



Art and Enlargement: The Platinum Prints of Thomas Eakins

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Philadelphia is certainly a city to be proud of. . . for it has advantages for happiness only to be fully appreciated after leaving it.

— Thomas Eakins, 1866

The Philadelphian Thomas Eakins (1844–1916) was an ambitious artist and dynamic teacher who employed any and all methods and techniques in his insatiable desire to master the nude figure. He enthusiastically embraced the tools that current technology provided, not the least of which was the camera. As early as 1875 he had used projected camera images as an aid to painting his magnum opus, *The Gross Clinic*.¹ Between 1880 and 1900 Eakins also produced a body of enlarged platinum and albumen prints, made by projecting his negatives through an enlarger (fig. 1).²

This essay considers the material constituents of a sampling of Eakins's platinum enlargements within the historic context of their creation.³ The information was gathered from personal documents and photographs that were collected by the Eakins devotee Charles Bregler, a pupil of Eakins in the 1880s, that are now in the Pennsylvania Academy of the Fine Arts (PAFA). In 1985 the PAFA acquired eight hundred photographs by Eakins from Bregler's widow, opening a vast new window onto Eakins's technique. Other resources were the Metropolitan Museum of Art (MMA), which acquired eighteen platinum enlargements by Eakins between 1941 and 1943, and the J. Paul Getty Museum (JPGM), which acquired its core holdings in 1984 from Seymour Adelman. Adelman, a collector and close friend of Eakins's wife, Susan Eakins, received the material directly from her while she was still living in the Eakins family's home on Mount Vernon Street in Philadelphia. He also acquired materials from the art dealer Daniel Wolf via the notable Eakins scholar Gordon Hendricks, who also knew Susan Eakins.

Eakins's platinum and albumen enlargements are rich in variety and reveal the breadth of his interests. They can be divided into categories by subject: (1) figure studies for teaching or reference; (2) personal mementos (family friends in informal surroundings); (3) images to aid with specific paintings, such as his 1885 oil on canvas *Swimming*; and (4) professional portraits of himself for promotional purposes. The photographs can also be grouped by process and material type: (1) glass-plate negatives for making prints and positives for projection and viewing by transmitted light; (2) contact prints for reference, proofing, and didactic purposes; and (3) enlargements in albumen and platinum for study, display, sharing, and gifting.

The Context of Philadelphia

Eakins was born in Philadelphia and lived there most of his life, in the house at 1729 Mount Vernon Street that his father built in the 1850s. It was the best of times to be a young artist in this city. The Centennial Exposition of 1876 included a redesign of Fairmount Park, where Eakins traveled daily and engaged in athletic pursuits. Close to 10 million visitors from three dozen countries streamed through what was to become the first world's fair. To Philadelphians the exposition represented pride of place, the one-hundredth anniversary of the birth of modern democracy in its birthplace. To a young artist of some ambition such as Eakins, it was a chance to reimagine one's place in a new world of modern wonders. Eakins's bold painting *The Gross Clinic* exemplifies his aspirations but also anticipates clashes with Philadelphia. It was exhibited at the fair,

Figure 1. Thomas Eakins, [self-portrait], 1880. Platinum print, 15.7 × 10 cm. The Metropolitan Museum of Art, Gilman Collection, Museum Purchase, 2005.100.589, www.metmuseum.org. ©The Metropolitan Museum of Art. Evidence of printing by projection is revealed by the pinholes and their corresponding white “reverse shadows” visible at top and bottom left corners. The slip of paper along the right edge shows where the paper was trimmed while the slip was folded back, revealing evidence of hand-sensitization.



2a

but instead of being displayed in the Fine Arts Gallery, it was relegated to a ward in the army hospital. The “edgy” portrait immediately garnered harsh criticism, and it would be decades before Philadelphians recognized and acknowledged this work as a masterpiece.⁴

Figure Studies and Photography

A consummate and meticulous draftsman with a scientific disposition, Eakins deepened his mastery of the figure with intensive anatomy courses in 1864–65 at the Jefferson Medical College in Philadelphia. Subsequently, during four years of formal training (1866–70) in the atelier of Jean-Léon Gérôme (1824–1904) at the École des Beaux-Arts in Paris, Eakins continued to immerse himself in figure study and became fluent in plaster casting, live nude modeling, and using photographs as references for his artistic pursuits. Returning to Philadelphia in 1870, Eakins integrated this coursework into his curriculum at

Figure 3. Henry C. Bridle advertisement for solar and electric platinum enlargements, with Willis & Clements and Frederick Gutekunst as references. From *Photographic Mosaics: An Annual Record of Photographic Progress, 1885*, edited by Edward L. Wilson (Philadelphia: Edward L. Wilson, 1885), 165.



2b

Figure 2. Frederick Gutekunst, [*Thomas Eakins at age thirty-five*], 1879. Both images courtesy of the Pennsylvania Academy of the Fine Arts, Philadelphia, Charles Bregler’s Thomas Eakins Collection, purchased with the partial support of the Pew Memorial Trust. Early formal studio portraits of Eakins would have been printed in albumen, such as the albumen cabinet card (2a). In later years Susan Eakins ordered studio reprints in platinum (2b) and gelatin silver.

2a. Albumen print cabinet card, image 14.605 × 10.4775 cm. 1985.68.2.10.

2b. Platinum print of a portion of the same negative, 8.09 × 7.62 cm. 1985.68.2.15.

the PAFA, where he taught anatomy through dissection alongside classes in nude figure study and perspective. In later years, even after he had abandoned teaching, Eakins maintained that successful painting depended on continual study and rigorous scrutiny: “I hold that the study of the figure is the foundation of good art.”⁵

Photography was a critical means to this end. It was familiar, portable, and came easily to Eakins, and it offered the artist a preflattened subject by reducing three dimensions to two. Eakins is well known for the enormous catalog of figure studies produced under his direction between 1880 and 1900 as well as figure-in-motion studies using

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photography at the University of Pennsylvania in 1884–85. Here he initially assisted in the renowned motion studies of the British photographer Eadweard Muybridge (1830–1904), who was in residence at the university in these years. But Eakins soon worked independently and with his own source of funding, designing and building his own camera and shutter system for this work.⁶

Although Eakins did use platinum prints and drawings from other artists for instructional purposes, by far the lion’s share of the photographic studies was generated by Eakins and his circle.⁷ Eight hundred of the extant negatives and prints were made using his 4 × 5 inch view camera, a Ross doublet lens for portraits, a long-focus lens for landscape, and a solar camera for projecting enlarged images.⁸

Compatriots in Photography

Philadelphia was a major center of photography in the 1880s, and Eakins pursued his analysis of the figure in motion using the most current photographic techniques, surrounded by like-minded men of art and science. The city was home to Willis & Clements, the American commercial flagship of William Willis Jr.’s (1841–1923) Platinotype Company of London, the first supplier of commercially available platinum paper. Eakins traveled in the same circles as Alfred Clements, Willis’s partner in Willis & Clements, but he needed to go no further than his preferred local studio photographer, Frederick Gutekunst (1831–1917), to grasp the beauty and utility of the latest in photographic advancements. Gutekunst, a prominent Philadelphia studio portraitist, had ties to photography

that date back to early daguerreotypist Robert Cornelius (1809–1893). Eakins himself was a subject of Gutekunst’s portraiture, posing for him at regular intervals between 1868 and 1900 (fig. 2).⁹

In 1862 Gutekunst and a small band of amateur photography enthusiasts formed the Camera Exchange Club, which evolved into the Photographic Society of Philadelphia, the parent organ of the celebrated journal, the *Philadelphia Photographer*. Gutekunst positioned himself along with Willis & Clements at the epicenter of the Philadelphia platinum revolution, together promoting enlarged platinum prints (fig. 3).¹⁰ Like Gutekunst and Clements, Willis was a member of the Photographic Society of Philadelphia, and in 1881 he presented a short paper on his platinum process, which he also demonstrated.¹¹ Two years later Eakins presented his methods of recording the figure-in-motion at a meeting of this society.¹²

Willis & Clements’s offices were located at a number of addresses over the years in central Philadelphia (table 1), in close proximity to Eakins’s Chestnut Street studio. Also along the same center city merchant corridor, which ran from the far east end of Arch Street to the west of Town Hall, were Gutekunst’s studio at 712 Arch Street, the Jefferson Medical College, and the Pennsylvania Academy of the Fine Arts, all of which were locations of Eakins’s photographic activity (table 2).

Table 1 | Willis & Clements’s Philadelphia Addresses

Years	Address
1881	631 Arch Street
1885	23 North Seventh Street
1886	1112 Hunter Street
1888	912 Arch Street
1890	39 South Tenth Street
1894–1904	1624 Chestnut Street
1907–16	1814 Chestnut Street
1917	713 Walnut Street
1917	604 Arch Street
1928	713 Walnut Street

Source: Addresses compiled from period journals.

Table 2 | Key Philadelphia Addresses of Thomas Eakins

Years	Address	Activity
1854–1938	1729 Mount Vernon Street	Eakins family home
1861–	712 Arch Street	Gutekunst photographic establishment
1864–1865	126 South Tenth Street	Jefferson Medical College
1878–86	118 North Broad Street	Pennsylvania Academy of the Fine Arts, where Eakins taught during these years
1884–99	1330 Chestnut Street	Eakins’s studio, and where Thomas and Susan Eakins lived from 1884 to 1886. Eakins continued to use the studio until 1899.
April 1886–May 1888	1338 Chestnut Street	Art Students League, where Eakins taught after PAFA
May 1888–May 1890	1816 Market Street	Art Students League, where Eakins taught after PAFA
1890–1893	Twelfth and Filbert Streets	Art Students League, where Eakins taught after PAFA



4



4a

Figure 4. Thomas Eakins, *Katherine Cook in Classical Costume*, c. 1892. Platinum print, 6 × 6.8 cm. The J. Paul Getty Museum, 84.XM.155.31. This small platinum print is an enlargement on a scrap of paper.

4a. Detail of the lower right corner, displaying a pinhole and corresponding reverse shadow

Eakins, like Gutekunst, printed extensively in both albumen silver and platinum, and all of Gutekunst's early portraits of Eakins were albumen prints. Photographers of the era would have been familiar with the albumen process, and although the chemistry for the platinotype process was different, the basic equipment was the same. For contact prints, the glass-plate negative was placed in contact with the light-sensitive photographic papers in a printing frame for exposure in the sun, and a set of trays for chemical processing was used in a darkened room. For an amateur like Eakins, off-the-shelf papers, such as Scovill's Ready-Sensitized Albumen Paper,¹³ were commercially available and easy to use, but the new Platinotype Company paper was described as "simplicity itself."¹⁴

With all of platinum printing's pursuant marketing ballyhoo, including endorsements of local professionals like Gutekunst, it is no surprise that Eakins was quick to embrace the process. Surely both Willis & Clements's convenient Philadelphia locations and Eakins's proximity to Gutekunst gave him a leg up on the new process. Eakins was using platinum ten years after Willis's patent of 1873¹⁵ and seven years after Willis & Clements was established in Philadelphia.

Photographic Practices at the Pennsylvania Academy of the Fine Arts

Eakins taught at the PAFA from 1878 to 1886, first as an assistant, then as professor of drawing and painting, and later as director, where he fully integrated photography into his curriculum. A basement room was utilized for developing glass-plate negatives and processing both plates and prints.¹⁶ Live nude models were sometimes hard to find and costly, so Eakins and his students called upon each other to fill in. Frugal and efficient, Eakins turned to

photography to provide more options for figure study and reduce costs by having his students photograph each other in seven poses. The resulting mounted albumen prints became the *Naked Series*.

Eakins's parochial Philadelphia was not ready, however, to embrace his modern, European approach to the figure study. He was forced to resign from PAFA in 1886 as a result of a scandal involving female art students and a completely nude male model. These provincial prejudices would continue to haunt Eakins for decades.

Photographic Practices and Platinum Printing in the Household of Thomas and Susan Eakins

Following his resignation from the academy in February 1886, Eakins did not have access to its darkroom or student assistance. He may have had a darkroom at his family home on Mount Vernon Street, where he already had a workshop on the top floor, or at the studio at 1330 Chestnut Street, where he and his new wife, the artist Susan Macdowell Eakins (1851–1938), first lived when they married in 1884. Susan Eakins, too, was much enamored with photography. Together and apart, the two documented everything: studio activities and garden views, portraits of friends, relatives and pets, picnics, and landscapes. They printed their carefully composed images by contact or as enlargements in albumen or platinum. The surviving photographs were unevenly trimmed, with ragged and irregular edges. Seemingly every precious bit of platinum paper was used: many enlargements were printed on odd scraps (fig. 4). They also experimented with other processes and novelties, such as postcards, collodion positives, and enlarged positives on glass for display in windows.

Platinum printing was central to the pervasive role of photography in the Eakins's household, as entries in

Thomas Eakins's account book and Susan Eakins's diary testify. In the account book, categories of entries included daily provisions, professional expenses, and art supplies, with photography-related purchases appearing nearly every month. Roughly one-third of the assets listed in the account book are photographic supplies, including "solar camera and accessories" prominently listed on the first page of the account book. The details are limited, however: albumen is never mentioned and negatives are only referred to once, as "plates." There are only two mentions of platinum: first in 1883 for the purchase of a platinum print for a lecture, and then, in 1884, Eakins purchased plates, platinum, and developer. On January 3, 1900, Susan Eakins purchased "platinum paper"—most likely Willis & Clements's presensitized Platinotype paper.¹⁷

It has been suggested that Susan Eakins performed the routine photographic steps, such as developing negatives and processing the prints, although documentary evidence is ambiguous.¹⁸ It is possible that she, who, unlike her husband, exhibited her photographs, may have taken on many of the photographic tasks in the Eakins household, including operating the camera, sensitizing the paper, and exposing the prints.

Projection onto Canvas; Projection onto Paper

Conventional Eakins scholarship proposes that Eakins took up photography in earnest around 1880.¹⁹ However, microscopic examination of Eakins's painting, *The Gross*

Clinic, carried out by Mark Tucker and Nica Gutman in their landmark 2001 study, revealed the presence of barely perceptible incised registration marks that correspond exactly to photographic images Eakins had made.²⁰ The discovery demonstrates that Eakins was using the projected photographic image as a painting tool as early as 1875, a year before the painting was exhibited, and possibly earlier.

The Process of Projection

To compose his paintings and to mark their underdrawings, Eakins could have projected either glass-plate negatives or positives onto his canvases. Many examples of both exist in the Eakins oeuvre, but it would have been far easier for the artist to work from positive images. The earliest enlargers focused light horizontally through glass-plate negatives and positives, with the lens projecting the image onto a flat surface, such as the artist's canvas or a sheet of sensitized photographic paper, which would be pinned upright to a vertical easel. Eakins would have used the same enlarging equipment for projecting images onto canvas and for printing platinum enlargements.²¹

In July 1883 Eakins undertook a series of male nude studies in preparation for the painting, *Swimming*. Stocked with photographic supplies, Eakins traveled by train with a group of students to Bryn Mawr outside Philadelphia, where he photographed the men in carefully arranged poses that closely correspond to the finished painting.²²

As Eakins already owned a solar enlarger, he may have planned to use platinum enlargements as an aid to his painting: very large and beautifully executed platinum enlargements exist depicting this band of young male swimmers (fig. 5).



Figure 5. Thomas Eakins, *Thomas Eakins and Students, Swimming Nude*, c. 1883. Platinum print, 24.29 × 29.21 cm. Courtesy of the Pennsylvania Academy of the Fine Arts, Philadelphia, Charles Bregler's Thomas Eakins Collection, purchased with the partial support of the Pew Memorial Trust, 1985.68.2.479. This platinum print displays pinholes and their corresponding white reverse shadows of the pins, typical of an Eakins enlargement, along the intact edges and brush marks especially visible along the left edge.

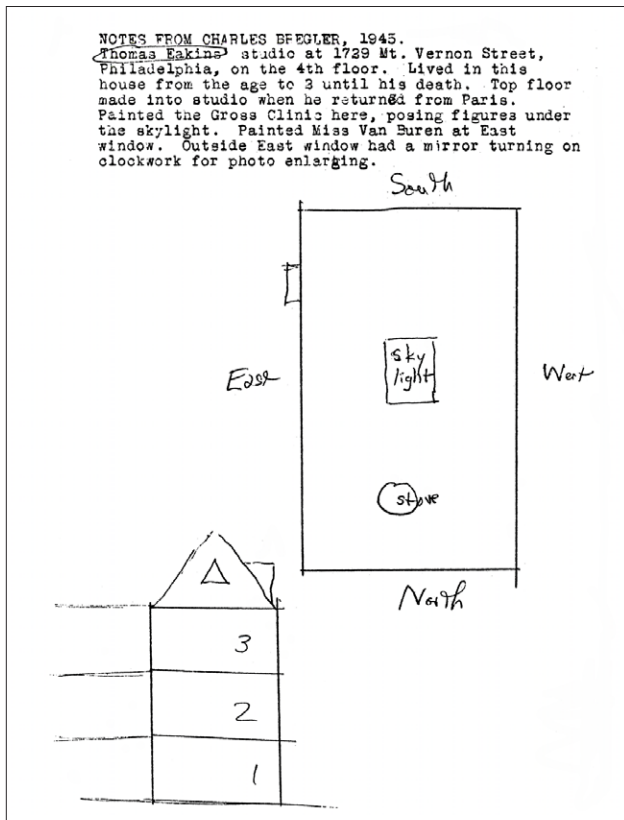


Figure 6. Charles Bregler's notes and accompanying diagram of the layout of Eakins's studio indicate "a mirror turning on clockwork for photo enlarging" was "at East window." The Metropolitan Museum of Art, Department of Photographs.



7

Eakins's account book notes that he used his solar enlarger to make enlarged prints.²³ Douglas Paschall outlines a persuasive argument that Eakins used a gaslight magic lantern for projection, although there is no record of its existence in the account book.²⁴ Nonetheless, there would be distinct advantages to having both a solar enlarger and a magic lantern at hand, as they would have allowed Eakins to work by day or by night in the privacy of his own studio. Furthermore, these investments in equipment—so important for busy artists working at night—were in evidence in Eakins's circle, and his companions did work by both daylight and lamplight: an enormous kerosene ceiling lamp was used at the Art Students League on Chestnut Street, where Eakins taught after PAFA. An inscription on a window mat of Eakins reads:

The light in the room comes from a skylight
 you will notice the kerosene lamp
 this was the lighting used at night²⁵

Eakins could have used either solar or artificial light for printing the platinum enlargements.

For solar enlarging, Eakins placed his solar-enlarging camera in front of a window in an otherwise completely darkened room. Outside the window, a mirror was positioned at a precise angle to gather the light from the sun. The condensing lens of the solar-enlarging camera focused the reflected light into a strong beam that was fully capable of projecting the image to the desired amplification as determined by the distance between the camera and the sensitized photographic paper. During long exposures,



7a

which could last as much as an hour, the angle of the mirror would need to be changed about every 30 seconds to track the sunlight. A device known as a heliostat, consisting of a mirror attached to a

Figure 7. Thomas Eakins, *William H. Macdowell and Margaret Eakins in Saltville (or Clinch Mountain), Virginia, 1880-82*. Platinum print, image 27.4 × 20 cm, irregular. The Metropolitan Museum of Art, Gift of Charles Bregler, 1941, 41.142.2, www.metmuseum.org, ©The Metropolitan Museum of Art.

7a. Detail of left margin, showing loose brushstrokes and incomplete sensitization.



8

Figure 8. Thomas Eakins, *Samuel Murray, Thomas Eakins and William O'Donovan in Eakins's Chestnut Street Studio*, 1891–92. Platinum print, 8.9 × 9.2 cm. The J. Paul Getty Museum, 84.XM.155.30. Note the assortment of photographs tacked to the wall. The five dark prints at the lower right all appear to have curling edges, typical of unmounted albumen prints.

8a. Detail showing the uncoated triangular corner, where the operator held the sheet during manipulation in the sensitizer solution.



8a

clockwork mechanism, made it possible to track the path of the sun across the sky to ensure that the available light was directed to the enlarger throughout the exposure.²⁶ A 1943 letter from Bregler to A. Hyatt Mayor (1901–1980), then assistant curator of prints at the Metropolitan Museum of Art explains, “It might be of interest to you how Eakins made his enlargements. At that time enlarger apparatus as now used was unknown. Eakins constructed an enlarger and the light used was the sun’s rays he had a clockwork device . . . which turned the angle of the reflector in line with the movement of the sun” (fig. 6).²⁷

Physical Attributes of Platinum Enlargements

No annotations by Eakins on his platinum photographs are known to exist, so the physical attributes of the prints must be carefully examined to determine how they were made. Indications of sensitizing and processing techniques are sometimes visible along the untrimmed edges of prints; these can provide valuable evidence of his fabrication methods.²⁸

The sensitizing solutions could be applied to the paper by hand, with a brush, or by floating the paper on the sensitizing solution. One distinct group of Eakins’s prints was clearly sensitized by hand. These exhibit very loose, inexact brushstrokes that are visible along the edges (fig. 7).

Evidence of sensitizing by floatation is seen in a second group of prints. In these, precise, uncoated triangular corners reveal that the operator bent and then held the sheet during manipulation in the sensitizer solutions (fig. 8). Alternatively, commercial ready-sensitized papers, coated by mechanical means, were used. These prints show an extremely even image tonality along the edges, indicative of commercially prepared papers (fig. 9).

Variations in the methods of sensitization suggest that certain prints may have been made by different hands. Notations made by Bregler on the verso of photographs and on presentation mats at the Metropolitan Museum of Art, such as “photo and enlargement by Eakins” and “platinum print by Mrs. Eakins,” indicate the enlargements were highly regarded and considered noteworthy from Bregler’s, and thus Susan Eakins’s, point of view. These notes also indicate both Thomas and Susan Eakins were known by their associates to carry out printing.

There are no regular sizes or formats to the enlargements. Eakins worked primarily with a 4 × 5 inch camera, but there is an astonishing range of enlargements, from 2¾ × 2¼ inches up to 14½ × 10½ inches. This apparent randomness in size underscores an important aspect of Eakins’s process: each enlargement was likely made at a specific size for a distinct purpose. Eakins would enlarge



Figure 9. Thomas Eakins, *Two Pupils in Greek Dress*, 1883. Platinum print, 36.8 × 26.7 cm. The Metropolitan Museum of Art, David Hunter McAlpin Fund, 1943, 43.87.17, www.metmuseum.org, ©The Metropolitan Museum of Art. This photograph, printed by projection, is among the finest examples of enlargement in platinum. The even sensitization along the untrimmed edges is evidence that it was likely produced on a commercially prepared paper.



Figure 10. Thomas Eakins, *Two Female Models in Classical Costume with Eakins' Sculpture "Arcadia,"* c. 1883. Platinum print, 8.7 × 7.3 cm. The J. Paul Getty Museum, 84.XM.155.2. This smaller print, possibly a contact print from the original negative, also appears to have been made on a paper typical of a commercially prepared platinum paper.

a specific area of a negative to varying degrees, essentially cropping the image during exposure, allowing any degree of enlargement for a given image. Smaller prints often highlight details, such as faces and heads, while larger ones tend to depict whole figures, objects, and compositions. Some of the less-successful enlargements may be examples of Eakins's attempts to push the limits of the process, amplifying past readability. *Two Pupils in Greek Dress*, however, is a magnificent specimen and the largest at 14½ × 10½ inches (see fig. 9). Examination of a contact platinum print of the corresponding original 4 × 5 inch negative (fig. 10) makes it clear that the image was cropped significantly to create a stronger composition, which is seen in another

enlargement (not shown, but also in the MMA collection), measuring 8⅞ × 6¾ inches.²⁹ Scratches and marks in the original negatives are visible in corresponding prints. That these flaws gradually accumulate in successive prints reveals that Eakins returned to this negative multiple times throughout the years.

The haphazardly cut edges of the prints, which are sometimes off square, indicate that Eakins was not overly concerned with precisely trimming the photographic paper. This approach to materials suggests that Eakins cut a section of paper off a roll or from a large sheet of paper. Willis & Clements offered both presensitized platinum paper and raw-stock papers that could be sensitized as



11a



11b

Figure 11. These two prints indicate that Eakins carefully tore a single sheet of paper in half to make them. The details of the right and left edges reveal where the two sheets align perfectly.

11a. Thomas Eakins, [*Thomas Eakins, nude, playing pipes*], c. 1883. Platinum print, 22.7 × 16.6 cm, irregular. The Metropolitan Museum of Art, David Hunter McAlpin Fund, 1943, 43.87.22, www.metmuseum.org, ©The Metropolitan Museum of Art.

11b. Thomas Eakins, [*standing male nude with pipes*], 1880s. Platinum print, 22.9 × 17.3 cm. The Metropolitan Museum of Art, David Hunter McAlpin Fund, 1943, 43.87.21, www.metmuseum.org, ©The Metropolitan Museum of Art.

11c. Detail of right edge of 11a.

11d. Detail of left edge of 11b.



11c

11d

needed in sheets as large as 20 × 26 inches or in rolls as wide as 20 inches.³⁰ The two platinum enlargements shown in figure 11 are clearly torn from the same sensitized sheet, as the right edge of figure 11a and the left edge of figure 11b fit together like two puzzle pieces.

Evidence of Printing by Projection

By far the most important evidence that Eakins made his platinum enlargements by projection are pinholes and corresponding “reverse shadows” found on forty of Eakins’s untrimmed platinum prints in a wide variety of sizes.³¹ These tiny white lines, tangential to the pinholes in the corners of the prints, were caused by the pins’ blocking the

313 Lee Ann Daffner, “Art and Enlargement: The Platinum Prints of Thomas Eakins,” *Platinum and Palladium Photographs: Technical History, Connoisseurship, and Preservation*, ed. Constance McCabe (Washington, D.C.: American Institute for Conservation of Historic and Artistic Works, 2017), 304–317.



Figure 12. Detail of the lower left corner of Eakins, [*self-portrait*] (fig. 1), showing a pinhole and its corresponding radiating reverse, white shadow, created during solar enlargement of a negative by projection.

light during exposure; they are telltale signs of lateral projection (fig. 12; see also figs. 1, 4). In many cases, the only evidence of enlargement by projection may be these minute traces. This novel use of projection appealed to Eakins because it allowed for pliable yet precise compositional control: he could select and expose a desired area of the negative for printing by changing the distance from the camera to the paper and using a paper size that would contain the enlarged image area. He would freely use projected photographic images again and again, openly for his photographs but more covertly in the service of his painting.

Conclusions

A curious aspect of Eakins's extant photographic oeuvre is that it is divided almost exactly between platinum and albumen prints. No doubt a significant number of prints have been lost to history, but the number of platinum prints begs the questions of when and why Eakins chose platinum over albumen. As an amateur photographer he was fluent in albumen, so the reasons for embracing platinum would have had to be compelling. Perhaps the cool tonalities of a finely rendered platinum print appealed to him, as they resemble graphite or black ink, both quite familiar to Eakins, always the draftsman. Platinum was three times faster than silver processes, which made it efficient for enlarging by projection, and its matte surface offered Eakins the familiar appearance of pencil drawings.³² Its paper texture softens tonal transitions, a feature

that may have appealed to his aesthetic, as it did for the Pictorialists of the next generation, who sought to elevate photography to "fine art" status. Platinum printing was certainly promoted as a tool for artists as early as 1880. It was described as "very well adapted for the reproduction of paintings and drawings—the platinum pictures look almost like aqua-tinta sheets, lusterless, velvety, and of the finest modeling."³³ It was also advertised for "artistic effects."³⁴ In 1888 Willis & Clements endorsed platinum printing as "unequaled for solar work, the larger contact prints, landscapes and art copies."³⁵

Furthermore, the platinum process was relatively easy to use, no more difficult than albumen. But unlike albumen paper, which is notorious for curling, platinum prints did not require mounting, reducing the number of required finishing procedures.³⁶ Platinum was a logical choice for artistically minded people who were comfortable working with their hands and who sought a more nuanced, subtle image.

Except for promotional portraits, it is unlikely that Eakins sent his negatives to others to be enlarged or to have duplicates produced when prints could be executed in the control and privacy of his own studio. Moreover, given his obsession with the nude, it would have been infinitely more discrete for him to print his own work, as Eakins had run afoul of provincial Philadelphian attitudes on more than one occasion.

Ultimately, it must be conceded that a significant reason for Eakins's adoption of the platinum process was location, since it was in Philadelphia that Willis & Clements staked its claim following the devastating boiler explosion that destroyed its New York plant in 1881.³⁷ Had Eakins lived in Boston, for example, his evolution to platinum might have taken longer, if it had happened at all. Proximity to Willis & Clements was not the only fortuitous by-product of life in Philadelphia, for all eyes were on this city at the time of the Centennial Exposition of 1876.

Despite being subject to some of its parochial aspects, Eakins did not abandon his beloved Philadelphia. "I am not fond of New York," he had earlier stated. "To be sure, there is a great deal of life here, too much in fact for the size of the place."³⁸ Though he studied in Paris, Eakins never became a student of the world; his ties to home were too strong.

Eakins was a polymath, equal in his pursuit of athletics and intellect, art and science, but suspicious of posturing. A version of the same modesty that caused fomentation over his teaching methods instilled in Eakins a distrust of pretense and distaste for artifice. Philadelphia was the perfect place for the Realist painter to explore and celebrate the truths of modern life, with all the local flavor still intact. When Eakins was not investigating the human figure through depictions of athletes and common workers, he was accumulating portraits of cultural and intellectual luminaries of his time and place. Eakins believed it was important to stay local, to penetrate the veil of surface, and to expose the inner reality, whether psychological (as in his portraits) or physical (as in *The Gross Clinic's* tendons of a leg).

Drawn to invention and new technologies, Eakins took great pleasure in the design and fabrication of complex shutter systems for his motion studies as well as his facile use of the solar enlarger, adapting it to suit his purpose. As with so many nineteenth-century photographers, he exhibited skill, patience, and an impressive working knowledge of chemical and optical systems. For this quintessential Philadelphian, however, technology must yield a practical end or it, too, was pretense. Shutter systems allowed Eakins to reduce motions' grace and power to reproducible increments, to cut up and rearrange time. The solar enlarger allowed him to alter size and placement, to cut up and rearrange space, and to apply these methods to make his paintings. All that was missing was a photographic process able to withstand his constant manipulations. Albumen served him well, but in the noble platinum

he found a more resilient process and stalwart ally, one whose tones most resembled his own hand.

Acknowledgments

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Notes

The epigraph is from Thomas Eakins to Emily Sartain, Paris, November 16, 1866, in Homer 2009, 71.

1. Foster and Tucker 2012b, 64–66. Tucker and Gutman 2001b is the "landmark" discovery of Eakins's direct use of photographs for his paintings.

2. This essay observes the current convention for dating photographic works of art by the date of the negative—that is, the date of creation of each photograph's negative. It should also be noted that dating of Thomas Eakins's photographs is imprecise because after his photographic work with the motion studies and naked series, he appears to have downplayed his reliance on photography.

3. Three hundred and sixty-three photographs were surveyed between March 3 and June 19, 2015, from the collections of the Metropolitan Museum of Art, New York; Charles Bregler's Thomas Eakins Collection at the Pennsylvania Academy of the Fine Arts, Philadelphia; and the collection of photographs at the J. Paul Getty Museum, Los Angeles. Other key collections are at the Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, D.C., and in private hands, but were not considered in this study.

4. Foster 2012, 40.

5. Thomas Eakins to his sister Fanny, October 22, 1895, in Foster and Leibold 1989, 113. In a letter from his great teacher, Jean-Léon Gérôme, to Eakins, February 22, 1877, Gérôme states: "It is only direct [from nature, that it is possible to form the artists and by con-stand [*sic*] study from the nude that the painter arrives to be really strong, deep, and true. Look what become from the German School for to have neglected the truth, for to have quitted the earth and plunged itself in empty ideals entirely foreign to the plastic arts." In Foster and Leibold 1989, 214.

6. Goodrich 1982, 269–75.

7. Danly and Leibold 1994, 1–21.

8. Eakins's camera equipment is now in the Hirshhorn Museum and Sculpture Garden. See also Thomas Eakins, account book (journal and expenses), 1883–88, transcription by Elizabeth Havard of original owned by Daniel Dietrich II, copy in the Department of Paintings, Philadelphia Museum of Art, Goodrich Archive, box 4, folder 1, entry for 1883, 1.

9. The Gutekunst Studio also assisted artists in making copies of their works for documentation, reproduction, and promotional purposes. An example is a painting of Susan Eakins copied by Gutekunst, in Foster and Leibold 1989, 261, fig. 41.
10. Gutekunst's prominence in Philadelphia's photographic community is described in "Our Picture" 1880, 127.
11. Willis 1881.
12. Redfield 1884, 14–15: "Mr. Thomas Eakins, who was present, showed the society an ingenious exposure mechanism for instantaneous work. Two equal weights attached to cords of different lengths, were dropped simultaneously. When the weight on the short cord had fallen . . . Mr. Eakins can accurately vary his exposure from one quarter to one hundredth of a second."
13. Scovill Manufacturing Company advertisement for "Ready-Sensitized [Albumen] Paper," *Photographic Times* 2, no. 19 (July 1872): 99; Scovill Manufacturing Company advertisement for "Ready-Sensitized Albumen Paper," *The American Annual of Photography and Photographic Times Almanac for 1888* (New York: Scovill Manufacturing Company, 1888): lxvi.
14. Burbank 1887, 63. See also Platinotype Company advertisement, *The British Journal Photographic Almanac and Photographer's Daily Companion, 1890* (London: Henry Greenwood, 1890), 810.
15. Willis 1873.
16. C. Few Seiss to classmate, April 1883, quoted in Paschall 2001, 414n63. In this letter Seiss described the darkroom as next to the dissection room, likely in the basement. There was a storage room for photochemistry "drugs." A letter from Thomas P. Anschutz to J. Laurie Wallace, August 7, 1884, explains: "The photographing of models takes place at intervals. But we have made no set as good as that hurried work of ours when we did the hypo deed. McLean says a picture of the darkroom is incomplete without 'Johnnies nose buried in the developer and his eyes riveted on the plate.' I guess this is what we want." Correspondence to J. Laurie Wallace, 1884–85, 1975, 1981, copy in Department of Paintings, Philadelphia Museum of Art, Lloyd and Edith Havens Goodrich, Whitney Museum of American Art, Record of Works by Thomas Eakins, box 8, folder 2.
17. Eakins's only surviving account book covers 1883 to 1888. During this time, photographic supplies are listed as purchases for nine months in 1883, ten months in 1884, seven months in 1885, and six months in 1886, with a total of thirty-nine individual entries. The annual decrease in photographic expenditures could be attributed to Eakins's increasing troubles and eventual reduction in income after he left PAFA in 1886. Eakins continued to take photographs for many years thereafter. The use of platinum paper is documented in the entry for May 31, 1883, 12 ("\$10 for platinum print for perspective lecture") and on July 31, 1884, 50 ("platinum 0.5"), related to *Swimmers*. It is also documented in Susan Macdowell Eakins's diary, entry for Wednesday, January 3, 1900 ("platinum paper .85"). Her diary is in the Pennsylvania Academy of the Fine Arts, Manuscripts of Susan Macdowell Eakins, box 6, Personal Papers, n.d., 1879–1938, fiche location II 4/A/3-8/D/3. According to research undertaken by Mike Ware and Sarah S. Wagner, by 1900 the Platinotype Company offered a variety of cold-bath papers. See Mike Ware, "The Technical History and Chemistry of Platinum and Palladium Printing," and Sarah S. Wagner, "Manufactured Platinum and *Faux Platinum* Papers, 1880s–1920s," in this volume. See also Platinotype Company 1885, 7–13. Eakins's reference to negatives as "plates" is from the entry for July 31, 1884, 5.
18. Charles Bregler told A. Hyatt Mayor that Mrs. Eakins does "processing." Quoted in Hendricks 1972, 4. See also Seymour Adelman's introduction in Adelman and Casteras 1973, 12: "I remember Mrs. Elizabeth Kenton, a sister of Mrs. Eakins, telling me that Susan had been a capable photographer even before she met Eakins. Charles Bregler, a pupil of Eakins in the 1880s, recalled that he had often seen Mrs. Eakins assisting her husband in the then cumbersome business of taking photographs." A number of labels annotated by Charles Bregler on original mats in the collection of Metropolitan Museum of Art (e.g., 41.142.2 and 41.142.1) state the photographs were printed by Susan Eakins.
19. Danly and Leibold 1994, 1; Paschall 2001, 239–55; Tucker and Gutman 2001a, 225–38. See Tucker and Gutman 2001a for a discussion of Eakins's possible use of photography as early as 1876.
20. Tucker and Gutman (2001a, 63) reports that Eakins's contemporary Alexander Stirling Calder stated, "Eakins had made some very fine photographs of Dr. Gross for his own use." The authors point to similarities in portraits of Gross by Gutekunst and in *The Gross Clinic*. It is possible Eakins was aided by the Gutekunst studio prior to 1880, when he more fully embraced all aspects of photography.
21. See Greta Glaser's in-depth discussion of solar enlarging, "Platinum Enlargements," in this volume. At this time, the two methods for producing enlarged prints were exposure by contact-printing from an enlarged negative and exposure from a negative projected through a lateral enlarging camera. Eakins used the latter. The size of the print is determined by the distance between the negative and the paper: the greater the distance, the larger the image appears. By the late 1920s, following the rise in popularity of silver bromide paper, which was produced to meet the demand for larger prints, enlarging apparatuses became standard darkroom equipment.
22. Although the original negative for this platinum enlargement is now lost, there are a number of close variant contact prints of the negatives, most notably two albumen prints: [*male figures at the site of "Swimming"*], 1884, albumen silver print 9.3 × 12.1 cm, J. Paul Getty Museum, 84.XM.811.1; and *Thomas Eakins and Male Nudes at the Site of "Swimming"*, 1884, albumen silver print, 8.9 × 11.4 cm, J. Paul Getty Museum, 93.XM.22.1. See also Eakins, account book, July 31, 1884, 5, where Eakins pays \$6.10 for photographic expenses used for "Swimming picture: Plates for \$1.80, Developer for .50 and platinum for .50."
23. Eakins, account book, inventory list on p. 1.
24. Paschall 2001, 239–55.
25. Inscription on a presentation window mat of Thomas Eakins, *Charles Cox Painting*, c. 1880, gelatin silver print, The Metropolitan Museum of Art, David Hunter McAlpin Fund, 1943, 43.84.18. This is a modern copy print of an original platinum print.
26. See Glaser, "Platinum Enlargements," in this volume.
27. Charles Bregler to A. Hyatt Mayor, November 21, 1943, A. Hyatt Mayor Correspondence, Department of Photographs, Metropolitan Museum of Art. Between 1941 and 1943, Mayor acquired the key Eakins holdings of photographs from Charles Bregler. See Rosenheim 1994–95, 45–51.
28. Bockrath et al. 1992, 51–64.
29. 41.142.3. Another contact print of *Unidentified Models in Greek Costume* is in the collection of the Hirshhorn Museum and Sculpture Garden. See Rosenzweig 1977, 112, cat. 54a.
30. Willis & Clements 1899, 18.

31. This study was initiated in 1996 during the author's Andrew Mellon Fellowship in Photography Conservation in the Sherman Fairchild Laboratory for Paper and Photography Conservation under the supervision of Nora Kennedy, conservator of photographs. See Lee Ann Daffner, "The Platinum Print Enlargements of Thomas Eakins: Examination and Investigation" (paper presented at "Work-in-Progress by Museum Research Fellows Colloquium," Metropolitan Museum of Art, New York, May 15, 1996). A full-scale survey of all the Eakins photographs was beyond the scope of the current study. Of the 363 photographs examined, processes included platinum, albumen, gelatin, glass-plate negatives and positives, and one daguerreotype. Forty platinum prints had readily visible pinholes and "reverse shadows."

32. [Tennant] 1899, 334.

33. "German Correspondence" 1880, 127. George G. Rockwood advertisement, "Solar Printing: The Willis Process," *Photographic Mosaics: An Annual Record of Photographic Progress, 1880* (Philadelphia: Edward L. Wilson, 1880), 167.

34. Platinotype Company advertisement, *The British Journal Photographic Almanac and Photographer's Daily Companion, 1890* (London: Henry Greenwood, 1890), 810.

35. Willis & Clements advertisement for platinum paper, *The American Annual of Photography and Photographic Times Almanac for 1888* (New York: Scovill Manufacturing Company, 1888), n.p.

36. Unmounted and curling prints can be seen alongside mounted prints on the wall of Eakins's Chestnut Street studio in figure 8. Many mounted albumen prints were observed in this study. Some appear to have been professionally mounted and burnished, while others that display an amateurish quality were likely mounted by students, such as the *Naked Series* images of male students in Grecian costume, cabinet cards in the collection of the Pennsylvania Academy of the Fine Arts.

37. Lefferts 1881, 301.

38. Thomas Eakins to Caroline Cowperthwaite Eakins, October 1, 1866, in Homer 2009, 21.

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