In a series of prophetic articles Oliver Wendell Holmes wrote for *The Atlantic Monthly* in the 1860s, the eminent physician and photograph enthusiast described photography as the great miracle of his time. “We have got the fruit of creation now, and need not trouble ourselves with the core. Every conceivable object of Nature and Art will soon scale off its surface for us.” Holmes wrote of the “many millions of potential negatives” spawning “billions of pictures. . . . The consequence of this will soon be such an enormous collection of forms that they will have to be classified and arranged in vast libraries, as books are now.”

Holmes understood the medium’s profound and far-reaching impact. As he envisioned, cultural institutions would collectively come to amass millions of photographs—images that were created and collected, and in some instances, forgotten and neglected.

“Archivists and historians did not always recognize photographs as primary source materials,” Magery Long explains in the classic text, *Archives and Manuscripts: Administration of Photographic Collections.* “Some . . . designated photographs ‘miscellaneous ephemera’ or ‘memorabilia.’”

In the past 30 years, however, evolving attitudes and technologies have steadily transformed the way we perceive and care for an extraordinary visual legacy accumulated over the past century and a half. A shift first began to occur in the 1980s, as the 150th anniversary of the invention of photography was approaching. The history of the medium was emerging as an
academic field, and curators and collection managers increasingly began to recognize their photographic holdings as primary source materials. These changes also reverberated in the art market as values for photographs began a steady, striking rise.

With the growing appreciation and use of historical photographs came an increased awareness of the inherent fragility of these collections and the need to preserve them. “In the last decades of the 20th century the conservation of photographs has developed into a professional field of its own, and is now recognized as a conservation specialty,” note conservators Pau Maynés and Grant B. Romer.³ The profession has no shortage of work. The Heritage Health Index (HHI), published in December 2005, was the first comprehensive survey to assess the condition of photograph collections across the spectrum of cultural heritage institutions in the United States. The HHI survey revealed that, of the estimated 727 million photographic materials in the nation’s archives, libraries, museums, and historical societies, 42% (more than 305 million photographs) remain in unknown condition.

At the same time, a host of new tools, including digital imaging and online availability, have offered the possibility of providing access to millions of photographs. The proliferation of digital images, whether digital reproductions of analog photographs or born-digital images, has shed a new perspective on the inherent value and stability of conventional photographs. “Recommendations for the Preservation of Analogue Photo Archives,” created in 2009 under the auspices of the Kunsthistorisches Institut in Florence, was supported by an international group of collection managers and scholars. Also known as the “Florence Declaration,” the recommendations state that “it is essential for the future of studies in historic, human and social sciences to generate a greater understanding of the inescapable value of photographs and analogue archives.”⁴

Photographs collected since the invention of the medium and once considered little more than secondary reference materials were now deemed worthy of the same scholarly research and care as other special collections. It became evident that creating a system for the identification and the care of massive collections—hundreds of thousands, and sometimes millions, of images found in large, decentralized organizations—presented its own set of
unique challenges. In response, the Andrew W. Mellon Foundation provided support for the development of a methodology specifically for inventorying and assessing the condition of photograph collections across multiple repositories within large-scale institutions.

The first of these projects, undertaken in 2002 by the Weissman Preservation Center in the Harvard University Library, included a general condition survey of photographs housed in 50 repositories throughout Harvard. In 2005, the Library of Congress (LC) adopted the survey model developed at Harvard to assess its own collections totaling over 12 million images. The State Hermitage Museum in St. Petersburg, Russia, followed in 2008, using the model to survey more than 30 photograph collections located throughout the institution. These three case studies reveal how the versatility of the survey methodology proved successful in addressing common challenges as well as issues specific to each institution. As a result of the Mellon initiative, a new awareness of the content and condition of millions of photographs continues to unfold.

**Harvard University**

Photography assumed a vital role at Harvard from the invention of the medium in the mid-1800s. It was at this time that the University was emerging as a modern research institute, and its growing libraries, archives, museums, and hospitals began to amass large collections of specimens, artifacts, and photographs documenting an encyclopedic range of subjects. Today, over 50 repositories hold an estimated 8 million photographs—images that span the history of the medium from daguerreotypes to digital images and include the work of noted photographers of the 19th and 20th centuries.

Collections vary in size and scope from 500,000 glass-plate negatives in the Harvard College Observatory recording the history of the night sky to nearly one million images in the Harvard Theatre Collection documenting the history of the performing arts. Photographs include holdings that are found in the papers of professors and alumni associated with Harvard, document research undertaken by the
University, or have been created on the basis of the collecting interests of a particular repository. In general, photographs have remained in their original repositories and are often part of related archival materials such as books, papers, and artifacts that describe and illuminate their context.

The size of Harvard’s holdings, years of relative neglect, and the lack of a centralized, systematic methodology for cataloguing and preserving photographs posed significant preservation challenges. Further, programs to preserve and improve access to images proved difficult to implement because of significant budget, staff, and space constraints, and the fact that photograph preservation historically remained a relatively low priority.

A Directory to Photographs at Harvard

The first step of the Harvard survey required determining where photographs existed among Harvard’s vast network of libraries, archives, museums, and research institutes. Fortunately, the survey team had an existing resource to reference. In 1984, the Harvard Photo Curators Group, established under the auspices of the Harvard University Library, identified repositories holding photographs throughout the University and published descriptions of these collections in *Photographs at Harvard and Radcliffe: A Directory*. By broadly locating, for the first time, all Harvard’s photographic holdings, the Directory in essence helped to establish a concrete identity for the University’s collections and to underscore the importance of photographs to the scholarly enterprise. Students, scholars, and picture researchers inside and outside of Harvard used the publication extensively. In 2004, 20 years after its first printing, an updated version of the Directory was launched online (http://preserve.harvard.edu/photographs/directory.html). Researchers worldwide can now search the University’s collections by repository name, subject keyword, and photographer. Some repository descriptions also include links to digitized materials available online.
Preservation Survey

The Directory made the 2002 photograph survey an infinitely more manageable process by providing a basic foundation of information. Data from the Directory (including repository names, brief descriptions of their holdings, and contact information) was easily entered into a customized relational database developed for the project. The second stream of information consisted of responses from a detailed questionnaire, which collection managers completed online. The questionnaire included 56 questions organized under 9 general data categories: institutional mission, content, intellectual control, general preservation, environment, storage and access, housing, treatment, and education and training. While the questionnaire was designed to yield data that could be analyzed statistically, it also included responses in free text form to provide further qualitative data.

Site visits, which generally consisted of two-hour meetings with collection managers, provided another critical source of information. “One of the most satisfying aspects of the project was the opportunity that it created for curators to ask questions and voice concerns about their holdings,” explains Jan Merrill-Oldham, the former Malloy-Rabinowitz Preservation Librarian in the Weisman Preservation Center. These discussions enabled the survey team to explore further topics highlighted in the questionnaire. Managers raised issues ranging from treatment options for a single photograph to techniques for housing entire collections. Notes recorded during the site visits and digital photographs taken of conditions within the collections were entered into the database as well.

Data generated by the questionnaire and site visits offered a number of ways of looking at the state of photograph preservation across the University as a whole and locally within individual collections. Over half the curators surveyed stated that more than 75% of their photograph collections were unique. Over 90% of the repositories rated photographs as very
important to the overall mission of their repository and the preservation of photographs as a high or medium priority relative to other special collections.

Although the administrative structure, collection focus, and condition of Harvard’s holdings varied from repository to repository, the survey revealed similar problems across the University. Major preservation concerns voiced by curators and corroborated by the survey team included treatment and stabilization of high risk and intrinsically valuable items; improved housing for hundreds of thousands of images; enhanced access of collections through cataloguing; environmental monitoring and cool and cold storage in locations on and off site; and the development of education and outreach programs serving a broad population of collection managers. Curators in general reported that the common obstacles preventing them from achieving their full preservation goals were lack of funding, staffing, and space.

The survey thus defined the clear need for a photograph preservation program at Harvard and created a solid basis for establishing its core priorities. The Weissman Preservation Center, established in 1991 with a focus on rare book and paper conservation, was now poised to launch a photograph component. In 2004, with further support from the Mellon Foundation, a Photograph Preservation Program was fully integrated into the Center’s activities.

**Holistic Approach to Photograph Preservation**

One of the enduring outcomes of the survey was the fact that it produced over 2,500 pieces of information pertaining to the preservation of the photograph collections. In order to integrate this information into the continuum of program activities, the data was migrated into a custom-designed Access database system. The rich store of data was sorted into five major categories corresponding to core program activities: conservation treatment, housing, cataloguing, environmental control, and supplemental activities such as preservation education or disaster recovery. Staff can add
recent preservation issues that are discovered, including those for new repositories not part of the original 2002 survey.

Conservators currently use the database to prioritize preservation needs and to monitor their progress and completion. The database provides an effective means for tracking those projects in ways that can produce timelines or budgets for specific tasks. Information from the survey also makes it possible to implement and track projects that cut across multiple repositories and focus on specific photographic materials. The Weissman Center is now preserving format-based materials, such as panoramas, in a systematic way across the institution. The database makes it easy for staff members to find these widely dispersed materials and to effectively manage projects for their long-term preservation.

By integrating cataloguing with digital imaging and conservation treatment, the Photograph Preservation Program offers a systematic approach that enhances both the preservation and use of photographs. Cataloguing prevents loss of information and damage to photographs, helps curators and conservators make informed decisions about preservation, and provides greater accessibility. A recent project with the E. G. Stillman Collection is a good case in point. The collection is comprised of 45 photograph albums with nearly 3,000 mostly hand-colored albumen prints by noted photographers in Japan during the Meiji period. The workflow for the project included: cataloguing of each album and photograph, housing and treatment of images in the conservation lab, digital conversion at Harvard’s Imaging Services, and linking of digital records to VIA, an online catalogue for visual materials at Harvard. The catalogue records and digital images, which represent rare and fragile photographs from numerous repositories at Harvard, are now united into a single virtual collection available to scholars and researchers worldwide, while the original photographs have been transferred to an environmentally controlled offsite storage facility.

Another example of this kind of holistic approach is illustrated in a project to preserve, enhance access to, and publish the University’s early salted paper prints. With the help of the 2002 survey, salt prints were located in libraries, archives, and museums across the University. The collections represent a seminal chapter in the first negative-to-positive technique, introduced by William Henry Fox Talbot in 1839, and the process from which
most 19th- and 20th-century photographic formats were derived. Using new advances in material analyses, conservators are uncovering a wealth of data that helps to ensure the preservation of these rare materials and to inform our understanding of the medium’s development from an experimental method to an established technique.

The project, which encompasses the full scope of services offered by the Photograph Preservation Program, includes workshops on the history and identification of salt prints; condition surveys; guidelines for housing, storage, and exhibition; treatment of selected images; material analyses; cataloguing and digitization of selected collections; an exhibition; and website content. Each phase of the multi-year project provides an opportunity for a fruitful exchange among Harvard conservators, curators, collection managers, faculty, and students. Their combined perspectives will lend insights into pioneering uses of the medium across the sciences and humanities and open exciting avenues for the creative use of the collections in object-based learning.

"We need to understand photographs not only as historical evidence but as physical objects,” Merrill-Oldham argues. “In order to support . . . teaching and research over the long term, we must implement strategies that ensure a long life for these collections." The survey has had a long-lasting impact at Harvard by helping to crystallize collection management strategies for individual holdings as well as all collections broadly—and to shape a photograph preservation program that embraces the interrelated functions of preservation, cataloguing, and curation.

**Library of Congress**

The second institution-wide photograph survey funded by the Mellon Foundation took place in 2005 at the Conservation Division of the Library of Congress (LC). The Foundation awarded LC a grant to conduct a comprehensive survey of photographs held in the Library’s collections and to make recommendations addressing their preservation issues. The survey conducted at Harvard served as the model for this project.

LC’s holdings include over 14.5 million fine art and social documentary images from the beginning of photography to the present. The Prints and Photographs Division holds works
Photograph Survey Model


by Mathew Brady, F. Holland Day, Toni Frissell, Gertrude Kasebier, Alfred Stieglitz, and Clarence White. Large archives have been received from Look magazine, the studio of designers Charles and Ray Eames, the New York World-Telegram and Sun, US News and World Report, the Pictorial Archives of Early American Architecture, the National Child Labor Committee (including many images by Lewis Hine), the Farm Security Administration, and the Office of War Information. Outside of the Prints and Photographs Division, other holdings include the divisions of Manuscripts; Motion Picture, Broadcast, and Recorded Sound; Asian; African and Middle East; the American Folklife Center; and the Rare Book and Special Collections where researchers frequently find photographs in albums and scrapbooks. A large number of repositories contain photographs that are part of larger archival collections. Almost 90% of the repositories in the LC survey reported that over 75% of their collections are unique.

Defining Repositories at LC

LC lacked a unifying resource such as the Directory to Photographs at Harvard to identify repositories with photographs among their holdings. Further, what actually constituted a repository proved difficult to determine. The Prints and Photographs Division alone holds the vast majority of photographs at the Library and represents one of the largest photograph collections in the world. While most departments in the Library met the criteria for single repositories, the Division required further analysis in order to conceptualize its 12.5 million photographs into more manageable units.

A newly developed schema divided photographs in Prints and Photographs Division first by format (prints or negatives/transparencies), then by a local classification series of broad categories. These constructed categories have proved to work well in the repository structure and can be clearly identified by conservators and collection managers.
Identifying Areas of Need

LC has engaged in ongoing photograph preservation and conservation activities for over 16 years. The hiring of three permanent photograph conservators since 1999 has greatly benefited the collections. Recent efforts in building new storage facilities, including cold storage for nitrate, acetate, and color collections, have extended the lifespan of these materials. But the photograph survey revealed that generally outside of the Prints and Photographs Division there was a lack of preservation efforts for or even general knowledge of photographs, especially in repositories with small holdings.

Over half of the repositories surveyed reported that between 25% and 75% of their collections require rehousing of some kind. Housing represents a critical part of any preservation effort, as poor-quality housing can cause irreversible damage to sensitive image and binder materials in photographs. Surveys on the collection level to determine exact rehousing needs would produce a more precise estimate. Yet even a small percentage of 14.5 million constitutes a large number, and rehousing will continue to demand attention for the foreseeable future.

The need for treatment is equally staggering given the number of photographs and a staff of only three photograph conservators. The survey revealed that 93% percent of repositories require treatment for up to 25% of their photographs. As with the rehousing findings, further assessment at the collection level can produce a more exact figure, but a conservative estimate totals 300,000 treatments and would require many years to complete even if the present staffing level tripled.

Establishing Priorities

The survey confirmed that rehousing and treatment will remain ongoing concerns. Like Harvard, LC recognized the importance of balancing these priorities with prevention
through improved storage and environmental conditions. While the survey findings showed that most of LC’s repositories have good to excellent storage environments, areas for improvement remain. Numerous collections at LC contain mixed archival materials with photographs. Subject, rather than format, is the primary organizing principle for these collections, and as a consequence unstable materials are often stored with more stable paper documents. This system provides less than ideal environmental conditions for acetate and color photographs. Reorganization of these large collections by format would take many years, possibly decades, to accomplish. Moving all of these collections into cold storage is problematic due to their size, and not all items in mixed collections necessarily require cold storage.

From the survey data, it was determined that for these mixed collections strong consideration should be given to cool storage located at Fort Meade, Maryland. This storage space can accommodate the scale of collections, and the cool conditions, while not ideal, offer a significant improvement over those found in the Library’s Capitol Hill buildings. This long-term, incremental approach will slow deterioration and buy time to explore moving away from a mixed-format organization, especially for new acquisitions. “The survey offered a valid foundation from which to pursue specific preservation actions,” notes Nancy Lev-Alexander, LC’s Head of the Preventive Conservation Section. “For instance, the survey has highlighted curatorial areas and collections where photographs warrant further assessment to determine storage, housing, and treatment needs. As these photos are often intermingled among masses of paper documents, bound volumes and other formats, the survey has offered a shared tool to conservation experts and curatorial staff as they identify priorities.”

The opening of Fort Meade modules for special collections can help reduce space problems in general. Lack of space poses a preservation concern due to the increased risk of physical damage, and the survey revealed that space presents a significant or serious problem for 72% of the repositories. Projects are now under way to prepare materials for the move to Fort Meade, which can provide adequate space and an environment with close to the optimal climate controlled levels.

In LC’s case, the repository-level survey model helped both to identify the universe of LC’s
vast photographic holdings and to determine how they could be organized conceptually. By providing a snapshot of the current state of the collections coupled with hard statistics, the survey proved invaluable in enabling LC to see what it was doing well, to take immediate preventative steps to address underlying preservation issues, and to set long-term priorities.

**State Hermitage Museum**

In 2006 the George Eastman House received a grant from the Andrew W. Mellon Foundation (part of an initiative from the Advanced Residency Program on Photograph Conservation) to conduct a collection-level survey of photographs of the State Hermitage Museum in St. Petersburg, Russia. This project began with an in-depth census of the Hermitage, providing the Museum, for the first time, with a comprehensive list of repositories (including curatorial and conservation departments, archives, and libraries) holding photographs.

The Russian History and Culture Department Photograph Collection, one of the Museum’s largest collections, for example, has generated a great deal of interest for scholarship and exhibition use. The holdings consist of approximately 45,000 photographs including 37,000 prints, 5,000 glass negatives, 90 daguerreotypes, and an undetermined number of other formats. Nearly all of the photographs were made before the Russian Revolution in 1917. Images illustrate buildings, landscapes, events in Russian history, and people. The original collection belonged to the Russian nobility and Imperial family until the Revolution, but in the years that followed much of the material was burned or otherwise destroyed because of its association with Nicholas II and Alexandra. In the 1950s, the remaining collection became part of the Russian History and Culture Department at the Hermitage, and it survives today as a memorial to the Imperial Family.

**A Directory to Collections**

The first step in the survey process entailed identifying what repositories at the Hermitage held photographs, as no directory of these holdings existed. Due to the highly decentralized
nature of the collections, this work proved immensely challenging and took over a year to complete. A template termed “collection passport” was distributed to staff within the Museum. This document was designed to glean key data from the various photograph repositories at the Hermitage, including contact information, location, working title for the repository, and a rough count of photographs.

Working through this process at an upper administrative level at the Hermitage helped ensure interdepartmental cooperation, which was essential to the success of the project. The work resulted in the identification of 44 repositories holding a cumulative total of an estimated 472,000 photographs. Compiled in Russian and English, the information derived from this census provides a valuable resource for scholars within the State Hermitage Museum and for researchers worldwide. (The number of repositories will fluctuate as collections are added or become consolidated over time. Similarly, the total number of photographs will increase since many repositories were not able to not provide estimates of their holdings due to a lack of any meaningful inventory.)

The survey database software, which had been custom-designed for Harvard and LC, was also modified to suit the requirements of the Hermitage and to accommodate multi-language functionality. Collection managers answered a questionnaire derived from the Harvard and LC surveys that covered fundamental preservation issues. Over a period of roughly four weeks, the survey team conducted site visits to 41 of the 44 identified repositories. These visits provided essential qualitative information to complement the more statistically driven data generated by the questionnaire.

“The Mellon Photo Survey project at the Hermitage represented an important step forward in understanding if the model could be applied internationally,” notes Elena Bulat, photograph conservator at Harvard’s Weissman Preservation Center, who also played a pivotal role in the survey at the Hermitage. “We were faced with difficulties, for example, in
employing the same questionnaire at the Hermitage because many fundamental English terms such as ‘collection’ or ‘cataloguing’ have different meanings in Russian. We realized how essential the role of collection conservators is, as conservators have more exposure to international terminology, which they can explain to collection managers on site.”

Survey Results
Data from the questionnaire and site visits led to a number of conclusions. First, collection managers will benefit from substantial training in the handling, storage, and display of photographic materials. A specialist in the conservation of photographs at the Museum can provide treatment services, assist in re-housing collections, and advise on preservation matters that relate to the photograph collections. The Hermitage is also interested in establishing a conservation science position dedicated to materials-based research of its photograph collections.

While most photograph collections are stored in rooms with little climate control or environmental monitoring, extremely good conditions exist at the newly constructed off-site storage facility. In many cases, off-site storage of these collections is acceptable to collection managers if adequate digital images and cataloguing records are created for stored items—thus highlighting the need for a strong cataloguing component to a photograph preservation program.

The survey revealed that most photographs within the Hermitage are considered “supplemental” and, as such, have not been accessioned or catalogued. Nonetheless, in many departments inventories do exist, providing a basic record of the photographic holdings on which a thorough cataloguing initiative could be built. As with conservation, cataloguing photographs requires a specialized knowledge of prevailing standards.

The survey has fostered a growing appreciation across the Hermitage that a conceptual (though not physical) aggregation of the “hidden” photographs would not only raise the status of these collections within the museum but would form one of the great photograph collections within Russia and possibly the world. Therefore, there is also support for a program of exhibitions and publications.
As a result of the survey, the Hermitage understands the scope of its photograph holdings, can conduct in-depth preservation planning for individual collections according to greatest need and value, and can implement centralized collection management policies that address conservation priorities across the institution. The survey provided an objective means to assess the impact of photography on the institutional mission of the Hermitage and opened the door to further initiatives.

In the spring of 2010, the Andrew W. Mellon Foundation provided a major grant to the Hermitage to establish a department of photographs conservation that will be equipped with a new lab. “The final result can now be seen,” assert Dr. Vyacheslav Fedorov, Head of the Department of the History of Russian Culture, “and the survey has been a great instrument of the reorganization of one of the important parts of the Museum's collection.” The program will be modeled in many respects after the Weismann Preservation Center at Harvard, where the inter-related functions of photograph preservation, cataloguing, digitization, and curatorial work are centralized into a cohesive unit dedicated to serving widely dispersed collections across an institution.

**Conclusion**

The successful adaptation of the survey at Harvard, LC, and the Hermitage demonstrates its potential for other institutions with extensive photographic holdings. The survey questionnaire has served as an effective template that institutions can modify according to their needs. Survey data can be migrated to a project management database that allows users to identify new preservation priorities, manage and track projects, and guide future initiatives. The creation of an updated, multi-language software package has the capacity to accommodate additional languages, opening up access to the methodology worldwide. The survey and subsequent database systems were also designed with all special collections in mind. Conservators at the Weissman Preservation Center at Harvard, for example, can enter...
information on preservation needs for rare books or works on paper, allowing staff to prioritize and manage projects across these specialties as well.

Other institutions are also adapting the survey model for their institutions. A questionnaire was sent out to over 130 photographic repositories at the New York Public Library (NYPL) including branch libraries, research library divisions, and administrative departments. “Estimates for the total number of photographic materials within the system vary widely and if we don't know what we have or how much, it's very difficult to make effective, long-term preservation decisions,” notes Erin Murphy, Associate Conservator of Photographs at the NYPL. “Thanks to a grant from the Andrew W. Mellon Foundation, the Barbara Goldsmith Preservation Department at the NYPL has been conducting an institution-wide survey to ascertain the scope of our photographic holdings and how we can best care for the diverse preservation needs of the entire collection.”

At Yale, a Mellon-funded survey has helped to uncover over 3.8 million images in 82 repositories. The inter-disciplinary nature of the collections opens endless opportunities for research at the University, which has a longstanding tradition of integrating photography into its curriculum and of fostering the history of photography as an academic subject. “As the immensity, depth, and richness of the University’s photographic collections comes to be understood,” Amy Meyers, Director of the Yale Center for British Art argues, “a new and exciting chapter will open in Yale’s role as an intellectual forum for the study of the history of photography.”

A survey, in the traditional sense, provides an assessment of many objects or collections of objects. While its basic tenets are relatively simple, without the methodology and the statistics it yields, collection managers have no guide to understanding the extent of their holdings and no roadmap for planning future initiatives. With this data, cultural organizations can identify materials in ways that are profoundly meaningful and have far-reaching impact. As Dr. Fedorov explains in the case of the Hermitage, because of the survey, “photography came to be perceived as an equally significant part of the Museum's illustrious holdings.” The survey thus represents another tool helping to bring to light and elevate the very nature and significance of the medium and of our photographic heritage.
5 Ibid.
7 Nancy Lev-Alexander, e-mail, 2010.
8 Elena Bulat, interview, 2010.
12 Vyacheslav Fedorov, interview, 2010.