Sarah Gordon

Out of Sequence
Suspended and Spectacular Bodies in Eadweard Muybridge’s Animal Locomotion Series

In 1878, Eadweard Muybridge’s serial photographs of trotting and galloping horses stunned artists, scientists and critics in the United States and Europe. Muybridge quickened his camera shutter to unprecedented speeds to capture instantaneous moments in the course of action, and he arranged a battery of twelve cameras in a row to track movement as it unfolded (see Fig. 1). The pictures thus revealed bodies frozen mid-step in positions never before detected by the human eye or captured on film, and the project heralded the coming of the motion picture. Viewed in quick succession, the serial photographs reanimated motion and the subjects sprang to life.

Nine years later, the culmination of Muybridge’s motion studies was published in Philadelphia under the auspices of the University of Pennsylvania. The eleven-volume publication, titled Animal Locomotion, comprised 781 large collotype plates, each of which contained between 12 and 36 frames, resulting in a total of approximately 20,000 unique images. The plates depicted healthy men, women and children in motion, as well as abnormal male and female movement, and a variety of wild and domestic animals, walking, running and flying. Notably, approximately 340 of the series featured fully nude men and women performing daily activities before a gridded backdrop. (Fig. 2) Populating the first four volumes and part of volume eight of the publication, the female nudes swept, made beds, and poured water, among other simple activities and domestic chores. Male nudes ran, rowed, and swung bats, as well as performing other athletic activities and acts of labor.

Astounded by the innovation and magnitude of Muybridge’s Philadelphia photographs, critics and viewers seem to have been blinded to the unusual, potentially scandalous subject matter of the nudes. This is surprising, considering the atmosphere in which they were produced and distributed. In Philadelphia in the 1880s, anti-vice crusaders condemned nudity in all forms. Reformers such as Josiah W. Leeds, spurred on by the activities of notorious anti-vice crusader Anthony Comstock and his Society for the Suppression of Vice in New York, censored both images and obscene literature, often imprisoning the producers of such materials. Despite such hostility, Muybridge’s thousands of nude photographs escaped censure and in fact were met with resounding praise from journalists and critics in Philadelphia and beyond. For example, in a January, 1888, review, The Nation praised Animal Locomotion as a “magnificent work,” and described the photographs as “beautiful, free, noble.”

As I have argued elsewhere, the particular confluence of power, prestige and professionalism at
the core of their production legitimized the *Animal Locomotion* nudes. First, Eadweard Muybridge was not the sole creative force behind the pictures. On the contrary, a committee dubbed the “Muybridge Commission” oversaw the project. Spearheaded by University of Pennsylvania provost William Pepper, the Commission included professors of Anatomy, Physics, Veterinary Anatomy and Engineering as well as Edward Coates, Chairman of the Instruction Committee at the Pennsylvania Academy of Fine Arts, and Thomas Eakins, artist and Pennsylvania Academy instructor. All had varied and particular interests in the ostensible goal of the project, the study of muscle movement in humans and animals, and all except Eakins and Muybridge himself were upper class Philadelphians. With obscenity being defined partly by the social standing of its producers and consumers, the elite status of Muybridge’s colleagues and the status of the wealthy individuals and reputable institutions on the subscriber list provided some protection from moral scrutiny.

Second, the University of Pennsylvania funded, hosted and oversaw the *Animal Locomotion* project at a time when the institution of the University, including Penn, was developing a reputation in America as a trusted and revered producer of knowledge. At the same time, the professionals trained there were gaining the faith of their fellow citizens. This, in combination with the purported objectivity of the camera and the specialized physiological and anatomical research that structured the project, discouraged prurient interest in the pictures. On the institutional level and in public venues, then, the involvement of Pepper, the Muybridge Commissioners and the University itself appears to have succeeded in shielding the photographs from moral scrutiny. The authority of these figures focused the attention of reviewers on a professional, specialized, objective reading of the photographs.

In this article, rather than further probing the production and distribution of the *Animal Locomotion* photographs, I would like to examine certain aspects of their reception. I will first describe the way in which a prescribed mode of viewing the pictures ostensibly discouraged prurient interest by encouraging only fleeting glances at the bodies.
I will then argue that the *Animal Locomotion* nudes nonetheless offer endless opportunities for experiencing sustained attention that brings with it the risk of reverie and visual pleasure. These opportunities arise in three sub-categories of Muybridge’s series: first, those that, rather than presenting serial images of bodies in motion, offer multiple perspectives of a single instant; second, visual tableaux that evoke the eternal rather than the fleeting; and third, series that provoke fascination through depictions of excess and grotesque bodies. As I will show, the disruptive, engaging elements of these pictures resulted from both the photographer’s experimentation with form and perspective and the unavoidable excesses of the human bodies photographed. They thus point to the tension between constructed and unintended meaning in photographic nudes and the ways in which creative insertions and accidental elements can alter the appearance of a photographic project.

The containment of the risky aspects of the *Animal Locomotion* nudes and their resulting wide distribution depended on viewing the photographs in a prescribed manner. Ideally, the viewer would first see the title page, which prominently features the name of the University of Pennsylvania. Then, the viewer would view the photographs in the order in which they were assembled for publication, based on the format of an anatomical atlas. The volumes began with male nudes, progressed to the female nudes, then partially nude or draped males and females, before proceeding to abnormal human bodies, and finally, to domestic and wild animals. The viewer would also note the grid background of the photographs that indicate measurement and objectification. Finally, the viewer would attend to each photographic series by scanning the images from left to right (or, occasionally, right to left) in a manner that reanimates motion, thus emphasizing the most innovative and salient feature of the project.

This scanning procedure is crucial to an understanding of the *Animal Locomotion* photographs. In this mode of viewing, the viewer’s eye does not linger on any individual frame, but rather takes the motion of the body across time as its subject. Contemporary reviewers attempted to describe this type of vision. A reviewer for *The Nation*, for instance, recommended to artists viewing the photographs that they follow the whole action through its phases to master the entire movement. Once the full movement was understood the artist could throw away the photographs altogether and then express the action through a pose not photographed by Muybridge.

Descriptions of the active and successive viewing of the *Animal Locomotion* photographs coincide with contemporary philosophical ideas regarding sensation and consciousness. Late-nineteenth- and early-twentieth-century philosophers such as William James and Henri Bergson described human experience as consisting of flowing series of thoughts and movements, impossible to isolate and continuously changing. In 1890 James coined the phrase “stream of consciousness” to describe the continuous and ever shifting mode of consciousness, which took the form of a river or stream. Bergson, in his 1907 essay, “Form and Becoming,” which drew on Muybridge’s experiments and early cinematography, argued that life and the body are constantly changing but the mind cannot register every infinitesimal moment of change. He wrote that “form is only a snapshot view of a transition,” that the essence of a thing arises from the molding together of a succession of images.
innumerable immobilities that come closer to one another at ever smaller intervals.9

When Muybridge lectured, he showed his photographs to rapt audiences projected through the zoopraxiscope, a forerunner to the film projector that showed the images in quick succession on a screen. Like cinema, this mode of viewing relied on the viewer’s capacity to fuse together successive still images and see motion. Seen through the zoopraxiscope, the blanks between Muybridge’s photographic frames were so brief that they seemed to disappear and the subject of the pictures appeared to move on the screen before disbelieving eyes.

However, when Muybridge’s serial photographs are seen on paper, the spaces between frames are filled only by the viewer’s imagination. Just as Bergson describes the impossibility of capturing the duration of motion, Muybridge’s photographs as printed on paper fail to actually record motion. Rather, they document distinct instants in the course of action, which can only be reanimated by the imaginative additions or deliberate deletions of the viewer’s mind.

This mode of viewing encourages active engagement with the series of pictures rather than extended contemplation of individual frames or the page as a whole. In this way, it adheres to the ostensible goals of the project: most members of the Muybridge Commission entered into the project and shaped it in accordance with their research interests in the muscle movements of humans and animals, the ways in which bodies change over time. The lateral viewing procedure also eliminates the threat of extended contemplation of the unclothed human body. However, certain images in the Animal Locomotion series arrest the viewer’s eye and hold his or her attention, breaking from the ideal viewing practice of sequential and fleeting glances.

In plate 522, the viewer encounters nude male bodies in various folded and bent positions, hovering in mid-air. (Fig. 3) It takes a moment to decipher the pattern here: as the eye travels left to right, or right to left, across the top row expecting to find a continuity of motion, it finds instead six distinct views of the same pose, taken at precisely the same instant in time. Each row in plate 522 offers a similar six-point perspective on a body mid-flip or mid-flight. Rather than reconstructing the motion of the model, the viewer of plate 522 imagines his or her own movement around the body pictured, enacting the investigation in the round demanded of three-dimensional sculpture, and disturbing the established viewing pattern of the Animal Locomotion photographs.10

The layout of plate 522 is repeated in other plates, including plate 527. (Fig. 4) Here, Muybridge photographs three different poses, each from six distinct camera angles. In the top row a woman holds her hand near a small child’s backside while the child grimaces. In the second row the woman’s hand is further from the child’s body, and in the third and final row her hand once again hovers near the child’s body. Obviously phases in the course of a spank, the pictures nonetheless provide little guidance as to the movement of the woman’s hand or the physical reaction of the child. Rather, they offer an investigation in the round of the

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Fig. 3. Eadweard Muybridge, Animal Locomotion, plate 522, 1887, collotype, 19 x 24 in; Collection of the the Ryerson & Burnham Libraries, The Art Institute of Chicago

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woman/child dyad. Like an inverse sculptural pieta, in which the mother punishes rather than mourns the child, the pictures invite the viewer to examine every angle of the couple as their actions are suspended in time.11

The unusual presentation of photographs in plates 522 and 527 prevents the viewer from gaining knowledge of the sort intended and sought by the Muybridge Commission members. One cannot measure the displacement of limbs or decipher the changing action of muscles because no movement occurs and the pictures lack a grid. Rather, one appreciates the wonder of the human body floating mid-air or examines the physical nature of the mother-child relationship.

It is quite clear from the historical record that the suspended perspective of plates 522 and 527 resulted from Muybridge’s personal photographic interests, which themselves evolved from a desire to serve artists rather than University investigators. Early in his career, Muybridge had experimented with techniques of photographically capturing perspectives that could not be viewed by a single viewer unless he or she walked around an object or turned his or her body in space. This occurred most notably in his acclaimed 1877 San Francisco panorama, of which Hollis Frampton writes that the photographer “condenses the entire rotation of the seeing eye around the horizon (an action that must take place in time) into a simultaneity that is at once completely plausible and perfectly impossible.”12

Two years after the San Francisco panorama, while working on Leland Stanford’s farm, Muybridge found a way to combine his taste for perspectives that require the suspension of time with the examination of horses in motion. Inspired by his visit to the studio of American portrait painter Enoch Wood Perry, jr. and perhaps by Thomas Eakins’ use of Muybridge’s own horse photographs for his 1879 painting, Fairman Rogers Four-in-Hand, Muybridge hastened back to Palo Alto, arranged five cameras in a semi-circle and… produced a perfect picture of a horse at fullest speed, as seen from five different points of view all at the same instant of time and while,
of course, the horse was in one and the same position.\textsuperscript{13}

Muybridge began his photographic investigation in Philadelphia in the early summer of 1885 with just the kind of simultaneous five-perspective shots he had begun six years earlier. The earliest extant negatives from the *Animal Locomotion* series made it into the final publication as plate 528, at the end of volume four. This series features a nude woman with a child in her arms, on her shoulder, and walking next to her. It pictures the pair in the round from five distinct perspectives in five different positions. Another very early set of negatives, also shot in the early summer of 1885, picture a man diving over another man’s head, which ultimately appeared in the bottom row of plate 522. In these plates, the daring style Muybridge had explored in California is revealed, while the positivist and logical progression of the *Animal Locomotion* investigation is stalled by the photographer’s creative experimentation.\textsuperscript{14}

Several *Animal Locomotion* plates depart from the prescribed mode of viewing in their reference to classical subject matter and obvious appeal to artists. Plate 501 is arranged in three rows of twelve images each. (Fig. 5) Once again, following the pictures along the row from left to right does not offer a series of motions or a guide to muscle movement during the performance of an activity. Rather, the frames of plate 501 form six symmetrical sets of images of the same nude woman pouring water, kneeling to pray, and picking up a cloth. The result is part visual puzzle, in which the viewer attempts to decipher which picture fits where, and part aesthetic tableaux, with symmetry, light and shade playing creatively with the female nude in a way that evokes timelessness rather than instantaneous.

Other *Animal Locomotion* plates invoke artistic precedents and appeal to viewers by representing classical figures. Plate 452, taken from only one camera angle, features two nude female models, one offering a jug and pouring a drink into the mouth of the other. (Fig. 6) The jar itself hearkens back to ancient Roman or Greek vases and the positions of the women recall ancient statuary. In plate 427 one woman approaches another, takes hold of her draped covering and disrobes the woman, who by the end of the series stands naked with her right arm over her face and her left hand before her pubic region. The final pose of the sequence, as discussed by art historian Janine Mileaf, is the Venus Pudica of antique statuary.\textsuperscript{15}

The classical references in the *Animal Locomotion* series do not only offer artists studies of bodies in motion that might enhance their

![Fig. 5. Eadweard Muybridge, *Animal Locomotion* plate 501, 1887, collotype, 19 x 24 in; Collection of the Ryerson & Burnham Libraries, The Art Institute of Chicago](image-url)
work. They also provide other viewers with familiar and engaging scenes, albeit innovatively set in motion, that might catch their eye and complicate the sequential and fleeting examination of the photographs intended by the University faculty on the Muybridge Commission. The motivation behind their inclusion likely came from Muybridge himself, who repeatedly stressed the importance of his work for artists and maintained an interest in classical subject matter as well as creative exploration of the photographic medium.

The final type of visual fascination that I will address here, the excessive or grotesque body, does not result from Muybridge's photographic ingenuity. Rather, the engaging qualities of these pictures appear as an unintended consequence of a medical interest in abnormal locomotion held by the anatomy professors involved with the Animal Locomotion project. In Plate 538, a boy with both legs amputated at the hip walks across the floor on his hands, then levers himself up and lowers himself down from a chair. (Fig. 7) His body and his method of locomotion are drastically different than any others in the volumes, and the strange and disturbing figure threatens to take the viewer's attention away from the measured examination of motion in the volumes.

Images of male amputees would have had very specific connotations for the postbellum American viewer. They would simultaneously invoke sympathy for the disfigured body and call to mind honorable Union service in the recent Civil War. Not only may viewers have been acquainted with individuals bearing such injuries, but some would have been familiar with photographs documenting disabled veterans. During the war, professional photographers such as Matthew Brady produced carte de visite portraits of soldiers and, along with Timothy O'Sullivan, Alexander Gardner and George Barnard, made a business of mass producing photographs of war. At the same time, doctors and surgeons photographed the injured soldiers in their care, documenting their diseases, wounds, and treatments, both before and after reparative surgeries.

Many of the photographs taken by doctor/photographers such as William Bell, Edward J. Ward and Reed Bontecue featured veterans whose limbs had been amputated as the result of injury, illness or infection. These pictures were made available to the public through two main avenues: the Army published a number of volumes of their photographs, which were likely purchased and seen by the same type of individual who had access to the Muybridge volumes; and many photographs from the Army Medical Museum's 1863 photographic catalogue were reproduced for exhibit at the 1876 Centennial Exhibition in Philadelphia, where they could have been viewed by a wide audience.

The resonance between Muybridge's photographs of limbless men and Civil War
medical images may not have been coincidental. It is quite possible that the Muybridge photographs were intended to serve the very veterans pictured in the Civil War photographs by aiding in the improvement and production of prostheses. However, despite the potential of Muybridge’s images of limbless men in motion to promote scientific advancement and ease the lives of injured veterans, the pictures nonetheless threaten to capture the viewer’s attention and imagination in ways that may not involve reason or objective study. As art historian Sarah Burns proposes, Muybridge’s photographs of abnormal bodies are “...akin to freak photography in their spectacular exposure of physical abnormalities and their sometimes gratuitous baring of flesh.”

Additionally, in their disturbing combination and contrast between healthy and deformed, pleasing and horrifying, Muybridge’s pathological photographs call to mind the tradition of the grotesque in visual representation. The history of the grotesque in art dates back to the ornamental style found in late-fifteenth-century Italian grotto excavations and can be traced through the Palace of Titus, Raphael’s sixteenth-century decoration of the Papal loggie, and eighteenth-century caricature. Wolfgang Kayser, in his survey of the phenomenon, arrives at several defining statements that characterize the grotesque as “the estranged world...a play of the absurd...an attempt to invoke and subdue the demonic aspects of the world.”

Theorists of the Victorian era and the advent of modern art tend to take a broader approach than earlier scholars in defining the grotesque. Colin Trodd, Paul Barlow and David Amigoni, in their consideration of Victorian culture and the idea of the grotesque, do not focus on the frightful yet absurd combination of natural and unnatural vegetation and figural compositions. Rather, they consider the grotesque to be anything that hovers in the marginal, liminal spaces between different cultural and social registers: the uncanny, the excessive, the aberrant. Frances Connelly emphasizes the pervasiveness of the grotesque after the Romantic period. She notes the power of the grotesque to challenge established realities or construct new ones by combining unlike elements, to show aberrations from ideal form or accepted conventions by deforming or decomposing figures and forms, and to use mimesis and illusion to morph from one form to another. For Connelly, the grotesque is a class of representation constantly struggling in its transgression, merging, overflow and destabilization of conventional boundaries.

The one characteristic of the grotesque noted by each of these theorists is its power to provoke a curious combination of amusement and horror in its viewers.

Muybridge’s plate 538, the legless boy, indeed represents a transgression and destabilization of boundaries, both literally and figuratively. The series lacks the gridded background that structures most of the Animal Locomotion series, so that the body is unbound by empirical measurement and categorization. And it enters the realm of the uncanny, the familiar made strangely unfamiliar,
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by the absence of seemingly essential body parts. It arouses curiosity at the very least, and possibly disgust or shameful amusement.

Likewise, plate 268 captures the viewer's attention and evokes the response of other art historical grotesques: fear, wonder, shock, laughter. (Fig. 8) Here, an obese woman heaves her body from the ground. Like most of the other specimens photographed for these volumes, the model performs her activities before a gridded background and is displayed in measured frames. However, the arrangement of these images does not succeed in diffusing the shock of viewing her naked, obese body. Beyond most other female figures in the Animal Locomotion series, this body displays the excess and unruliness that, according to Lynda Nead, characterize the obscene body, the body that exceeds containment and boundaries and arouses its viewer.22

Other abnormal bodies in the Animal Locomotion volumes are even more difficult to normalize or rationalize than the legless boy and obese woman, whose presence might relate to medical research. Plates 510 and 512, although they feature a man with a pelvis cloth rather than a full nude, are worth noting. In these plates a contortionist performs several feats of flexibility before Muybridge's battery of cameras. In plate 510 (Fig. 9), the man strikes a series of 24 poses that are photographed and arranged in order from left to right in four rows. The time between frames appears to be quite lengthy, as the transitions from one pose to the next are ignored in favor of one shocking and unfamiliar position after another, limbs protruding every which way until the body becomes nearly unrecognizable. The man repeatedly places legs over head, arms under legs, flattens himself completely and balances on hands or knees. Plate 512 shows the contortionist

Fig. 8. Eadweard Muybridge, Animal Locomotion plate 268, 1887, collotype, 19 x 24 in; Collection of the Ryerson & Burnham Libraries, The Art Institute of Chicago

Fig. 9. Eadweard Muybridge, Animal Locomotion plate 510, 1887, collotype, 19 x 24 in; Collection of the Ryerson & Burnham Libraries, The Art Institute of Chicago
performing suspended on gymnast rings. Here again, the photographs allow a long time lapse between frames and capture the man mainly in postures rather than transitions.

The scientific purpose for the contortionist photographs is difficult to imagine. The body represents neither an ideal one nor a pathological one in need of therapy. The photographs do not track movement, and the lack of transition and the strangeness of the body disrupt a lateral, scanning view of the pictures. Instead, the viewer marvels at the spectacle of the contorted body in each frame.

The act of marveling, of scrutinizing the body, posed a threat that the members of the Muybridge Commission endeavored to eliminate. In these moments when the viewer’s attention is intensely focused on the image of a nude body, the risk of reverie or fantasy increases. Jonathan Crary notes that during the 1880s “ambiguous boundaries... separate[d] intense focused attentiveness from monomania, idées fixes, fetishism, or any number of other ‘pathological’ disorders of attentiveness.” The extended contemplation of an image threatened to draw the viewer into a dreamlike state which, in the case of Muybridge’s photographs, posed the risk of prurient or obscene thoughts. This was precisely the danger of nude imagery identified by moral crusaders Anthony Comstock and Josiah Leeds, who believed that prurient thoughts led to immoral action. The professionalism and social status of most members of the Muybridge Commission was believed to diffuse this danger and the serial arrangement of photographs to diminish it, but evidence exists to show that viewers nonetheless fixated on individual frames, singular nude bodies, in the *Animal Locomotion* series.

This evidence exists in the form of blank spaces where frames have been removed from *Animal Locomotion* plates. In the print of plate 133 owned by the Art Institute of Chicago, which is read from right to left rather than from left to right, a woman descends a short flight of stairs while throwing a white cloth over her shoulders. (Fig. 10) In the top row of the plate, the viewer can follow the action frame by frame. However, in the second and third rows, individual frames have been deftly removed from the page. The Art Institute’s plate 261 also contains a blank space where a female nude should be. (Fig. 11) This series captures the movements of a nude woman as she lies down in a hammock. The missing frame in the Art Institute’s copy would show the model from the front foreshortened view as she sinks into the hammock and lifts her feet from the ground. It is precisely the frame in which the woman’s legs are spread while the rest of her body remains in the awkward position of arranging and steadying itself in the hammock.

These examples of the removals of *Animal Locomotion* frames are far from unique. At the Art Institute, many plates contain cut out frames or even parts of frames, all in plates featuring nude women. Of the glass transparencies housed at the Smithsonian National Museum of American History, the same is true. One might argue that the *Animal Locomotion* cutouts represent a form of censorship, an effort to prohibit the viewing of certain images. However, the removals described here are not nearly systematic enough to represent a true attempt at censorship. Rather, these missing frames seem to have been taken illicitly. Their absence likely represents either the artistic interest of a draftsman, painter or sculptor in accurately...
depicting the human body in the course of a movement, or a prurient interest in the pictures, a desire to gaze upon the singular nude body without the visual distraction of the other frames in the series and perhaps in the privacy of a location where the entire volume could not travel. Whether evidence of the artist’s scrutinizing gaze or the individual’s pleasure-seeking one, almost equally disdained in these years, the cutouts disrupt the University’s scheme for the *Animal Locomotion* volumes in their disregard for the serial viewing practice.

The cutouts thus offer empirical evidence for the struggle among competing modes of viewing in the *Animal Locomotion* volumes. It is tempting to explain these internal conflicts in terms of the art/science binary so often invoked in reference to Muybridge’s photographs, by claiming that the scientific goals of the Muybridge Commission, which relied on measurement and objectivity, were at odds with Muybridge and Eakins’ artistic concerns with form, composition and classical subject matter. This explanation, however, denies the nuances of the terminology and the intricacies of the project itself. It is also appealing to interpret the many interests and angles at play in the *Animal Locomotion* project as being part of an early form of cinema, showcasing various forms of perception, desire, and narrative. Indeed, as Marta Braun argues, Muybridge’s interest in costumes and scenarios, fantasy and illusion, dramatic narrative and psychological identification between viewer and subject may indeed constitute a creative, in addition to technological, contribution to the genesis of cinema.

However, the unusual plates and viewing practices examined in this article can only be fully understood in the context of a complicated collaboration among a photographer, his University and Art Academy colleagues, his assistants, and his models. The sequential examination of motion through a battery of fast-shutter cameras remains the most salient feature of the *Animal Locomotion* project. But the patterns of composition and reception that I have described here—the suspended, the spectacular, the aesthetic, and the desirous—indicate places where meaning accrues outside of this fixed operation. The suspended and spectacular bodies in the *Animal Locomotion* series, then, can be understood as examples of Roland Barthes’ *punctum*, the visual element that pierces the viewer and creates meaning beyond the rational premise of the pictures, or as Robin Kelsey’s “interruptant,” the accidental or inspired intercession into the planned arrangement of
the photograph. Both terms may be applied productively here, but still, Muybridge’s unusual pictures speak for themselves. They appear as points of visual fascination, intentional or not, which result from two variables: Muybridge’s efforts to challenge the technical and representational limits of the camera, and the unavoidable excesses of the human bodies on the other side of his lens.

Sarah Gordon received her Ph.D. in Art History from Northwestern University in 2006. Her dissertation, titled “Sanctioning the Nude: The Production and Reception of Eadweard Muybridge’s Animal Locomotion Photographs, 1887,” closely examines Muybridge’s photographs to determine why the nudes in the series were so widely accepted in conservative, Victorian America despite their provocative presentation of unclad men and women. Dr. Gordon also maintains research interests in feminist art of the 1970s and traditional and contemporary arts of Africa. She has published in the Pennsylvania Magazine of History and Biography and has taught at Northwestern University and Lake Forest College. She currently works in the Department of Photographs at the National Gallery of Art in Washington, DC.

Notes


2 Leeds attempted to halt the sale of indecent advertisements and newspapers in Philadelphia and he protested the display of provocative nudes in all forms. In 1878 he argued for the burning of bound reproductions of the 1878 Paris art exhibition; in 1887 he urged the adoption of a law prohibiting representations of “human form in nude or semi-nude condition;” and in 1891 he campaigned against the hanging of French painted nudes at the Pennsylvania Academy. For more on Leeds’ anti-vice activities, see: Anne McCauley, “The most beautiful of nature’s works”: Thomas Eakins’s photographic nudes in their French and American contexts” in Eakins and the photography works by Thomas Eakins and his circle in the collection of the Pennsylvania Academy of the Fine Arts (Washington, DC, 1994), 54-55; Nicola Beisel, “Class, Culture and Campaigns Against Vice in Three American Cities, 1872-1892,” American Sociological Review. 55, no. 1 (February 1990), 53; and Josiah W. Leeds Scrapbooks, 1872-1907, Ms. Coll. 1102. Haverford College Special Collections.

3 The Nation, 19 January 1888, p. 55.


5 Braun points out places in the Animal Locomotion publication where the ostensible scientific accuracy of the project falls away. She notes irregularities in the time lapse between frames, and omission, manipulation, cropping and repetition of frames. See Marta Braun, “Muybridge’s Scientific Fictions,” Studies in Visual Communication 10, no. 3 (Summer 1984), 4-15, and Braun, “Marey, Muybridge, and Motion Pictures.” However, the gridded, sequential arrangement of most of the pictures gave the illusion of accuracy and lent the weight of objective investigation to the viewing public, and the pictures were indeed of use to the faculty members involved with the project, as evidenced by their subsequent publications.

6 Scientists reporting on the results did not adhere to this manner of viewing, but rather looked at individual frames. Also, some frames, a few of which will be mentioned later in this chapter, lack a grid.

7 The Nation (New York) 19 January 1888. This type of attention, fleeting but active, corresponds to one part of the dichotomy of attention set up by Jonathan Crary. That is, the viewer of Muybridge’s serial photographs participates in a conscious or voluntary mode of attention that is task-oriented and can be understood as a higher, more evolved behavior than the automatic or passive viewing that characterizes habitual activity, daydreaming, reverie, absorbed and mild somnambulant states. Jonathan Crary, Suspensions of perception: attention, spectacle, and modern culture (Cambridge, MA: MIT Press, 1999): 97.


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10 This phenomenon can be experienced if one views Muybridge’s other plates from top to bottom rather than laterally, although the effect is not quite as strong. Cyanotype 135, owned by the National Museum of American History, which did not make it into the final publication, illustrates the next stage in this action, the man diving into the floor. It is clearly from another take, not a true continuation of the previous action, since the position of the leaping man’s feet is reversed.

11 Hendricks proposes that the series avoids the actual act of spanking the child because “Muybridge apparently thought that a real spanking would be punishment without due process.” Hendricks, Eadweard Muybridge, 188.


14 Hugh W. Diamond, photographer at the Surrey County Asylum in England in the 1850’s, was rejected for inserting creative photographic experimentation into an ostensibly scientific investigation. See Jennifer Green-Lewis, Framing the Victorians: photography and the culture of realism (Ithaca, NY: Cornell University Press, 1996), 182. Daston and Galison write, regarding anatomical atlases, “Imagination and judgment [on part of atlas maker] were suspect not primarily because they were personal traits, but rather because they were ‘unruly’ and required discipline.” (Lorraine Daston and Peter Galison, “The Image of Objectivity, Representations 40 (Fall 1992), 118). Here, the “unruliness” of Muybridge’s imagination breeches the boundaries of the motion experiments.

15 Mileaf, “Poses for the Camera,” 45-49.

16 This is not to mention the psychological urgency of plate 73, which in his notebooks Muybridge titled, “Ashamed.”

17 I mention only Union service because, as far as we know, no clinical photographs were taken by or for Confederate medical personnel. Stanley Burns, “Early Medical Photography in America,” New York State Journal of Medicine (August 1980), 1465. For another use of photographs of Union soldiers, see: Kathleen Collins, “Living Skeletons; Carte-de-visite Propaganda in the American Civil War.” History of Photography 12.2 (April-June 1988). Amputation at the hip was the most serious operation undertaken in the Civil War era. Blood loss, shock and infection made the mortality rate of those undergoing these surgeries a high 83 percent. (Masterpieces of Medical Photography: Selections from the Burns Archive. Ed. Joel-Peter Wilkley. Captions by Stanley Burns, MD. Twelvetcree Press, 1987, unpaginated. This information comes from the caption to photo #18).


22 Lynda Nead, The female nude: art, obscenity, and sexuality (London, New York: Routledge, 1992). Not only is the model’s movement in this series abnormal, but in plate 19 she directs her gaze toward the photographer and viewer in frames 8 through 12 of the top row. This gaze invites the viewer to engage with the woman rather than objectively analyze her physical characteristics. Very few, if any, Animal Locomotion nudes reveal a direct gaze between model and photographer. Plates 304, 443 and 261 show very brief glances toward the photographer but nothing as extended as in plate 19. In Cyanotype 996, featuring Miss Mamie and Miss Nellie, one of the women looks directly at the camera as she rises from the floor. This series was excluded from the final publication, possibly due to the direct gaze of the model.

23 Crary, Suspensions of Perception, 134. Crary also writes that during these years “modes of human behavior deemed ‘automatic’ were being identified as pathological and socially dangerous” (Crary, Suspensions, 147).

24 It is difficult to determine when the removals of frames occurred. At the Art Institute, plates with removals are dated on the back, 1914, 1917 and 1919, but these dates likely refer to the date the removal was discovered or when the plate was acquired. Thus, we know only that the frames were cut out prior to those dates.
