RACHEL FREEMAN, CYNTIA KARNES, AND STEPHANIE LUSSIER
DISCUSSION GROUP CO-CHAIRS

Art on Paper Discussion Group 2016: Paper is Part of the Picture: Connoisseurship and Conservation Practice

ABSTRACT

Paper Conservators have long relied on a variety of bathing and bleaching methods to reduce discoloration and stains in works of art on paper. Justifications for aqueous treatment, however, are steeped in subjective interpretation, shaped by historic, cultural, and institutional contexts. In her opening presentation, "Paper is Part of the Picture," Peggy Ellis examined the way in which our sensitivity to the subtle characteristics of historic papers is necessarily limited by our modern experience of what paper is.

Cleaning treatments may significantly alter chromatic and tonal values or remove indicators of artistic practice or historical use, potentially changing the authentic presentation of the work to meet the expectations of the viewing audience. Marian Dirda explored the complex decision-making process behind deciding on a treatment designed to reduce paper staining, and the importance of openly engaging with curatorial colleagues to evaluate the impact of treatment in "Connoisseurship and Conservation Practice: Dialogue between the Conservator and Curator."

The notion of authenticity in art, and understanding what is meant by artistic intent are central to discussions of treatment, particularly as we increasingly strive to integrate our field with those of curators and other scholars. Kristi Dahm illustrates the importance of closely examining many works in an artist's oeuvre to understand an artist's choices and how those aesthetic goals may have been altered over time in "Casting Far and Wide: Winslow Homer's Engagement with the Materiality of Paper".

Lastly, Amy Hughes presented innovative approaches to minimizing the impact of stain reduction treatments to preserve overall paper tone and other characteristics, in her talk "Fine-Tuned: Adjusting Wash Water Using Conductivity as a Variable".

This open discussion took place on May 17, 2016, during the joint CAC/AIC Annual Meeting, held May 14–May 17, 2016, in Montreal, Canada. The moderators organized and led the discussion and recorded notes. Readers are reminded that the moderators do not necessarily endorse all the comments recorded, and that although every effort was made to record proceedings accurately, further evaluation or research is advised before putting treatment observations into practice.

INTRODUCTION

Following in the tradition of the two prior Art on Paper Discussion Group sessions which presented discussions on media terminology and the ethics and practice of inpainting, the third Art on Paper Discussion Group sought to continue the essential dialogue around how we describe materials alongside an examination of a complex aesthetic issue in the conservation of works of art on paper, specifically how do we look at, describe, and consider paper tone relative to artist's intent, historical context, and approaches to conservation treatment both traditional and new. The four presentations were followed by a question and answer period and a guided discussion.

PRESENTATION SUMMARIES

MARGARET (PEGGY) HOLBEN ELLIS
PAPER IS PART OF THE PICTURE

Peggy began by observing the discrepancy between the significant aesthetic and physical role of paper in prints and drawings and the paucity of descriptive information about the paper support of prints and drawings that appears in the literature of art. The lack of truly informative and evocative paper descriptions specifically in museum catalogue entries, collection data systems, and gallery wall labels has been noted. The 2014 *Guidelines for Descriptive Terminology for Works on Paper* pointed out this deficiency.[1] In order to fully understand the role of paper as part of the picture, it is important that paper terminology be consistent and meaningful to everyone.

If the support is included in the description of a work of art on paper, it might include its color (ivory, cream, buff), structure (laid, wove), texture (oatmeal, pebbled), or function

(cartridge, butcher, plate). Unfortunately, terms such as these are vague, as well as historically archaic, culturally biased, or industry-specific. Also, the persons responsible for identifying and describing the paper supports of prints and drawings, i.e., members of the museum community, are far removed from a paper's manufacture and subsequent selection and fabrication into a work of art. Artists were not unaware of these characteristics and consciously sought out papers having specific physical and aesthetic properties. Once entered into a collection and ensconced in mats and frames, prints and drawings are not generally handled directly, further distancing the cataloger from the paper's physical attributes and minimizing its critical role as carrier of marks. Finally, the properties of paper are, and always have been, difficult to qualify and quantify, even for those whose livelihoods depend upon doing so, i.e., paper manufacturers and publishers.

It is also very apparent that all five senses are required to evaluate and accurately assess a paper's properties—paper is sensed—not just seen. The speaker provided examples of how sight, smell, touch, hearing, and even taste were employed in the past to ascertain paper's characteristics. Two options for becoming fluent in the language of paper were suggested: to define and incorporate technical terms as used by industry; or to invent a universal, culturally and historically neutral vocabulary that can be easily understood by the layperson.

Margaret (Peggy) Holben Ellis, Eugene Thaw Professor of Paper Conservation; New York University Director, Thaw Conservation Center, The Morgan Library and Museum, New York, NY

MARIAN DIRDA
CONNOISSEURSHIP AND CONSERVATION PRACTICE: DIALOGUE BETWEEN THE CONSERVATOR AND CURATOR

Marian Dirda spoke about the need for dialogue between conservators and custodians in planning conservation treatment. The conservator benefits from the guidance of the curator, and in turn conveys the possibilities and risks of conservation treatment. She noted that curators at the National Gallery of Art are generally restrained in considering wet treatment for prints and drawings since it can effect changes in paper texture, tonal relationships, or embossing. As an example, Marian described the treatment of a 1540s engraving, *Massacre of the Innocents* by Nicolaus Beatrizet. The curator felt that the yellow paper tone reduced the volume of figures that was the very essence of the print. He wanted the print to be brighter, yet retain some of the paper tone. To ensure only moderate lightening, the conservator gently washed the print on a screen in cold water, followed by brief immersion, and the curator was happy with the result.

Local spot reduction may be more appropriate than overall washing. Marian described the treatment of *River Landscape with Buildings, Boats and Figures* by Eugène Boudin, 1858, in which large foxing spots had overpowered the delicate white clouds in the image. Conservators feared that overall wetting, even screen or blotter washing, would cause a loss of graphite and white gouache media. The spots were washed locally on the suction disc with dilute ammoniated water and dilute hydrogen peroxide, rinsed well locally afterward. Marian pointed out that local treatment, particularly, requires the conservator to be restrained and cautious, as local treatment may cause tidelines and chemical change in paper that could become visible over time. On the positive side, local treatment preserves the overall paper tone.

Marian stressed the importance of learning about an artist's work before proposing treatment. Seeking examples of comparable works in excellent condition allows one to judge the original paper tone and understand the artist's intent. She described the prints of Mary Cassatt as an example of the way in which alterations in paper tone can change the aesthetic effect. Two impressions of the artist's color aquatint, *Woman Bathing*, c. 1891 (Figure 1), could not be exhibited because the paper had darkened and significantly altered the color balance in the print.[2] Marian showed how areas of unprinted paper, which Cassatt had held in reserve to establish white stripes in the skirt and a horizontal band at the waist, were intended to function as the brightest value in the work. Over time, however, as the hue in the stripes and waistband shifted and darkened, the brightest values in the print had been replaced by areas printed in light-toned inks. Marian described a similar color shift in two impressions of another aquatint by Cassatt entitled *The Letter*, c. 1891 (Figure 2). These examples underscored her earlier point that conservators should closely examine numerous impressions to understand the artist's intent before proposing treatment.

Marian gave a thoughtful account of the value of open, informed dialogue between curator and conservator, particularly when there are conflicting priorities. She described a request to treat a drawing scheduled for exhibition. The graphite drawing, *Study for Mary Cassatt at the Louvre: The Etruscan Gallery*, c.1879, had been used by Edgar Degas to make two related soft-ground etchings: *Mary Cassatt at the Louvre: The Etruscan Gallery and Mary Cassatt at the Louvre: The Painting Gallery* (Figure 3). In preparing the plates, Degas had used two different colors of softgrounds, which had transferred to the back of the drawing as he traced portions of the design. The curator had requested treatment to lighten the paper, which was moderately light-struck and yellowed, but the conservator feared alteration to the graphite lines if the drawing were washed overall, and also thought the weak paper might crack if treated locally. Ultimately, in strong raking light, the conservator noticed faint, shiny scratches on the front of the drawing that corresponded to the soft-ground lines on the back (Figure 4). She theorized that Degas had used a blind stylus to transfer the design to the plates. The discovery of these subtle lines turned the consensus against aqueous treatment, which would have destroyed the marks, so integral to understanding

Fig. 1.

LEFT TO RIGHT

a. Mary Cassatt (American, 1844-1926), *Woman Bathing*, 1890-1891, Color drypoint and aquatint on discolored laid paper with watermark "ED&Cie", Mathews and Shapiro 1989, no. 10, State iv/iv, plate: 36.51 × 26.67 cm, sheet: 46.67 × 31.12 cm, Rosenwald Collection, National Gallery of Art 1946.21.92.

b. Mary Cassatt (American, 1844-1926), *Woman Bathing*, 1890-1891, Color drypoint and aquatint on discolored laid paper with watermark "ED&Cie", Mathews and Shapiro 1989, no. 10, State iv/iv, plate: 36.5 x 26.6 cm; sheet: 47.9 x 31.2 cm, Gift of Mrs. Lessing J. Rosenwald, National Gallery of Art 1989.28.5. Compare the darkened waistband with the printed colors of the back and jug

c. Mary Cassatt (American, 1844-1926), *Woman Bathing*, 1890-1891, Color drypoint and aquatint on white paper without watermark, Mathews and Shapiro 1989, no. 10, State iv/iv, plate: 36.4 x 26.7 cm; sheet: 43.2 x 29.8 cm, Chester Dale Collection, National Gallery of Art 1963.1.253. The waistband and stripes retain their original, brilliant paper tone.

Fig. 2.

LEFT TO RIGHT

a. Mary Cassatt (American, 1844-1926), *The Letter c.1891,* Drypoint, softground etching and aquatint in color on discolored laid paper with watermark "PL BAS", Mathews and Shapiro 1989, no. 8, State iv/iv, image: 34.61 x 22.54 cm; sheet: 47.94 x 31.12 cm, Gift of Jane C. Carey as an addition to the Addie Burr Clark Memorial Collection, National Gallery of Art 1959.12.5. The unprinted paper of the letter is nearly as dark as the hands.

b. Mary Cassatt (American, 1844-1926), *The Letter c.1891,* Drypoint, softground etching and aquatint in color on white paper without watermark, Mathews and Shapiro 1989, no. 8, State iv/iv, plate: 34.6 x 22.8 cm; sheet: 43.6 x 30.0 cm, Chester Dale Collection, National Gallery of Art 1963.10.251. When the paper is bright white, and not yellowed, the letter is the focal point of the print.

Fig. 3. Edgar Degas (French, 1834-1917), *Study for "Mary Cassatt at the Louvre: The Etruscan Gallery"* [recto], c.1879, Graphite with blind stylus on wove paper (National Gallery of Art, 1995.47.36.a) and *Study for "Mary Cassatt at the Louvre: The Etruscan Gallery"* [verso], c.1879, Carbon and softground wax transfer on wove paper (1995.47.36.b), overall: 32.3 x 24.5 cm, Collection of Mr. and Mrs. Paul Mellon.

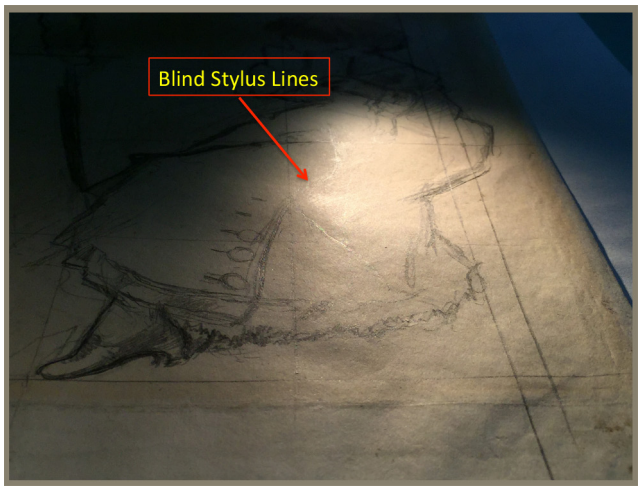

Fig. 4. Edgar Degas (French, 1834-1917), *Study for "Mary Cassatt at the Louvre: The Etruscan Gallery"* [recto], c.1879, Graphite with blind stylus on wove paper, National Gallery of Art, 1995.47.36.a. Detail of stylus lines visible with specular illumination.

the artist's technique. The conservator and curator ultimately agreed to forgo treatment to preserve it as it was.

The last point of the talk addressed the particular vulnerability of modern papers to oxidative attack and yellowing. Marian cited the example of Michael Heizer, who had created a suite of six oversize prints, titled *Scrap Metal Drypoint*, in 1978. The prints exhibited overall yellowing and brown edge stains that had probably been caused by storage in wooden drawers. She noted that the 1960s and early 1970s were a low point for production of artists' papers; even 'good' artists' papers were extremely vulnerable to light damage and stains. While national and international standards for stable, permanent papers were introduced in the 1980s, no standards currently govern the lightfastness of artists' papers.

Marion Dirda, Senior Paper Conservator, National Gallery of Art, Washington, D.C.

KRISTI DAHM

CASTING FAR AND WIDE: WINSLOW HOMER'S ENGAGEMENT WITH THE MATERIALITY OF PAPER

Kristi spoke about Winslow Homer's (1836-1910) use of paper throughout his graphic oeuvre. The diversity of papers under consideration demonstrates that Homer was acutely attuned to such varied physical characteristics as tone, color, texture, surface sheen, opacity, translucency, thickness, and degree of sizing. Homer used these properties to his aesthetic and expressive advantage with different media.

Kristi observed that Homer's choice of gray and tan papers for graphite drawings from the early 1870's onward reflects aesthetic strategies he developed as an illustrator for wood engravings reproduced in the popular press. Over more than a decade, Homer trained his eye and hand to see and draw strong lines and broad, flat areas of tone, in order to effectively translate his drawings into the linear medium of wood engraving. In *Children Sitting on a Fence*, 1874 (The Art Institute of Chicago, 1927.3522), Kristi noted that Homer chose a gray paper to create a middle value in reserve against dark graphite lines and white watercolor highlights. She also noted that Homer chose to draw on the smooth felt side of a soft, medium thick, wove paper.

Homer's earliest opaque watercolors from the 1870's are on similar papers, but reveal the artist's preference for green and blue supports, in addition to gray.[3] Kristi pointed out that Homer was an experienced oil painter by this date, albeit self-taught. He seems to have selected paper colors that functioned like a preparatory colored ground, analogous to his work in oil, in order to more intuitively learn to paint in an aqueous medium.[4] For example, in *Apple Picking*, 1878 (Terra Foundation for American Art, 1992.7) he used both dense and dilute washes of opaque watercolor to allow the paper tone to show through and lend substance to elements in the scene.

Kristi pointed out that many of the papers Homer used for opaque watercolors, including *Apple Picking*, have darkened to warm brown, altering the color balance. She theorized that an

alum rosin sizing agent may have contributed to their darkening. The original, green paper color can only be observed through microscope examination.

Kristi described how some of Homer's papers could be linked to a specific time and place. In England, between 1881 and 1882, Homer consistently used large sheets of tan, highly textured, laid paper (46 x 62 cm) for his drawings in graphite and opaque white watercolor. All sheets are watermarked "Saint Mars" through the horizontal center, on the right side, with a countermark "JV" on the left portion of the sheet. Slight magnification reveals red, blue and black fibers mixed into the tan furnish.

Homer showed transparent watercolor to greatest effect by using authentic watercolor paper, which had specific physical properties that facilitated the active manipulation of brilliant colored washes on the surface. Watermark evidence confirms that Homer exclusively used thick, bright white, heavily textured English watercolor paper by J. Whatman. Hand-made from linen fibers and tub-sized with gelatin, Whatman papers were durable and slow absorbing, allowing Homer to work aggressively with additive, wet into wet methods, and to employ subtractive techniques such as blotting, wiping and scraping, exemplified in *Adirondack's Guide*, 1892 (Art Institute of Chicago, 1933.1234).

Kristi also discussed Homer's extensive use of watercolor blocks. Residues of brown adhesive and gauze used to bind the sheets together into a block are evident along the edges of Homer's watercolors executed over several decades (Figure 5). In some, a fragment of paper from an overlying sheet has remained along an edge, or a ghost of its former presence is visible as a white void at the edge of a painting, where it had formed a barrier to Homer's brush.

Homer used paper with deep, diagonal furrows on the wire side for two trips to the Bahamas and Bermuda in 1898 and 1899.[5] This particular paper is not used for any other works.[6] Homer alternated between the heavily textured side and the smoother felt side depending upon the effect he aimed to achieve.

In Kristi's survey of Homer's etchings at The Art Institute, she found impressions on laid Whatman paper, parchment, and Japanese vellum. Japanese vellum is a smooth, thick, and dense calendered Japanese paper with a lustrous surface.[7] Transmitted light reveals a mottled appearance caused by clumps of long fibers, characteristic for these papers. (Figure 6) These long fibers reflect specular light in all directions, creating a surface that can only be described as lustrous. (Figure 7) Homer's choice of support speaks to his ambition to offer deluxe impressions. Kristi identified both lifetime and posthumous prints on Japanese vellum and suggested that a survey of Homer's etchings might be instructive to clarify the supports used in lifetime and posthumous impressions.

Kristi Dahm, Associate Paper Conservator, The Art Institute of Chicago, Chicago, IL

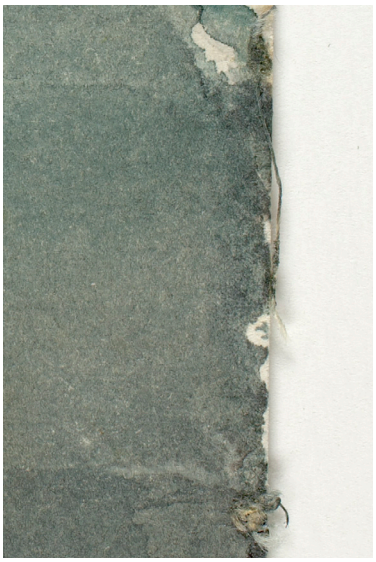

Fig. 5. Winslow Homer (American, 1836-1910), *Sunshine and Shadow, Prout's Neck*, 1894. Watercolor, with rewetting and blotting, over graphite, on thick, rough-textured, ivory wove paper. 38.5 x 54.6 cm, The Art Institute of Chicago, 1933.1253. Detail of right edge showing gauze string and adhesive residue from the watercolor block.

Fig. 6. Winslow Homer (American, 1836-1910), *Fly Fishing, Saranac Lake*, 1889, Etching and aquatint with lavis, stopping-out, scraping, and burnishing, on moderately thick, smooth, cream Japanese vellum. 35.8 x 51.8 cm, The Art Institute of Chicago, 2007.12. Transmitted light detail revealing a mottled appearance caused by clumps of long fibers characteristic of this paper.

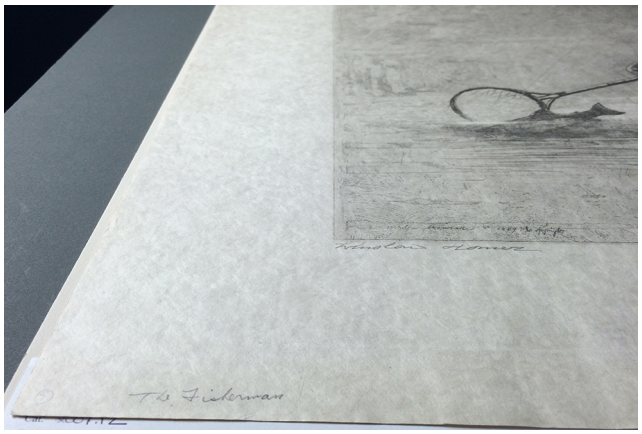

Fig. 7. Winslow Homer (American, 1836-1910), *Fly Fishing, Saranac Lake*, 1889, Etching and aquatint with lavis, stopping-out, scraping, and burnishing, on moderately thick, smooth, cream Japanese vellum. Image: 35.8 x 51.8 cm; Plate: 44.0 x 56.5 cm; Sheet: 50.5 x 70.0 cm. The Art Institute of Chicago, 2007.12. Specular light detail showing light reflecting in multiple directions off the Japanese vellum surface.

AMY HUGHES
FINE-TUNED: ADJUSTING WASH WATER USING CONDUCTIVITY AS A VARIABLE

Amy presented treatment case studies illustrating the use of pH-and conductivity-adjusted waters for aqueous stain reduction. She proposed that conservators, with an awareness of the properties of conductivity in solution, would be able to design aqueous treatments that are more sensitive to the needs of unique objects. The manipulation of conductivity as part of aqueous treatment practice holds promise as a technique for sensitively removing stains and brightening paper tone while minimizing swelling and disruption to the surface of paper during treatment. The aqueous solutions she described in the talk were adopted from those taught as part of the Getty's Cleaning of Acrylic Painted Surfaces (CAPS) workshops and were introduced to her by Daria Keynan in 2012.

The representative case study was a watercolor sketch by Zacharie Astruc (French, 1833–1907) drawn on a moisture sensitive paper (Figure 8). The watercolor was presented to Amy for treatment requiring reduction of the tidelines at the upper half of the sheet (Figure 9). Aside from the tidelines, conservators and curators agreed that the sheet possessed a desirable tone overall. The paper, a page cut from a blank book, was machine-made wove containing a generous amount of non-fibrous filler and was heavily calendared. Areas with severe water damage had already suffered partial loss of the compacted surface, appearing more matte and fluffy in raking light. The hope for the treatment was to reduce the tidelines locally to return visual integrity to the object while retaining the aged, slightly yellowed paper tone as well as the sheen of the paper.

The speaker described testing methods and results. These included discreet tests on the tidelines over the suction platen using a variety of aqueous solutions, both with and without added ethanol, including warm and cool alkaline water and a selection of chelators in water. None reduced the stains satisfactorily while leaving the surface texture of the paper intact. Amy commented that the difficulty of reducing the stains was likely a result of having been present in the paper for at least 45 years since the work's acquisition. She then discussed the choice to employ a solution of pH- and conductivity-adjusted water, tailor-made to match the stained areas of the paper, to minimize the swelling of the paper surface while still efficiently removing the discoloration products. The goal was to create an isotonic aqueous environment for local stain reduction.

Amy explained that to achieve near isotonicity, she measured the surface pH and conductivity of the stained areas of the artwork using agarose gel plugs as a vehicle (paper pH 6.1 and conductivity 940μS/m), and then made a solution of moderately concentrated ammonium acetate in deionized water to match the measured values of the artwork (solution pH 6.0 and conductivity 1,000μS/m). The pH- and conductivity-adjusted ammonium acetate solution was formulated by reacting acetic acid and ammonium hydroxide in deionized water. According to Amy, these solutions do not strictly follow a recipe because the reaction of the acid with the base to form the salt is non-linear and the volume of the base is dependent on the strength of the particular bottle of ammonium hydroxide, which tends to lose saturation over time. It is therefore necessary to make up the solutions using frequent pH and conductivity measurements as guides throughout the process.

The tidelines on the watercolor were treated locally over the suction table using both an airbrush and a small paintbrush

Fig. 8. Zacharie Astruc (French, 1835–1907), *Two Roses*, ca. 1884–1904, Watercolor, 17.78 x 12.065 cm, The Metropolitan Museum of Art, Gift of Gregoire Tarnopol, 1971.253.3.

Fig. 9. Zacharie Astruc (French, 1835–1907), *Two Roses*, ca. 1884–1904, Watercolor, 17.78 x 12.065 cm, The Metropolitan Museum of Art, Gift of Gregoire Tarnopol, 1971.253.3. Before treatment, detail.

Fig. 10. Zacharie Astruc (French, 1835–1907), *Two Roses*, ca. 1884–1904, Watercolor, 17.78 x 12.065 cm, The Metropolitan Museum of Art, Gift of Gregoire Tarnopol, 1971.253.3. During treatment with adjusted water, detail.

Fig. 11. Zacharie Astruc (French, 1835–1907), *Two Roses*, ca. 1884–1904, Watercolor, 17.78 x 12.065 cm, The Metropolitan Museum of Art, Gift of Gregoire Tarnopol, 1971.253.3. After treatment, detail.

to deliver the tailored solution. After several applications, the majority of the discoloration was washed out of the paper despite the tenacity of the stains (Figure 10). The paper texture and sheen were unaltered during treatment, however, the tidelines remained somewhat visible and distracting. After further discussion within the department, it was determined that if possible, the stains should be reduced further using a bleaching agent. After preliminary testing, solutions of sodium borohydride (a salt with high conductivity) were applied selectively by brush—just enough to break up some of the darker lines. The sodium borohydride worked effectively on the remaining discoloration, but dulled or greyed the surface of the paper when pushed too far, so bleaching was stopped and the treated areas were rinsed with the same solution of adjusted water used for washing (Figure 11).

In Amy's experience, pH- and conductivity-adjusted waters are particularly useful for papers prone to fiber disruption and undesired swelling during aqueous treatment. They have proven to be a good choice for treatments where controlled moisture delivery is key, including damp swab cleaning, cleaning over the suction platen, and cleaning using rigid polysaccharide gels. She views these so-called "adjusted waters" as a sensitive tool for aqueous treatment; to be employed when the conservator would like to subtly diminish stains and discoloration while leaving texture and overall paper tone intact.

Amy Hughes, Andrew W. Mellon Fellow in Paper Conservation, The Metropolitan Museum of Art, New York, NY

SUMMARY OF DISCUSSION

At the close of the presentations, the moderators opened the floor for discussion. Responses from the audience were enthusiastic about the content presented, and appreciation for bringing back a focus on connoisseurship into the professional dialogue about conservation was expressed.

The first question pertained to the usefulness of the "The Print Council of America Paper Sample Book," a reference guide used by many conservators and curators to describe paper characteristics by way of visual comparison with provided samples. Peggy Ellis commented that, although the reference is good, and is currently all that we have in our field, the descriptive language has become outdated and no longer holds meaning for audience members. A suggestion was made to translate the paper tone colors to L*a*b* values. Another participant suggested that conservators consult with paper historians in evaluating paper characteristics and their significance.

The conversation continued with a focus on treatment and maintaining the characteristics of paper outlined in Ellis's talk. Audience members were interested in learning more about how to perform treatments with gels and whether it was possible to self-educate in the area of conductivity treatments. It was noted that FAIC workshops were being planned for 2016 and 2017 in Washington, D.C. and Fort Worth, Texas.

Questions about bleaching techniques relative to paper tone led to a discussion about the usefulness of working in labs with colleagues of different generations and the benefit of reading older treatment documentation. In addition to presenting practical tips for bleaching, such as protecting areas from over-bleaching with Marvelseal® during light bleaching, or applying chemical bleaches with an airbrush, audience members also discussed the usefulness of relying on presentation techniques, such as over-matting, using low light levels, and careful selection of mat color or wall paint color. Presentation methods were thought to be particularly helpful when a series of prints on papers of different tones due to differential aging are displayed side-by-side.

One panelist cited the importance of documenting the thought process that goes into a treatment, such as testing results and discussions with curatorial colleagues. Members of the panel also cited dialogues with conservation scientists on bleaching, and how awareness of the work of Margaret Hey and others can contribute to our evaluations of bleaching treatments. It was also stressed, however, that conservators must evaluate such contributions using their own judgment, gained with an appreciation for historical paper and an awareness of the aesthetic impact of bleaching treatments.

The discussion closed with return to the topic of paper tone and the lessons that can be learned from examination of dated papers of known manufacture and a reference to the usefulness of Historic Paper Sample Collection at the National Gallery of Art, Washington D.C.

ACKNOWLEDGEMENTS

The co-chairs wish to thank the audience members who participated in the discussion following the presentations. Kristi Dahm, Marian Dirda, Margaret (Peggy) Holben Ellis, and Amy Hughes were wonderful collaborators and generous in sharing their insights and expertise. Their efforts made the session a success. Finally, Angela Campbell, BPG Program Chair, offered support and advice during the planning for the discussion.

NOTES

1. Ash, N., S. Homolka, and S. Lussier. 2014. Descriptive Terminology for Works of Art on Paper: Guidelines for the Accurate and Consistent Description of the Materials and Techniques of Drawings, Prints, and Collages. Philadelphia Museum of Art. http://www.philamuseum.org/conservation/22.html

2. The NGA has five impressions of Woman Bathing, c. 1891, by Mary Cassatt, including 3 impressions of the 4th and final state. Two impressions in which the paper had darkened were made on paper with the watermark 'ED&Cie', the sign of Emile Desloye and Company in Plancher-Bas, France. X-ray fluorescence confirmed the presence of a large amount of iron in the paper.

3. These are likely French papers. A 'MONTGOLFIER' watermark is found along the right edge of *The Green Hill*, 1878, The National Gallery of Art, 1994.59.25.

4. Hoermann, Christine. "A Hand Formed to Use the Brush", in Mark Simpson, Winslow Homer Paintings of the Civil War, The Fine Arts Museums of San Francisco, 1988, pp. 108-109.

5. Tedeschi 2008, p. 180. For Sargent's use of the same paper see Annette Manick and Antoinette Owen, *Bringing Back Something* Fine, in John Singer Sargent Watercolors, Ed. Erica E. Hirshler and Teresa A. Carbone, Museum of Fine Arts Boston, 2013, p. 207.

6. Conversation with Judith Walsh, January 2006.

7. For more on Japanese vellums see: Antoinette Dwan, *A Method for Examining and Classifying Japanese Papers Used by Artists in the Late Nineteenth Century: The Prints of James Abbott McNeil Whistler*, "Conservation Research", National Gallery of Art, Washington, 1993, pp. 112–113. Also see Penny Jenkins, *Vexed by Vellums*, "The Paper Conservator" Volume 16, 1992, pp. 63–64.

ARTWORKS REFERENCED BUT NOT INCLUDED AS IMAGES

Nicolaus Beatrizet (French, 1515-1565), *The Massacre of the Innocents*, 1540s (?), Engraving on laid paper, Bartsch, no. 21. Copy A, State ii/ii (or of iii?), 31.1 x 41.3 cm, Aisla Mellon Bruce Fund, Purchased as the Gift of Robert B. Loper and Samuel H. Kress Foundation Funds, National Gallery of Art, Washington D.C. (2014.57.1)

Eugène Boudin (French, 1824-1898), *Landscape with Buildings, Boats, and Figures*, c. 1858, Graphite with watercolor and white gouache on wove paper, size: 24 x 40 cm, Collection of Mr. and Mrs. Paul Mellon, National Gallery of Art, Washington D.C. (1980.25.6)

Michael Heizer (American, born 1944), *Scrap Metal Drypoint #6*, published 1978, Drypoint in sepia on uncalendered Arches 88 paper, 89.2 x 212.4 cm, Gift of Gemini G.E.L and the Artist, National Gallery of Art, Washington D.C. (1981.5.179)

Winslow Homer (American, 1836-1910), *Children Sitting on a Fence*, 1874, Various graphites, heightened with opaque white watercolor, on medium weight, slightly textured gray wove paper, 19.3 x 23.9 cm, The Charles Deering Collection, The Art Institute of Chicago, (1927.3522)

Winslow Homer (American, 1836-1910), *Apple Picking*, 1878, Opaque watercolor over graphite on medium weight, slightly textured, gray-green wove paper, altered to brown, laid down on board, 17.8 x 21.3 cm, Daniel J. Terra Collection, Terra Foundation for American Art, (1992.7), on long-term loan to The Art Institute of Chicago, (152.2005)

Winslow Homer (American, 1836-1910), *Adriondacks Guide*, 1892, Transparent watercolor with touches of opaque watercolor, rewetting, blotting and scraping, over traces of graphite, on thick, moderately textured, ivory wove paper (top edge trimmed), 32.9 x 54.5 cm, Mr. and Mrs. Martin A Ryerson Collection, The Art Institute of Chicago, (1933.1234)

FURTHER READING

Holben, M. H., ed., 2015. Historical Perspectives in the Conservation of Works of Art on Paper. Readings in Conservation. Getty Publications.

Keynan, D. and A. Hughes. 2013. Testing the Waters: New Technical Applications for the Cleaning of Acrylic Paint Films and Paper Supports. Book and Paper Group Annual,

volume 32. http://www.cool.conservation-us.org/coolaic/sg/bpg/annual/v32/bp32-08.pdf

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For a discussion of lightfastness standards of artists' materials see: ASTM International, Subcommittee D01.57 on Artist Paints and Related Materials at http://www.astm.org/COMMIT/SUBCOMMIT/D0157.htm

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