical professionals welcomed photography into their practices, as well as adopted it as a hobby.[3]

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[2] Beaumont Newhall, *The Daguerreotype in America* (New York: Graphic Society, 1968), 21-22.

[3] Dr. Henry Coit Perkins adapted daguerreotypy into his studies in Boston and Dr. Samuel A. Bemis made large-scale landscape photographs in his spare time. See *East of the Mississippi: Nineteenth-Century American Landscape Photography*, eds. Diane Waggoner, Russell Lord and Jennifer Raab (New Haven: Yale University Press, 2017), exhibition catalog, 25-28.

The daguerreotype entered American culture at a time when the public was already accustomed to mass-produced imagery due to the popularity of the printing press.[4] However, the camera as a mechanical barrier between the subject and the artist's hand was a new phenomenon, and this innovative take on image production was met with mixed reviews. While some artists, especially those who specialized in printmaking and miniature painting, believed the daguerreotype threatened their careers, others did not consider the daguerreotype as a hindrance because of its mechanical properties, which, to them, did not qualify photography as art.[5] Despite these criticisms, Americans seemed to embrace the art/science duality of photography more so than their European counterparts.[6] As head of one of the nation's leading art institutions, Morse's enthusiasm for photography boosted the medium's validity as a possible art form. Within the American art community, he advocated for photography's fidelity to detail and ability to capture nature to a public that became increasingly interested in the veracity of images.[7] In contrast, the Academie des Beaux-Arts declined to view Dagguerre's demonstration of

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[4]Sarah Kate Gillespie, *The Early American Daguerreotype: Cross-Currents in Art and Technology* (Cambridge, MA: The MIT Press, 2016), 57.

[5] Gillespie, 60-61.

[6] In the print industry in the United States, the relationship between photography and printmaking was more symbiotic, rather than competitive. Engravings of daguerreotypes lent veracity to the prints, which was appealing to nineteenth-century American consumers. See Gillespie, 88.

[7] Ibid.

his invention, a sign that the daguerreotype was not considered an art form in nineteenth-century France.[8] And so, the same characteristics that Morse praised about the daguerreotype were the very same that led to its rejection in the French art community.

The American Photographer

In the United States, the distinction between amateur and artistic daguerreotypists in the cutthroat image-making industry is one example of the disruption of the art/science binary of photography. To gain a competitive edge, artistic daguerreotypists emphasized their artistic pedigree. For example, Brady promoted his training in both painting and photography with William Page and Samuel Morse respectively.[9] Similarly, Albert Sands Southworth, of the Boston-based daguerreotype duo Southworth & Hawes, studied with Morse and his business partner Josiah Johnson Hawes was a painter. They advertised their business as one owned by artists, and it was located on Tremont Row, an area full of artist studios.

These artistic daguerreotypists implemented conventions of midcentury painting portraiture into their work, which proved to be popular among their patrons.[10] For example, sitters turn their pensive gazes slightly to the left or right, instead of looking directly into the lens. Their features are illuminated in a flattering way: clearly, but not

[8] Gillespie, 88.

[9] Gillespie, 96.

[10] Ibid.

harshly. Lastly, these photographs were typically cropped up to the waist of the sitters. In contrast, amateur daguerreotypists did not master such conventions or label themselves as artists. As a result, amateur daguerreotypes were not as commercially popular.

The State of an American Photographic Medium in the Scientific Era

Like its introduction to the nineteenth-century American art scene, the daguerreotype entered the American scientific community at a time when the discipline was already saturated in images.[11] Compared to their European colleagues, however, Americans did not readily integrate daguerreotypy into scientific study. In *The Early American Daguerreotype*, Sarah Kate Gillespie suggests that this could be a result of the state of American science at the time.[12] In the nineteenth-century, science in the United States was evolving from amateurism to professionalism, and had a stronger connection to the liberal arts than in Europe. American science, therefore, did not yet have a strong reputation abroad. As a result, American scientists likely did not want to blemish the steadily growing notoriety of their profession with the mixed reputation of the daguerreotype.

[11] Gillespie, 110.

[12] Gillespie, 113.

Similar to his promotion of photography to artists, Morse vehemently argued that the daguerreotype could be an asset to science because of its truthful rendering of nature, calling it a "telescope in nature."[13] By 1845 the daguerreotype was a popular tool in science because Americans yearned for authenticity in scientific images.[14] Moreover, they were attracted to the mechanics of photography, believing that it contained less human error than painting and drawing.

Within the first ten years of Daguerre's announcement of his invention, American culture deemed the daguerreotype an "American process" because of American improvements to the medium, despite its founding in Europe.[15] Americans are credited as the first to develop daguerreotype portraits soon after Daguerre's pamphlet was distributed.[16] Portrait photography soon became a prominent practice in clinics to document procedures.[17] Some hospitals hosted in-house photographers. Others invited photographers to the hospital, or asked patients to visit photographic portrait studios. [18]

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[13] Ibid.

[14] Gillespie, 130.

[15] In addition to making daguerreotypy suitable for indoor portraiture, American scientists worked to lessen the exposure time of daguerreotypes. See Gillespie, 135.

[16] When Morse received Daguerre's instructional pamphlet, he immediately attempted to take portraits using the daguerreotype process, a task that Daguerre deemed impossible. Nonetheless, he claimed to have succeeded in making full-length portraits of his daughter. Simultaneously, Morse's friend, chemist John W. Draper experimented with daguarreotype portraits. See Newhall, 23.

[17] Paula Summerly, "Medical Photography," in *Encyclopedia of Nineteenth-Century Photography*, ed. John Hannavy (New York: Routledge, 2013), 917.

[18] One of the earliest American post-operation portraits was a daguerreotype that is dated 1845. The photographic portrait, which was published as an engraving in the *American Journal of the Medical Sciences*, showcased the work of surgeon Gurdon Buck on a patient's knee-joint a few days before he was discharged from the New York Hospital. The issue of *American Journal of the Medical Sciences* in which Buck's daguerreotype was published is not available for consultation. However, a description of the

Medical Photography and Art Historical Discourse

Although the historiography of photography is not the focus of this thesis, I would like to offer a brief discussion of the trajectory of art historical writings on American medical photography. While medical professionals readily accepted photography into their studies, the medium did not enter art historical discourse until the twentieth-century. Scholarly publications about medical photography have concentrated on either the formal qualities and historical contexts of these objects or their function as scientific tools, without offering a more balanced consideration of both.

In 1961 photography historian and collector Alison Gernsheim organized a survey of medical photography in the articles "Medical Photography in the Nineteenth Century, Part I" and "Medical Photography in the Nineteenth Century, Part II" in *Medical and Biological Illustration*. She begins her study with a description of the application of the camera obscura to create more detailed and accurate anatomical drawings in 1733. She then continues with notes on the invention of photography with Niepce in 1826 and Daguerre in 1839 before divulging on Donné and photomicrography. Gernsheim also touches on the impact of photomicrographs in the United States, as she notes the popularity of the photograph in the Surgeon General's Office. In addition to pinpointing these historical milestones, Gernsheim's article includes the technical side of medical photography, such as exposure times for photomicrographs.

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photograph was published in the English journal *The Medical Times*. See "Anchylosed Knee-Joint," *The Medical Times*, vol. 13 (September 27, 1845-March 28, 1846): 287.

Medical photography gained further traction in art history in later years. The approach of former museum director Bates Lowry and photographer Isabel Barrett Lowry focused more on the historical context of a medical photograph. They dedicate a chapter to the historical background of a series of daguerreotypes by Southworth & Hawes taken in 1846-1847 that depict uses of ether anesthesia in their book *The Silver Canvas: Daguerreotype Masterpieces from the J. Paul Getty Museum* in 2000. Five years later the Lowrys drafted a chapter for the book *Young America: The Daguerreotypes of Southworth & Hawes*, in which they detail Southworth & Hawes' efforts to take the infamous ether photograph at greater length. They note the doctors' affinity for photography, as well as Hawes' background as a painter. Additionally, they compare the composition of one of the ether daguerreotypes to Rembrandt's *The Anatomy Lesson of Dr. Tulp*.[19]

Professor of American Art Tanya Sheehan presents a take on the relationship between the bourgeoning photography and medical industries in midcentury America in *Doctored: The Medicine of Photography in Nineteenth-Century America*, published in 2012. Through methods of social art history, she demonstrates how medical metaphors and institutional models fortified the legitimacy of the photographic community in

[19] Bates Lowry and Isabel Lowry, "Simultaneous Developments: Documentary Photography and Painless Surgery," in *Young America: The Daguerreotypes of Southworth & Hawes* (New York: International Center of Photography, 2005), 75-88.

Philadelphia and shaped photography's cultural identity in America. Sheehan delves into several comparisons between photographers and doctors. For example, her examination of the photography studio and the hospital reveals similarities between the production spaces for photographs and healthy bodies.

Like its precedents, this thesis addresses the formal aspects of and history surrounding medical photographs. While Gernsheim and Bates and Isabel Lowry end their writings on these points, my study using an art historical approach extends to consider the role of photographers in shaping a medical history that is uniquely American. A spotlight on these decisions that formed these images reveals that despite their intention for objective studies, these photographs are ingrained with subjectivity and were meant to portray the history of surgery in the United States in particular ways.

The Importance of an Art Historical Approach

Scholarly publications that concentrate on the formal aspects of medical images have certainly been met with dissenting counterparts. For example, Professor of English John Tagg's 1988 book *The Burden of Representation* presents Foucault's theories about the nineteenth-century clinical gaze to argue that medical photography was considered purely as a representation of nature, rather than a creative undertaking. Additionally, Daniel Fox and Christopher Lawrence warn readers about potential drawbacks of integrating studies of medical images into history of medicine scholarship. In their 1988 publication *Photographing Medicine: Images and Power in Britain and America Since*

1840, Fox and Lawrence claim that attention to the formal qualities of medical images could trivialize their purpose as clinical evidence.[20] Moreover, Fox and Lawrence's argument implies that in-depth analyses of medical images are altogether obsolete, as they simply restate information communicated in texts.

As Donné and his colleagues in Europe and America have indicated, however, photography clearly made a profound impression on nineteenth-century medicine. To physicians and students, photographs revealed facts about the body that one could not communicate with text alone. Moreover, commemorative images of clinical achievements sought to express the capabilities of medical advancements, as well as connect the faces of certain physicians to these triumphs. Because photographic images became indispensable in medical history and instructional texts, an art historical interpretation is valuable because it seeks to pinpoint how the creative decisions of photographers strengthened these texts and shaped the history of surgery.

Although I am proposing an art historical approach to reading Southworth & Hawes' *Reenactment* daguerreotype and Bell's post-operation portrait for the Army Medical Museum, one should not omit a reading based on the medical gaze altogether.[21] In fact, appending components of the medical gaze to methods concerning the

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[20] Daniel Fox and Christopher Lawrence, *Photographing Medicine: Images and Power in Britain and America Since 1840* (New York: Greenwood Press, 1988), 6.

[21] Anthea Callen, Professor of Art, has used Foucault's theory of the medical gaze in an art historical analysis of André Brouillet's painting *A Clinical Lesson*. In her study, she concludes that the medical and artistic gazes have common factors: both are concerned with the physical status of the body in various levels of disinterest. While the artistic gaze, in Callen's view, concerns itself with the form of the body, the medical gaze focuses on the health of the body, and both are determined through visual examinations. See Anthea Callen, "Doubles and Desire: Anatomies of Masculinity in the Later Nineteenth Century," *Art History* 26, no. 5 (2003): 669.

photographer's decisions in an analysis of photographs that supplement stories in medical history, particularly commemorative and pedagogical images, offers a more holistic evaluation of these objects. In some cases, viewing these photographs from a medical standpoint complements, and even strengthens, an art historical analysis.

In chapter one, I define the medical and art historical gazes, and explain their subjective components. I then use the platform established from these points to investigate two types of medical photographs in the history of surgery, one commemorative and another with educational intentions. The case study of the *Reenactment* daguerreotype by Southworth & Hawes in chapter two reveals how this photograph celebrated the discovery of ether anesthesia by Dr. William T.G. Morton. In chapter three I examine how albumen prints by Bell in *Photographs of Surgical Cases and Specimens* not only supplemented texts about surgical procedures, but also served to venerate those techniques.

Chapter 1. Ways of Seeing: An Art Historical Approach and Empirical Observation

> Art has become more and more indispensable to us as an aid both to record and to explication. The diagram, the more highly finished drawing, the photograph, and the model, serve as a new language that speaks with strength and clearness where written or spoken words would convey their meaning slowly and imperfectly.
>
> —William Anderson, "An Outline of the History of Art in its Relation to Medical Science"

In his 1885 introductory address to the Medical and Physical Society of St. Thomas's Hospital in London, William Anderson compared the disparate histories of art and medical science, and emphasized how little the two have shared. For example, according to Anderson, while the field of art made progress in the form of realistic sculptures, paintings and drawings during the Renaissance, superstition held back medical science.[22] Despite the differences between the historical trajectories of the fields, Anderson sought to demonstrate the value of art to nineteenth-century medical science, underlining the "strength and clearness" of visual records, a quality that verbal and textual communication seemed to lack. In spite of his apparent enthusiasm, however, as Lorraine Daston and Peter Galison point out in "The Image of Objectivity," Anderson only credits science-directed mechanical art as a helpful tool for medical science, as only mechanically produced images were believed to remove traces of human intervention and

[22] William Anderson, "An Outline of the History of Art in its Relation to Medical Science" (Introductory address delivered at the Medical and Physical Society of St. Thomas's Hospital, London, October 1885),1.

error, making them suitable for scientific study.[23] Despite the belief that the camera, as a machine, was a barrier between human interference and the object of research, it was by no means understood as a guarantee of complete objectivity in the resulting photograph.

Although their histories have been written independently, the reality, of course, is that radical changes in art and medical science discourses occurred simultaneously in the mid-nineteenth-century. Indeed, the nineteenth-century was a time of reorganizing knowledge, both in the humanities and the sciences, and medical photography represents a convergence of the two fields. Photographers of medical images, the most notable of whom began their careers as painters, implemented artistic conventions in creative decisions about cropping, composition and lighting into the craft of photography. However, the placement of medical photographs on walls of medical history exhibitions and pages of instructional books prompted empirical readings of these images, which necessitated a presumption of their objectivity.

Rather than viewing medical photography as strictly art images or scientific documents, it is essential to consider both the "art" and "science" of medical photography in tandem. As Anderson pointed out, medical photography as art has become an indispensable part of medical history. This study of the inherent subjectivity in medical photographs seeks to underscore how that history has been told through images.

[23] To further demonstrate skepticism of drawn and painted medical images, there was an acknowledgement of subjectivity in medical drawings within medical texts, as evidenced by disclaimers from authors ensuring readers that medical professionals approved the accuracy of drawn figure illustrations. See Lorraine Daston and Peter Galison, "The Image of Objectivity," Representations, no. 40 (1992): 98-101.

An Art Historical Approach

The nineteenth-century was a time of notable shifts in the observing subject. As Jonathan Crary states in *Techniques of the Observer*, this transformation was not merely a product of new art media, technology and the resulting modes of representation. It was also connected to a restructuring of knowledge.[24] Crary begins his study with a short synopsis of the narrative of modernism: the new manner of visual representation and perception that materialized with the introduction of impressionism and postimpressionism. This, in turn, established a separation from the standard of perspectival vision that was founded during the Renaissance. Crary goes on to say that this break from perspectival space and reference occurred simultaneously with the announcement and circulation of photography, and argues that photography is part of a continuous exploration of perspective distinct from the new models of vision expressed through modern painting.[25] Consequently, he argues, there existed a conceptual division in the expectations of the nineteenth-century observer. On one hand, there were artists who engendered a profound new way of seeing. On the other hand, fifteenth century models of reality continued to constrain vision. Crary claims this realist-experimental binary was not autonomous, but essential to the "rupture" of modernism, a visual breakthrough possible only because observers whose expectations were shaped by the "norm" of realistic art saw changes in visuality as evidence of modernism.

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[24] Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge: MIT Press, 1990) 3.

[25] Crary, 4.

Taking Crary's remarks into account, photography held an intriguing position from the point of view of the nineteenth-century observer. Photography's elements of realism, drawn from the model of perspectival systems, include its near-perfect reproduction of detail. For example, the images of daguerreotypes in wide circulation at the time seemed strikingly clear when compared to avant-garde paintings and drawings produced within the same time period. But what did nineteenth-century observers make of the employment of photography for purposes outside of the fine arts, for topography and medicine? What did they make of photography's inherent connection to science, for example, through chemistry?

Empirical Observation

The nineteenth-century was a transformative time for medicine, as well as art, and with these changes came new ways for physicians to observe the human body. In *The Birth of the Clinic* Michel Foucault argues for the French Revolution as the catalyst that reconstructed medical science because it encouraged people to re-examine their basic human rights, which eventually invited questions about causes of diseases and effects of health.[26] Before the Revolution, physicians were merely superstitious aides to the aristocracy, but by the turn of the nineteenth-century, physicians had adopted greater responsibility for the well-being of their communities in the form of public clinics.[27] The

[26] Michel Foucault, *The Birth of the Clinic: An Archeology of Medical Perception*, trans. A.M. Sheridan (New York: Routledge, 2003), 19.

[27] Foucault, 41-42.

establishment of the clinic democratized medicine and accordingly, transformed medical practices into skills and knowledge operating to benefit the general public. The practice of medicine shifted from faith-based truths to practical, specialized knowledge, applied in the form of what Foucault termed the "medical gaze" that was based on examining patients to find answers.[28]

With the greater role of medicine in quotidian life, physicians further distanced themselves from superstitious explanations for ailments that were based on books containing esoteric knowledge. Instead, doctors preferred methods rooted in empiricism.[29] This, in turn, changed the reputation of the physician from the mysterious, soul-saving clergy to the cognizant doctor who saved bodies. The difference between the former and the latter is especially evident in an examination of the doctor-patient relationship. While the pre-Revolution physician relied on a study of old knowledge, the post-Revolution physician looked directly to the patient with the medical gaze to formulate diagnoses. However, the post-Revolution physician maintained an air of omniscience, as the nineteenth-century doctor's responsibility included the demystification of the enigmatic body, an ability attained only through extensive medical training and experience.[30]

---

[28] The development of the clinical gaze began during the Enlightenment period when physicians learned about the human body by dissecting corpses. The medical gaze was refined and widely implemented in nineteenth-century medical practice with the advent of clinics. See Foucault, 57 and 125.

[29] Foucault, 72.

[30] Foucault, 73.

Sometimes also referred to as the "observational gaze" or the "clinical gaze," the medical gaze involves what Foucault describes as a physician's "double-system of observation." In other words, physicians have the simultaneous abilities to first, uncover how diseases are contracted, and, second, recognize the unhealthy state of the body in contrast to their knowledge of a healthy body. According to Foucault, both types of observation are achieved only through a visual examination of the body.[31] While this required physicians to abandon theories that they may have learned from esoteric texts, the medical gaze also demonstrated cognitive relativity: it made it clear that observations about the patient's body are contingent on the physician's sensations and perception, in addition to their medical experiences. Therefore, while the physician's word is assumed to be objective, Foucault argues that the medical gaze is subjective by definition, as each physician may have unique judgments about the human body based on their particular interactions with patients.[32]

The medical gaze, along with innovations in surgery in the mid-nineteenth-century encouraged refined practices in observation, extensive experiments and a replacement of theories with scientific empiricism.[33] Consequently, this defined a shift in the meaning of medicine and its relationship with the human body.[34] Nineteenth-century medical science no longer regarded the body as the product of supernatural creation, but

[31] Foucault, 42-43.

[32] Foucault, 83.

[33] Foucault, 136.

[34] Foucault, 124-135.

an opportunity for exploration, discussion and inquisition. As such, employment of the medical gaze entailed a mind-body dualism, or an evaluation of the body in which the patient is dehumanized.[35] That is to say, the medical gaze requires the physician to separate the patient's person from the patient's body. Foucault argues that this mode of distancing allows the physician to see through the mystery of the ill body and focus on finding an objective truth by diagnosing problems and designing solutions. The body thus becomes an object of knowledge in medical practice.

Since nineteenth-century medical photographs were meant to spread knowledge about the body, it is reasonable to assume that physicians studied these images with the same medical gaze they trained on their patients. That is, an observer using the medical gaze could recognize an ailment solely from examining and describing an image of it. For example, a photograph of the neck of a patient with a tubercular ulceration of the esophagus in the *International Textbook of Surgery* (fig. 1.2) shows a view of the back of a patient's neck. From visual observation alone, one can see that there is what appears to be an open wound framed by scars on the upper-left side of the neck, close to the patient's ear. No attention is to be given to either the maker of the photograph, nor the maker's depiction of the person in the image. Rather, the focus of this reading is on the patient's wound and what the physician should do to heal the body. The photograph seems to offer an objective reading, yet subjectivity comes into play here in the form of the physician's description of the wound, in addition to their diagnosis and treatment.

[35] Foucault, 136-137.

Vision as the Modern Sense

In their respective studies, both Crary and Foucault recognize vision as the optimal sense of the nineteenth-century for both art and science. This profound reliance on vision in education begat a need for veracity in images. Consequently, photography became the modern paradigm of visual media in a midcentury culture saturated in images because of its ability to capture details that other media could not, thereby catering to the public's increased desire for visual acuity.

In *Nature Exposed: Photography as Eyewitness in Victorian Science*, Jennifer Tucker explains that the nineteenth-century scientific community craved a "wordless science," that is, a science that depended on images, rather than texts.[36] She goes on to say that photographs were generally accepted as natural specimens, and were increasingly popular in medical education towards the latter half of the 1800s.[37] Readers generally regarded photographs as more accurate and detailed than drawings, which were thought of as more aesthetically pleasing, but less truthful, and therefore, less instructive.[38]

[36] Jennifer Tucker, *Nature Exposed: Photography as Eyewitness in Victorian Science* (Baltimore: The Johns Hopkins University Press, 2005), 2.

[37] Nonetheless, criticism of the new medium persisted. Those skeptical of photography cited smears, spots, blurring and fading as some reasons for not accepting the medium at face value. As such, drawings still supplemented medical texts. Proponents of medical drawings favored the colors of medical drawings. See Tucker, 171-3.

[38] Ibid.

The Tension Between Objectivity and Subjectivity

In *American Photography* Miles Orvell maintains that one must consider the uses of photography when examining its history.[39] In the case of medical photographs, these images primarily serve as tools for medical instruction. In this sense, medical photography has assumed the role of a document. In other words, its main purpose has been to provide information, rather than aesthetic pleasure.[40]

Despite its utilitarian purpose steeped in assumed objectivity, it is important to remember the uniqueness of the photographic medium; that all photographs, including those in medical discourse, are simultaneously objective and subjective. As Orvell notes, the objectiveness of a photograph is its record of what was in front of a camera.[41] But, inherent subjectivity of a photograph lies in the fact that it is the product of an individual's point of view. Because it is impossible for the camera to capture all visual information, aspects of a person or event are inevitably left out of photographs. Therefore, the photographer's role is always present because they need to decide which elements to frame and light in the production of images.

As Orvell points out, "few images are presented to us without some frame of information that leads us to an interpretation," [42] and medical photography is no exception. Although the primary purpose of medical photographs is not aesthetic, it is

[39] Miles Orvell, Am*erican Photography* (Oxford: Oxford University Press, 2003), 15.

[40] Orvell, 16.

[41] Orvell, 14.

[42] Orvell, 15.

important to note the framework of interpretation at the roots of medical photography through a consideration of the photographer's decisions about cropping, composition and lighting.

Early Photography in the United States

Daguerreotypy was announced in France in January 1839 and introduced to American culture shortly thereafter. News of the invention spread through reports in American newspapers about daguerreotypes on exhibition in the United States, in addition to an instructional pamphlet by Daguerre.[43] Inventor and portraitist Samuel F.B. Morse, who was also President of the National Academy of Design, was instrumental in importing the practice of daguereotypy to the United States. Morse was in Paris in 1839 to seek a patent for the telegraph when news of the daguerreotype broke, the invention speaking to his interests in both the fine arts and the sciences.[44] Morse first saw daguerreotypes in March 1839 when he visited Daguerre's studio, and described the images as resembling "aquatint engravings, for they are in simple chiaro oscuro, and not in colors. But the exquisite minuteness of the delineation cannot be conceived. No painting or engraving ever approached it."[45]

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[43] Reported in the *Mercantile Journal* (Boston) and *Intelligencer* (Washington). These reports were met with suspicion, as the news was announced not long after the American public was exposed to a scientific hoax perpetuated by the New York *Sun* in 1835 in order to gain popularity. See Robert Taft, *Photography and the American Scene* (New York: Dover Publications, 1938), 8-9.

[44] Morse did experiments with attempting to 'fix' images of the camera obscura. See Taft, 11.

[45] Taft, 12.

At this time, the daguerreotype occupied an ambiguous position between art and science. The first Americans to attempt the process were chemists Dr. James Chilton and Dr. John W. Draper. But while daguerreotypy was gaining momentum in the sciences, it was also regarded, by some, as a form of art. [46] In 1839 Lewis Gaylord Clark, editor of the New York magazine *The Knickerbocker*, described daguerreotypes as "the most remarkable objects of curiosity and admiration, in the arts, that we ever beheld."[47] Indeed, daguerreotypy was brought into the portrait studio, again with the initial support of Morse.[48] This was no easy feat, however, as exposure times for the medium were extensive, and light conditions low.[49] But the American practitioners persevered, and American daguerreotypists are acknowledged as the first to produce photographic portraits. As reported in the New York newspaper *Observer* in April 1840, Morse was the first to successfully photograph a living person by way of daguerreotypy, a reminder that while Europeans invented the daguerreotype, Americans improved the process. [50]

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[46] English transplant D.W. Seager is credited as the first person to successfully make a daguerreotype in the United States in September 1839.Taft, 17.

[47] Taft, 3.

[48] Morse asked Daguerre about the possibility of using photography for portraiture during his visit to Daguerre's studio, but Daguerre had little hope for exercising daguerreotypy indoors. According to the first exposure table published in the United States, the length of exposure to render a daguerreotype in an outdoor setting could range anywhere from 5 to 70 minutes depending on the weather and amount of natural light at particular hours of the day. See Taft, 22-23.

[49]Ibid.

[50] Gillespie, 32-33.

Mathew Brady, best known for his photographs of the Civil War, solidified the first significant role of American photographers as visual historians with his work as a portrait photographer. As a daguerreotype portraitist, Brady captured the faces of prominent figures of his time and exhibited them in galleries in New York and Washington, DC.[51] Brady was aware of the criticisms against photography and used the medium to challenge the hierarchy of artistic value when he began making and exhibiting historical portraits in 1845. Reviews of his photographs demonstrate that art critics regarded Brady's historical portraits as art, for example when C. Edward Lester described a daguerreotype portrait of John C. Calhoun by Brady as communicating the "depth, and earnestness, and intensity, and spiritualism, which so eminently distinguish [Calhoun] from almost all other men," and suggesting that Brady's manipulation of a skylight was key.[52]

Lester's experience of Brady's photograph shows an art historical approach at work to communicate an artist's unique perspective of the subject through the photographer's fundamental formal interventions: cropping, composition and lighting. Lester’s analysis accentuates the artist's subjective intuition, and points to the photographer’s unique, individual perspective on the subjects before their cameras. Thus, Brady effectively established photography as an art medium.

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[51] Page developed his ideas about the spiritual elements of art from readings by Washington Allston, Ralph Waldo Emerson and Emanuel Swedenborg. See Alan Trachtenberg, *Reading American Photographs: Images as History* (New York: Hill and Way, 1989), 33-35.

[52] This portrait of Calhoun was later reproduced as a lithograph for Brady's publication *Gallery of Illustrious Americans* (1850). See C. Edwards Lester, "M.B. Brady and the Photographic Art," *Photographic Art-Journal* (1851): 42.

The formal devices that depict nineteenth-century portraiture conventions at work in the photograph become evident in a study of the portrait of Calhoun (fig. 1.1). In an art historical analysis, one must take note of Brady's decision to crop the image with an oval frame, which mimics the overall oblong shape of the sitter, with his hands clinging to a dark cloak that covers his shoulders and drapes over his arms. The subject stares intently towards his left, rather than directly into the camera's lens. His upward stare reveals the whites of his eyes. Brady further accentuated his wide eyes with a light streaming from above. It illuminates the sitter's head against the surrounding dark shades of his clothing and the background. The light on his face emphasizes his wrinkles, and therefore, his age. Brady's decisions as a photographer combine to depict Calhoun as an intense and wise person. Indeed, at the time Brady took this portrait, he mentioned that he was most awestruck by Calhoun's age and the wisdom he saw in his eyes.[53] These impressions of Calhoun are shown in the way Brady photographed his portrait.

The Placement of Medical Photography

Given the nineteenth-century art conventions operating in American photography to raise portraiture to the level of art, and assumptions of photographic objectivity operating to affirm the cloaked detachment of the medical gaze in medical photographs at the time, one would think that those two spheres of photography would be resolutely separate, both at the level of production and reception. Yet, the proper placement of

[53] Roy Meredith, *Mr. Lincoln's Camera Man: Mathew B. Brady* (New York: Dover Publications, 1974), 24.

medical photography within representational categories is undeniably complex because, with the exception of a few anatomical paintings and drawings and depictions of medical lecture scenes, medical imagery has almost exclusively been enclosed in the discourse of medical science. The most important debates about scientifically determined photographs have centered on landscape photography because over the years, this type of photography has appeared on gallery walls, treated as art, even as the images have been proven to have illustrated texts in geography publications.

The seminal analysis of this kind is Rosalind Krauss' essay "Photography's Discursive Spaces: Landscape/View." There, Krauss argues that the images of empirical science function in a discourse separate from that of art images. For Krauss, the placement of images within certain contexts dictates viewer expectations and readings. For instance, images worthy of art museum or gallery exhibition call for aesthetic readings, which necessitates a consideration of values that include ambiguity and transcendence.[54] On the contrary, objects barred from gallery walls, such as images of scientific specimens, are not generally defined as art. As an example, Krauss offers mass-produced images published for the purpose of scientific and historical knowledge, including those in books and albums.[55] The lucid messages in these photographs are necessary for their instrumentality and distinguish them from their aesthetic counterparts.

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[54] Rosalind Krauss, "Photography's Discursive Spaces: Landscape/View," *Art Journal* 42, no. 4 (1982): 313.

[55] Krauss, 314.

That is to say, while it is acceptable for aesthetic images to be either unambiguous or cloaked in mystery and sublimity, empirical images are only meant to transmit information clearly; they are useless otherwise.

Another important factor to consider in reading images, according to Krauss, is the intention of the maker. Artists declare authorship when their work is exhibited in a public space. The artist's work is a reflection of their individual view of the subject, which they develop over the course of learning their craft.[56] As a result, the viewer acknowledges the artist's unique outlook when the object is placed in an exhibition setting. In contrast, viewing images in books and albums deflects attention away from the maker and onto the way in which the image contributes to the publication as a whole. In this instance, the maker of the image renounces authorship in favor of sharing information. When regarding photographs in publications, which often involve collaborations between a photographer, author, publisher and editor, one should also address the context of production and question to what degree the maker was motivated by their own artistic goals as opposed to the intentions of their clients.

Douglas Nickel contests Krauss' viewpoint in his essay on nineteenth century photographer Carleton Watkins, "An Art of Perception," where he argues that the division between science images and aesthetic images is not clearly defined. In his study of Watkins' images, Nickel claims that the photographer’s landscapes are difficult to place within Krauss's proposed categories. On one hand, Watkins' photographs have

[56] Krauss, 315.

served a practical function in mass-circulated publications and stereographs.[57] But, Watkins saw himself as an artist who made photographs meant for both exhibition and educational purposes.[58] This is evident in his display of large-scale framed photographs in agricultural exhibits. The use of a frame, which denotes an artwork, was a rare circumstance for photography in the nineteenth-century that complicated its placement in either discourse, for these photographs were neither regarded as strictly aesthetic nor empirical. According to Nickel, this rendered Watkins a new kind of artist.

Krauss's firm division between empirical and aesthetic images complicates the placement of medical photographs, as well, since many of these objects cannot be categorized neatly in her terms. Yes, one of the purposes of medical images in publications is to supplement texts, rather than activate aesthetic responses. Still, one should not ignore the role of the photographer, as their decisions reveal much about the image itself. Medical photography, when made to accord with the standards of aesthetic composition, conforms to Nickel's description of images created by a new type of artist in the nineteenth-century, one who had the potential to take photographs for both aesthetic and educational purposes.

One way to acknowledge the conjoined artistic and scientific aspects of medical photography is to consider the similarities between the making of a medical photographic image and observing the human body. Photographic historian Tanya Sheehan has suggested a correlation between the photographer and the physician in her book

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[57] Douglas Nickel, "An Art of Perception," in *Carleton Watkins: An Art of Perception* (New York: Harry N. Abrams, 1999), 23.

[58] Nickel, 24.

Doctored: The Medicine of Photography in Nineteenth-Century America. Sheehan points out that midcentury American commercial portrait photographers described their studios using medical metaphors and modeled their educational structures after medical institutions. Likewise, she argues, there are similarities between the ways in which physicians and photographers understand the human body.[59] Sheehan claims that the inclusion of medical metaphors and structures in early discussions about photography not only promoted photography as a profession, but also allocated a kind of authority to photographers, specifically the power to study, manipulate and diagnose the body through the making of photographic images.[60] Like physicians, photographers exerted control over the sitters' unruly bodies, and by extension, over the understanding and reputation of American medicine, as photographic images promoted the discipline at the time.[61]

The power, in this scheme, shifts from action to representation. Drawing on Sheehan's study, it is worth highlighting that this notion of power over the body is connected to forms of subjective representations that functioned to establish "truths" in nineteenth-century medicine. Photographers and physicians alike seem to have had unique access to accurate assessments of the human body. Their evaluations were perceived as "truth" because the mechanical barrier between the photographer and the

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[59] Tanya Sheehan, *Doctored: The Medicine of Photography in Nineteenth-Century America* (University Park, PA: The Pennsylvania State University Press, 2011), 2.

[60] Sheehan, 3.

[61] Sheehan, 12.

human subject was thought to eliminate subjectivity; and the physician's word seemed impervious to fault. Therefore, while the divergence between artistic and empirical thinking appears to have separated their histories, the intersection between nineteenth-century photography and medicine is the expression of subjectivity in an examination of the human body.

Rosiland Krauss concludes her article by urging the reader to consider the stakes of reading a historical image as an aesthetic one when she asks, "What possible price of historical clarity are we willing to pay in order to maintain the [artistic subject] over the [catalogue subject]?"[62] But I would argue that there is a greater risk involved in completely separating medical photography from art historical discourse. If we bracket the authorship of the maker, then we ultimately choose to ignore the fact that these images are subjective and rhetorical, in that they direct the viewer's understanding of the image beyond mere descriptive observation. The following case studies of a daguerreotype of a reenacted operation scene by Southworth & Hawes and an albumen post-operation portrait by William H. Bell will demonstrate that it is possible to preserve the clarity of medical history (or rather, the intended storyline of surgical history) while acknowledging nineteenth-century artistic conventions.

[62] Krauss, 317.

Figures

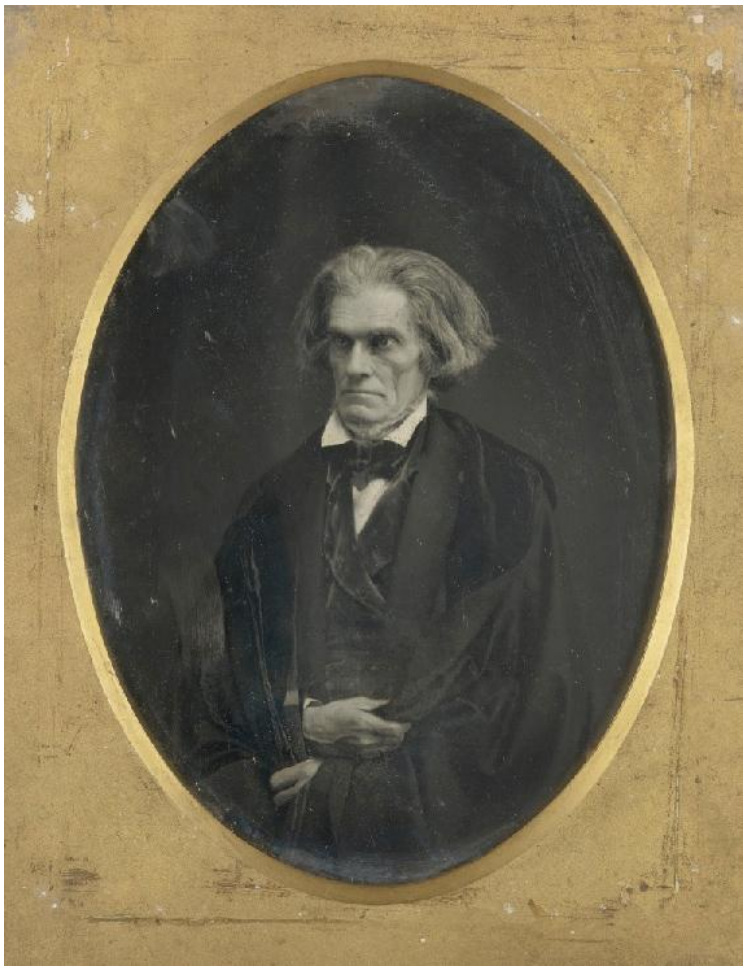
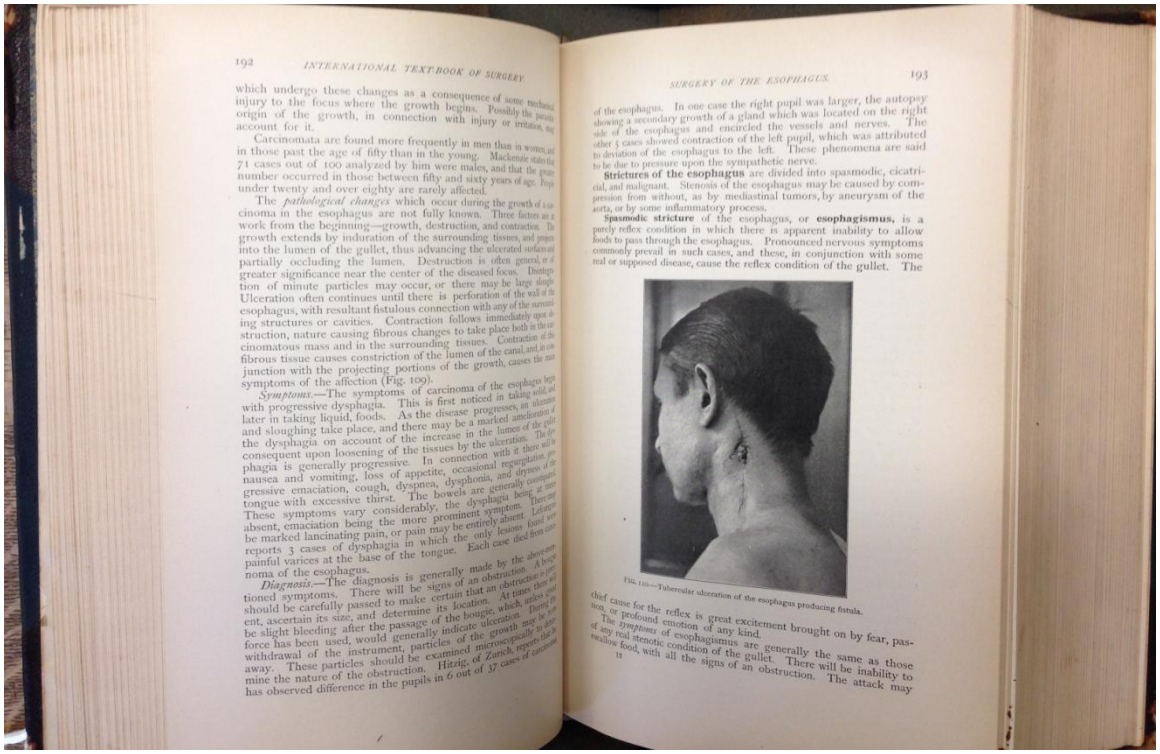


Figure 1.1. Mathew Brady. John C. Calhoun, 1849. Whole plate daguerreotype. Stephan and Beth Loewentheil Family Photographic Collection



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which undergo these changes as a consequence of some mechanical injury to the focus where the growth begins. Possibly the parasitic origin of the growth, in connection with injury or irritation, may account for it.

Carcinomata are found more frequently in men than in women, and in those past the age of fifty than in the young. Mackenzie states that 71 cases out of 100 analyzed by him were males, and that the greater number occurred in those between fifty and sixty years of age. Rare under twenty and over eighty are rarely affected.

The *pathological changes* which occur during the growth of a carcinoma in the esophagus are not fully known. Three factors are at work from the beginning—growth, destruction, and contraction. The growth extends by induration of the surrounding tissues, and projects into the lumen of the gullet, thus advancing the ulcerated surface and partially occluding the lumen. Destruction is often general, or of greater significance near the center of the diseased focus. Disintegration of minute particles may occur, or there may be large sloughs. Ulceration often continues until there is perforation of the wall of the esophagus, with resultant fistulous connection with any of the surrounding structures or cavities. Contraction follows immediately upon destruction, nature causing fibrous changes to take place both in the carcinomatous mass and in the surrounding tissues. Contraction of the fibrous tissue causes constriction of the lumen of the canal, and, in conjunction with the projecting portions of the growth, causes the main symptoms of the affection (Fig. 109).

Symptoms.—The symptoms of carcinoma of the esophagus begin with progressive dysphagia. This is first noticed in taking solid, and later in taking liquid, foods. As the disease progresses, an ulceration and sloughing take place, and there may be a marked amelioration of the dysphagia on account of the increase in the lumen of the gullet consequent upon loosening of the tissues by the ulceration. The dysphagia is generally progressive. In connection with it there will be nausea and vomiting, loss of appetite, occasional regurgitation, progressive emaciation, cough, dyspnea, dysphonia, and depression of the tongue with excessive thirst. The bowels are generally constipated. These symptoms vary considerably, the dysphagia being at times absent, emaciation being the more prominent symptom. There may be marked lancinating pain, or pain may be entirely absent. Lefferts reports 3 cases of dysphagia in which the only lesions found were painful varices at the base of the tongue. Each case died from carcinoma of the esophagus.

Diagnosis.—The diagnosis is generally made by the above-mentioned symptoms. There will be signs of an obstruction. A bougie should be carefully passed to make certain that an obstruction is present, ascertain its size, and determine its location. At times there will be slight bleeding after the passage of the bougie, which, unless great force has been used, would generally indicate ulceration. During the withdrawal of the instrument, particles of the growth may be left away. These particles should be examined microscopically to determine the nature of the obstruction. Hitzig, of Zurich, reports that he has observed difference in the pupils in 6 out of 37 cases of carcinoma

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of the esophagus. In one case the right pupil was larger, the autopsy showing a secondary growth of a gland which was located on the right side of the esophagus and encircled the vessels and nerves. The other 5 cases showed contraction of the left pupil, which was attributed to deviation of the esophagus to the left. These phenomena are said to be due to pressure upon the sympathetic nerve.

Strictures of the esophagus are divided into spasmodic, cicatricial, and malignant. Stenosis of the esophagus may be caused by compression from without, as by mediastinal tumors, by aneurysm of the aorta, or by some inflammatory process.

Spasmodic stricture of the esophagus, or **esophagismus,** is a purely reflex condition in which there is apparent inability to allow foods to pass through the esophagus. Pronounced nervous symptoms commonly prevail in such cases, and these, in conjunction with some real or supposed disease, cause the reflex condition of the gullet. The

FIG. 110.—Tubercular ulceration of the esophagus producing fistula.

chief cause for the reflex is great excitement brought on by fear, passion, or profound emotion of any kind.

The *symptoms* of esophagismus are generally the same as those of any real stenotic condition of the gullet. There will be inability to swallow food, with all the signs of an obstruction. The attack may is

Figure 1.2. *Tubercular ulceration of the esophagus producing fistula* in John Collins Warren and Alfred Pearce Gould, *International Textbook of Surgery* (Philadelphia: Saunders, 1902), 193

Chapter 2. Fragments of Medical Memories: Southworth & Hawes' *Reenactment* Daguerreotype as Performance Documentation

On October 16, 1846 Dr. William T.G. Morton and Dr. John Collins Warren advanced modern medicine when they implemented the use of ether for the first time during a public demonstration of an operation in the teaching amphitheater, later nicknamed the "Ether Dome," of the Massachusetts General Hospital in Boston. Morton administered ether to Edward G. Abbott, a patient who had a tumor in his jaw. Once Abbott became unconscious, Warren performed surgery to remove the tumor before an audience. To commemorate this seminal event, which marked the end of excruciating pain during surgery feared by patients and physicians alike, Morton and Warren commissioned Boston-based photographers Albert Sands Southworth and Josiah Johnson Hawes, of the photography firm Southworth & Hawes, to chronicle a reenactment of the surgery with a daguerreotype a few months after the actual surgery took place.[63] The photographers had to capture the image post-surgery for two reasons: one, it was difficult to take photographs of indoor events with poor sources of light because of the state of photography at the time; and two, Morton had to first present his discovery to Congress, as his claims generated legal battles over the attribution of the innovative use of ether as

[63] At first, Morton wanted to wait until he obtained a patent for ether as an anesthetic before visually documenting the demonstration. The actual surgery using ether occurred in October 1846. The staged scene for the photograph is estimated to have been taken at the end of 1846 or at the beginning of 1847. See Bates Lowry and Isabel Lowry, "Simultaneous Developments: Documentary Photography and Painless Surgery," in *Young America: The Daguerreotypes of Southworth & Hawes*, edited by Grant B. Romer and Brian Wallis (New York: International Center of Photography, 2005), 75.

an anesthetic.[64] Moreover, Morton may have been concerned that if the event was highly publicized, more medical professionals might come forward with claims that would fuel the dispute over attribution rights to the discovery of ether anesthesia.[65] It was only after it was revealed that Dr. Charles T. Jackson of Boston had written to the Academy of Sciences at Paris seeking a patent for surgical ether that Morton decided to commemorate his discovery of ether anesthesia with a photograph. The resulting daguerreotype is now referred to as *Reenactment of the First Public Demonstration of the Surgical Use of Ether* (fig. 2.1).[66]

This daguerreotype is housed in the collection of the Massachusetts General Hospital as a reminder in the history of medicine of this pioneering move towards new

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[64] *Men of Mark in Georgia*, vol. 2, ed. William J. Northen, LL.D (Atlanta: A.B. Caldwell Publisher, 1910), 134.

[65] In November 1847 Morton wrote a letter to the Academy of Sciences at Paris when he discovered that Dr. Charles T. Jackson of Boston contacted the Academy between November 1846 to March 1847, claiming full credit for the discovery of surgical anesthesia. This also happens to be the within the estimated dates of the Southworth & Hawes daguerreotype. In his memoir, Morton claimed that Jackson's use of ether did not go beyond the topical application of ether onto sensitive teeth, but Morton was the first to use ether as a gaseous sleeping agent. Morton's memoir unveils a possible factor that led to his decision to risk compromising the ongoing legal dispute over the attribution of the founding of ether anesthesia by commissioning Southworth & Hawes to take a photograph of the reenacted operation before Congress solved the case. After hearing that Jackson sought credit for the discovery of surgical ether, Morton must have worried that more surgeons may come forth to claim themselves as founders of the sleeping agent. As a result, Morton likely used the commemorative photograph to tighten the attachment of his name to the discovery of ether anesthesia. See William T.G. Morton, *A Memoir to the Academy of Sciences at Paris on a New Use of Sulfuric Ether* (New York: Schuman, 1946), 5.

[66] The title of this daguerreotype was given by an unknown party. It is listed as "Unknown," but commonly referred in scholarship as *Reenactment of the First Public Demonstration of the Surgical Use of Ether*. See "Untitled (Reenactment of the First Public Demonstration of the Surgical Use of Ether)," *Harvard Art Museums*, accessed April 30, 2016, http://www.harvardartmuseums.org/art/285736.

possibilities in the operating room.[67] This study of Southworth & Hawes' *Reenactment* offers an alternate view of this photograph from an art historical perspective by thinking about the *Reenactment* as a documented performance, as opposed to merely a disinterested document made to preserve a medical landmark. While the medical gaze upon the patient's serene face reveals the effectiveness of ether anesthesia, an art historical approach spotlights Southworth & Hawes' use of composition and lighting to construct a memory of the event. One should acknowledge these contributions of the photographers, as attention to form, staging and lighting can reveal how this image, in part, shaped the history of surgical ether.

The Discovery of Ether Anesthesia

Morton's desire to obtain both recognition and compensation for his discovery of ether as an anesthetic implies that the *Reenactment* daguerreotype was intended as an image of commemoration, as well as a validating document of Morton's achievement that is tethered to the near-elimination of suffering during surgical procedures. This immense accomplishment caused rivalry between surgeons for founding credit. Drs. Horace Wells and William Crawford Long employed the use of ether in surgery in the early 1840s, yet

[67] Although the *Reenactment of the First Public Demonstration of the Surgical Use of Ether* by Southworth & Hawes has been featured in art exhibitions, neither in-depth discussions about its dual position in art and science, nor a view of it as performance documentation were the main topics of these shows. See "Untitled (Reenactment of the First Public Demonstration of the Surgical Use of Ether)," *Harvard Art Museums*, accessed April 30, 2016, http://www.harvardartmuseums.org/art/285736.

neither was associated with the accolades that followed. Crawford Long did not publish his findings because he felt he did not have a sufficient number of cases to prove the effectiveness of ether anesthesia.[68] Wells was Morton's former dentistry business partner in Boston in 1843, and it is speculated that Morton heard about the capabilities of ether from Wells. [69] This sparked his own experiments with the substance at his estate in Wellesley, a sanctuary otherwise known as Etherton. After a successful experiment with ether on himself in his old office in Boston, Morton approached chemist Dr. Charles T. Jackson on September 30, 1846, and learned that ether needs to be fresh and refined in order to act as a sleeping agent.[70] Morton then worked alongside Dr. George H. Hayden to develop a glass ether administrator before performing a successful tooth extraction on one of his patients under ether on September 30, 1846.[71] Morton sought to advertise his discovery to medical doctors for financial gain. He approached surgeon Dr. Warren with his discovery on October 4 or 5 of 1846 to present ether under his brand Lethion. On October 16 of that same year Warren removed a growth from printer Gilbert Abbott's jaw before a live audience with Morton by his side to administer a dose of Lethion.[72]

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[68] Jos Jacobs, *Some Personal Recollections and Private Correspondence of Dr. Crawford Williamson Long, Discoverer of Anesthesia with Sulphuric Ether*, (Atlanta, 1919), 12-13.

[69] Dennis B. Fradin, *We Have Conquered Pain: The Discovery of Anesthesia* (New York: Margaret K. McElderry Books, 1996), 50-52.

[70] Fradin, 55.

[71] "The Ether Controversy," in *The Living Age*, vol. 17, ed. E. Littell (Boston: E. Littell and Company, 1848), 491-4.

[72] Morton's formula consisted of ether fumes laced with orange oil and other aromatics. These non-ether ingredients merely served as a attempts to mask the distinctive, sweet smell of ether fumes, thus presenting the anesthetic as Morton's innovation. See Fradin, 62.

Staging History

Warren published an anecdote about the demonstration of ether as anesthesia in his *Surgical Remarks on Etherization* in 1848:

> The patient was a young man, about twenty years old, having a tumour on the left side of the neck, lying parallel to, and just below the left portion of the lower jaw. His tumour, which had probably existed from his birth, seemed to be composed of tortuous, indurated veins, extending from the surface quite deeply under the tongue. My plan was to expose these veins by dissections sufficiently to enable me to pass a ligature around them. The patient was arranged for the operation in a sitting posture, and everything made ready ... The patient was then made to inhale a fluid from a tube connected with a glass globe. After four or five minutes, he appeared to be asleep, and was thought by Dr. Morton to be in a condition for the operation. I made an incision between two and three inches long, in the direction of the tumour, and to my great surprise, without any startling, crying out, or other indication of pain.[73]

Although Southworth & Hawes did not use this exact passage to stage the reenactment (it was published approximately one year after they took the photograph), Warren's anecdote about the demonstration offers insight to his recollection of the event that likely guided the photographers as they were arranging the reenactment for the photograph. Southworth & Hawes' decisions for staging are surely based on their understanding of anecdotes from doctors present at the staging, a sample of which is reflected in Warren's passage.

Since this image was meant to connect certain individuals with the discovery of ether anesthesia, it features the patient and doctors who were present in the amphitheater

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[73] John Collins Warren, *Etherization; with Surgical Remarks* (Boston: W.D. Ticknor & Co, 1848), 4-6.

during the demonstration. Among the subjects are primary surgeon at Massachusetts General Hospital Dr. Solomon Townsend; house apothecary Dr. John C. Dalton; junior surgeon Dr. Charles Frederick Heywood (who appears in subsequent photographs as an anesthetist); Dr. Augustus Addison Gould, designer of the ether anesthesia flask in the photograph; Dr. Henry Jacob Bigelow, who instigated the ether demonstration; and Eben Frost, the first of Morton's patients to have had a tooth extracted while unconscious by way of ether.[74] The spotlight remains on the two doctors and patient closely associated with the demonstration of ether anesthesia. Morton stands above the patient, Gilbert Abbott, as he administers "Lethion," while he looks to Warren, who is to the viewer's right. The wider audience that filled the amphitheater during the original lesson is noticeably absent.

Since Warren and Morton wanted to associate the first use of ether as an anesthetic with the teaching amphitheater at Massachusetts General Hospital, Southworth & Hawes had to show that the photograph was taken inside the amphitheater, which was no easy feat at the time. The amphitheater presented a number of obstacles to the photographers. The operating space had a single source of light, a glass lantern placed at the highest point of the dome from which natural light shone through. Southworth & Hawes concluded that the best time of day to take the photograph was in the late morning. The photographers also had to place the camera approximately five to six feet above the group in order to capture the hospital setting in the frame.[75] They were careful

[74] Lowry, 78-79.

[75] Ibid.

to include crucial details, such as Morton's trademark pseudonym for ether, Lethion, on the device in the hands of Morton, in addition to the medical tools in the background. The fact that they were able to capture the amount of information they did in the *Reenactment* daguerreotype is a testament to their abilities as photographers, and uncovers the number of decisions about composition and lighting required of the resulting daguerreotype.

A Commemorative Daguerreotype

In their essay, "Simultaneous Developments: Documentary Photography and Painless Surgery," Bates Lowry and Isabel Lowry speculate that the choice of a daguerreotype over other mediums was likely due to the participants' enthusiasm for photography.[76] In fact, Dr. Warren in particular was a frequent customer of Southworth & Hawes. His choice of a daguerreotype deserves attention to the unique characteristics of this photographic medium, considering Warren was familiar with other types of photography, as he has commissioned daguerreotypes, paper prints and ambrotypes.[77]

One strength of the daguerreotype that could have attracted the doctors is its ability to exhibit detail better than its photographic competitors. While ambrotypes are soft and pearly and paper prints offer slightly blurrier images, daguerreotypes exhibit the clearest images of all three types of photographs. The process of developing a daguerreotype is labor intensive and the resulting image is unique. Warren and Morton's

[76] Lowry, 77.

[77] Ibid.

favor towards the daguerreotype shows that mass reproduction of the image was not as important to them as capturing visual details of the story. Southworth & Hawes positioned the camera at a high vantage point to photograph specific features of the Massachusetts General Hospital amphitheater, faces of the participants and the ether tool. The doctors' decision to record their accomplishment with the clarity of a daguerreotype implies that their aim was to connect these three factors to the discovery of ether anesthesia.

Composing Indications of Hierarchy

It seems that Southworth & Hawes arranged the individuals in the photograph in a triangular form to include as many people and as much information as possible within the frame.[78] However, the triangular form functions in other ways, as well. For example, the arrangement of the doctors and patient in the *Reenactment* daguerreotype is comparable to that of old master paintings of other operation scenes, recalling in particular Rembrandt's *The Anatomy Lesson of Dr. Tulp* (fig. 2.2). This seventeenth century group portrait of seven surgeons and the physician Nicolaes Tulp was created for the Guild of Surgeons, and depicts one of the bi-weekly theory lessons administered by a leading

[78] It is worth mentioning that Hawes trained as a painter for twelve years, so it is reasonable to assume that he was familiar with effective pictorial composition. His artistic background must have been especially useful in staging and capturing the interior scene of the teaching amphitheater. In order to ensure that essential elements indicative of the teaching amphitheater were visible within the frame, it would seem that Southworth & Hawes must have sketched staging ideas and taken trial shots. See Lowry, 78-79.

Amsterdam physician in the anatomy theater.[79] These demonstrations were meant to teach physicians about human anatomy. Like the *Reenactment* daguerreotype, this painting is commemorative, and was commissioned on the occasion of Dr. Tulp's second autopsy demonstration. In both Rembrandt's painting and Southworth & Hawes' photograph, triangular composition emphasizes the leading physician and his patient, with both figures positioned at the bottom-center of the triangle, the area towards the forefront of the frame. In both cases, the eyes of the other individuals within the picture plane are locked on the physician and patient, further encouraging our own eyes to aim our attention towards them.

The triangular composition also brings to mind the social hierarchical implications within medical illustrations in Early Modern prints. The composition of the *Reenactment* is comparable to that in the mid-fifteenth-century woodblock print *Lehrstunde von Mondino dei Luzzi* (Lesson of Mondino dei Luzzi) by Johannes de Ketham (fig. 2.3). This image depicts a medical pedagogical scene well before the discovery of medical anesthesia. At this time, it was impossible to perform invasive treatments on live patients; the subject we see in this print is a cadaver. He is placed parallel to the ground, at a noticeably lower level than the other figures. The physicians surrounding the cadaver tower above him, illustrating a hierarchical structure that art historian Hartmut Böhme calls the "pure-impure" relationship between physician and

[79] "The Anatomy Lesson of Dr. Nicolaes Tulp," *Museum Het Rembrandthuis*, accessed May 13, 2016, http://www.rembrandthuis.nl/en/rembrandt-2/rembrandt-the-artist/most-important-works/the-anatomy-lesson-of-dr-nicolaes-tulp/.

patient.[80] In this construct, the high-low spatial order of the figures correlates to pure-impure assumptions that were typical of the time: physicians were represented as physically and intellectually "pure," whereas the cadaver was understood as "impure" in both social standing and intellect. The demonstrator at the top of the composition communicates with this peers, but treats the cadaver as a mere object, a source of anatomical knowledge.

The hierarchical arrangement of figures in the *Reenactment* echo the one in *Lehrstunde von Mondino dei Luzzi*. The facilitator of the procedure, Morton, communicates with Warren while the surrounding physicians study the source of knowledge, this time, a living patient. Just as the cadaver is set in the middle of the *Mondino dei Luzzi* print, Abbott remains still at the center of the composition, yet is noticeably disassociated from the other figures in the photograph. The pure-impure relationship between doctors and patient is evident here, as well, facilitated by the composition of figures. The physicians maintain a distance from the patient, as if to acknowledge the impurity of his lower social and academic standing.

Gauging Pain through the Medical Gaze

The fifteenth-century view of the patient as an object on the operating table is similar to the study of patients through the nineteenth-century medical gaze. As discussed in *The Birth of the Clinic* by Michel Foucault, the medical gaze separates a person's body

[80] Hartmut Böhme, *Der anatomische Akt* (Germany: Hans-Kilian-Preis, 2011), 55.

from their personality, thereby dehumanizing them.[81] This perception of the patient as an object supposedly enabled physicians to detect disease through a visual examination of the patient's outwardly manifesting features: their body, and somewhat incongruously, their facial expressions. Foucault states that physicians should pay attention to certain facial expressions, as they are symptoms of diseases.[82] Accordingly, photography as a visual tool for medical practice emphasized symptoms of diseases in patients through the clear depiction of facial expressions and/or visible indications of ailments on the body. In relation to an art historical reading, Foucault's definition of the medical gaze mirrors the pure-impure relationship operating in the print of Mondino dei Luzzi's lesson, which lead to a similar path of reducing the subject on the table to a source of knowledge. For instance, Foucault's method of diagnosis calls for a view of the patient as an object that contains information about a disease. Similarly, the arrangement of figures in Mondino dei Luzzi's print implies that the doctors are looking at the body as an object.

Unlike examining a live patient, looking at the *Reenactment* daguerreotype with the medical gaze requires a recognition of the interplay between light and shadow in order to see the figures' facial expressions in detail. The faces of the figures are brightly lit and calls attention to their individual expressions, which stand as foils to the dark background. The doctors' studious faces are clearly focused on the operation. Most striking, though, is the patient's facial expression, which in its serenity stands in stark contrast to the avid expressions of the doctors. The observation that the patient's face

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[81] Michel Foucault, *The Birth of the Clinic: An Archeology of Medical Perception*, trans. A.M. Sheridan Smith (New York: Pantheon Books, 197), 88-105.

[82] Foucault, 95.

does not denote pain is an indication of the success of ether as an effective anesthetic. Thus, attention to the patient's facial expression through the medical gaze remains important to reveal how this photograph exhibits the triumphs of Morton's discovery.

Reading the *Reenactment* as a Performance

In addition to indicating a hierarchy within the image, the triangular composition of the *Reenactment* daguerreotype invites us to engage with the performance within this photograph as audience members by implying that viewers outside of the frame fill the void of the unseen audience within it. This fosters a performative reading of the photograph, as opposed to a constative one. Drawing on the semiotic theories of performance studies scholar Philip Auslander, the constative image merely describes a scene, and corresponds to the way most traditional interpretations have characterized medical photography.[83] Constative images erect a notable barrier between the viewer and the photographed object. The viewer does not participate in the scene, but assumes a passive position outside the frame while viewing this kind of document, which only serves to provide information about the existence of an event. In contrast, Auslander argues, all performance documentation is itself "performative." That is to say, in linguistic terms, they constitute action on the part of the viewer for interpretation. In taking this point of view, viewers of documents should assume that the scene they see

[83] Philip Auslander, "The Performativity of Performance Documentation," *PAJ: A Journal of Performance Art* 28, no. 3 (2006): 5-6.

within the frame is a performance, rather than a natural scene that is not tampered by staging.[84] As a result, viewers of performance documentation are witnesses to the memory of the performance and are aware of its staged platform. Auslander's theory of the performativity of performance documentation ultimately shifts attention from the relationship between the performing artist and the initial audience to the connection between the performance document and the active viewer of the photograph.

If we treat the *Reenactment* daguerreotype as performative documentation, the arrangement of figures invites us to participate as audience members and witness the performance of a medical marvel, as the triangular composition with a base opening towards the bottom of the frame implies that outside viewers complete the audience. A comparison between the *Reenactment* daguerreotype and *A Clinical Lesson* by Andre Brouillet (fig. 2.4) reveals how we, as audience members outside of the frame, fill out the scene of a typical nineteenth-century medical teaching demonstration. Brouillet's painting displays nearly a complete view of the audience, along with the physician, his patient and his attendants.[85] In contrast, an audience aside from the doctors on stage is noticeably missing from Southworth & Hawes's *Reenactment* daguerreotype. We, then, become the audience that was not captured by Southworth & Hawes' camera. Furthermore, the absence of an audience within the frame of the *Reenactment* daguerreotype underlines its

[84] Auslander, 5-6.

[85] Although this painting is based on an actual event featuring the neurologist Jean-Martin Charcot presenting a lecture and demonstration, Brouillet created this imaginary scene by studying individual portraits of each participant. See James C. Harris, "A Clinical Lesson at the Salpêtrière," *Arch Gen Psychiatry* 62, no. 5 (2005): 470-472, accessed May 22, 2016, http://archpsyc.jamanetwork.com/article.aspx?articleid=208530.

[85] Jones, 19-20.

status as a theatrical image, which typically does include an audience in the frame, as opposed to a documentary one, and therefore activates our recognition of its staged quality.[86]

As previously noted, my introduction of an art historical approach to the discussion of the *Reenactment* does not aim to erode the significance of this image in the history of medicine, nor does it invalidate or question the achievements of the doctors involved in the first use of ether as an anesthetic. Scholars have acknowledged the possibility of art readings undercutting the credibility of historical records. For example, performance historian Amelia Jones has warned of the stakes involved in reading non-art documents as art in her essay, "'The Artist is Present': Artistic Re-enactments and the Impossibility of Presence," claiming that receiving these objects as art shifts our understanding of them by removing them from their political or scientific contexts.[87] Jones goes on to say, however, that a reenactment is typically an aestheticized version of an initial performance because of the added consciousness on the part of the performer to improve upon the original event for the explicit purpose of rendering the performance permanent through documentation.[88] Her claims provide an interesting frame through which to read the *Reenactment* because they help to explain why art historical readings of medical photography have been criticized. There exists a notion that advancing a reading

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[86] Another quality of a theatrical image is the absence of an audience at the time the document was taken. See Auslander, 3-4, 6.

[87] Amelia Jones, "'The Artist is Present': Artistic Re-enactments and the Impossibility of Presence," *The Drama Review* 55, no. 1 (2011): 25.

[88] Jones, 19-20.

from an art historical standpoint might trivialize these objects through an overshadowing of the historical message with aesthetics, thereby erasing any or all potential to effectively spread awareness of medical events. But because medical theater photography is a reproduction of an event, aesthetics does play a role in their production, regardless of the intentions of the photographer, patron or historian.

According to performance historian Peggy Phelan, performance, by definition, can only exist in the present because its transitory quality is integral to the genre.[89] Once a performance has ended and is reproduced via reenactment or rendered permanent through documentation, Phelan argues, it is no longer a performance but a memory, or something that triggers a memory. Nevertheless, in order to exist in scholarship of any kind, which, of course, requires the use of archives and documents to examine events after they have occurred, performance relies on documentation. Although Phelan is speaking about performance art specifically, it is fitting to study photographs of operation scenes as performance documentation because like art anchored by temporality, such as music, dance and theater, innovations on the nineteenth-century operating stage relied on documentation in order to establish themselves within intellectual discourse and institutions.[90] Nineteenth-century photographic imagery, in particular, offered a special kind of information that was indescribable with words alone, as the medium was generally considered a more reliable form of documentation than verbal and textual

[89] Peggy Phelan, *Unmarked: The Politics of Performance* (New York and London: Routledge, 1993), 146.

[90] Jones, "The Politics of Performance," 25.

records.[91] In Morton's case, the *Reenactment* was necessary to cement his name and legacy to the importance of ether in the operating room. With this in mind, the documentation of both performance art and medical procedures share a common, ontological purpose: to spread awareness of an ephemeral event. Still, it is important to bear in mind that the information circulated by these documents was constructed to display a very specific moment of the performance, and therefore, only show segments of events. In the Southworth & Hawes daguerreotype, for instance, the photographers isolated the moment when Morton, with glass administrator in hand, anesthetized the patient and looked to Warren.[92] It was the moment when anesthesia made surgery painless, a transformative moment in Morton's career and for Western medicine.

Perceiving surgical photographs as memories instead of truthful descriptions of performances yields factors that are not typically associated with medical photography discourse. The presence of subjectivity and the notion that these photographs exhibit only partial information challenge the very belief that, in part, prevented medical photography from entering art history; that is, the idea that photography can only accurately and reliably depict the world.[93] Auslander has elaborated on this assumption, pointing out that

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[91] William Anderson, "An Outline of the History of Art in its Relation to Medical Science" (Introductory address delivered at the Medical and Physical Society of St. Thomas's Hospital, London, October 1885), 25.

[92] Lowry, 79.

[93] Thoughts about photography as part of science perpetuated the belief that medical photography, and all photography for that matter, was not art because the medium was able to capture pure truth and reality. From the mid-nineteenth to the early twentieth century it was believed that not only was the camera machine capable of producing factual images, but the photographer had the ability to portray the world truthfully, as well. It was thought that "Photographers had very few prejudices and looked at the world with open eyes," and they "could be selective and factual." See Gail Buckland, *Reality Recorded: Early Documentary Photography* (London: David and Charles, 1974), 13.

insisting on the documentary status of the photograph places the photographic object in a supporting role, while the spotlight remains on the performance.[94]

If the function of operation scene photography is to preserve memories of pivotal medical events, then, like memories, these photographs are limited in the truths they claim to tell because they are fragments of events that are impossible to recreate with fidelity or accuracy–memory is notoriously fallible and selective. As Jones has noted, photo documents present not so much history, but the desire to frame history in a certain way.[95] In the case of the *Reenactment* daguerreotype, it is essential to recognize the respective points of view of the doctors who commissioned the photograph and the photographers Southworth & Hawes. Examining the intentions of those creating the memory is fundamental to studying the *Reenactment* daguerreotype as a performance because it illuminates the subjectivity within this photograph, in addition to calling attention to influences that formed the history of surgical ether. In doing so, it is evident that the *Reenactment* daguerreotype falls into Auslander's category of theatrical performance imagery that has been deliberately staged for the purpose of taking a photograph.[96]

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[94] Auslander, 2.

[95] Jones claims that history and memory are reenactments of the past, shaped by subjectivity. As such, there is no authentic way to study past events because the past can never be reenacted once it transpires. Jones, 42.

[96] Auslander, 2-3.

Connections to Tableau Vivant

The staging of the *Reenactment* brings to mind a nineteenth-century popular theatrical pastime: the *tableau vivant*. Translated as "living picture," *tableau vivant* recreates famous figures and scenes from popular paintings, mythological sculptures, poems, operas and history. These staged scenes revive moments from the past with actors in costumes, intricate backgrounds and props.[97] Begun in the late-eighteenth-century in France, acclaim for this art form escalated quickly, and by the 1840s, it had become a popular source of entertainment in American culture. In the United States, tableaux vivants typically exhibited patriotic achievements, and were sure to avoid controversial topics in American history.[98]

Robert M. Lewis breaks down the allure of the tableau vivant in "Tableaux vivants: Parlor Theatricals in Victorian America." He posits that it exposes a curious boundary between fact and imagination.[99] In other words, the real flesh of actors situated in an artificial atmosphere established by lighting, composition, costumes and sets blurs the boundary between reality and fiction.

The skills required to organize a tableau vivant echo those expected of painters. In his 1860 guidebook for staging tableaux vivants, *Home Pastimes; or Tableaux Vivant*,

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[97] The tableau vivant was introduced by English performers on a New York stage in 1831. See Robert M. Lewis, "Tableaux vivants: Parlor Theatricals in Victorian America," *Revue Française d'Etudes Américaines* 36 (1988): 280-281.

[98] Lewis 284.

[99] Lewis, 283.

James H. Head explains that the person most qualified to run a tableau vivant performance is a painter.[100] Head's descriptions for staging pays particular attention to lighting and arrangement of actors on the stage. The skills required to make an effective composition are typical of traditional painting pedagogy.[101]

With its staging of an event in medical history, the *Reenactment* daguerreotype displays characteristics of *tableaux vivants*. It highlights an American achievement, the discovery of ether as anesthesia. Moreover, Southworth, who was a formally-trained painter, brought the image together. His ability to effectively organize the subjects in a triangular composition paired with the interplay of light and shadow is a testament to his painting background. Yet although the *Reenactment* carries traditional elements of *tableaux vivants*, one important factor is absent in this work: a live audience. Instead, the staged scene of the surgical reenactment treats the camera, photographers and viewers of the photographed object as the audience. The fictitious aspects of this image— the careful lighting, arrangement of important figures, and intentional capture of the teaching amphitheater details—hide behind the presumed ability of photography to remain loyal to reality, and are further obscured by the fact that this image has been featured more in medical history than art history.

[100] James H. Head, *Home Pastimes; or Tableaux Vivants* (Boston: J.E. Tilton and Company, 1860), 14.

[101] Head, 15-20.

The common ability to stop and capture a fragment of life connects *tableaux vivants* and photography.[102] The difference between them is that traditional *tableaux vivants*, like performances, are ephemeral, lasting only as long as actors can hold their positions, while the life of photography, is, of course, dependent on the longevity of photographic material. Indeed, the two artistic practices converged when photographs later immortalized *tableau vivant* performances.

Scottish photographers David Octavius Hill and Robert Adamson were amongst the first photographers to implement *tableau vivant* techniques into photography. For example, several scenes staged by Hill and Adamson feature narratives by novelist Sir Walter Scott. *Mrs. Elizabeth Cockburn Cleghorn and John Henning as Miss Wardour and Edie Ochiltree* (fig. 2.5) displays a scene from *The Antiquary* by Scott on a salted paper print. In this photograph, actors portray an exchange between Isabella Wardour and the beggar Edie Ochiltree through a grated window. The visualization of details from Scott's novel gives life to this fictional scene: the grated window that physically separates Miss Wardour from Edie Ochiltree illustrates Miss Wardour as the "imprisoned damsel," described in Scott's passage. The paradox is heightened by the relative scale of the two figures, with Miss Wardour pictured as a small figure seen through the bars, while Edie Ochiltree is in full view near the shrubbery in the courtyard. Their widely separated social classes are identified through their costumes: Edie Ochiltree's position as a beggar

[102] Katherine Yacavone analyzed the parallels between photography and tableaux vivants by way of concepts conceived by Roland Barthes and Benjamin. She observed that photography and tableaux vivants bring forth a dialogue between life and death, in that both forms stop the continuity of life at a particular moment. See Katherine Yacavone, *Benjamin, Barthes and the Singularity of Photography* (New York: Continuum International Publishing, 2012), 81.

is evidenced by his ragged clothing, as well as his signature staff and hat, whereas Miss Wardour shows her family's high social status through her laced and patterned dress.

A comparison between Hill and Adamson's staged scene from *The Antiquary* and Southworth & Hawes' *Reenactment* daguerreotype not only emphasizes the staged composition of the *Reenenactment*, but its narrative, as well. And so, studying Hill and Adamson's photographic tableau vivant alongside the *Reenactment* daguerreotype further unveils the artificial aspects of this medical image because they emerged from a shared sensibility rooted in theater. Reading a narrative within a photograph reveals its poignancy. One way audiences emotionally connect with an image is by grasping its context and empathizing with it.[103] A visceral storyline, no matter how many times it is repeated, will elicit a gripping response. Although the *Reenactment*, unlike *The Antiquary*, is based on true events, it still relies on staging and depends on iconographic details to tell its story. Staged in accordance with the doctors' recollection of the demonstration, it includes details about the ether device and the sequence of events.

Indeed, the practice of habituation fortifies connections between the illustrated narrative and personal experiences. For example, the typical nineteenth-century viewer of the *Reenactment* might associate an image of a group of doctors against a background of surgical materials with "torment," as one's placement on an operating table was, at the time, a definite step towards death. But the *Reenactment* draws on narrative to habituate the audience to a new association of surgery to painlessness. A glimpse of the serene face of the patient certainly offered reassurance. The patient is not frantic, but asleep, a sign

[103] As Susan Sontag explains, the narrative is the heartbeat of affect. See Susan Sontag, *Regarding the Pain of Others* (New York: Picador, 2003), 65.

that a discovery has been made to mellow the pain and fear that usually colors the idea of surgery. The visual narrative within the *Reenactment* exposes the emotional undulation of nineteenth-century medicine, including the former tension between patients and doctors, and the future trust between the two parties as a result of the use of ether as anesthesia.[104]

Conclusion

The photograph presented here, *Reenactment of the First Public Demonstration of the Surgical Use of Ether* by Southworth & Hawes, was an essential component to announce a medical breakthrough in the nineteenth-century. Today, the photograph serves as a reminder of the event and proof of Morton's involvement. Performance analysis stresses the role of the photographic object and its makers in preserving this memory. It is imperative to remember that this photograph is just that—a visualization of a memory. It is, therefore, only a fragment of the event. Grasping the *Reenactment* daguerreotype as a memory-image allows for the recognition that the identity of this event has been crafted for medical history, and that the makers intended to elicit very specific responses from viewers of the photograph. Awareness of subjectivity within the image does not negate the achievements made possible by ether in the operating room, which are also present in

[104] Warren praised the effects of ether anesthesia on surgical practices and acknowledged the resulting positive experiences in the operating room: " A new era has opened to the operating surgeon! His visitations on the most delicate parts are performed, not only without the agonizing screams he has been accustomed to hear, but sometimes with a state of perfect insensibility, and occasionally even with the expression of pleasure on the part of the patient. Who could have imagined that drawing the knife over the delicate skin of the face might produce a sensation of unmixed delight!" See Warren, 3.

the photograph: emphasized, for example, by the serene facial expression of the patient, a previously unfamiliar sight on the operating table.

The *Reenactment* daguerreotype is a clear example of a revived performance for the purpose of documenting a procedure. Nevertheless, one can use the methods and visual comparisons here to examine other photographs of operations from an art historical standpoint, such as images that were not reenactments but were taken before or after operations to commemorate or publicize events. To recognize the staged aspects of these photographs and their impact on the perceptions of these objects, it is especially useful to consider the presence or absence of an immediate audience within the frame; the relationship between the object and the outside viewer; the medical gaze; lighting and composition; underlying narratives, and the intentions of the photographers and the individuals who commissioned these photographs.

Less than two years after the *Reenactment* was photographed Warren commissioned Southworth & Hawes to preserve one last memory in his medical career. *Early Operation Using Ether for Anesthesia* (fig. 2.6) was taken in late Spring of 1847 to document another instance of the use of ether in the teaching amphitheater as a commemoration of Warren's retirement. This time, Warren lectures with his hand on the patient's thigh as Dr. Solomon Davis Townsend prepares to operate. Evidence that this was a live demonstration is seen in the figures, blurred as a consequence of movement. Despite the candid nature of this photograph, it is clear that Southworth & Hawes employed familiar techniques from the *Reenactment* staging. Since this scene was photographed in the same dimly-lit setting as their earlier operation daguerreotype,

Southworth & Hawes likely resorted to an identical placement of the camera a few feet above the doctors and patient. Their upright stances and treatment of the patient as an object, with their eyes on the body as a source of knowledge, elevate the physicians above the patient. Moreover, Southworth & Hawes indicate that Warren is the prominent figure here, as he is seen speaking directly to the audience, his hands resting casually on the dehumanized sleeping patient's leg. The combination of the audience outside of the frame and the triangular composition of the individuals on the amphitheater stage once again position contemporary viewers as the audience of this scene, advancing a performative reading of the image. To compose a visual narrative for context, the photographers are careful to show the ether anesthesia device near the patient's mouth, while other surgical tools in the background establish the setting as an operating room. Once again, Southworth & Hawes depict ether as a viable shield against pain. The proof is embedded in the patient's relaxed face amongst doctors and surgical instruments, his entire limp body displayed like the cadavers in de Ketham's print and Rembrandt's painting. This time, with the help of Warren and ether anesthesia, it is implied that he will awaken after the lesson.

Figures

Figure 2.1. Southworth & Hawes (American, active 1843-1863), *Untitled (Reenactment of the First Public Demonstration of the Surgical Use of Ether)*, ca. 1846.Whole plate daguerreotype, 15 x 20 cm (5 7/8 x 7 7/8 in.). Collection of Massachusetts General Hospital, Boston

Figure 2.2. Rembrandt van Rijn (Dutch, 1606-1669), *The Anatomy Lesson of Dr. Nicolaes Tulp*, 1632. Oil on canvas. 169.5 x 216.5 cm (66.7 x 85.2). The Hague, Mauritshuis

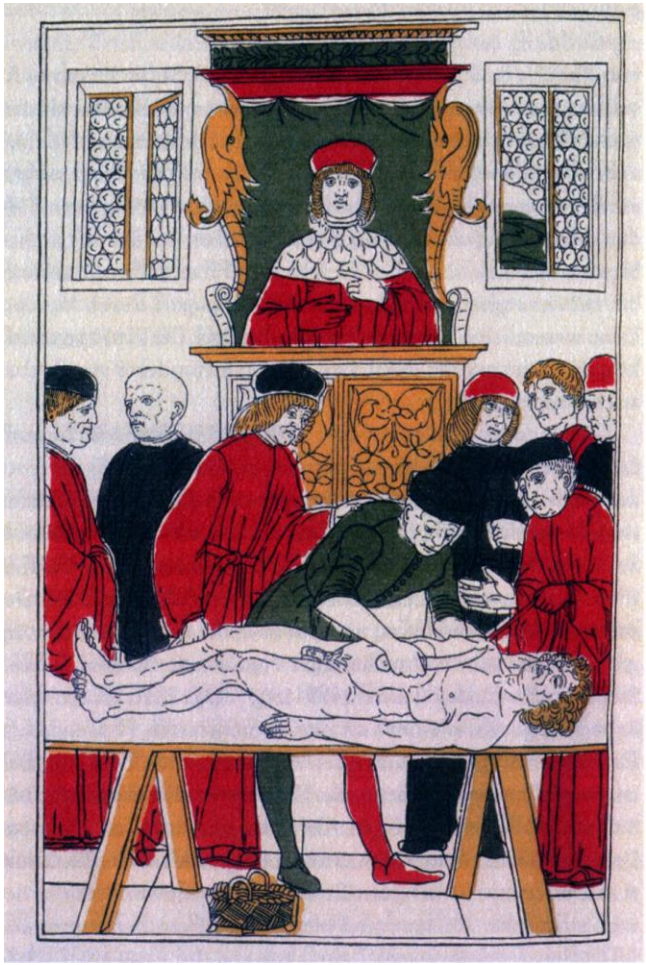

Figure 2.3. Johannes de Ketham (German, 1415-1470), *Lehrstunde von Mondino dei Luzz*, 1491. Illustration from *Fasciculus Medicinae*

Figure 2.4. Pierre Aristide André Brouillet (French, 1857-1914), *Une leçon clinique à la Salpêtrière*, 1887. Oil on canvas, 290 cm × 430 cm (110 in × 170 in). Paris Descartes University, Paris

Figure 2.5. David Octavious Hill and Robert Adamson (Scottish, active 1843-1848), *Mrs. Elizabeth Cockburn Cleghorn and John Henning as Miss Wardour and Edie Ochiltree from Sir Walter Scott's "The Antiquary,"* 1846-1847. Salted paper print from a Calotype negative, 20.6 x 15.7 cm (8 1/8 x 6 3/16 in.). Los Angeles, The J. Paul Getty Museum

Figure 2.6. Southworth & Hawes (American, active 1843-1863), *Early Operation Using Ether for Anesthesia*, ca. late 1847. Whole plate daguerreotype, 15 x 20 cm (5 7/8 x 7 7/8 in.). Los Angeles, The J. Paul Getty Museum

Chapter 3. Reading Medical History Through Images: *Photographs of Surgical Cases and Specimens* and the American Civil War

He sits upright atop a tassled chair, arms crossed, with a stern, dignified expression on his face. Arguably the most compelling feature of this photograph is not his dress or any military regalia. Rather, that attribution is reserved for a feature at the bottom forefront of the photograph—this man's amputated leg defines his identity in this portrait. It is a life-altering battlescar, a limb sacrificed for his country during the battle of Fair Oaks, Virginia on May 31, 1862.[105] He displays it as a reminder of his fight in the American Civil War. As a page in the history of surgery, his healed wound is an indication of the progress of American medicine on the battlefield. Despite a clear view of his handicap and deep scar, this man lives, and the implication is that the he survived because of surgery.

This photograph of Thomas Lenihan, entitled *Recovery after Amputation of the Thigh, Secondary Hemorridge, and Ligation of the Femoral Artery*, otherwise known as *Photograph No. 290* (fig. 3.1) was taken by William H. Bell under the order of surgeon George Alexander Otis, curator of the Army Medical Museum and head of the Division of Surgical and Photographic Records from 1864 to 1881.[106] Dr. Otis was instrumental in constructing the early history of surgical practices in the United States. By collecting medical records, artifacts and photographs, he established the reputation of the Army Medical Museum's surgical and anatomical collection as one of the foremost in the

[105] George Alexander Otis, John H. Brinton and William Bell, *Photographs of Surgical Cases and Specimens*, vol. 6 (Washington, D.C.: Surgeon General's Office, 1863), 93.

[106] George Alexander Otis obituary. 1881. War Department, Surgeon General's Office.

world. Otis made significant contributions to surgical history by publishing book series on surgical cases, one of which, the seven volume *Photographs of Surgical Cases and Specimens,* in which we find this photograph of Thomas Lenihan, relied heavily on photographs to tell the history of surgery. The photographs in these volumes sought to educate the medical community about the revolutionary surgical methods discovered during the American Civil War. But in addition to their pedagogical purpose, the photographs also served as homages to the success of American surgeon and of surgical practice in general, and it is this end-use that has determined the noble way the patients appear in these photographic portraits.

This photograph of Lenihan seems to communicate two very different sets of motivations. Otis needed this photograph to function as evidence of new surgical practices that arose during the Civil War. Bell used artistic conventions to portray the sitter in a dignified way. Moreover, the reception of this post-operation portrait went beyond its educational purpose. It also served as a psychological healing instrument for a public that was emotionally wounded as a result of the war. While it is true that in many cases, an image is categorized as either document or art, this photograph of Lenihan proves that it is possible to simultaneously read a photograph within two different discourses, scientific and art historical, without compromising either analysis.

Photo Reproduction and the Civil War

The images in *Photographs of Surgical Cases and Specimens* were made during the first time a significant battle was photographically recorded in a major, unprecedented way. Photographs of the Civil War flooded late nineteenth-century America, as over one thousand working photographers produced images of the battle over its four-year span.[107] Of course, limitations of the camera at the time prevented photographers from capturing every aspect of the war. As a result of slow exposure times, for example, swift actions on the battlefield are missing from the survey of Civil War photographs. Consequently, photographers recorded still subjects according to martket demand. Popular subjects included images that promoted patriotism, such as portraits of soldiers, images of fallen bodies and bomb shells on destitute war zones. There was also interest in educational images for medical studies, such specimens and wounded soldiers recovering in hospital wards.[108]

The ubiquity of Civil War imagery was due, in large part, to the reproducability of paper photography.[109] In addition to replication, paper photography boasted other advantages over daguerreotypy, such as no metallic glare, lower cost of production, and

[107] Keith F. Davis, "'A Terrible Distinctness': Photography of the Civil War Era," *Photography in Nineteenth-Century America*, ed. Martha A. Sandweiss (Fort Worth: Amon Carter Museum, 1991), exhibition catalog, 133.

[108] Davis, 134-151.

[109] Businesses in the United States began to sell materials for paper photography by May 1839. See *East of the Mississippi: Nineteenth-Century American Landscape Photography*, 54-57.

the ability to send through mail and append to albums.[110] The possibilities of paper photography granted wider access to medical war imagery. As a result, this photographic medium aided with educating medical professionals on new surgical techniques that became necessary to save wounded soldiers, such as amputations and healing bullet wounds.

Establishing a History of American Surgery

It was Surgeon General William Hammond, in office from 1862-1864, who first understood that the Civil War presented a medical science education opportunity. In "Circular No. 2," issued on May 21, 1862, he announced plans to open the Army Medical Museum for future generations of medical professionals to learn about the dire injuries sustained at times of war and the precise approaches used to alleviate suffering of military personnel.[111] Most surgeons at the time had little experience with ailments unique to war circumstances such as bullet wounds and camp diseases, and the Army Medical Museum was intended to display and instruct visitors on the basics of military medicine. Circular No. 2 instructed medical officers to collect anatomical specimens and photographs from battlegrounds and send them to the office of the Surgeon General. By 1869 the Army Medical Museum had acquired approximately one thousand clinical,

[110] Davis, 135-136.

[111] Shauna Devine, *Learning from the Wounded: The Civil War and the Rise of American Medical Science* (Chapel Hill: University of North Carolina Press, 2014), 21.

pathological and photomicrographic photographs.[112] These objects were used to make engravings for educational texts published by the Museum. Several photographs in these texts were used in medical schools, and some catalogues were sent to medical institutions abroad.[113] These publications were instrumental in laying the foundation of American medical education at a time when the structure of this instution was not significantly developed in the United States compared to progress in Europe.[114]

Photographs of Surgical Cases and Specimens was published in 1865. As a visual record of medical achievements that occurred during the brutalities of the Civil War, it is one of the rarest American surgical texts.[115] The volumes contain photographs of wounded and healing Civil War soldiers and pathologic specimens, accompanied by texts that detail the identities of soldiers, the gravity of their wounds, and the surgical procedures that saved their lives. Each volume houses approximately fifty 6" x 4" albumen photographs that were derived from 12" x 10" glass negatives taken by the head of the photography department at the Army Medical Museum William H. Bell. Although Bell's principal objective was to record events, particularly documentary evidence of the progress of healing soldiers during the Civil War, his style of photographing patients exhibits his awareness of nineteenth-century portrait conventions.[116]

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[112] Devine, 90.

[113] Devine, 187-88.

[114] Devine, 22.

[115] Although each volume does not note a publishing date, an introduction letter dated June 1865 is appended to all volumes. See Ira M. Rutkow, *The History of Surgery in the United States, 1775-1900*, vol. 1 (San Francisco: Norman Publishing, 1988), 53.

[116] Robert Hirsch, *Seizing the Light: A History of Photography* (Boston: McGraw Hill, 2000), 110.

A letter of introduction attached to each volume states that the books were sent gratis from the Surgeon General's Office to an array of medical libraries and hospitals throughout the United States as a form of educational instruction about surgical trauma. The exact number of copies produced remains unknown, but it is unlikely that the total number was high, as each book was assembled by hand with tipped-in photographs. [117] The readers of these volumes were likely to have been nineteenth-century medical students who employed the "medical gaze" when viewing the photographs, assessing images of patients to formulate their diagnoses before consulting the accompanying texts.

Studying Through the Medical Gaze

All of the descriptions that were attached to the images in *Photographs of Surgical Cases and Specimens* also appeared in the book *Histories of Two Hundred and Ninety-Six Surgical Photographs Prepared at the Army Medical Museum*, which was published six years after *Surgical Cases*.[118] Although *Histories* does not contain photographs, the entries list numbers that correspond to those found on the verso of photographs in the surgery collection that were previously held at the Army Medical

[117] Rutkow, 54.

[118] George A. Otis, *Histories of Two Hundred and Ninety-Six Surgical Photographs Prepared at the Army Medical Museum* (Washington, DC: Surgeon General's Office, 1871).

Museum, including *Photograph No. 290* of Lenihan.[119] *Histories* provides a glimpse of what the history of Civil War surgeries might have looked like without photographs. Mental images of of patients are constructed from descriptions by those who published the book. Conversely, the organization of images and texts in *Photographs of Surgical Cases and Specimens* appears to align with the practice of the medical gaze, which encouraged physicians to observe their patients before consulting any outside texts or theories. Each image is presented without a detailed caption, as if to encourage readers to observe patients before reading about treatments. The presentation of the corresponding text on the verso of each photograph invites readers to formulate their own diagnoses of the patient, as they would have encountered an image of the patient first, before accessing information based on another doctor's evaluation on the reverse page. The photographs are tipped-in as if presented as an album, making the presentation of this medical book unique among Otis' publications during his tenure as curator at the Army Medical Museum.[120]

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[119] Following the closing of the Army Medical Museum, the photographs were transferred to the College of Physicians of Philadelphia library, where they are currently housed. It is possible that *Histories* was meant to be a companion piece to *Photographs of Surgical Cases and Specimens*, though this has yet to be confirmed. See Rutkow, 52.

[120] Unlike the album-like presentation of *Photographs of Surgical Cases and Specimens*, most images in Otis' publications for the Army Medical Museum are etchings ingrained within bodies of text. See *The Medical and Surgical History of the War of the Eebellion (1861-65)*, eds. Joseph K. Barnes, Joseph Janvier Woodward, Charles Smart, George A. Otis and D. L. Huntington (Washington, DC: G.P.O., 1870) and *Surgical Reports, and Miscellaneous Papers on Medical Subjects*, eds. George A. Otis and George Hayward (Boston: Phillips, Sampson and Company, 1855).

An Object of Aesthetics or Observation?

Since *Photograph No. 290* exhibits characteristics of typical photographic portraiture and appears in a clinical book, one must consider the possible discourses in which to place this object—as a work of art, in which case one would focus on the photographer's decisions regarding lighting, composition and cropping of the image; or, as a supplemental visual tool that illustrates, and therefore takes a backseat to the text that describes the specific details of the amputation. Although *Photograph No. 290* is in a book about medical education, a reading of this image as a work of art is reasonable, as this photograph displays conventions of nineteenth-century portraiture. For example, the figure, positioned in three-quarter view, is seated on a parlor chair against a simple backdrop. The radical differences in possible interpretations echo the issues of objective versus aesthetic objects presented in "Photography's Discursive Spaces: Landscape/View" by Rosalind Krauss and "An Art of Perception" by Douglas Nickel. While Krauss claims that exhibited objects engage the viewer in an aesthetic reading and published images render a view devoid of one's consideration of aesthetics, Nickel maintains that the division between art and catalogue objects is not clearly distinct.[121] Although Nickel's study is on landscape photography, his interpretation of photographs that are both aesthetic and practical is appropriate in this analysis of a post-operation image, as Bell's photographs of operation patients seem to encourage two very different

[121] Rosiland Krauss, "Photography's Discursive Spaces: Landscape/View," *Art Journal* 42, no. 4 (1982): 315-17. Douglas Nickel, "An Art of Perception," in *Carleton Watkins: An Art of Perception* (New York: Harry N. Abrams, 1999), 23-24.

views: one observational, for the purpose of showing new surgical techniques, and another aesthetic, to meet the standards of portraiture shown in these photographs.

Taking *Photograph No. 290* into consideration, the slight variations in cropping between the original for public display (fig. 3.2) and the cropped image for private viewing (fig. 3.1) result in strikingly different presentations. The original reveals more of the patient's covered right leg resting atop the seat of the tassled chair. This larger pictorial space displays a comparison between the man's amputated limb and his unaffected one, a display of difference missing from the more tightly cropped published photograph. There, instead, the focus is on the amputation. Removing the seat area from consideration situates the operation scar closer to the edge of the frame, so viewers have a closer look at the scar and stitching. And the tighter crop highlights another aspect of the image: Lenihan's facial expression, stern and serious, which aligns vertically with his leg scar at the bottom of the photograph, making his face a barely second point of focus. Paired with his upright position and crossed arms, Lenihan's composed and direct gaze, gives the impression that his scar did not completely impair his life after the war.

For the purpose of exhibiting new surgical techniques, Bell chose to capture a view of the patient in a position that highlights his operation scar in both cropping styles. The accompanying text to this image indicates that Lenihan received a prosthetic leg shortly after his operation, yet Bell decided to place a spotlight on the patient's uncovered surgical scar by excluding the prosthetic leg.[122] He captured Lenihan with his scar facing

[122] "Recovery After Amputation of the Thigh, Secondary Hemorrhage, and Ligation of the Femoral Artery," in George A. Otis, *Photographs of Surgical Cases and Specimens* (Washington, DC: Surgeon General's Office, 1865), unpaginated.

the camera's lens, and centered it at the bottom of the frame in both versions of the photograph. Bell also covered Lenihan's unamputated leg with a dark cloth to draw the reader's attention to the healed scar.

Despite the differences between the cropped and uncropped versions of the photograph, both of these images exhibit Bell's unique encounter with Lenihan. Therefore, it is important to acknowledge the conventions of portraiture that he decided to follow here, as well. After all, if the image were cropped above Lenihan's scar, up to his waist, then the image would be understood as any other photographic portrait. Likewise, if the photograph had been cropped to exclude the man's arms and face, then the image would be understood as a clinical specimen, instead of a portrait of a person, with focus strictly on the wound. The setting against a plain background, rather than a hospital setting, is reminiscent of a portrait studio. Moreover, Lenihan's erect body language and dress in casual clothes are not clear indicators of a medical photograph. If one were to view this photograph outside of the Army Medical Museum's publication, then only the patient's scar would register this image as a medical one.

Crafting History Through Images

To understand how the history of nineteenth-century surgery was shaped through photographs, it is worthwhile to consult Georges Didi-Huberman's study of the relationship between photographs and medical science in *The Invention of Hysteria: Charcot and the Photographic Iconography of the Salpêtriere*. This analysis of late

nineteenth-century photographs features the images of psychiatry produced by medical teacher and clinician Jean-Martin Charcot that lead to the invention of the medical condition hysteria. Charcot methodically photographed Salpêtriere inmates who were identifed as hysterics, thus equipping skeptics with visual proof of hysteria symptoms. These photographs comprise the multivolume publication *Iconographie photographie de la Salpêtriere*.

Charcot's publication certainly represents a complex duality of artistry and science in photographs. Didi-Huberman recalls Foucault's description of the nineteenth-century clinic as a place of absolute knowledge and power, as well as a site for the "art" of observing the patient:

> The clinic held itself up as the "absolute age" of medicine, the age of absolute knowledge. At the same time, Charcot also recognized its limitation, as a pure practice and a pure exercise. But it was essential, for in itself it was the exercise of an "*art*" and the exercise of (medical and theraputic) "*power*" ... And if there is a border between the clinical and the experimental, well then, Charcot often transgressed it, by clouding it over. One might say that it wasn't his fault, but the fault of the illnesses and neuroses that he was dealing with; illnesses that precisely "experiment" on the body in the service of an "*idée fixé*," as they said. Was the "clinical gaze" as practiced by Charcot therefore constrained by its own object not to be pure of experimental intervention? Did not Charcot put something of himself into it?[123]

Acknowledging Charcot's subjective view, Didi-Huberman argues that the doctor's clinical observations included a part of himself, that is, one cannot separate them from Charcot's perspective of the body, which is therefore implicated in the diagnosis.[124] While symptoms are assumed to be empirical data because they have been presented as

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[123] George Didi-Huberman, *Invention of Hysteria: Charcot and the Photographic Iconography of the Salpêtrière*, trans. Alisa Hartz (Cambridge, MA: MIT Press, 2003), 22-23.

[124] Didi-Huberman, 23.

cases that call for observation, rather than subjective intervention, images supplement these case studies by providing concrete evidence and depth to more abstract textual descriptions of symptoms.[125]

Didi-Huberman disrupts disinterested readings of the *Salpêtriere* photographs when he highlights the artistic side of Charcot's observation methods. He draws from Freud's description of Charcot's approaches and Edmund Burke's theories about beauty when he argues that the physician's ability to see new states of the human body, his curiosity, is the first step in reaching the sublime.[126] This idea of observation as a means to reach the sublime discovery of something new about the human body is the point where medical science and art converge.

As someone who crafted medical history with images, Charcot used the camera as both a scientific archive and a tool to transmit educational information.[127] It was believed that the camera could capture what the naked eye could not see; stilling the moving human body, so that the eye has time to observe it.[128] But of course these static images of the body are subjective because the photographer always chooses specific views of the body to publish and exhibit. Charcot's visual decisions were key to rendering psychiatric illness visible in photographs. He showed what he claimed to be the visible symptoms of

[125] Didi-Huberman, 25.

[126] Didi-Huberman, 27.

[127] Didi-Huberman, 30.

[128] Didi-Huberman, 33.

the invented illness hysteria.[129] Similarly, Bell displayed the success of surgery in a way that was visually palpable, blatantly highlighting the resulting physical mutilations and jarring scars of patients. In order to show the reader that surgery is an asset to patients, the photographer established an analogy between the triumphs of surgery and the dignity displayed through the sitter's pose, thus creating a positive representation of medical science.

Like *Iconographie photographie de la Salpêtriere*, the success of *Photographs of Surgical Cases and Specimens* was contingent upon the nineteenth-century reader's belief that Bell's photographs served as solid documentation for the positive outcomes of surgical methods because, at the time, the photograph was regarded as a truthful document. This assumption of the objectivity of photography requires readers to bypass any possibility of Bell's contribution to the publication. If Bell's subjectivity were to interject a reader's empirical understanding of the photograph, the reader would question the integrity of the image as a scientific document. Consequently, the role of the photograph as merely a visual record to supplement the text would be compromised.

Healing Through Portraits

Bell's photographs of patients in *Photographs of Surgical Cases and Specimens* seem rather unusual for images in a medical science book that was published in the latter half of the nineteenth-century. Along with the exposure of the patients' surgical scars, the

[129] Didi-Huberman, 39.

patients are presented with their casual clothing in half or full-length body portraits. Generally, during this time, patients in medical books were nearly nude and the camera focused on the ailing or impaired section of the body, which emphasized the treatment of the patient as an object, rather than a person (fig. 3.3).[130] Furthermore, the presentation of the vulnerable and fragmented disrobed body encourages physicians to employ mind-body dualism, distancing themselves mentally from the patient by separating the patient's personal identity from the physical body. This type of distance encourages the physcian to treat the body as a specimen, rather than a human being, which further places these images within medical texts as objects of the medical gaze.

In contrast, Bell seemed to treat the pictured patients in *Photographs of Surgical Cases and Specimens* as he would have any other client of a photographic portrait. For instance, in *Photograph No. 290*, Bell captured Lenihan's strong personality in the sitter's pose. His torso, dressed in a long sleeved white shirt, vest and tie surely presented an obstacle for readers to separate the personhood of Lenihan from his physical body, as these garments were typical casual wear for many nineteenth-century Americans. As a result, this image of Lenihan presents him, not as a medical specimen in a clinical gown, but as a human being with a backstory with which the reader could sympathize.

In fact, all photographs of surgical patients in this volume are atypical in this way. They call to mind later portraits by surgeon and artist Henry Tonks, whose images also present surgical patients in a dignified manner. From 1916 to 1917 Tonks drew

[130] Issues of *Revue Photographique des Hopitaux de Paris* at the California Museum of Photography in Riverside, CA have a stamp from the New York Academy of Medicine from 1882, meaning this French publication circulated among an American audience.

pastel portraits of servicemen who underwent facial surgery by Harold Gillies at Queen Mary's Hostpital in London.[131] Like the photographs in *Photographs of Surgical Cases and Specimens*, Tonks' pastel portraits had an ambiguous purpose because they one could not label them as strictly portraiture or archival records. These portraits were meant to help restore a sense of identity to patients with facial disfigurements, as it was believed that damage to one's face was a loss of visual proof of one's identity. In her article, "The Portraiture of Loss," Suzannah Biernoff argues that although these drawings offer "touches of normality," that is, portray the individuality of the sitter through traditional practices of staging a portrait (posture, clothing and framing), they are, first and foremost, a celebration of the surgeon. According to Biernoff, Tonks portrayed the surgeon as the behind-the-scenes hero through "before" (fig. 3.4) and "after" (fig. 3.5) visual narratives of the transformation of patients' faces.

The same impression arises when looking at Bell's photographs. While the art historical approach reveals the photographer's subjectivity, this method of reading the photograph also demonstrates how these images are portraits of the surgeon's success. When readers first see *Photograph No. 290* through an art historical approach, they likely take note of the cropping, framing and lighting that contribute to the portrayal of Lenihan as a strong person, a survivor in the face of trauma. Still, the setting of this photograph

[131] Suzannah Biernoff, "The Portraiture of Loss: The Art and Surgery of WWI Facial Reconstruction Pioneer Henry Tonks," *Ampersand Magazine* 2 (2010): unpaginated, accessed November 1, 2016, http://ampersandmagazine.com.au/feature-articles/the-portraiture-of-loss/.

within a surgical publication reminds the reader that Lenihan endured following a near-death experience thanks to the help of a surgeon, and the unavoidable visibility of the scar also points to the skill of the surgeon who saved Lenihan's life.

Biernoff offers an alternate argument and maintains that medical drawings are more effective than photographs in capturing the essence of surgical practice. In her article, she claims that drawing and medical practices have the sense of touch in common, an experience with the body that photography could never have because of the barrier of the camera-machine. That is to say, an impactful medical drawing not only requires the artist to see and observe the body, but also imagine the way the skin, open wounds and organs feel as the artist mimics these textures on paper. To support her claim, the surgeon of the patients in Tonks' portraits Dr. Gillies notes in his book *Plastic Surgery of the Face* that photography "occassionally represents an inaccurate conception of the wound" due to the camera as a barrier between the photographer and patient.[132] To add to Gillies' remarks, the psychologist who collaborated with Tonks, Paul Farrand, interviewed patients who sat for these drawings. Based on his notes, the drawings intended to help some adjust to their new appearances. Photography, however, did not have the same effect.

Gillies' and Farrand's comments both speak to elements of distance in photographic portraiture. Gillies mentions the possible inacuracies of photography perhaps resulting from the abrupt capture of images by the camera compared to meticulous viewings required of drawings. It is possible that Farrand's observations of

[132] Harold Delf Gillies, *Plastic Surgery of the Face* (London: Oxford University Press, 1920), 49.

patients' comments on photography allude to this distance of the quick capture. That is to say, Gillies believes that the speed of taking a photograph (compared to the slower process of making a drawing) results in a lack of emphathy for the patient's suffering, and this coldness is translated into photographs. Additionally, the interviews revealed that sitters in Tonks' drawings felt respected when Tonks took the time to listen to and understand them in the course of making his drawings. Regardless of these beliefs, it is also possible for the photographer to have an interpersonal connection with a sitter. As was already established, Bell captured the personality and dignity of surgical patients in his photographic portraits through careful artistic decisions, and his close interactions with patients are rendered in his portraits.

The Impact of the Photograph

The art historical approach is primarily concerned with the interaction between the photographer and the object of the photograph, as well as the resulting image that culminates from the photographer's decisions about cropping, lighting and composition. In addition to this, of course, it is necessary to note the relationship between the photographic object and the reader. In the context of *Photographs of Surgical Cases and Specimens*, the reader gleans information from both images and texts, so it is equally important to acknowledge the relationship between these two factors, as well. One useful

way to analyze the ties between medical photographs and their readers is to compare a post-operation photographic portrait with a post-operation portrait drawing in medical publications.

The Army Medical Museum published *A Report on Amputations at the Hip-Joint in Military Surgery* on July 1, 1867, also under the direction of Otis. This publication contains detailed case studies with images, in addition to instructional texts about various amputation methods. Interestingly, the only photographs in this book are not of patients, but of bone specimens, for example Bell's photograph of a *Diseased Femur Partially United After Gunshot Fracture* (fig.3.6). Instead, lithographs are used to illustrate surgical patients and procedures.

One of the featured lithographs is *Morton's Successful Re-Amputation of the Hip-Joint* (fig.3.7) by Schultze. Here, the unnamed patient stands with his hand on a table draped by a patterned tablecloth to counter-balance the absence of his left leg. Like the portrait of Lenihan in *Photographs of Surgical Cases and Specimens*, this image also portrays the success of the surgeon, in this case Dr. Thoman Morton. The unclothed part of the patient's body, from the waist down, exhibits the surgeon's work, with the patient's scar towards the forefront of the image. The patient's torso, covered casually with a white shirt, vest and tie, as opposed to a presentation of his nude body for observation, is an additional acknowledgement of the accomplishment of the surgeon and his approach to healing. As in Bell's photograph of Lenihan, the clothed body, along with his stance, gives the figure a sense of dignity. It seems that, depite his life-altering injury, the patient was able to carry on with his life because of Dr. Morton's efforts. For instance, he is not

bedridden and is able to stand, despite his amputation. But unlike the photograph of Thomas Lenihan, the lithograph of the unnamed patient is not paired with a descriptive text with details of the patient's life during the recovery period. Instead, the lithograph appears towards the back of the book, and its only text is the title caption. This difference in placement and presentation within a publication speaks to the reader's mindset regarding photography as opposed to other forms of visual media. Considering *Photographs of Surgical Cases and Specimens* and *A Report on Amputations at the Hip-Joint in Military Surgery* were both made under Otis' direction, a comparison between the two is useful for determining exactly how Otis believed readers would perceive these portraits. The fact that he decided to couple Bell's photographs with graphic written entries about how the sitters were injured and stories about their post-operation lives implies that he understood photography as merely a disinterested visual record. It was as if Otis felt that the photographs require biographical backstories told through text in order to have the same moving impact as lithographs.

Although Otis' decisions indicate that he believed the realistic imagery of photography could not evoke poignant reactions from readers as strongly as lithographs, the medium's connection to reality arrests the viewer's attention and serves to re-establish the volume's connection to objective medicine. Yet, the "dispassionate" photograph served to stir a different kind of affect. To make *Photographs of Surgical Cases and Specimens*, Bell situated his camera to focus on the mutilated areas of patients' bodies. With Lenihan's intact leg covered by dark cloth, viewers are directed to the deep scar that

replaced his right leg. A drawing could not mimick the shock within this image, as the startling idea that a real human being lost a limb is clearly channeled through the index of photography.

Conclusion

At first glance, it may seem that the art historical approach and any consideration of affect in a reading of the images published in *Photographs of Surgical Cases and Specimens* are irrelevent, perhaps even inappropriate. However, a closer look at the photographer's creative decisions uncovers an attempt to emotionally engage the reader on a subconscious level. The primary audience of this book, medical students, would have likely ignored the creative decisions made to bolster the reputation of wartime surgery. Nevertheless, an acknowledgement of the subjective factors that contributed to this publication does not undermine its importance as a significant piece of surgical history. Rather, it demonstrates a possible co-reading of post-operation photographs from a scientific point of view and an art historical perspective without hindering the results of either.

Figures

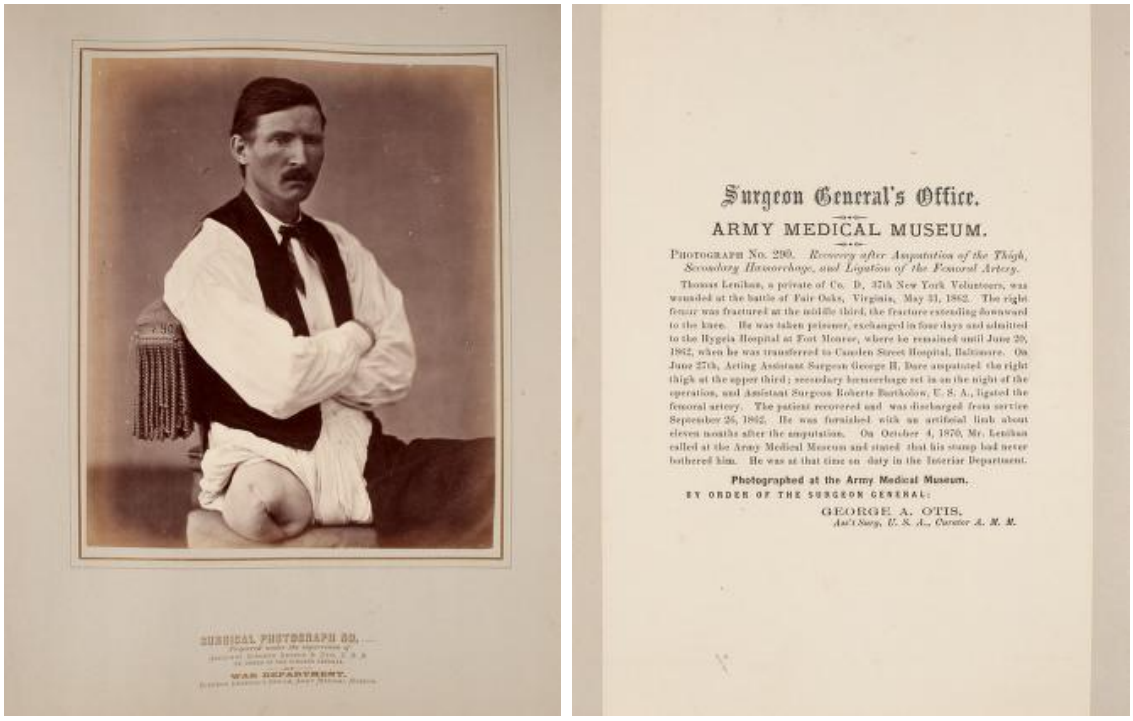

Figure 3.1. William H. Bell (American, born England, 1830-1910), *Photograph No. 290 Recovery after Amputation of the Thigh, Secondary Hemorridge, and Ligation of the Femoral Artery* (left: recto, right: verso). In *Photographs of Medical Cases and Specimens*, 1865, edited by George A. Otis

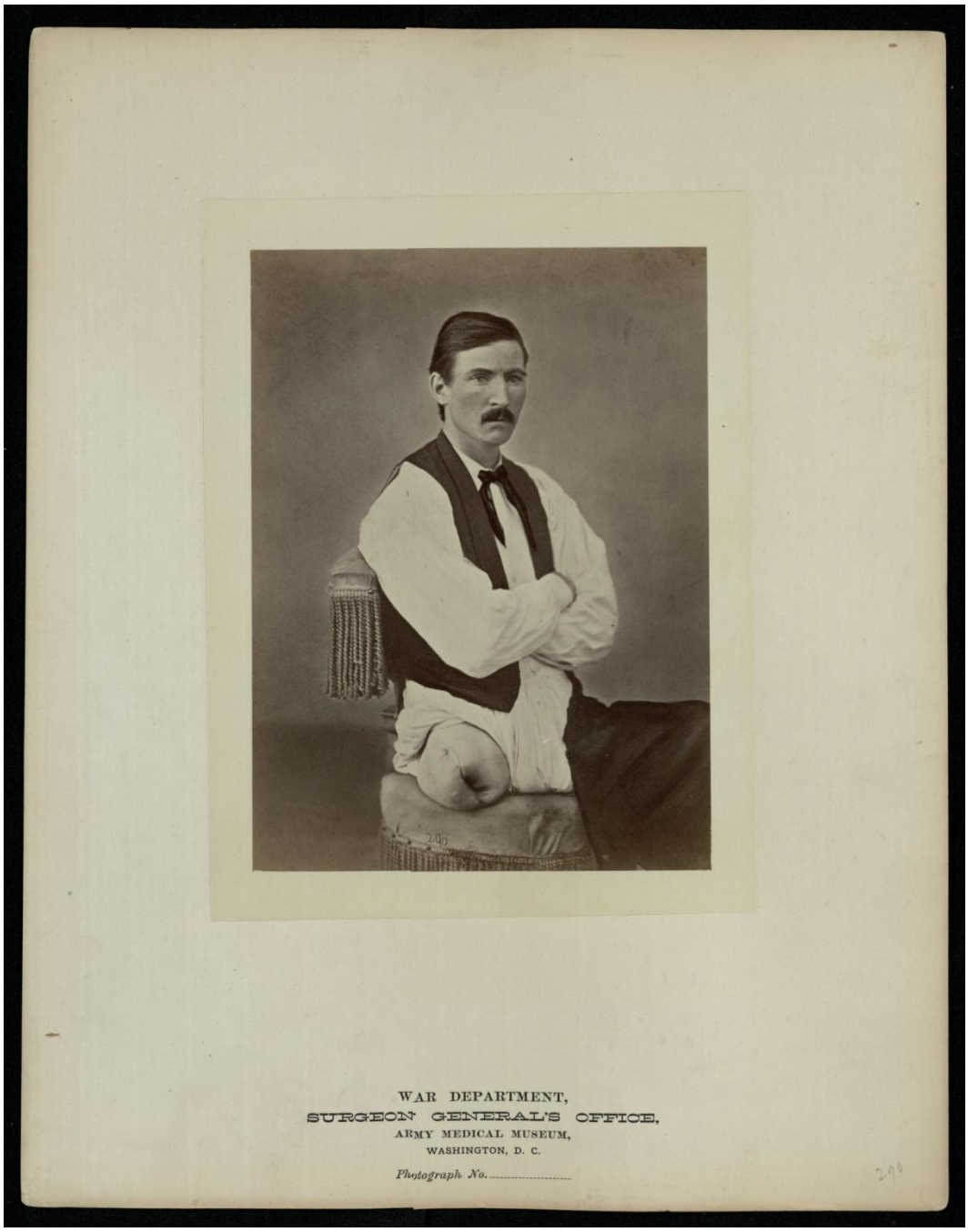

Figure 3.2. William H. Bell (American, born England, 1830-1910), *Photograph No. 290 Recovery after Amputation of the Thigh, Secondary Hemorridge, and Ligation of the Femoral Artery*, c. 1860s. Philadelphia, Historical Medical Library of the College of Physicians of Philadelphia

Figure 3.3. *Plance XXII Hypertropie Congenitale de la Jambe Plance XXII*, before 1872, from *Revue Photographique des Hopitaux de Paris*, no. 9 (September 1872), collection of California Museum of Photography, University of California Riverside, gift of Ed Hamilton

Figure 3.4. Henry Tonks (English, 1862-1936), *Portrait of a wounded soldier before treatment, Deeks case file*, 1916-17, pasted. Royal College of Surgeons of England

Figure 3.5. Henry Tonks (English, 1862-1936), *Portrait of a wounded soldier after treatment, Deeks case file*, 1916-17, pastel. Royal College of Surgeons of England

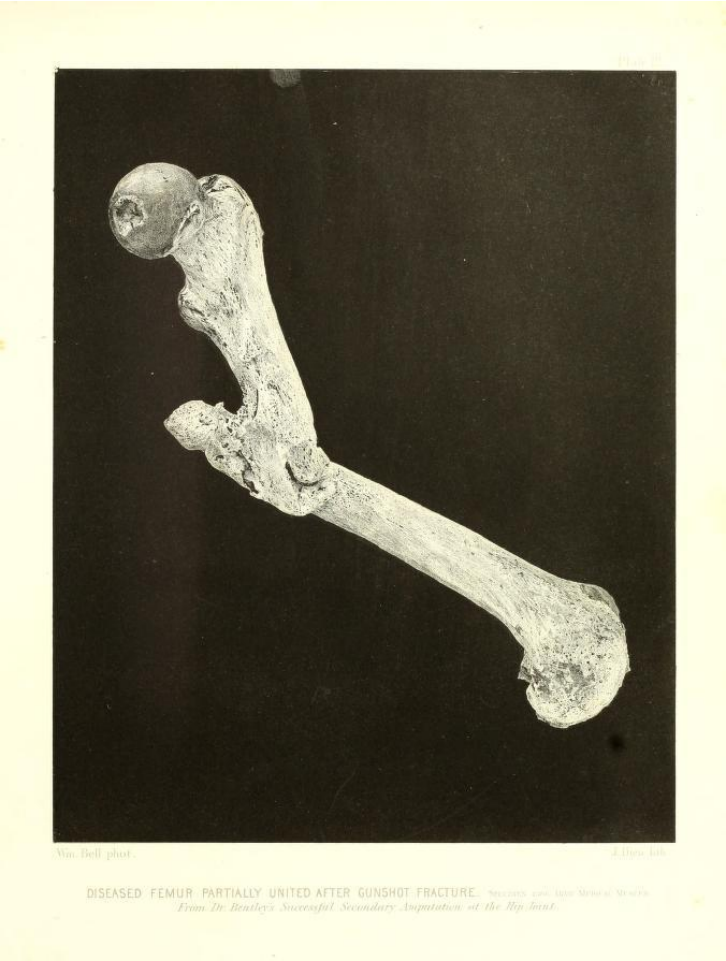

Figure 3.6. William H. Bell (American, born England, 1830-1910), *Diseased Femur Partially United After Gunshot Fracture*, 1867. In *A Report on Amputations at the Hip-Joint in Military Surgery*, edited by George A. Otis

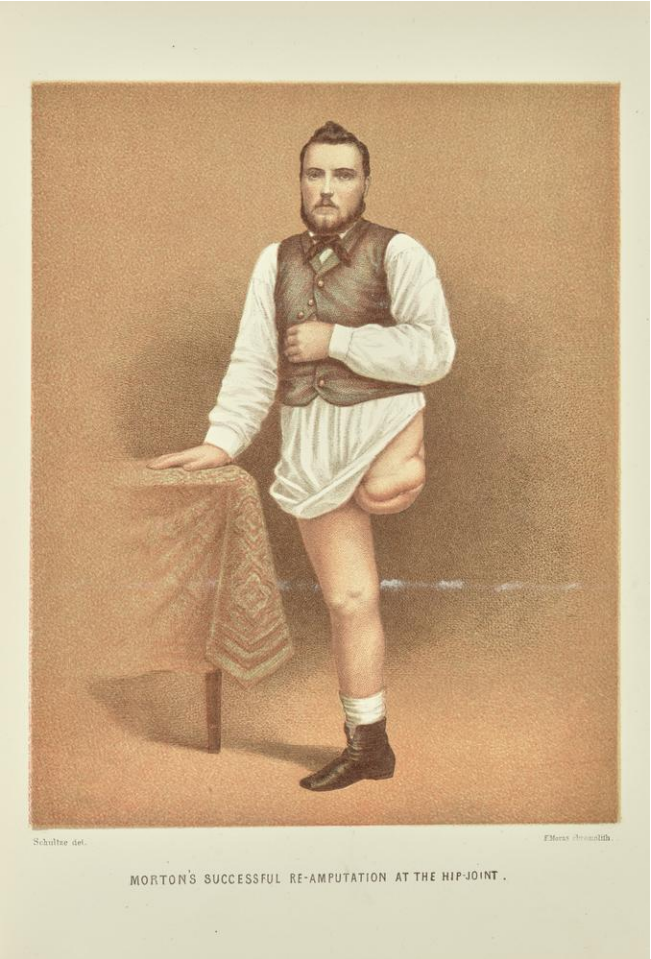

Figure 3.7. Schultze, *Morton's Successful Re-Amputation of the Hip-Joint*, 1867. Lithograph. In *A Report on Amputations at the Hip-Joint in Military Surgery*, edited by George A. Otis. Los Angeles, The J. Paul Getty Museum

Conclusion

Certainly, over the years, medical photography has been regarded as sincere visual proof of medical events in which the portrayed procedure is allotted more importance than the photographic object. While this perspective has thrived in the history of medicine, this myth of documentary photography as objective fails to take into account the photographer's agency and what their creative decisions can tell us about medicine's past. In this thesis, the art historical approach analyzed three main decisions of the photographer: composition, cropping and lighting. Furthermore, it took into account the function of photographic mediums that were popular in the nineteenth-century. This thesis underlined these decisions in case studies on *Reenactment of the First Public Demonstration of the Surgical Use of Ether*, a daguerreotype by Southworth & Hawes and *Photograph No. 290*, an albumen silver print by William H. Bell in the publication *Photographs of Surgical Cases and Specimens* to show how the role of these photographers shaped a visual history of medicine that is distinctly American.

Southworth & Hawes chose to arrange the doctors and patient in the *Reenactment* in a triangular form. While this composition pragmatically fit all figures within the frame, it also displayed a visual hierarchy that is evident in comparisons with Old Master paintings and Early Modern prints. The *Reenactment* displays prominent doctors studying the patient as an object of medical knowledge. In Bell's *Photograph No. 290*, the figure sits in a three-quarter view, a composition that mirrors a portrait convention seen in paintings. In terms of cropping, the wide crop of the *Reenactment* included glimpses of

the Ether Dome of the Massachusetts General Hospital to associate surgical anesthesia with this institution. The published version of *Photograph No. 290* is cropped close to the patient's amputation scar in order to draw attention to the surgeon's work. Moreover, it is important to note that Bell's inclusion of the patient's serious face, crossed arms and erect torso distinguish this photograph from an image of a specimen, and further proves the success of American surgical procedures. Lastly, Southworth & Hawes' innovative approach to handling the low quality of light in the Ether Dome is a testament to their abilities and made future interior exposures of the operating space possible.

The art historical approach also considers the unique properties of different photographic mediums. While medical history disregards attention to photographic mediums in favor of information presented in images, a focus on how information is sent by way of particular photography types reveals the primary purpose of an image. The case studies presented here focus on the *Reenactment* daguerreotype and an albumen print in *Photographs of Surgical Cases and Specimens*. Although the daguerreotype presents the clearest image of all photography options at the time, it cannot be reproduced. And so, it is reasonable to conclude that the makers of the *Reenactment* were more concerned about capturing specific details to commemorate the doctors involved in the first use of surgical ether anesthesia, as well as connecting these faces and setting at the Massachusetts General Hospital to the remarkable discovery. On the other hand, the main function of reproducible albumen silver prints in *Photographs of Surgical Cases and Specimens* was to spread knowledge about new surgical techniques that the war

necessitated. Despite the softer focus of the albumen print (compared to the daguerreotype), this medium made it possible to share surgical techniques beyond the borders of the United States, to European institutions.

The shift from a unique daguerreotype to a reproducible albumen silver print marked a new industry of modernization after the Civil War. With this movement came novel ways of spreading a sense of American pride that was in tune with the new wave of nationalism that engulfed the United States beginning the 1840s and 1850s.[133]At this time, Americans became increasingly detached from their European past and treasured their young, vigorous country.[134] They embraced American-made objects, discoveries and improved versions of European inventions. This included indoor exposures in daguerreotypy, a previously impossible feat, as proclaimed by the European inventor of the daguerreotype. On the medical side, the American discovery of surgical ether anesthesia advanced operation techniques that originated in Europe. The introduction of ether into the operating room led to advanced surgical practices that helped the United States recover from the Civil War. A proliferation of reproducible photographs during and after the war spread hope that emerged from a progressive American medicine. Thus, the *Reenactment* and *Photograph No. 290* not only depict recoveries of the human body as a product of American medicine, but also recoveries of the photographic medium as a result of American creativity.

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[133] Bates, *The Silver Canvas*, 207.

[134] Bates, 208.

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