ARTstor is a nonprofit organization dedicated to furthering the educational and scholarly uses of visual materials through digital technologies. Our community-built collections comprise more than one million images from a variety of superlative contributors—museums, photo archives, libraries, artists, artists’ estates, scholars, and professional photographers. With an ever-expanding collection of collections, and with a continually evolving platform and software tools, ARTstor enables curators, scholars, educators, and students at more than 1,150 educational institutions worldwide to re-examine, re-think, and re-fashion these collections in the service of their own teaching and research and that of their colleagues.

**A Brief History of Photographic Collections**

From the early Renaissance to the modern age, the notion of “the collection” has been an important concept in the study of the history of art, because the collector’s selection of physical objects offers important clues to their personal taste, to institutional imperatives, and to the wider political, cultural, and social milieux. These are all critical issues directly pertinent to the investigation of both “the collection” and the objects within it. For those of us investigating these collections and objects, photography has been, and is, the medium that makes those collection-building strategies and choices transmittable and hence influential to the world at large.

By the early 20th century, photography emerged as a powerful new means for documenting art by providing unprecedented accuracy and fidelity to the original work, and by allowing barriers of space and time to be overcome. As photography historian Michel Frizot noted, “The very study of the history of painting is only possible thanks to photography.” Connoisseurs and art historians such as Bernard Berenson, Aby Warburg, Federico Zeri (and others), recognized and utilized this groundbreaking technology to aid in the processes of learning, studying, analyzing, comparing, and formulating knowledge about works of art. In this sense, photography initiated a new form of collecting, one that allowed scholars to “collect” as images what they could not “collect” as original objects. A new kind of curatorial choice was being exercised in defining the parameters of and the arguments for collecting images.

By the mid-20th century, the photo archive was joined by the slide library (and slide projector), which in turn quickly became the essential resource for the teaching and study of the visual arts in universities, museums, and art libraries. While the methodologies, theories, and problems of art history may have shifted over the last century, the art historian’s need to “see” the works of art never has. As Michael Baxandall noted, “We don’t explain pictures; we explain remarks about pictures.” More than in any other discipline, art historians must have access to reproductions of original works of art—paintings, sculpture, architecture, monuments, sites, and more—in order to do our work. Without huge repositories of excellent images, scholars are limited to the finite amount of travel—with the aid of memory—that individuals can undertake.

**ARTstor Digital Library**

The ARTstor Digital Library celebrated its fifth anniversary as a live nonprofit service in July 2009. ARTstor is, in essence, a digital version of the photo archive or the slide library.
both critical instruments of art historical research and teaching, enabling curators, scholars, librarians, educators, and students to make discoveries and to do their work. In ARTstor, it is already possible to examine more than one million images from collections in the arts, humanities, and social sciences.

Today, ARTstor serves more than 1,150 educational institutions worldwide in the United States, Canada, Europe, Asia, Latin America, Australia, and the Middle East. And yet in its exploration of the possibilities created by a noncommercial, sustainable digital resource of visual materials—one whose mission is to assemble and disseminate visual content from museums, photo archives, libraries, scholars, professional photographers, artists, artists’ estates, and other sources—ARTstor is still in the embryonic stage.

ARTstor is not an online publication or a virtual museum, and not precisely a “digital library” in the technical sense. Instead, ARTstor was conceived as a digital “workspace” which, through its unique combination of collections and tools, helps to facilitate education and scholarship. Most of these collections are ultimately virtual assemblages or “meta-collections” of actual physical collections—showcasing the original selections or curatorial choices of a museum, library, artist, scholar, photographer, or photo archive.

Through the means of photography, Walter Strauss was able to create the publication, another type of “collection,” *The Illustrated Bartk* by illustrating Adam von Bartsch’s unillustrated catalogue of more than 51,000 European prints. Photography also enabled Walter Gernsheim to document 189,000 master drawings thereby assembling over a lifetime the Gernsheim Photographic Corpus of Drawings. Both “collections” transcend the boundaries of individual drawing cabinets and of institutional walls, leaving behind invaluable coherent “collections.”

In the digital realm, “collections” take on a multitude of meanings in a variety of new modes of curation, presentation, sharing, and exchange. The digital medium allows users to access, discover, search, browse, and recombine these “meta-collections” in a myriad of ways. It also enables users to add their own knowledge, questions, and comments to these images, and to share this information with their colleagues, students, and others.

**COLLECTIONS**

With websites, online databases, and freely accessible image-sharing sites such as Flickr, Google Images, and Wikimedia Commons, we now have access to an infinite number of images and other visual materials. Yet, the work of the art historian demands access to not simply a large quantity of images, but to aggregated collections of images that are “edited,” curated, and carefully chosen, and for this reason, directly relevant to education and scholarship.

The digital medium has made it possible to reassemble physical collections that have been dispersed over time, such as The Samuel H. Kress Collection (distributed among 90 institutions), or to create new digital collections that have never been strictly—or at all—in the form of a traditional collection. Our complete documentation of 40 Buddhist cave grottoes in the Mellon International Dunhuang Archive represents a “collection” that brings together more than 50,000 images, QuickTime Virtual Reality Panoramas (QTVRs), 3D images of sculpture, and related manuscripts and sutras drawn from different repositories.

ARTstor is also currently digitizing and sharing thousands of images from several major photo archives that document the history of western art, including the A. C. Cooper and Sansoni Archives (Frick Art Reference Library), the Federico Zeri Photo Archive (Fondazione Federico Zeri, Università di Bologna), and the Clarence Ward and Foto Reali Archives (National Gallery of Art, Washington, DC). These historical photograph collections are extremely important to understanding the history of certain works, many of which may have been given different attributions over time, restored, damaged, or even destroyed. ARTstor groups duplicates and details of images into “clusters,” which provide users with less cluttered search results, while still preserving the value of consulting these historical photographs.

As the study of art history and related disciplines reaches increasingly beyond the traditional western canon, ARTstor is also assembling and sharing deep and broad collections of global, interdisciplinary interest, new types of visual “archives,” which have no antecedent in traditional photo archives or slide libraries. The Magnum Photos collection, which was launched earlier this year, includes 80,000 iconic images created by some of the world’s most renowned photographers. These images document major world events, famous media personalities, political figures, and global issues such as poverty and the environment. In addition, ARTstor is committed to strengthening its coverage of non-western and non-art subjects. Examples include: Native American ledger drawings in the Smithsonian Institution’s National Anthropological Archives, zoological and botanical drawings from the Natural History Museum (London), and 60,000 images of Indian art and architecture from the American Institute of Indian Studies.

ARTstor is actively building collections of modern and contemporary art and architecture through collaborations with museums such as the New Museum (New York) and the Museum of Modern Art (New York) to share the complete photographic documentation of past exhibition installations. We also work with the photographer Larry Qualls, who has photographed New York gallery exhibitions on a weekly basis for more than 30 years. Other important collections include images from Elizabeth Peyton, the Roy Lichtenstein Foundation, and the Mark Rothko Estate. In addition, ARTstor has been able to sponsor and share new digital photography of contemporary architecture in Barcelona, Madrid, Berlin, London, and major cities in the United States through ART on FILE.
Last, but not least, our efforts are also dedicated to preserving the legacy of unique and important photographic collections assembled by individual scholars. These include thousands of photographs of Islamic art and architecture from renowned Islamicists Jonathan Bloom, Sheila Blair, and Walter Denny, West African field photography by established Africanist Christopher Roy, and modern Latin American art from the widely respected Latin American art scholar Jacqueline Barnitz. The importance of enabling the documentation, preservation, and prolonged access to these scholarly collections is unquestionable.

Software Tools and Features

Scholars also need excellent software tools to perform meaningful work with these digital images. For example, scholars very often need to save images for repeated consultation, organize groups of images for lectures or seminars, make annotations, enable comparisons and detailed analysis (zooming) among images, and share images and notes with students and colleagues. Such tools are critical, and they mimic the processes that scholars have long employed with “analog” materials—photographs, slides, prints, postcards, books, etc.

With sophisticated and intuitive software tools for searching, browsing, viewing, annotating, and grouping images from across dozens of valuable collections, ARTstor users are the “new curators” of today, fashioning their own “collections” in the Digital Library. Users may cross-search a broad range of sources, such as the Berlin State Museums, The Metropolitan Museum of Art, the Bodleian Library Illuminated Manuscripts, Erich Lessing Archives of European art, and photographs from the George Eastman House. They may then work with these images by saving them into image groups, annotating them, zooming into the high resolution images to examine details, and downloading them (as low resolution JPEG, 72 dpi, 1024 pixel images). In the aggregated online environment, with advanced search and browse options, users are able to discover illuminating intersections and complex relationships among images when they are placed in the context of other collections.

Drawing upon data from such user-curated image groups or “collections,” ARTstor is also able to present researchers with the option of discovery through “associated images.” Through mathematical analysis, ARTstor can determine which images have been “saved” in association with other specific images in groups that have been created by instructors. One can assume that images saved repeatedly in such “associated groups” are related in ways that are useful to teachers and scholars. With this data, ARTstor is able to display to all users the images that have been associated, “collected,” or “curated” by faculty, curators, and others. This feature enables users to see which other images have been most commonly “grouped” alongside 2,000 of the most frequently selected images in ARTstor’s database. At times, these juxtapositions can be surprising, original, and intellectually stimulating.

With an ever-expanding collection of collections, and a continually evolving platform and software tools, ARTstor enables contributors to document, preserve, and share collections, while also allowing users to re-examine, re-think, and re-fashion these collections in the service of their own teaching and research. At the heart of our endeavor is the aim to create a digital workspace for scholarly activities centered around visual materials—a flexible, extensible, digital environment where discovery, learning, and ideas may thrive.

The Future

ARTstor continues to work with and rely upon the generosity of the larger community of individuals and institutions to build encyclopedic collections. As with museum collections, which have been built over decades through the efforts of directors, curators, patrons, donors, artists, and others, we seek to collaborate with a wide range of contributors to increase the size and quality of our collections in order to provide a rich context for study and learning. Universal collections will, as Philippe de Montebello has said of The Metropolitan Museum of Art, better enable people to see these works “not in isolation but in comparison with other times, other cultures, and other media.”

We are increasingly serving as the repository, infrastructure, and network for disseminating institutional and scholar image collections. However, making these visual resources available online poses unique challenges on several fronts—including technical infrastructure, metadata schema, controlled vocabularies, cataloging standards, digitization specifications, digital preservation policies, and intellectual property laws. The effort to provide seamless, integrated online access to large aggregations of visual resources in digital form is only in its very early stage of development.

We recognize that we need to provide access to more valuable material while accommodating the reality that ARTstor will never have everything that every scholar might need. We also need to improve access so that all users with different perspectives, whether they be scholars of art history, world history, visual culture, film and new media, feminist theory, cultural anthropology (and so on), may discover what they need to be collection builders. We need to foster new kinds of serendipity.

Working with our community of libraries, museums, and universities, we hope that ARTstor might be able to find sustainable digital solutions that facilitate and encourage the exchange of scholarship and knowledge about art and related disciplines. The choices that we make as we migrate traditional visual resources to digital formats, and find ways to make them both discoverable and usable in the online environment, will shape the future of our field, just as traditional photographic resources have so radically defined art historical scholarship for more than a century.
Christine Kuan is the Director of Collection Development for ARTstor. From 2003-2007, Kuan served as the Senior Editor of Grove Art Online and the Grove Dictionaries of Art at Oxford University Press. Prior to joining Oxford University Press, Kuan worked at The Metropolitan Museum of Art. She received her MFA from the Iowa Writers’ Workshop and her BA in Art History and English Literature from Rutgers University. She has also studied art history at the University of Bristol and with the founder of the International Dada Archive.

END NOTES

1. As far back as the ancient Greeks, with the public display of paintings in a _pinakotheca_, to the Middle Ages where church sacristies included extensive collections of paintings, reliquaries, icons, and devotional objects, there were “collections” of objects grouped by importance, function, form, style, or medium. However, collecting in the modern sense did not truly begin until the early Renaissance. By the 16th century, international dealing and collecting of art was widespread, so much so that the Grand Duke Ferdinando I de’ Medici banned the export of 18 Italian master painters in the effort to keep the most prized works in Florence. See Jaynie Anderson, “Italy: Collecting and dealing,” Grove Art Online, Oxford Art Online.

