



Museums for America

Sample Application MA-31-15-0250-15
Project Category: Collections Stewardship
Funding Level: \$5,000-\$25,000

Pennsylvania Academy of Fine Arts

Amount awarded by IMLS: \$24,660

Attached are the following components excerpted from the original application.

- Abstract
- Narrative
- Schedule of Completion

Please note that the instructions for preparing narratives for FY2016 applications differ from those that guided the preparation of FY2014 and FY2015 applications. Most obviously, the names of the three narrative sections and the order in which they appear have changed. Be sure to use the narrative instructions in the FY2016 Notice of Funding Opportunity for the grant program and project category to which you are applying.

Abstract

The Pennsylvania Academy of the Fine Arts (PAFA) requests a \$24,660 non-matching MFA grant to support conservation of the unique twelve-volume set of *Animal Locomotion: An Electro-Photographic Investigation of Consecutive Phases of Animal Movements* by Eadweard Muybridge. This collection of 781 plates represents approximately 20,000 individual photographic images, showing serial images of animals and people in motion. Muybridge's work was instrumental in refining the photographic process, expanding scientific understanding of human and animal motion, laying the basis for the invention of the motion picture, and introducing new science-based realism into the art of painters like Thomas Eakins and later inspiring modernist work such as Marcel Duchamp's revolutionary *Nude Descending a Staircase, No.2*. Due to the importance of these volumes, their rarity, and their current condition, this project has been identified as a high-priority conservation need. Furthermore, this project aligns with PAFA's commitment to stewardship within its Five-Year Strategic Plan, and the implementation of its Campus Master Plan.

Treatment will include extensive binding repairs, surface cleaning of leaves of text blocks, and mending of tears and losses. During the treatment process, the artifacts will receive documentation and analysis, with a thorough record of current condition for future reference, including photographic and written documentation. All conservation treatment will follow best practice recommendations in accordance with the Code of Ethics of the American Institute for Conservation of Historic and Artistic Works (CCAHA). These activities will take place between October 2015 and October 2016.

Completion of treatment on these volumes will allow PAFA to include selected volumes in its upcoming special exhibition *Thomas Eakins: Photographer* (2017), showing how Muybridge's early motion studies were instrumental in influencing Eakins as both a painter and a photographer. The volumes will also become a key holding in PAFA's new Center for the Study of the American Artist, which is scheduled to begin construction in 2015 and will be completed in 2016. The Center for the Study of the American Artist will house PAFA's Archives, art works on paper collection, rare books, and Fine Arts Library, and will promote the understanding and appreciation of American fine art from the colonial era to the present. Building on programs that began in 1805 with the founding of PAFA as the first museum and art school in the United States, the Center will offer improved access to outside scholars and an unparalleled art history resource for PAFA students.

Conservation work will be carried out by consultants from the Conservation Center for Art and Historic Artifacts, working closely with PAFA's Curator of Historic American Art, Anna O. Marley, Ph.D. and Paintings Conservator Mary McGinn.

At the conclusion of the conservation project, PAFA will digitize all twelve volumes, making the images available through their website, providing unprecedented access to these rare works for scholars and the general public.

1. Project Justification

What do you propose to do?

In order to move ahead with its highest priority Collections Stewardship project, the Pennsylvania Academy of the Fine Arts (PAFA) is requesting funding to conserve a unique twelve-volume set of *Animal Locomotion: An Electro-Photographic Investigation of Consecutive Phases of Animal Movements* by Eadweard Muybridge. PAFA's administrative and curatorial staff have identified this project as their highest priority in order to align their stewardship priorities with the implementation of PAFA's Master Plan (including the opening of a new Center for the Study of the American Artist in 2016), ongoing success in implementing the recommendations of a 2010 Preservation Needs Assessment, and the urgent need to preserve a key item in the collection, essential for understanding the development of artistic movements and scientific/technological progress in the twentieth century.

In 1887, the acclaimed pioneering photographer Eadweard Muybridge (1830-1904) published his masterwork of motion studies, *Animal Locomotion: An Electro-Photographic Investigation of Consecutive Phases of Animal Movements*. Five years later in 1892, he personally requested that the printer, J.B. Lippincott, send a copy of the complete twelve-volume set to PAFA. It was one of only 37 sets published, and the only one that is known to still exist intact and complete today.

While the multi-volume set was far from a publishing success, Muybridge's motion studies were widely disseminated through his traveling presentations throughout America and Europe, as well as through the sale of individual prints. The *Animal Locomotion* work, performed in Philadelphia at the University of Pennsylvania, directly followed upon Muybridge's famous collaboration with Leland Stanford. Working with the railroad tycoon and California governor in the 1870s and early 1880s, Muybridge's success in capturing a rapid-fire photographic sequence showing a horse in motion catapulted the photographer to international celebrity. His *Animal Locomotion* work further refined the photographic process, moving his achievement ever closer to the invention of the motion picture. Muybridge's artistic presentation of motion introduced a new science-based realism into the art of painters like Thomas Eakins in America and Jean-Louis-Ernest Meissonier in Europe, and eventually served as a primary inspiration for modernist work such as Marcel Duchamp's revolutionary *Nude Descending a Staircase, No. 2*.

The twelve volumes of *Animal Locomotion* contain 781 plates, each showing serial photographic images of animals and people in motion. Muybridge's definition of the word "animal" included human beings, with more than 500 of the plates depicting men and women in motion, performing tasks, engaging in athletic activities, and even interacting in very brief narrative-style arrangements. In addition to his studies of minimally clad or nude human models, Muybridge filled out his *Animal Locomotion* work with motion studies of horses, dogs, and other domesticated animals, as well as studies of lions, tigers, rhinoceroses, kangaroos, baboons, sloths, raccoons, camels, jaguars, elephants, buffalo, giraffe, elk, deer, and birds that he filmed on-site at the nearby Philadelphia Zoo.

A long-standing relationship between PAFA and Muybridge almost certainly lay behind his 1892 decision to direct J.P. Lippincott to donate a full set of *Animal Locomotion* to the art school and museum. Muybridge came to Philadelphia in 1883 at the invitation of an informal commission of influential Philadelphians that included PAFA President Edward Coates, Chairman of Instruction Fairman Rogers, and Director Thomas Eakins. During his first year in Philadelphia, Muybridge presented two lectures at PAFA entitled "The Romance and Reality of Animals in Motion." In addition, Thomas Eakins used Muybridge's motion studies in the classes he taught at PAFA, and the photographic works inspired Eakins to pursue his own motion studies. Finally, some of the models used by Muybridge for his *Animal Locomotion* studies were recruited through PAFA.

This collections stewardship project will cover the conservation treatment of the twelve-volume set to ensure its long-term preservation. Because of its widely recognized importance in the areas of art, science, and technology, as well as its close ties to PAFA itself, *Animal Locomotion* will be a key holding in PAFA's new Center

for the Study of the American Artist. After completion of this project, PAFA will move ahead with plans to exhibit plates from representative volumes in an upcoming special exhibit, digitize the entire set, and mount a complete set of digital images on the PAFA website. Muybridge's monumental collection of 781 plates, comprising approximately 20,000 individual photographic images, has never been fully digitized or made accessible via the internet (the University of Pennsylvania has digitized 702 plates from their eleven-volume set and posted more than 100 online).

What need, problem, or challenge will your project address? PAFA's unique complete twelve-volume set of *Animal Locomotion* is at-risk primarily because of the ongoing deterioration of the bindings. Numerous abraded areas on the bindings have become powdery from red rot. Handling of the volumes inevitably transfers the red-orange residue into the text block, leaving stains on the leaves and plates. In addition, the leaves exhibit tidelines, surface grime, dark staining from oils and salts, tears, and text block distortions. The leather on the covers is desiccated with multiple scratches and gouges, and the cloth hinges on several of the volumes are splitting near the spine edges. In order to ensure the long-term preservation and continued accessibility of these historically significant volumes, conservation treatment is required. Subsequent plans for digitization of the volumes will ultimately decrease demand for handling of the volumes, allowing them to be placed in long-term storage.

Timing for this request dovetails with two important initiatives currently underway at PAFA, offering an ideal window of opportunity to address a high priority collections stewardship need. PAFA's Board-approved Master Plan calls for the establishment of a new Center for the Study of the American Artist to be located in currently undeveloped space on the fifth floor of PAFA's Samuel M.V. Hamilton Building. The Center will include PAFA's Archives and its art works on paper collections, as well as areas for study within the controlled environment. Renovation required for the development of this space is slated to begin in 2015 and conclude in 2016. The opening of the Center for the Study of the American Artist will shortly precede the opening of the special exhibition "Thomas Eakins: Photographer" in fall 2017. This exhibition will examine the influence of Muybridge's motion studies upon Eakins, with special emphasis on Muybridge's Philadelphia-based work as captured in *Animal Locomotion*.

Who or what will benefit from your project? The publication of *Animal Locomotion* in 1887 was a landmark event in art history, science, and technology. PAFA owns the only intact twelve-volume set known to be accessible in a public collection. Conservation of the volumes will ensure its preservation for future generations of researchers and the general public. Digitization of the volumes following the completion of the stewardship project will make their content broadly accessible to new audiences. PAFA's new Center for the Study of the American Artist will be an appropriate home for this set of volumes because of Muybridge's central role at a transformative moment in late 19th century art, science, and technology. His pioneering motion study work was distinctly American and its influence was global, changing perceptions of time and space that directly led to advances in representational painting, new avenues for modernist painting as best exemplified by Marcel Duchamp's famous *Nude Descending a Staircase, No. 2*, and the development of motion pictures. Academic research into the unfolding impact of Muybridge's motion studies continues to expand with three popular books (*River of Shadows* by Rebecca Solnit, *The Inventor and the Tycoon* by Edward Ball, and *The Man Who Stopped Time* by Brian Clegg) published in the past decade, alongside dozens of peer-reviewed journal articles. PAFA's set of *Animal Locomotion* will remain a primary source for information for scholars researching Art History, Film History, American Studies, History of Science, and Gender Studies.

Animal Locomotion will be a centerpiece of PAFA's Center for the Study of the American Artist, with the completion of the conservation treatment coinciding with the grand opening of the Center in late 2016. The Center for the Study of the American Artist will house PAFA's Archives, art works on paper collection, rare books, and Fine Arts Library, and will promote the understanding and appreciation of American fine art from the colonial era to the present. Building on programs that began in 1805 with the founding of PAFA as the first museum and art school in the United States, the Center will offer improved access to outside scholars and an unparalleled art history resource for PAFA students.

What are the intended results of your project? All twelve volumes of *Animal Locomotion* will receive conservation treatment. At the conclusion of this project, the volumes will be returned to new state-of-the-art storage in PAFA's Center for the Study of the American Artist. At that point, PAFA will quickly move toward digitization of all twelve volumes in order to make the images broadly accessible via PAFA's website. While the digitization work ultimately falls outside of the scope of this collections stewardship project, the conservation treatment is a needed step in ensuring the long-term preservation and accessibility of this unique set of material.

How will your project advance your institution's strategic plan? Adopted on September 12, 2013, PAFA's Five-Year Strategic Plan identifies Stewardship as one of five fundamental institutional values, and establishes a set of broad and flexible key objectives that include the development and implementation of plans for conservation of key items in the collection. PAFA's Campus Master Plan, prepared in 2013 by the national architecture and engineering firm Westlake Reed Leskosky, calls for development of the Center for the Study of the American Artist on the fifth floor of PAFA's Samuel M.V. Hamilton Building, a currently undeveloped space in a building purchased by PAFA in 2000. The Center for the Study of the American Artist will provide 4,000 square feet of Works on Paper Collection storage space, providing a state-of-the-art environment to protect these important cultural assets and to streamline access to this material to students and researchers. Muybridge's *Animal Locomotion* is a key item in the collection, with importance as a monumental work of art and technology in itself but also as an important document of both Philadelphia and PAFA history.

PAFA received a Preservation Needs Assessment from the Conservation Center for Art and Historic Artifacts (CCAHA) in summer 2010. The Assessment concurred with PAFA's plans to move ahead with the creation of a Master Plan to improve the stewardship of the collections through improvements to the environmental and mechanical systems. These recommendations have now been realized in detailed plans to establish the new storage environments within the Center for the Study of the American Artist, which fully address the environmental concerns noted in the Assessment. At this point, PAFA collections care staff are ready to move on to the recommendations for conservation assessment and conservation as noted on page 23 of the Assessment: "Particular attention should be given to heavily used portions of the collections, collections on unstable media (such as nitrate film), newly accessioned materials and collections that are inaccessible due to condition issues." In the past, *Animal Locomotion* has been heavily used by students and researchers; currently, the infiltration of red rot onto the plates has raised concerns about the wisdom of continuing to allow access and handling.

2. Project Work Plan

What specific activities will you carry out?

The goal of the project is to conserve PAFA's twelve-volume set of Muybridge's *Animal Locomotion*, ensuring its long-term preservation and accessibility to researchers and the general public. The twelve volumes retain their original covers but have been rebacked with buckram bookcloth. The title pages are in letterpress with black and red printing inks, and the plates of each volume are collotype images created with black printing inks.

Barbara Lemmen, Senior Photograph Conservator at the Conservation Center for Art and Historic Artifacts (CCAHA), and Richard Homer, CCAHA Book Conservator, examined two representative volumes in the CCAHA laboratory and Richard Homer examined the other ten volumes during an on-site visit to PAFA. According to the CCAHA conservators, the bindings represent the major concern, as their many heavily-abraded areas have become powdery from red rot. Consequently, the red rotted leather has infiltrated the text blocks, creating deposits of red rot dust and staining. In addition, the leaves of the volumes exhibit surface grime, fingerprints, tears, and tidelines. The text blocks have become distorted due to horizontal convex bulges. A condition report that details the problems associated with the volumes is included as an attachment.

For treatment, the conservators recommend the following six-step process:

1. Consolidate desiccated leather with an acrylic polymer and wax emulsion with hydroxypropylcellulose in ethanol or isopropanol.

2. Consolidate the crushed corners of the cover boards with wheat starch paste.
3. Mend tears and losses and vulnerable areas of abrasion on the cover with acrylic-toned mulberry paper adhered with an appropriate adhesive.
4. Surface clean unprinted areas of the leaves recto and verso with a natural rubber sponge or a polyurethane cosmetic sponge to reduce gross soil, and/or with grated and solid vinyl eraser to reduce embedded grime.
5. As necessary, locally and lightly surface clean the printed borders and image using a cosmetic sponge.
6. Mend tears and creases in the leaves and hinges with mulberry paper, acrylic-toned if necessary, adhered with wheat starch paste.

All conservation treatment and rehousing work will follow best practice recommendations in accordance with the Code of Ethics of the American Institute for Conservation of Historic and Artistic Works.

The treated volumes will be stored in the CCAHA vault until completion of PAFA's Center for the Study of the American Artist. Renovation of the space is slated to begin in 2015 and is anticipated to take one year to complete. Rare books, including *Animal Locomotion*, will be stored in an approximately 4,000-square-foot storage space—a box within a box, with no exterior walls, allowing for moisture, temperature, and light regulation to protect PAFA's most vulnerable collections. PAFA's Fine Arts Library will be relocated to the new Center, providing a secure space for researchers to have access to the rare books and works on paper.

Environmental standards for the new space have been determined by Michael Henry, Principal Engineer/Architect with Watson & Henry Associates. Henry specializes in environmental management for collections, including work such as the rehabilitation of the archives and collection storage facility at Hagley Museum and Library (Wilmington, Delaware) and renovation of the subterranean archives at the Harriett Beecher Stowe Center (Hartford, Connecticut). The development of the Center for the Study of the American Artist has centered upon the creation of an environment for the collections that addresses appropriate climate control, building envelope, and storage furniture.

Who will plan, implement, and manage your project? Anna O. Marley, PAFA Curator of Historical American Art, will serve as Project Director. She will oversee transportation of the twelve volumes, the conservation treatment, and will review all documentation. Marley is a scholar of American art and material culture from the colonial era to 1945 and holds a B.A. in Art History from Vassar College, an M.A. in Museum Studies from the University of Southern California, and a Ph.D. from the University of Delaware. Prior to PAFA, she worked for both the National Gallery of Art and the National Park Service and held research fellowships at the Smithsonian American Art Museum, Winterthur Museum, the Maryland Historical Society, and Colonial Williamsburg. Mary T. McGinn, hired as PAFA's Paintings Conservator effective January 2015, will also be involved in oversight of the project. Ms. McGinn comes to PAFA from Winterthur Museum where she served as Paintings Conservator since 2006.

The Conservation Center for Art and Historic Artifacts (CCAHA) will be responsible for conservation treatment of the twelve volumes. CCAHA Book Conservator Richard Homer will be responsible for treatment of the binding, and CCAHA Senior Photograph Conservator Barbara Lemmen will be responsible for treatment of the leaves.

Richard Homer received his Certificate in Bookbinding from North Bennet Street School (Boston, MA). Before joining the staff at CCAHA in 2000, he worked as a Protective Enclosures Assistant at the Weidner Conservation Lab of Harvard University and as the Collection Maintenance Assistant at the New England Historic Genealogical Society (Boston, MA) where he performed conservation treatment on books, maps, and pamphlets and assisted with an inventory of the collection.

Barbara Lemmen received a M.S. in 1991 from the Winterthur Museum/University of Delaware Program in Art Conservation (WUDPAC) with a major in photograph conservation. She completed internships in the treatment and preservation of photographs at the National Archives of Canada, the Image Permanence Institute, and the José Orraca Studio. She worked as the consulting photograph conservator at the Library of Congress from 1992

until 1995. Prior to joining the staff of CCAHA in 2001, Ms. Lemmen maintained a private practice in New Hampshire from 1993-2001. She has provided conservation treatment and preservation consultation for photographic collections at the Philadelphia Museum of Art, the Free Library of Philadelphia, the Winterthur Museum, and the Wagner Free Institute of Science, among others. In addition to her work at CCAHA, she serves as Assistant Adjunct Faculty at the University of Delaware where she assists in supervising internships and teaching photograph conservation.

When and in what sequence will your activities occur? Upon receipt of the grant, PAFA staff will arrange for transportation of the material to CCAHA for conservation treatment. Following “before” documentation of the volumes through digital imaging, CCAHA conservators will implement the treatment in the approximate order described above, addressing the bindings first and then cleaning and mending the leaves. During this period, CCAHA conservators will consult with PAFA staff as needed to address any questions that arise. The project will be completed within a nine-month time frame. After treatment, the material will be stored in the CCAHA vault until the new storage area is completed at PAFA’s Center for the Study of the American Artist. Documentation of the treatments will include “before” and “after” images captured by CCAHA’s Digital Imaging Studio, according to standards for digitization of documents as outlined by the National Archives and Records Administration.

What financial, personnel, and other resources will you need to carry out the activities?

This collections stewardship project will be fully funded by the \$24,660 requested through this grant request. No additional funding will be required.

How will you track your progress toward achieving your intended results? CCAHA will provide monthly reports on the progress of the work. During the treatment process, the artifacts will receive documentation and analysis, with a thorough record of current condition for future reference, including photographic and written documentation. At PAFA, the Project Director will maintain contact with CCAHA to monitor progress on the treatments. The project will conclude with a final assessment and report in August 2016.

How and with whom will you share your project’s results? At PAFA’s Center for the Study of the American Artist, students and researchers will be able to study the original volumes. The newly conserved volumes will be promoted as a focus of the grand opening ceremonies for the Center when it opens in late 2016.

Representative plates from the volumes will be included in the special exhibition “Thomas Eakins: Photographer,” scheduled to open in fall 2017. Part of this exhibition will explore the influence of Muybridge’s motion studies upon Eakins’ own photographic work. Eakins was a member of the informal committee that invited Muybridge to Philadelphia and he appears to have used Muybridge’s work while teaching at PAFA in the 1880s. Eakins was intrigued by the potential of the motion studies to increase the realism of fine art work, as well as the developing artistic potential of the photographic medium itself. Adopting and adapting Muybridge’s innovations, Eakins became a motion study photographer himself. PAFA’s exhibitions regularly draw attendance upward of 40,000 individuals.

After the twelve volumes have been conserved, PAFA will move ahead with plans for a second phase in which the volumes will be digitized and mounted on the PAFA website. While two websites (<http://www.muybridge.org> and http://www.archives.upenn.edu/faids/upt/upt50/muybridge_e.html) currently exist that share representative examples of Muybridge’s *Animal Locomotion* motion studies, neither of these sites offers researchers and the general public access to the entire set of images. This planned digitization effort—entirely separate from this collections stewardship project—will ultimately bring the full set of these important images to a global audience.

3. Project Results

How will the care, condition, and/or management of the museum collections that define the focus of your project improve? The condition of the twelve-volume set of *Animal Locomotion* will be demonstrably improved, ensuring its long-term preservation and continued accessibility. The unique nature of this set increases the

importance of an investment in its conservation. No other complete and intact twelve-volume sets are known to exist.

What tangible products (e.g. reports, inventories, catalogues, treatment plans, publications, presentations, databases) will result from your project? Technically, this project will end with the completion of the conservation treatment and the return of the volumes to PAFA. After the grant period has ended, selected volumes from *Animal Locomotion* will be exhibited at the major special exhibition “Thomas Eakins: Photographer,” planned for fall 2017. In addition, following the grant period, PAFA plans to embark upon a follow-up project that will include the digitization of all the *Animal Locomotion* motion study plates and the mounting of these images on the PAFA website.

What are the performance indicators and proposed targets? How will you measure success in achieving your intended results? This project will result in the full conservation treatment of the twelve volumes of Muybridge’s *Animal Locomotion*. Before the end of the grant period, the fully treated volumes will be returned to PAFA, along with written and photographic documentation of all treatment work performed.

How will you sustain the project and/or its benefit(s)? After treatment, the twelve-volume set of *Animal Locomotion* will be returned to an environmentally appropriate, safe, and secure environment at PAFA’s new Center for the Study of the American Artist, with environmental monitoring conducted on a daily basis in the collections storage area. Plans will move swiftly ahead for two subsequent projects: the exhibition of selected volumes at the fall 2017 special exhibit “Thomas Eakins: Photographer” and the in-house digitization of the complete set of 781 plates, resulting in first-time accessibility for the entire work via the internet.

	Schedule of Completion (2015-16)	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016
TREATMENT OF ANIMAL LOCOMOTION													
	Transportation of 12 volumes to CCAHA												
	Conservation Treatment in CCAHA Laboratory												
	"Before" and "After" Documentation of Treatments												
	CCAHA Final Report submitted to PAFA												
	Volumes retained at CCAHA until new storage complete												
	Final report to IMLS prepared by PAFA												