INTERPRETIVE STRATEGIES TO ENHANCE THE VISITOR EXPERIENCE OF VISIBLE STORAGE

by

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INTRODUCTION

What resonates most for me about the original J. Paul Getty Museum in Malibu, California was its isolated room of black and red pottery. With every visit, I was eager to see what the inside of the museum had in store. This feeling was especially heightened after passing through the Getty's breathtaking Roman garden. Inevitably, upon entering, I would turn right, in search of other equally spectacular experiences, and come to a room that was somewhat remote and completely filled with black and red pottery--and nothing else.

I do not believe that I ever entered that room during my early visits to the Getty. I would peek in, quickly scan pot after beautiful pot, and think to myself, "That's a lot of pottery." I would then turn to my companions who agreed that this room was not of interest. We would dismiss the room entirely and head off in another direction to explore the rest of the museum.

Surprisingly, my feelings toward that room changed considerably when I was attending Mt. San Jacinto Junior College in San Jacinto, California. I took a course in art history that covered black-figure and red-figure Greek Archaic vase painting. In my class, we learned how red clay
was fired and black slip applied or black clay was fired and red slip applied.

During an art history class field trip to the Getty, I had the opportunity to revisit the black and red pottery room with my professor. This room suddenly came alive for me. Upon entering, my professor explained that these were examples of the Greek Archaic vases we had just studied in class. Armed with my newfound knowledge, I could have spent hours in that room. As it was, I kept my professor in there for over twenty minutes as I compared pot after pot and enlisted her help in determining whether pots were black on red or red on black. It was truly a wondrous experience.

I do not know whether the Getty considered the black and red pottery room to be visible storage, but that is essentially what it was: a type of long-term museum display storage where general audiences are given visual access to a large grouping of many related artifacts or specimens from the permanent collection. General audiences may be defined as walk-in visitors that are not part of a tour, not using an audio guide, and are not part of a special group.1 Visible storage usually takes

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1 Beverly Serrell uses the term "visitors" to describe what I am referring to as general audiences. She refers to them as, "casual, free-ranging adults (alone, in social groups with other adults, or with children), not school groups or people in tour groups or with audio-headsets." See Beverly Serrell, Exhibit Labels: An Interpretive Approach (Walnut Creek: Alta Mira Press, 1996), xiv.
one of two main forms: either a window into stored collections, or a

**study gallery**--a type of "bulk" exhibit where large groupings of many related objects are displayed in a gallery together. The first documented example of visible storage is the University of British Columbia's Museum of Anthropology (MOA) which opened its study gallery version of visible storage in 1976. Visible storage in the form of a study gallery usually appears to be very crowded--or at least dense in the single type of object being displayed. This type of display storage often contains very little interpretation, but generally provides factual identification information about the displayed objects. Visible storage that takes the form of a **window into stored collections** may not even contain factual information, but may, instead, rely on context--the public being able to view through a window collections housed on shelves or staff working with collections--to provide interpretation.

Visible storage is usually distinguishable from **study storage**, a facilitated "behind the scenes" form of display storage where objects can be examined closely, and sometimes handled, under supervision. While study storage is typically accessed as part of a tour or by special appointment, if it makes collections visually available to general audiences without an appointment or tour, it is also a form of visible storage.

Another type of display storage is open storage. Commonly found at
museums that showcase automobiles, stagecoaches, or large machinery, collections in **open storage** are displayed in the open—not behind glass. Again, if open storage makes groupings of related objects from the permanent collections visually available to general audiences, it is also a form of visible storage. Visible storage at the Getty took the form of a study gallery, focusing on a collection of black and red pottery. This pottery was displayed behind glass with accompanying **identification labels** that served to provide basic factual information about the object, such as type of object, date, and maker.²

It actually matters very little whether or not the gallery of black and red pottery at the Getty was designed as a visible storage facility. The more pressing question is, why did my opinion of this grouping of ancient artifacts change so drastically? Actually, I had changed. On my previous visits, I was a novice with no prior knowledge of Greek Archaic vase painting. According to exhibit expert and museum studies educator David Dean, "[w]hen confronted with an object with little interpretation…that is…presented in a scholarly, technical manner, most visitors tend to avoid it and move on."³ Deans defines **interpretation** as "the act or process of explaining or clarifying, translating, or presenting a personal

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³ Ibid., 28.
understanding about a subject or object." I had no prior knowledge or personal understanding of black and red pottery on my earlier visits to the Getty. Nor were there any interpretive components, such as signage or imagery, to provide context and draw me into the room. Labels on the artifacts only provided factual information that I, as a novice, did not understand. In fact, there was nothing provided to allow me to begin the process of creating a personal understanding with the pottery on display. Being a novice to this subject, I felt alienated by what I did not know and consequently avoided this room.

When I returned to the Getty on that field trip with my professor, I was a different person. No longer was I a general audience member or novice. Instead, I was a student—a researcher armed with prior knowledge and an expert at my side. As such, I was exactly the type of person for whom this particular version of visible storage was designed. I did not need further interpretation to gain personal understanding; I was already familiar with the topic on display. If I required more information than that supplied by identification labels, I could simply ask my professor.

My conflicting reactions to visible storage at the Getty are not unique. George E. Hein, a leading authority on museum education, eloquently describes the need for visitors to connect with exhibits:

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4 Ibid., 6, 163.
Our visitors need 'hooks' -- connections -- in exhibits to help them understand the messages intended. An experienced museum-goer or a person knowledgeable on a given subject can be enlightened easily. But what does it mean for a naïve visitor to be confronted with a whole case containing many objects? 

I find myself asking this same question when it comes to general audiences viewing visible storage. What interpretive strategies, or means for providing meaning and personal connections to displayed objects, are used by museums in visible storage for the benefit of general audiences? After all, the fact that general audiences have visual access to the collections is what makes visible storage different from regular museum storage -- where collections are closed to all public access -- and, in most cases, from study storage -- which is usually only available by special appointment or tour.

This question takes on greater significance when one considers Excellence and Equity, a 1992 publication by the American Association of Museums that mandates that museums "expand their roles as educational institutions." The report calls for a plan of action and enlists ten principles. The very first principle is to

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assert that museums place education--in the broadest sense of the word--at the center of their public service role...[and assure] that the commitment to serve the public is clearly stated in every museum's mission and central to every museum's activities.\footnote{Ibid., 7.}

In the study that follows, I have set out to identify interpretive strategies that can be found in visible storage in U.S. museums. One of my goals is to determine what effect, if any, this educational mandate has had on visible storage. I will establish how visible storage is perceived currently by the museum field and suggest standards in terminology so that communication about this important topic can occur. Through five case studies, I will identify interpretive strategies--such as labels that provide context, or adjacent programming that lends further insight into displayed objects--currently in use by U.S. museums to provide general audiences the means to make connections with, or meaning of, individual objects on display in visible storage. I will determine how widespread the use of these interpretive strategies is, based on these case studies, and report on my findings.

The authors of \textit{Excellence and Equity} observe that again and again in individual museums, education has been affirmed as an essential part of the institution's mission. The tension between the concerns of collecting, preservation, and research and the responsibility of public access is giving way to partnerships among curators,
educators, and designers that combine their interests and strengthen the linkage between scholarship and interpretation.  

Visible storage in the form of a study gallery, an example of a long-term exhibit of permanent collections, is a model of just this type of partnership. Therefore, the information presented in this study is relevant to all museums in the U.S. that have implemented or are considering implementing visible storage and, especially, to curatorial, education, and exhibition staff who work on interpretation within these institutions.

**Methodology**

At the outset of this study, I first asked myself a number of questions: how do U.S. museum professionals describe visible storage; which U.S. museums are currently using visible storage; how closely do U.S. museums that have visible storage follow the visible storage model set by the University of British Columbia's Museum of Anthropology (the first museum to identify and implement the concept of visible storage); and what interpretive strategies do U.S. museums with visible storage use to serve general audiences? To address these questions, I set the following objectives: determine how U.S. museum professionals perceive display storage terminology; identify which U.S. museums currently have visible

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8 Ibid., 11.
storage, or have future plans to implement it; study the model for visible storage, created by the University of British Columbia's Museum of Anthropology, and compare it to selected museums in the U.S. with visible storage; investigate interpretive strategies used for providing meaning to general audiences that are currently employed by selected U.S. museums with visible storage; and develop a product based on my findings.

A comprehensive literature search provided background on the history of visible storage. Through available published and unpublished literature on the subject, I learned how visible storage originated and where it has been implemented. This knowledge lent insight into how visible storage has been used by museums, as well as the strengths and weaknesses of this form of display storage. Particularly valuable sources to begin my background research were previous master's projects and theses written on various aspects of visible storage, including those by Dwyer Brown, Melissa L. Lopez, and Evangeline M. Tai. Articles by Michael M. Ames gave insight into the Museum of Anthropology's

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original intent in implementing visible storage.10 Cathy Blackbourn's article, "Visible Storage," in Museum Quarterly introduced problems in visitor understanding of this type of display storage.11 "Museum Collections--Access, Use, and Control," by Roland W. Force advocated the importance of making collections accessible to the public.12 Paul C. Thistle went into detail about the pros and cons of this form of display storage in his article, "Visible Storage for a Small Museum."13 Finally, Dorothy K. Washburn's article, "Curatorial or 'Native' Categories: Their Use in Visible Storage," presented a case study of the Strong Museum in Rochester, New York that argues for interpretation through the arrangement of objects on display.14

My literature review also delved into the topic of interpretation and education in museums--my goal being to find examples of interpretive strategies that utilize learning theories appropriate for general audiences. I consulted literature written by several learning theorists and museum professionals involved with interpretation. Richard Cassels' article,

"Learning Styles," discussed the four types of learners identified in Bernice McCarthy's 4MAT learning theory, including: Type 1--the imaginative learner who seeks personal meaning; Type 2--the analytical learner who seeks intellectual comprehension; Type 3--the common sense problem solver who seeks solution to problems; and Type 4--the dynamic learner who seeks hidden possibilities. Because general audiences are made up of all types of learners, this theory directly applies to general audiences in visible storage. Likewise, Howard Gardner's theory of "multiple intelligences" applies to general audiences with its seven types of intelligences that coexist in all learners, including: musical intelligence, bodily-kinesthetic intelligence, logical-mathematical intelligence, linguistic intelligence, spatial intelligence, interpersonal intelligence, and intrapersonal intelligence. Publications by John H. Falk and Lynn D. Dierking, as well as Lisa C. Roberts, focused on the visitor experience in museums, advocating ways to better serve our public educationally.

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George E. Hein advocated the constructivist theory of learning, and how it applies to visitors constructing their own meanings to objects on display in museums. Marlene Chambers introduced "Discovery Learning" and Lois H. Silverman used the term "meaning-making" to describe constructivist theory on simpler terms. Beverly Serrell discussed interpretive approaches in exhibit labeling, while Richard Efthim described interpretive strategies in practice at the Smithsonian Institution-Naturalist Center, part of the National Museum of Natural History.

My literature review also included articles posted on the web by major national newspapers, such as The New York Times, that allowed me to further research the recent application of visible storage in U.S. museums. Additional web research consisted of examining web sites of museums with visible storage. For example, at the University of British Books, 1998); Lisa C. Roberts, From Knowledge to Narrative: Educators and the Changing Museum (Washington: Smithsonian Institution Press, 1997).


Columbia's Museum of Anthropology web site, I took the virtual tour of their visible storage facility.\textsuperscript{21} This and the Logan Museum of Anthropology web site allowed me to gain further insight into the look and feel of two different types of visible storage.\textsuperscript{22}

Other web-based sources I consulted were professional list serves. At the beginning of my research, I posted inquiries to educator and registrar list serves in order to uncover who is currently using visible storage and to confirm that my master's project topic is one that holds interest within the museum field.\textsuperscript{23} These resources also provided valuable contacts for subsequent interviews and surveys.

Terminology associated with visible storage is oftentimes confusing. For example, "visible storage," "study storage," and "open storage" have been used interchangeably to describe the same thing, or have been given completely different meanings. While I have generated my own meanings for these terms based on my project findings for the purposes of this project, I felt it was important to gain insight into how museum professionals in the United States currently understand visible storage.

\textsuperscript{23} Museum-Ed. museum-ed@freedom2.mtn.org (November 2001); Registrars Committee of the AAM. RCAAM@SIVM.SI.EDU (November 2001).
storage and the terms commonly associated with it. I therefore sent surveys to 216 randomly selected art, children's, general, history, natural history, and anthropology/ethnology museums throughout the United States (see appendix 1 for cover letter and survey instrument). I specifically chose to send surveys to these categories of museums because preliminary research identified museums within these categories as having visible storage. The number of museums was calculated by randomly selecting four museums per page from the "Index to Institutions by Category" in the American Association of Museum's 2001 *Official Museum Directory*. Because I was interested in interpretive strategies, as well as perceived meanings of terms, I targeted educators at the chosen institutions. However, if an educator was not listed, I sent the survey to curators, directors, or collections staff—in that order—based on who was listed in the directory.

In addition to asking museum professionals to explain what display storage terms mean to them, I asked if they have visible storage, or if they have plans to implement visible storage in the future. For those museums with visible storage, I requested a description of the facility, complete with interpretive or educational strategies, and the audiences they target.

Although they will not be included in my random survey results, surveys were also sent to eighteen U.S. museums that I tentatively
identified as having visible storage through previous literature and interview research. These survey forms were color coded so that they would not accidentally be counted as part of the random survey results. Information from these surveys aided my research by revealing a range of interpretive strategies of museums with known visible storage.

An additional component of my research consisted of site visits to five museums in the U.S. with visible storage. In March 2002, I visited the Metropolitan Museum of Art, the New-York Historical Society, the Strong Museum, the Corning Museum of Glass, and the Denver Art Museum. Three of the four New York museums were frequently mentioned in my background literature review and all five museums were referred to at various times in many of the interviews I conducted.

Visiting these museums as a general audience member, I gained insight into what the novice visitor's experience of visible storage might be. Additionally, these visits allowed me to make firsthand comparisons of various visible storage facilities used throughout the United States.

Interviews--in-person, by telephone, and via e-mail--with people who have studied visible storage, worked with visible storage, or worked with interpretive strategies for general audiences enhanced my literature review and survey data by providing diverse, in-depth perspectives on these various topics (see appendix 2 for complete list of interviews).
Utilizing a standardized interview questionnaire, I conducted additional interviews with professionals at four of the five museums from my site visits (see appendix 3 for site visit interview instrument). This study allowed me to gain insight into the background, evolution, and current trends of visible storage in specific U.S. museums.

**Limitations**

Despite my attempt to make this study as comprehensive as possible, it is not without limitations. One major constraint is the geographic scope I adopted. I have chosen to focus my study on museums in the United States, even though the current concept of visible storage originated in Canada and visible storage facilities may be found in various countries throughout the world. My rationale for this decision was based on my preliminary research, project time constraints, and expense considerations. In my preliminary research, I found examples of interpretive strategies that exist in museum exhibit settings within the United States. Because interpretive or educational strategies are already prevalent within the United States, applying them to visible storage in U.S. museums is not out of the question.

Unfortunately, I did not have sufficient time to learn what interpretive and educational strategies are used in other countries or to
study visible storage in all settings throughout the world. This is not to say that my findings and recommendations will not apply to museums with visible storage in other countries. However, without factoring in the learning theories utilized by other countries and studying their facilities, my findings and recommendations will have limited bearing on foreign cases.

Focusing on museums within the United States was also convenient. I had access to the 2001 Official Museum Directory, published by the American Association of Museums, which lists contact information for all museums within the United States. This resource saved a great amount of time and energy by providing information needed to conduct my random survey—a task that would be much more difficult had I chosen to expand my study to include institutions outside the United States. However, it should be noted that I conducted a random survey and did not survey every museum listed in the directory.

Time and financial constraints allowed me to make only five site visits, all within the United States: four in New York and one in Colorado. My schedule was such that I had to visit the two museums in New York City—the Metropolitan Museum of Art and the New-York Historical Society—in a single day, and the two museums in upstate New York—the Corning Museum of Glass and the Strong Museum—in a single
day. Similarly, I had only a single afternoon to visit to the Denver Art
Museum. This fast-paced examination limited personal site visit
interviews to only one, with Jon-Paul Dyson at the Strong Museum--
additional follow-up interviews at the other institutions had to be
conducted by telephone--and precluded conducting visitor studies or
advanced assessment at these institutions. The absence of assessment is
unfortunate because, although I was able to identify interpretive strategies
at these various institutions, I was unable to measure their value or
effectiveness.

Another limitation is that I could not travel to Canada to visit the
University of British Columbia's Museum of Anthropology (MOA) where
the concept of visible storage originated. Instead, my impressions of
MOA rely strongly on my literature review and the virtual tour offered on
their web site.24 Two other sites that I was unable to visit are the
Smithsonian Institution-Naturalist Center in Virginia and the Logan
Museum of Anthropology at Beloit College in Wisconsin. This is
unfortunate as both of these institutions offer very unique versions of
visible storage--the Smithsonian Institution-Naturalist Center with its
facilitated study storage version of visible storage, and the Logan with a
"glass box" window into the collections type of visible storage--that would

24 The Museum of Anthropology, "Exhibits."
have benefited this study by expanding the scope of my case studies beyond the study gallery version of visible storage.

**Product Description**

Throughout my research, it became evident that clarity in display storage terminology, as well as dialog on the topic of visible storage, is needed by U.S. museums. Visible storage is perceived differently by many museum professionals. Professionals want to know more about the topic and are interested in learning what others have done. Therefore, for my master's project product, I have created a resource on the topic of visible storage in the form of a website entitled *Visible Storage Today*.25

The site includes a page called "What is visible storage?" where the terms, "visible storage," "study storage," and "open storage" are defined. Besides definitions, this page also contains findings excerpted directly from my master's project which will aid museum professionals in understanding difficulties associated with understanding display storage terminology and demonstrate the need for clarity in defining these terms. Findings are based on literature review and the survey results from my project, and include illustrations and descriptions of how display storage

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terminology is perceived by museum professionals throughout the United States.

Because one of the main purposes of my study is to identify interpretive strategies in visible storage, a page called "Interpretive Strategies for Enhancing the Visitor Experience" is included on the website. On this page, six interpretive strategies, identified as currently existing in visible storage, will be identified. These strategies are excerpted directly from findings at my case study institutions. Additional interpretive strategies from visible storage facilities identified in my Background section are also mentioned. Museum professionals are encouraged to consider these interpretive strategies as well as others.

In addition to the definitions and interpretive strategies pages, this site also includes resource pages. In my research, I identified twenty U.S. museums with visible storage and twenty U.S. museums with study storage. The page entitled "U.S. Museums with Visible Storage" defines the term "visible storage" once more and then lists each U.S. museum identified as having visible storage, its contact information, and a brief description of visible storage at that particular institution. Because study storage is often thought of as visible storage by many museum professionals, I included a resource page of institutions with study storage,
as well. This page is entitled "U.S. Museums with Study Storage" and follows the same format as the page on museums with visible storage.

My product takes the form of a website because this venue is accessible to all museum professionals interested in the topic of visible storage--be they registrars, curators, educators, exhibit staff, or directors. The goal is for the website to serve as a resource for museum professionals by listing museums that currently have visible storage in order to promote dialog by providing contact information. For example, a registrar might be interested in archival cabinetry in visible storage, while an exhibit designer might be more concerned with brands of lighting and label styles, and an educator with interpretation. Whatever the interest, this site will serve as a resource for varied professionals to find and contact each other regarding the topic of visible storage.

In order for the website to be useful to museum professionals, they must first know it exists. To disseminate the website, meta-tags have been incorporated into the html code. These tags include terms such as, "museum," "collections," "storage," "visible storage," "study storage," "open storage," "display," and "exhibit," and will allow web browsers to find the site easily should these terms be part of a web-based search. For additional web browser accessibility, this site is registered with major web
search engines including: Google, Yahoo, and Excite. To make U.S. museum professionals immediately aware of the site, the URL was sent to all survey respondents who requested survey results. Additionally, postings of the website URL have been submitted to professional list serves including the Registrars Committee of the AAM and Museum-Ed.

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27 Museum-Ed; Registrars Committee of the AAM.
Visible storage, for the purposes of this paper, is a type of museum display storage where general audiences have visual access to groupings of many related objects or specimens from a museum's permanent collections. There are two main forms of visible storage. The first is a window into stored collections, where the public is able to view through a window collections housed on shelves or staff working with collections. The second is a study gallery—a type of "bulk" exhibit where large groupings of related objects are displayed together en masse. The primary focus of this study will be based on my case study institutions which represent the study gallery version of visible storage; however, all versions of visible storage will be mentioned.

For the most part, visible storage has lacked interpretation. While introductory text panels and the very order in which objects are arranged provide some interpretation in the form of classification, it is not enough for general audiences to make meaningful connections with displayed objects. Most labels and accompanying catalogs or computer kiosks used in visible storage have served only to identify objects.

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28 Washburn, "'Native' Categories," 65.
Although these resources successfully provide factual information to scholars, researchers, and collectors, they provide very little educational insight or interpretation for general audiences to understand the contexts and meanings associated with the objects on display.\textsuperscript{30} In order for general audiences to make such meaningful connections, museums must provide more than identification--they must provide interpretation, or some form of context that serves to provide personal meaning of displayed objects to visitors.

But before we can examine the current state of interpretive strategies for visible storage, we should first understand the origins of visible storage and the history of interpretation in the museum field. In the subsections that follow, the circumstances leading up to and surrounding visible storage will be examined through consideration of the following topics: collections and public access; interpreting collections; the model for visible storage, set by the University of British Columbia's Museum of Anthropology (MOA); the rise of visible storage in U.S. museums; interpretation and visitor meaning-making; and visible storage and the visitor experience.

Collections and Public Access

Long before there were collections on public view in museums, there were private collections. Guarded chambers housed the treasures of Chinese emperors and Trojan kings, and Greek and Roman temples were filled with valued objects. As early as the fourth century B.C., the Great Library at Alexandria contained 400,000 manuscripts, a collection considered at the time to embody all of the knowledge in the world.\(^{31}\)

With the discovery of the New World in 1492, the popularity of collecting grew and the *cabinet of curiosities* was born.\(^{32}\) These private collections of the world's natural and manufactured oddities, housed in people's homes, were meant to evoke a sense of wonder in the collection's owner and his honored guests.\(^{33}\) An owner of such collections "increased his authority by possessing [it, while] all who personally observed it enhanced their status among those who trafficked in natural curiosities."\(^{34}\) Author Lawrence Weschler characterizes the sense of wonder associated with these curiosity cabinets this way:

Michel de Certeau has written, "An absence of meaning opens a rift in time." And that experience--of the ground


\(^{33}\) Asma, *Stuffed Animals*, 72.

opening before one's feet--was at the heart of the sensation of wonder ideally afforded by (or at any rate striven toward in) many of the cabinets of the time. That was the spirit, the taste of the age.\textsuperscript{35}

With a growing interest in natural wonders, collecting became common among scholars and medical men whose collections "were often presented and experienced as wonders."\textsuperscript{36} In their book, \textit{Wonders and the Order of Nature}, Lorraine Daston and Katharine Park describe one such 1580s collection belonging to apothecary Francesco Calzolari of Verona:

What specific aspects of Calzolari's collection evoked wonder in its visitors?...the number and variety of its contents topped the list, together with its elaborate organization and special furnishings. Important too were the beauty, rarity, and exoticism of many of its objects....Some objects were remarkable for their unusual form and behavior...Others were more mysterious, like the fossils, with their uncanny imitation of animals and plants.\textsuperscript{37}

Such collections were used for research--from studying variations in animal and human anatomy, to examining healing properties of natural substances, as well as for building networks of clients and patrons. According to Daston and Park, "In a sense, the aim of the naturalist's collection of marvels...was to transfer the emotion of wonder from the


\textsuperscript{37} Ibid., 154-155.
objects themselves to their erudite and discriminating owner."\(^{38}\)

In the seventeenth century, collections were made more widely available for educational purposes. French and English rulers recognized that they would benefit in both assets and glory by opening their collections to the Royal Academy for research.\(^{39}\) In October 1666, the Royal Society of London encouraged the donations of private collections to a future museum. Their intent was to bring objects from separate

\(^{38}\) Ibid., 158.

\(^{39}\) Levin, "Democratic Order," 54.
curiosity cabinets together to "reveal deep truths" through comparative and analytical study.\(^{40}\)

By the end of the eighteenth century, it was generally accepted that a stable social order could be gained through the study of science and technology. This created the need for public education and resulted in the acceptance of museums as public institutions—a movement that spread throughout Europe and America.\(^{41}\) In 1784, Charles Willson Peale set out to create a museum in Philadelphia that would facilitate this stable social order. He wanted his museum to be:

an instrument for order and tranquility, inspiring citizens through "charming models for every social duty, in order to render man…more content in the station where he is placed."\(^{42}\)

**Interpreting Collections**

With the creation of public museums, the need for enhanced interpretation was introduced. Charles Willson Peale understood this need. He knew that to capture the attention of general audiences, one required more than row upon row of meticulously arranged items. Despite their resemblance to *cabinets of curiosity*, Peale was determined to present collections to the general public in such a way that they would "afford a

\(^{40}\) Asma, *Stuffed Animals*, 72-73.

\(^{41}\) Levin, "Democratic Order," 55.

\(^{42}\) Ibid., 56.
source of entertainment in the mind.”

He wanted to create a museum that was entertaining—but he also wanted it to be scholarly. As one solution, Peale used the Linnaean system of classification to arrange animal specimens. Behind the specimens, Peale placed painted backdrops, suggesting the animals’ natural habitat, and created context by providing some of the earliest interpretive dioramas.

By the 1900s, American museums were well established as places of public enlightenment and centers for education, and science museums led the way in introducing labels to describe specimens. George Brown Goode, an early staff member of the Smithsonian Institution, once said, "[a]n efficient educational museum may be described as a collection of instructive labels, each illustrated by a well-selected specimen.”

Despite this trend toward labels in science museums, labels in art museums were resisted. Benjamin Ives Gilman, secretary of the Museum of Fine Arts in Boston, felt that art museums were temples and the art spoke to museum visitors directly, making labels at best unnecessary. He did, however, feel that interpretation was fundamental for visitors to see

[43] Ibid.
[46] Edward P. Alexander, Museums in Motion: An Introduction the History and Functions of Museums (Walnut Creek: Alta Mira Press, 1996), 12.
the beauty of collections. In 1907, Gilman coined the term "docent" to describe the staff member added to the Boston museum for the purpose of providing a personal form of interpretation. Similar guides were soon incorporated into the American Museum of Natural History and the Metropolitan Museum of Art, and are common throughout most museums today.47

In the wake of the Industrial Revolution, new museums were created that introduced hands-on and interactive exhibits. These museums did not merely display machinery and various other objects with moving parts, but used buttons and levers to actually show how these objects worked. This was a new form of interpretive exhibit that made industrial labor a personal experience for those otherwise unfamiliar with it. The Chicago Museum of Science and Industry took interpretive exhibits a step further when it created an immersive exhibit in the form of a simulated coal mine, the realism of which was so great that guides were required to carry smelling salts in order to revive overcome visitors.48

Today, interpretive exhibits, displaying a limited number of objects that focus on a single topic, are common among most museums. For example, the Oakland Museum of California is currently planning an exhibit on Dorothea Lange that will include accompanying interpretive
labels and a video kiosk that provides further insight into the life and work of Dorothea Lange. At any one time, this exhibit will only display twenty-six of the over 6,000 Lange vintage gelatin silver prints contained within its collection. This small number of prints was determined by the limited amount of space in the gallery and by the fragility of the prints themselves.49

In spite of museums displaying fewer objects in interpretive exhibits, collecting has not stopped and museum collections continue to grow. This has led most museums to relegate their multitude of non-displayed items to storage, taking them out of public view. Although interpretive exhibits are popular, denying the public visual access to collections is not without risk. According to Anne d'Harnoncourt, Director of the Philadelphia Museum of Art, "there's an endless fascination with things in storage as opposed to things on view. People somehow believe that the museums are hiding wonderful paintings and

49 For more information on the Lange holdings at the Oakland Museum of California, visit the Online Archive of California, "Oakland Museum of California Finding Aids," Online Archive of California, http://www.oac.cdlib.org/dynaweb/ead/omca/ (25 May 2002); In partial fulfillment of a Master of Art's degree in Museum Studies at John F. Kennedy University, I interned with Curator of Photography Drew Johnson and Interpretive Specialist Karen Nelson at the Oakland Museum of California and assisted with the development of the exhibit on Dorothea Lange.
objects.” In an anonymous article in the January 2001 edition of *The Economist*, the author tells us that:

museums that show the public only a small fraction of their material risk losing the fickle goodwill of governments and the public, which they need to keep running. Hence the determination of so many museums to make their back-room collections more widely available.51

The University of British Columbia's Museum of Anthropology (MOA) Introduces the Concept of Visible Storage

In May of 1976, the University of British Columbia's Museum of Anthropology (MOA) brought its back-room collections out into the gallery. Founded in 1947 and located in a small portion of the university's library basement, MOA had limited gallery space for many years. Like most museums, as its collections grew, more and more items were relegated to storage. In 1971, MOA received a government grant and was given the opportunity to design and build a new museum that would make its collections more accessible to students and researchers. At that time, the decision to make the vast majority of its collections available to general audiences was made, and the concept of *visible storage* was

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Fig. 2. Panoramic view of visible storage at the University of British Columbia's Museum of Anthropology. Photo from the Museum of Anthropology website at http://www.moa.ubc.ca/menu.html.

MOA's system of visible storage puts all collections on public view, with the exception of archaeological and textile collections too delicate for permanent display. This is quite different from the "standard" museum exhibit to which visitors have grown accustomed. Instead of displaying a small, representative selection of collections, this study gallery form of visible storage makes available entire collections displayed in cases that are packed full of row upon row of artifacts. Objects, sorted by cultural group, may be seen on displayed shelving arranged behind glass, in drawers that the public can maneuver, and in walk-in cases that the public can enter.

In describing the concept of displaying all MOA collections, Director Michael Ames explained that

for the first time the public as well as students are able to examine all the ethnographic collections—including the seconds, duplicates, and 'backroom junk' all museums abound in but usually hide.\

Fig. 3. Visitors at the Museum of Anthropology examine ethnographic materials displayed in drawers. Photo from the Museum of Anthropology website at http://www.moa.ubc.ca/menu.html.

A significant obstacle to overcome in making these collections accessible was labeling. How would audiences know what they were seeing? MOA Curator Marjorie Halpin describes this difficulty:

Writing, printing, and installing separate labels for 12,000 objects was clearly out of the question, but sharing our catalog data was not….Our original decision to share the entire collection was, in effect, an important first step toward "demystifying" the museum enterprise. We would have no "hidden treasures" in the back room, no sanctified "study collections" available only to qualified scholars. Why not take the second step and share with the public the data means of which we identify and document the objects in the collection?\

MOA set out to share its data with visitors. Printouts of catalog data for stored artifacts were assembled into binders (data books) and placed inside the visible storage gallery on top of drawer units.\textsuperscript{57} Eventually, online computer terminals were also added.\textsuperscript{58} Artifacts are labeled with accession numbers so that visitors can reference objects when utilizing the supplied resources to retrieve information identifying that object, including maker, title, and cultural group.\textsuperscript{59}

Ames compared the artifacts stored in visible storage to books contained in library stacks--and his analogy makes perfect sense.\textsuperscript{60} Like Dewey Decimal or Library of Congress numbers on books, objects are marked with accession numbers, for which there is an index and reference material supplied. The major difference between visible storage at MOA and libraries is that, at MOA, visible storage consists of objects that cannot be touched while libraries contain books that can be handled and checked out. An additional difference is that in libraries, one conventionally resorts to the reference material first in search of books related to a topic of interest. In MOA's model for visible storage, the object itself is

\textsuperscript{57} Ames, "Public Documentation," 71.
\textsuperscript{58} Lord and Lord, Museum Exhibition, 87.
\textsuperscript{60} Ames, "Public Documentation," 69; Ames, "A New System," 60.
expected to lead one to further inquiry, prompting the visitor to look up additional information in the supplied reference catalogs or databases.

Having a study collection that is equivalent in some senses to a library is a logical choice for a university museum. Ames' vision of MOA was "a teaching museum," one which "may strike a balance different from one suitable for 'treasure house' museums." He held up MOA's visible storage system as a "major innovation," as it "especially facilitates the teaching and research functions of the institution." In making nearly every artifact available through visible storage, MOA invites audiences "to participate… as students of the world's cultures."

A challenge with MOA's visible storage is that general audiences do not necessarily understand that they are expected to assume the role or disposition of "students" when they enter the visible storage gallery.

According to Paul C. Thistle, Curator of the Sam Waller Little Northern Museum in Canada:

Visitors need to be made aware that this is not the familiar type of thematic exhibit, and, particularly in light of the absence of interpretive labeling, they must be provided with some form of structured orientation and programming.

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64 Thistle, "Small Museum," 60.
Ames admitted that a serious design flaw in the visible storage facility at MOA is that "it looks too nice; too much like an exhibit to seem like storage."\(^{65}\) Cathy Blackbourn, former Registration Assistant at the Royal Ontario Museum, points out the consequences of visitors' mistaken impressions of visible storage facilities:

> [M]any people (including some museum colleagues) think they are in the midst of an exhibit area....A real problem arises when visitors do not recognize visible storage as a different kind of display technique and therefore judge it according to the standards of other, more familiar exhibits. Any collection placed on view in a public area of the museum becomes an exhibit. The difference between visible storage and other types of exhibits must therefore be clarified for visitors.\(^{66}\)

MOA's model for visible storage does not work for all audiences because its basic concept of visible storage assumes that visitors' needs correspond to those of staff and researchers.\(^{67}\) Moreover, many visitors are "overwhelmed by the sheer numbers of objects on display, fail to understand how the collections are organized, and are frustrated by the lack of interpretive labels."\(^{68}\) According to one evaluative study of MOA's visible storage facility, data books were used by only twenty-five percent

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\(^{65}\) Ames, " Public Documentation," 76.  
\(^{67}\) Thistle, " Small Museum," 57.  
\(^{68}\) Ibid., 51.
of visitors, and then only to look up one or two objects. Thistle sums up the challenges of visible storage for general audiences this way:

Visitors, lacking the specialized knowledge that provides context and meaning and would enable them to make sense of collections, can simply become confused and/or intimidated. In short, visible storage may not be appropriate for the general public. But visible storage solves a very important problem. Roland W. Force, Director of the Bernice P. Bishop Museum, explains that:

[a] primary aspect of a functional philosophy about collections is that they serve a positive purpose only when used. If the objects in them are to yield information, contribute to knowledge, or provide stimuli for aesthetic responses, they must be made available for study or viewing.

MOA's model for visible storage takes collections out of closed storage and brings them out into the gallery. This makes the objects contained in those collections visually available to everyone so that the collections can "yield information, contribute to knowledge, or provide stimuli for aesthetic responses.” Perhaps this is why MOA's concept of visible storage has spread from Canada to the United States and can be found in many U.S. museums today.

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69 Ibid., 52.
70 Ibid., 52-53.
The Rise of Visible Storage in U.S. Museums

Not long after the concept of visible storage was developed at MOA, it was taken up by U.S. museums. When the Strong Museum in Rochester, New York, opened its doors as a scholarly history museum in 1982, its entire second floor was devoted to visible storage. According to Scott Eberle, the Strong Museum's Vice President of Collections and Interpretation, MOA was looked to as a model in creating visible storage at the Strong. In a similar fashion, the Strong labeled items with accession numbers and provided catalog cards for further reference.72

Fig. 4. Original display cases at the Strong Museum's second floor visible storage facility. Photo by author.

In a study conducted in the early 1980's, these catalog cards were evaluated for their utility. Visitors at the Strong were questioned as to whether or not they had used the catalog cards. Twenty-six percent had,

72 Scott Eberle, telephone interview with author, notes, 14 February 2002.
with more than half admitting that they just looked at them out of curiosity. Most visitors who had used the cards to look up specific information found what they were searching for—but not always. One woman who asked a friend to read the information on a card was disappointed with the identification information provided and responded by saying, "That's all it says? You can see all that except the date." 73

Through support from the Luce Foundation over the last fifteen years the concept of visible storage has spread even further. In 1988, following MOA's model, the Metropolitan Museum of Art (the Met) in New York dedicated the mezzanine of its American Wing to display 18,312 objects in the Henry R. Luce Center for the Study of American Art. This enormous center of visible storage puts on view roughly eighty percent of the Met's American art and decorative art objects. 74 A public access computer system provides information on displayed objects but, according to Carrie Rebora, Manager of the Luce Center and Curator of American Paintings and Sculpture at the Met:

many museum visitors have found [the computer system] difficult to use….Although many scholars and art history students make use of the computers for their research, most visitors are casual museum-goers who are confused by the multitude of query options. 75

74 Bohlen, "Troves," E.1.
To alleviate user difficulty, the Met introduced an improved computer access system approximately three years ago.76

In November 2001, the Henry Luce III Center for the Study of American Culture opened, filling the entire fourth floor of the New-York Historical Society.77 Earlier that year, the Luce Foundation announced a grant to the Smithsonian American Art Museum in Washington D.C. to convert a Patent Building to a visible storage facility that is scheduled to open in 2004. And in April of 2001, the Luce Foundation publicized another grant to the Brooklyn Museum of Art for a reinstallation and an adjacent visible storage center scheduled to open this year.78

For Henry Luce III, chairman of the Luce Foundation, the motivation driving the funding of all of these projects is for people to be exposed to more art, especially considering that less than ten percent of museum collections are on display at any one time:

Every time an exhibition is mounted and curated, it generally has a small number of objects, beautifully arranged but only 50, or maybe 100 objects in all, and that is it….But when we have a study center, which compresses the art object into a smaller area, then hundreds and hundreds, thousands can be seen at once, which means they can be shared, used, studied and enjoyed.79

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76 Carrie Rebora Barratt, interview with author, notes, 24 April 2002.
78 Bohlen, "Troves," E.1.
79 Ibid.
Arnold L. Lehman, Director of the Brooklyn Museum agrees:

This speaks to making a public institution more public….What is in storage has always been one of those multiple secrets that museums keep. This will give people an idea of what storage looks like and what is in there.  

Despite the fact that the current concept of visible storage was not conceived by MOA until 1976, visible storage did, in fact, exist in the United States long before the concept was born. Housed on the second floor of the Pember Library, the Pember Museum of Natural History

Fig. 5. Victorian style cabinetry houses large quantities of specimens at the Pember Museum of Natural History. Photo from the Pember Museum of Natural History website at http://www.pembermuseum.com/.

80 Ibid.
opened its doors in Granville, New York, in 1909. ReMiniscent of Charles Willson Peale's museum in Philadelphia, the entire Pember Museum takes on a form similar to a cabinet of curiosities. Nearly eighty percent of the 10,000 objects in the Pember Museum's collections are on display in their original Victorian style cabinetry, much as they were when the Pember opened in 1909. In fact, the Pember Museum's mission statement requires that the display techniques used to showcase these large serial systematic collections remain unchanged.

Interpreting items in this static gallery has proven to be a challenge at the Pember. Former Director James Bryant says that visitors were "overwhelmed and astonished by what they saw and would leave because they didn't know what to do with it." Use of labels was kept to a minimum as too many labels could be "visibly intrusive" and making them fit with the "bulk" exhibit format would be difficult. As Figure 10 demonstrates, a single illustrated label is used to provide context for an entire cabinet of bird nests or eggs. By depicting the type of bird that made the nests or laid the eggs, these labels serve to provide relationships

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82 Pember Museum, "Pember."
84 Ibid.
85 Ibid.
Fig. 6. A single illustrated label provides context for an entire cabinet of bird nests (A) or eggs (B). Photos from the Pember Museum of Natural History's website at http://www.pembermuseum.com/.

to which general audiences can relate. An additional interpretive strategy that Bryant has found successful for providing context at the Pember is the use of sound. When examining row upon row of "dead" bird specimens, sounds of birds chirping can be heard in the background, allowing visitors to imagine the birds as they would have been when still alive.86 These interpretive strategies take great strides in enhancing the visitor experience.

Unlike many museums with visible storage, the Logan Museum of Anthropology at Beloit College in Beloit, Wisconsin is noteworthy for breaking away from MOA's model. Like MOA, the Logan Museum

86 Ibid.
considers itself to be a teaching museum and, as such, made the decision to incorporate visible storage. However, the Logan Museum's design approach to visible storage is entirely different from MOA's. Instead of creating a space that may easily be mistaken for a gallery, the Logan

![Image](image_url)

Fig. 7. The Logan Museum of Anthropology's two story "glass box" window into the collections version of visible storage. Photo by Chris Kelley, courtesy of the Logan Museum of Anthropology.

museum placed a two story, free standing "glass box" in the center of its building.\(^87\) Called the A.H. Whiteford Curatorial Center, this two-story glass-enclosed facility acts as the curatorial nerve center for the museum. Visitors can view storage of the ceramics and basket collections on the north and south walls, or look through to see museum studies students preparing exhibits and cataloging artifacts. According to the Logan

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Fig. 8. Visitors can view staff and students working inside the "glass box" at the Logan Museum of Anthropology. Photo by Chuck Savage, courtesy of the Logan Museum of Anthropology.

Museum's website, "[v]isitors are free to walk around the perimeter of the facility, viewing the extensive collections and the curatorial staff at work." 88

What especially distinguishes the Logan Museum's approach to visible storage from MOA's is the inclusion of interpretation in the form of curatorial context. Visitors see museum staff at work inside the "glass box." This provides context for visitors to understand and put into perspective what they are viewing. Instead of being confused or overwhelmed or thinking they are in the middle of an exhibit, visitors can

88 Logan Museum, "Exhibitions."
see for themselves that they are in the presence of a study collection in operation.

Another U.S. example of visible storage that breaks away from MOA’s model is the Smithsonian Institution-Naturalist Center in Virginia, part of the National Museum of Natural History. The Smithsonian Institution-Naturalist Center may be accurately classified as **study storage**: a facilitated form of storage where objects can be examined closely, and sometimes handled, under supervision. Two further examples of U.S. museums incorporating study storage are the Winterthur Museum in Winterthur, Delaware, and the Bernice Pauahi Bishop Museum in Honolulu, Hawaii. Both the Winterthur and Bishop museums restrict public access of their study collections to visitors taking private tours.  

In contrast, the Smithsonian Institution-Naturalist Center is open to all visitors over the age of twelve on a walk-in basis. Because the Smithsonian Institution-Naturalist Center makes its permanent study collections visually available to **general audiences**–casual visitors who are not part of tour groups–it may be considered visible storage as well as study storage.

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89 Amy P. Dowe, e-mail correspondence with author, 5 November 2001; Malia Baron, e-mail correspondence with author, 5 November 2001.
90 Efthim, "Public Access."
Fig. 9. The Smithsonian Institution-Naturalist Center in Virginia. Photo from the Smithsonian Institution-Naturalist Center's website at http://www.mnh.si.edu/museum/VirtualTour/Tour/Ground/NatCenter/.

Fig. 10. Young boy examining specimens at the Smithsonian Institution-Naturalist Center. Photo from Smithsonian Institution-Naturalist Center's website at http://www.mnh.si.edu/museum/VirtualTour/Tour/Ground/NatCenter/.
Opening in 1976 as a reference center for visitors, the Smithsonian Institution-Naturalist Center does not in any way follow MOA's model for visible storage.\(^91\) In this facilitated study collection, approximately 36,000 specimens are available, along with thousands of books and scientific equipment that includes balances, microscopes, and tools for measuring.

![Specimens at the Smithsonian Institution-Naturalist Center](http://www.mnh.si.edu/museum/VirtualTour/Tour/Ground/NatCenter/).

Fig. 11. Specimens at the Smithsonian Institution-Naturalist Center are displayed in drawers and available for handling. Photo from the Smithsonian Institution-Naturalist Center's website at http://www.mnh.si.edu/museum/VirtualTour/Tour/Ground/NatCenter/.

Most specimens are out in the open and can be handled, rather than being stored behind glass and protected from the visitor's touch. Interpretive labels, such as the center's "Museum Mysteries," promote inquiry by asking visitors to compare specimens in order to see details that might otherwise go unnoticed (see appendix 4 for three examples of "Museum Mysteries").

\(^{91}\) Ibid.
Mysteries” labels). For example, one label asks visitors to compare a fossil turtle shell to modern turtles displayed elsewhere in the Center in order to find out which end of the shell would have housed the turtle's head. These interpretive labels differ greatly from the factual data supplied by MOA's model for catalogs and databases. Instead of just providing facts, the labels at the Smithsonian Institution-Naturalist Center promote inquiry by allowing visitors to make their own connections and interpretations. In fact, interpretation that provides meaning and understanding that enhances the visitor experience of general audiences is a key ingredient shared by the Pember Museum of Natural History, the Logan Museum of Anthropology, and the Smithsonian Institution-Naturalist Center--one which MOA's model for visible storage notably lacks.

**Interpretation and Visitor Meaning-making**

At the same time that visible storage was being developed and refined by curators and collections managers among U.S. museums, museum educators were debating how to make the museum experience meaningful for visitors. In 1992, the American Association of Museums (AAM) published *Excellence and Equity*, a report that promotes the

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implementation and expansion of the educational role of museums and stresses the use of interpretation.\textsuperscript{93} In this report, interpretation of objects and visitor meaning-making are specifically addressed:

Concepts of the "meaning" of objects and the way museums communicate about them are changing. Objects are no longer viewed solely as things in themselves, but as things with complex contexts and associated value-laden significance. Each visitor supplies yet another context and another layer of meaning by bringing individual experiences and values to the encounter with objects in a museum setting. Changing interpretive approaches will have a strong impact on museum collections and the public's understanding of them.\textsuperscript{94}

In tandem with the growing emphasis on educating the public in museums, the term \textit{meaning-making} was coined to describe how the public connects with displayed objects and the stories that are told through exhibits. University of Indiana professor Lois H. Silverman applies the meaning-making paradigm to history by describing it as an interpretation that can be interpreted further by those who read it.\textsuperscript{95}

A well-expressed example of interpretation being taken further by museum visitors can be found in an article that appeared in the fall 1999 issue of \textit{Exhibitionist}, a journal published by the National Association for Museum Exhibition. Exhibit developer Eugene Dillenburg explains:

\textsuperscript{93} American Association of Museums, \textit{Excellence and Equity}.  
\textsuperscript{94} Ibid.  
[a] visitor viewing a dinosaur skeleton may be impressed by its sheer size; another may imagine the terror of the living beast; a third might ponder the immense stretches of time separating our species; a fourth may marvel at the majesty of creation; etc. All of these reactions are possible, and they're all perfectly valid, even if they have nothing to do with the exhibit's main message of evolutionary theory.  

In point of fact, this entire issue of *Exhibitionist* was devoted to the subject of meaning-making. Editor Jay Rounds cites the reasons behind this issue:

> When visitors experience an exhibit, their activity is directed not toward the acquisition of information, but rather toward the construction of meaning… The articles in this special theme section of *Exhibitionist* seek to clarify the idea of meaning making, and to identify some of the concrete ways in which exhibits can be designed to stimulate and support visitors in their processes of meaning making.  

But why has meaning-making become so important to museums? According to Silverman, understanding how people make meanings of objects, and using this understanding in museum exhibits and programs, can allow museums to become more democratic. The result is that museums "become cultural havens for, as well as models for, the respectful exploration and exchange of ideas."  

In 1909 John Cotton Dana, founder of the Newark Museum, explained the

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96 Eugene Dillenburg, ""The sound must Seem an Echo to the Sense': Meaning Making in Poetry and Exhibits," *Exhibitionist* 18, no.2 (Fall 1999): 37.  
importance of providing meaningful interpretations for visitors: "The Museum can help people only if they use it; they will use it only if they know about it and only if attention is given to the interpretation of its possessions in terms they, the people, will understand."  

Museum educator Lisa Roberts describes museums as "idea-, experience-, and narrative-based institutions." Museum professionals and visitors alike are realizing that multiple interpretations exist within any exhibit. Roberts makes clear that "museums present an interpretation, not the interpretation." She tells us that, in the past, museums were often compared to libraries and universities but that meaning has begun to take precedence over knowledge: "Clearly, museums are no longer object-based institutions in the traditional sense of the term…. Rather, they are…forums for the negotiation and the renegotiation of meaning."

Visible Storage and the Visitor Experience

If museums are indeed "no longer object-based institutions in the traditional sense of the term," where does that leave visible storage in today's world of visitor meaning-making? Doesn't MOA's model for visible storage present objects as merely "knowledgeable" rather than

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99 John Cotton Dana in Alexander, Museums in Motion, 13.
100 Roberts, Knowledge to Narrative, 147.
101 Ibid., 119.
102 Ibid., 147.
"meaningful" by providing mostly identification and very little interpretation? Are U.S. museums continuing to follow that model?

There are certainly some museum professionals who believe that "[v]isible storage appeals to the general public when they have the background to make sense of the material displayed." As with the cabinets of curiosities in days gone by, a sense of wonder is evoked when a researcher, scholar, or collector is presented with a collection of objects belonging to their area of expertise--when they actually have a prior knowledge and interest to appreciate the objects on display. I experienced this same sense of wonder when I visited the black and red pottery room at the Getty in Malibu with my art history professor shortly after learning all about this pottery in class (see Introduction). But, according to Patricia Tice, Director of Collections at the Strong Museum, this sense of wonder does not extend to the Strong's general audiences:

We were wowing people with the number of objects on the shelves….You would get the people with an intense interest in Flow Blue china, who wanted to see every pattern, every shape. But for the average person, all they saw was case after case of blue-and-white china.

Diane Dittemore, Curator of Ethnology at the Arizona State Museum in Tucson--an institution in the process of creating a visible storage area for its Southwest pottery collection--says, "The trick is how to design a center

104 Bohlen, "Troves," E.1.
like this so that visitors come away from it with more than a feeling of, 'Gee, there's a lot of stuff in here.'"^{105}

At the Smithsonian Institution-Naturalist Center, steps toward visitor meaning-making have been taken by empowering children to conduct investigations on their own. Director Richard Efthim's philosophy is that, "the ultimate goal of a museum is the ownership of knowledge; you need to allow people to build their own understanding."^{106}

But do other U.S. museums share in this philosophy? By examining visible storage facilities in selected U.S. museums, it is my hope to identify interpretive strategies that provide meaning-making for an enhanced visitor experience.


FINDINGS & CONCLUSIONS

In conducting my core research for this project, I sought to answer three questions: 1) what is visible storage as it applies to U.S. museums today; 2) which U.S. museums currently have implemented, or have plans to implement, visible storage; and 3) for those museums with visible storage, what interpretive strategies, if any, are being used to serve general audiences? Random surveys, sent to 216 museum professionals throughout the U.S., helped to clarify how visible storage—a now widespread concept introduced to the museum world by the University of British Columbia's Museum of Anthropology only twenty-six years ago—is perceived. These surveys, in addition to e-mail, telephone, and personal interviews, allowed me to identify many museums in the process of using or creating visible storage. Finally, a literature review, interviews, and surveys, in addition to case studies of five U.S. museums with visible storage, revealed how visible storage is used throughout the U.S. and what interpretive strategies for general audiences are currently in place.

A Need for Clarity in Display Storage Terminology

I quickly discovered that display storage terminology is misunderstood by many museum professionals. It is likely that the
confusion began with an early article on visible storage written by Michael M. Ames in 1977 for *Curator* entitled, "Visible Storage and Public Documentation."\(^{107}\) In this article, Ames described "visible storage" as it applied to the Museum of Anthropology at the University of British Columbia--the first museum to officially implement visible storage. However, in this same article, he also referred to visible storage as "open storage," "visual storage," and "storage display."\(^{108}\) This appears to be where the current confusion around terms describing visible storage originated and where misunderstanding of what these terms mean began. This misunderstanding is unfortunate because, without a clear understanding of display storage terminology, communication about this topic becomes very difficult.

I first became aware of the mix-up surrounding visible storage terminology when I made preliminary postings to museum education and registrar list serves.\(^{109}\) I put out a general call asking if anyone had "visible storage" and requesting a description. Three respondents referred to "study storage" at their institutions rather than visible storage.

Discrepancies in visible storage terminology became especially evident when I contacted the Skirball Cultural Center, a museum in Los

\(^{108}\) Ibid.
\(^{109}\) *Museum-Ed; Registrars Committee of the AAM.*
Angeles dedicated to the historical and ongoing American Jewish experience. I was referred to the Skirball by several people I had interviewed who told me that it has an excellent visible storage facility. However, when I telephoned the museum on January 31, 2002 asking about "visible storage," the staff member I spoke with in the education department had no idea what I was talking about. The next day, I received a call from Adele Burke, Director of Education at the Skirball. She told me that, yes, the Skirball does have "open storage," although it has been closed for the last year. Later, I would learn that the Skirball does not have "visible storage" at all--collections in this display storage facility are not visually accessible to general audiences. Instead, the Skirball has "study storage" because, when it was open to the public, the facility was only available by group tour.

In order to clarify for myself the meanings associated with display storage terminology, I decided find out what display storage terms mean to professionals currently working in U.S. museums. I sent surveys to 216 U.S. museums, randomly selected by type of museum, asking what the terms "visible storage," "study storage," and "open storage" mean to them (see appendix 1 for visible storage cover letter and survey instrument). I specifically chose to send surveys to art, children's, general, history, 

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110 Adele Burke, telephone interview by author, notes, 1 February 2002.
natural history, and anthropology/ethnology museums because preliminary research identified museums within these categories as having visible storage. Because I was interested in interpretive strategies, as well as perceived meanings of terms, I targeted educators at the chosen institutions. However, if an educator was not listed, I sent the survey to curators, directors, or collections staff—in that order—based on who was listed in the directory. This resulted in surveys being sent to a wide range of professionals within the museum field.

Table 1. Distribution of random survey

<table>
<thead>
<tr>
<th>Staff Members</th>
<th>Total Sent</th>
<th>Total Received</th>
<th>% Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators</td>
<td>63</td>
<td>12</td>
<td>17%</td>
</tr>
<tr>
<td>Curators</td>
<td>47</td>
<td>15</td>
<td>22%</td>
</tr>
<tr>
<td>Directors</td>
<td>92</td>
<td>24</td>
<td>35%</td>
</tr>
<tr>
<td>Collection Staff</td>
<td>2</td>
<td>7</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>6</td>
<td>9%</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>5</td>
<td>7%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>216</td>
<td>69</td>
<td>100%</td>
</tr>
</tbody>
</table>

Of the 216 surveys sent, 69 surveys, or 32 percent, were returned. As Table 1 illustrates, of those surveys returned, most were filled out by
directors (35 percent), with a large portion also being returned by curators (22 percent) and museum educators (17 percent). What is interesting to note is that 7 surveys were filled out by collections staff, while only 2 surveys were sent to collections staff. This indicates that some recipients passed the survey on to a different staff member to complete.

The survey did not supply definitions for display storage terms, as I did not want to bias responses with my own definitions and because I wanted to use the survey results to clarify how I should interpret these terms for this project. Instead the survey instrument stated: "According to current literature, the following terms may have very similar or very different meanings. What do these terms mean to you?" This question was followed by the terms "visible storage," "open storage," and "study storage" with space for respondents to fill in their own meanings.

Based on survey responses received, like answers were coded according to category. If categories appeared to be related, they were also coded together. From the final categories that emerged, meanings or definitions of the display storage terms were created. Figures 11 through 13 represent frequency histograms of the most common responses that fit into these meanings for the various display storage terms.

As Figure 12 indicates, over a third of respondents (39 percent) considered "visible storage" to mean "a type of long-term museum display
What does "visible storage" mean to you?

A 39%
B 4%
C 3%
D 26%
E, 17%

**A** A type of long-term museum display storage where general audiences have visual access to a grouping of artifacts or specimens from the permanent collection.

**B** A facilitated form of display storage where objects can be examined closely under supervision.

**C** A type of storage where collections are displayed in the open—not behind glass.

**D** Any type of exhibit regularly on view in a museum gallery.

**E** This term has no meaning.

Fig. 12. Frequency histogram of survey respondents' reactions to the meaning of "visible storage."

storage where general audiences have visual access to a grouping of artifacts or specimens from the permanent collection." Based on this finding, this is the definition I have adopted for "visible storage" for the purposes of this paper. Two different sub-definitions of visible storage fit into the definition I have adopted: "closed storage with windows" and "a study gallery." Also of note is the fact that 26 percent of respondents consider "visible storage" to mean "any type of exhibit regularly on view
in a museum gallery," indicating that a forth of respondents do not
distinguish a difference between visible storage and a regular exhibit.
This is also interesting because "many people (including some museum
colleagues) think they are in the midst of an exhibit area" when viewing
visible storage. Finally, the fact that "this term has no meaning" for 17
percent of respondents indicates a need for dissemination and clarity of
this display storage term.

The definition I have adopted for the term "study storage" also
resulted from my findings. Almost half of the survey respondents (49
percent) gave a definition of "study storage" that could be interpreted as "a
facilitated form of display storage where objects can be examined closely,
and sometimes handled, under supervision." This finding clearly
illustrates that this is the preferred definition by the museum field for this
display storage term. Sub-definitions that were given and that fit into this
larger definition include: "a place for scholarly research," "archival files,"
and "facilitated." Interestingly, a large portion of the remaining
respondents (29 percent) did not have a meaning for "study storage."
Again, this indicates a need for dissemination and clarity of this display
storage term.

What does "study storage" mean to you?

- A 7%
- B 49%
- C 0%
- D 29%
- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%

**Fig. 13.** Frequency histogram of survey respondents' reactions to the meaning of "study storage."

Of the three terms, "open storage" appeared to be the least understood and was given the widest variety of meanings. The largest consensus of survey respondents who felt they knew what this term meant (19 percent) defined "open storage" in a way that could be interpreted as "a type of long-term museum display storage where general audiences have visual access to a grouping of artifacts or specimens from the
permanent collection"--the definition I have adopted for "visible storage."

The next largest consensus (16 percent) defined "open storage" as "a type

of storage where collections are displayed in the open--not behind glass."

13 percent of respondents defined "open storage" as "any type of exhibit regularly on view in a museum gallery;" 9 percent as "a facilitated form of display storage where objects can be examined closely under supervision"--
-the definition I have adopted for "study storage;" and 6 percent as "stored museum collections that are closed from all public access." For 19 percent of respondents, "this term has no meaning." The variety of meanings applied to the term "open storage" indicate that it is a "catch-all" term that means different things to different people. The definition I adopted for "open storage" for this paper--"a type of storage where collections are displayed in the open, not behind glass,"--was chosen because it is a unique definition that was given and because a large portion of respondents surveyed felt that this was the correct definition for this term.

These findings serve to confirm that display storage terminology is misunderstood. While museum professionals are, for the most part, very clear on the meaning of "study storage" and somewhat clear on the meaning of "visible storage," "open storage"--one of the most common terms used when referring to display storage--appears to have meanings that are extremely different to almost all professionals surveyed. This confusion in terminology is unfortunate because, if museum professionals are unclear in terminology, effective communication about visible storage and other display storage methods cannot take place. Based on this study, it is clear that one must understand all of these display storage terms before one can begin to comprehend visible storage.
A Growing Interest in Visible Storage by U.S. Museums

Out of surveys, literature, and interview documentation, I culled museums possessing, and in the planning stages of implementing, visible storage and study storage, based on the definitions I have adopted for these display storage terms. I identified twenty museums in the U.S. with visible storage (see appendix 5 for annotated list), and twenty museums in the U.S. with study storage (see appendix 6 for annotated list). Additionally, nine U.S. museums were identified as being in the process of planning to incorporate visible storage (see appendix 7 for annotated list) and two in the process of planning to incorporate study storage (see appendix 8 for annotated list).

Several interviewees and survey respondents stated that they would consider installing visible storage if appropriate circumstances arose--many citing space and money limitations as factors against implementing visible storage at this time. Still others mentioned that their museums are in the early research stages to determine whether or not one of these display storage methods is appropriate for their museum. For example, the Spertus Museum, a Jewish museum in Chicago, is in the beginning stages of planning a new building for their museum and is considering the
possibility of including visible storage. Of the sixty-nine museum professionals who responded to my random survey, over half (39) requested survey results, showing a general interest in the museum field on this topic.

Based on this study, it is clear that visible storage has, indeed, taken hold in the United States. Display storage has become quite widespread, as is illustrated by those museums identified as having visible storage or study storage, or as being in the planning stages of implementing visible storage or study storage. A rising interest in the topic of visible storage is revealed by the fact that 57 percent of museum professionals randomly surveyed have requested survey results, with some survey respondents and interviewees admitting to currently researching visible storage options. There is an obvious drive within the museum field to make stored collections publicly accessible through utilization of one of these display storage techniques.

**Visible Storage Today**

In order to gain a firsthand understanding of visible storage and the modes of interpretation currently in use, I visited five U.S. museums with the study gallery type of visible storage as defined in this paper. These

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112 Susan Schaalman Youdovin, e-mail correspondence with author, print-out, 2 November 2001.
included the Corning Museum of Glass, the Metropolitan Museum of Art, the Denver Art Museum, the New-York Historical Society, and the Strong Museum in Rochester, New York. While I went to these museums with a purpose—to examine their visible storage facilities—I also went as a general audience member; without appointment or head-set, and not part of a special group or tour. My goal was to get a personal feel for what visible storage looks like today and to find out if any of these visible storage facilities incorporate interpretive strategies for general audiences.

Created in 2000, the entire Jerome and Lucille Strauss Study Gallery at the Corning Museum of Glass is devoted to visible storage.¹¹³ This new gallery with its wooden cabinetry is quite different than the sleek, cool feeling of glass shelves and windows that can be seen throughout the rest of the museum. Here, wooden cases with glass-front doors are crowded with rows of American glass, including flasks and pressed glass; and European material, including the museum’s collection of English 19th-century cameo glass which is among the best collections of English cameo glass in the world.¹¹⁴ According to the introductory panel, objects are organized by place of manufacture, date, and by type of decoration.

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¹¹⁴ Ibid.
When I entered the gallery, I could see no identification labels of any kind unless an object had been removed (in which case a tag with the object name and accession number rested in its place). Further back in the gallery, I found that the English/Continental glass cases did have labels, but then only with limited factual identification. There was no interpretation, other than arrangement and the introduction to the gallery panel, provided in the Strauss Study Gallery.

In a follow-up interview I questioned Executive Director David Whitehouse about the lack of interpretation in the Strauss Study Gallery. I was told that the Corning Museum of Glass is not currently interested in adding interpretation to this gallery. It is, however, in the process of
providing better labeling to identify what is on display. The current feeling at the Corning is that a study gallery such as this one meets the needs of people with a special interest in the collection. And, while that section of visitors may be small, they still comprise a significant portion of the Corning Museum's visitors. According to Whitehouse, visible storage is not necessarily on the list of things to see by most museum goers. And, in fact, the rest of the museum is highly interpretive.\textsuperscript{115}

At the Metropolitan Museum of Art (the Met), I visited the Henry R. Luce Center for the Study of American Art which opened in December 1988.\textsuperscript{116} In this version of visible storage, the emphasis is definitely on storage. This enormous facility contains glassed-in shelving with artifacts densely crowded in front of even more artifacts. Only paintings--which are many and hanging above, below, and next to one another and fill the space of entire walls--do not overlap. Visible storage at the Met takes on a form that is much more like regular museum storage one would see "behind closed doors." The exception is that all of the items on display in the Luce Center are well lit behind glass for public viewing.

\textsuperscript{115} Ibid.
\textsuperscript{116} Carrie Rebora Barratt, telephone interview with author, notes, 30 April 2002.
Lengthy accession numbers are the only form of identification at the Luce Center, except for small topic signs, identifying the type of artifacts being displayed (paintings, sculpture, …etc.), hanging about nine feet in the air above visitors' heads. Additional factual information is provided by numerous computer kiosks that line one wall of the large room. Here, a visitor can type in an accession number or item description to view an image of the artifact and obtain further identification information.
For the most part, there was no interpretation in this gallery in spite of the Luce Center being "highly arranged." Like items are grouped together by material but at times, even this can seem less than obvious to the novice visitor. In one instance, small pottery vessels are arranged next to others that are completely different in their look and style in spite of their size and material being the same. One exception to the lack of interpretation in this gallery is the Louis Tiffany desk that is on display in an alcove near the entrance. Taken directly from an exhibit, this is the only object in the Luce Center that has an interpretive label providing context. The label explains that this was Louis Tiffany's desk which itself is cluttered with Tiffany's belongings. A single desk drawer has

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117 Ibid.
118 Ibid.
been left open to show different colored glass shards, representing the pieces of glass Tiffany used in his work.

The goal of the Luce Center, according to Carrie Rebora Barratt, Curator of American Paintings and Sculpture and manager of the Luce Center, is to allow the general public to see the entire collection. Barratt says that the Met has been very successful in accomplishing that goal. In spite of the Center being designed for the general public, "some people find it baffling and think they are in the wrong room."\(^{119}\) Barratt acknowledges that the Center does need "better signage and mapping to

\(^{119}\) Ibid.
make people understand where they are." I asked Barratt if the Met were starting over, whether the museum would incorporate visible storage again. Barratt replied with an emphatic

absolutely! It's magnificent for the public and extraordinary for the curators to see collections all of the time. It helps us to make better choices in what goes on exhibit. What's nice about the Center is the small amount of upkeep. It is a means for providing visual access in a beautiful manner that considers the well being of the object.121

The commitment to provide information to general audiences in the visible storage facility at the Denver Art Museum is much greater than that of either the Corning Museum of Glass or the Metropolitan Museum of Art. The Lila Wallace-Reader's Digest Study Gallery of Pre-Columbian Art was established in 1993.122 Here, objects are displayed without overlapping--creating a clean and uncluttered look. Large text panels in English and Spanish provide context to a wide audience by describing, in two languages, the people who created the objects on view and information about cultural context. Larger wall text panels describe the South American, Central American, and Meso American regions of the objects' origins and have maps to show locations. Additionally, an

120 Ibid.
121 Ibid.
122 Gretchen DeSciose, survey response, April 2002.
interpretive panel called "What Makes Good Pottery" helps visitors to understand how pottery is made.

Fig. 19. Objects displayed in the Lila Wallace--Reader's Digest Study Gallery of Pre-Columbian Art at the Denver Art Museum are sufficiently spaced for independent viewing with text panels and catalogs nearby to provide factual information and context about the displayed objects. Photo by author.

The study gallery at the Denver Art Museum does not yet have computer kiosks although there are tentative plans in place to incorporate them in the future. Instead, spiral-bound catalogs are made available at podiums next to each display case. These catalogs are like the computer kiosks at the Met in that they contain factual identification information about the various objects on display. According to Gretchen DeSciose,

123 Gretchen DeSciose, telephone interview with author, notes, 10 May 2002.
Master Teacher for Pre-Columbian Art at the Denver Art Museum, the
catalogs have been the biggest problem in the study gallery. This is
because they are difficult to keep up to date when new objects are added
or removed due to new acquisitions, loans, or exhibits, and because they
provide only "tombstone information."

I visited the Denver Art Museum with my sister. Walking through
the study gallery, she noticed a case containing small clay pieces encircled
with raised designs that she thought might be used for pressing design
patterns into pottery. Before we left, I decided to look up one of these
pieces in a provided booklet. I thumbed through the booklet trying to find
the accession number—everything seemed to be in accession number
order. However, the number I was looking for was missing.

My sister noted the numbers printed at the top of the case and
suggested that objects may be listed by case number. I immediately
flipped to the Table of Contents at the beginning of the booklet, which
listed no case numbers. As I was about give up and put the booklet down,
I noticed an inscription that a previous visitor had handwritten on the first
page. The inscription read, "This book is inpenetrable [sic]."

My sister, who obviously has much more patience than either me
or that previous visitor who had left their mark, determined the

\[124\] Ibid.
organization of the booklet and found the object in question. After all of that effort, however, we were only able to identify the object's name, maker, and composition. We still could not verify the artifact's intended purpose.

At first glance, interpretation in the Denver Art Museum's study gallery seems only to be in the form of cultural and regional text panels, or panels about process. As I reached the back of the room, however, I discovered a great wealth of interpretation in the form of enhanced educational programming. A small video theater is set up with signs inviting visitors to view provided video tapes that relate to the arts and cultures of South America, Central America, and Meso America. Two

![Image](image_url)
reading areas are provided--one for children and one for adults--offering places to sit and read with books on nearby shelves containing further information on these topics. Finally, replicas of the artifacts on display are mounted out in the open on a small "touch" table in the gallery with an invitation for the public to engage with them.

A highly interpretive version of visible storage can be found at the Henry Luce III Center for the Study of American Culture. The Henry Luce III Center opened in November of 2000 and displays nearly 75 percent of the New-York Historical Society's entire collection in the form of visible storage.

Fig. 22. Objects on display in the Henry Luce III Center for the Study of American Culture at the New-York Historical Society are very cleanly arranged so that items can be viewed individually. Photo from the New-York Historical Society website at http://www.nyhistory.org/.
storage. Here, clutter is kept at a minimum--almost all objects are sufficiently spaced to allow for individual viewing.

Interpretation abounds in the Center. Upon entering, I immediately encountered an interactive panel entitled, "Strolling Down the Avenue: A Plan of the Collection Areas." This introduction to the visible storage facility uses buttons, lights, and images to engage the visitor to "play" with the panel while illustrating what type of artifacts are in the Center and where they are located. In addition to identification numbers that label every artifact and provide a reference for the nearby database, 8.5 x 11 inch interpretive labels supply context for the different collections in the Center. These labels take the form of transportable tablets and are encased in plexi-glass with wooden handles so that they can be carried around the gallery.

Every section on the main floor of the Center has similar portable interpretive labels that correspond to three main themes: "Close Up," "The Big Picture," and "Family Interactive." "Close Up" labels give in-depth information about a single artifact in the collection, while alluding to related artifacts. "The Big Picture" labels provide an overview of a particular collection and contain images of different types of artifacts within that collection. These labels conclude with prompts to "Think

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About," which relate to New York history, and to "Search the Database," encouraging visitors to learn more by using one of the computers inside the gallery. Finally, "Family Interactive" labels describe an historical object on display and ask visitors to compare it with modern objects used for the same purpose. It then invites visitors to explore the gallery in search of other objects that might have a similar function or be used by the same people. For example, one "Family Interactive" called "Looking at Furniture" depicts a *circa* 1650 baby walker on the front and describes it. The other side asks visitors to compare the walker with a modern version. It then asks the visitor to explore the gallery to find other items on display that a child might use.

The most impressive examples of interpretive components at the Center are interpretive mini-exhibits dispersed throughout the gallery. In one section, Beekman portraits and other artifacts are displayed individually. In addition to descriptive labels for each artifact, audio--which comes on automatically when one steps up to the display--tells stories in English of the people who owned the artifacts, the artifacts' significance to the owners, and a brief history of the people depicted in displayed paintings.

One particularly engaging exhibit was about Mr. Robinson's collection of apple parers entitled, "Everyone Collects Something." Here
a blow-up picture of Mr. Robinson stands beside glassed-in shelves filled with apple parers. On the other side of the blow-up image is a large text panel explaining Robinson’s obsession for collecting the apple parers. To one side of this exhibit, and out in the open, is a "Mutoscope." This old-fashioned looking contraption has a view finder and a crank. When one looks through the view finder and cranks the handle, paper cards with text and images drop down, creating a primitive sort of movie. This movie is of an apple parer at work, interspersed with text exclaiming, "It Peels!" or "It Slices!" As one cranks the handle and watches the apple parer in action, one realizes that one is mimicking cranking an actual apple parer. Without touching the artifact itself, use of the "Mutoscope" provides a kinesthetic experience that replicates what it feels like to use an actual apple parer.

Interpretation in the visible storage facility at the Strong Museum in Rochester, New York, is in a state of complete transformation. Originally designed as a scholarly museum of history, the Strong opened in 1982, devoting its entire second floor to visible storage (see Fig. 4 on page 39 for image of original display cases at the Strong Museum’s second floor visible storage facility). This visible storage facility was meant for collectors and other visitors with specialized knowledge. But, according

126 Jon-Paul C. Dyson, personal interview by author, notes, 22 March 2002.
to Vice President of Collections and Interpretation Scott Eberle, visible storage at the Strong was "doomed to obscurity from the first." Eberle explains that "visible storage depends on association, memory, and personal connection [with the objects on the part of the visitor]. As the years proceed [and with the passing of generations], those connections part, and the associations that depended on them fade away. This is how visible storage becomes inaccessible."

In its first year, 140,000 people attended the Strong Museum. By 1984, that attendance figure had significantly dropped to 105,000. Around 1995, the Strong began conducting focus groups in order to determine what the local community wanted in a museum experience. The Strong learned that local audiences wanted a family museum that caters to children and the Strong soon changed into a children's museum that focuses on history. Since this change, visitor attendance has far exceeded the targeted projections of 200,000. In 2001, attendance at the Strong was slightly over 390,000.

But, how does visible storage fit in with the new Strong Museum? Actually, visible storage in the classic sense--glass cases cluttered with

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127 Scott Eberle, telephone interview.  
128 Ibid.  
129 Jon-Paul C. Dyson, personal interview.  
130 Ibid.
row upon row of like artifacts--is no longer appropriate at the Strong.\textsuperscript{131} Scott Eberle envisioned the concept of "Time Lab"--an interactive interpretive exhibit that opened Summer 1999--whose implementation involved Curator Jon-Paul Dyson and Designer Kevin Murphy. This large project initially took about 4,500 square feet out of 18,000, but has grown since that time with subsequent projects.\textsuperscript{132} Over half of the Strong's

Fig. 22. "Time Lab" is an interpretive exhibit that is replacing visible storage at the Strong Museum. Photo by author.

visible storage facility has since been removed and replaced with "Time Lab." This interactive exhibit is informed by constructivist theory, as advocated by George E. Hein, to teach history to children and includes

\textsuperscript{131} Ibid; Scott Eberle, telephone interview.  
\textsuperscript{132} Ibid.
interpretive games to play and wheels to spin; activity areas for creating crafts; library stations; videos that run on their own; a dance lab, and booklets in each section that serve as interpretive labels and help visitors to look closer at objects, make comparisons, and think about their own lives. Each of these activities is filled with choices so that visitors may construct their own meaning and experiences in "Time Lab."

On either side of "Time Lab," visible storage exists much as it did twenty years ago. Like items are still grouped together, crowded into glass cases, but the catalogs that once identified those items are now nowhere to be seen. Instead, catalog information has been replaced by identification labels that accompany individual objects, providing such information as year and maker. On occasion, some cases can be seen sitting temporarily empty, awaiting future renovation into the "Time Lab" exhibit.

Yet, visible storage has not disappeared from the Strong entirely. Drawer units have been incorporated into "Time Lab," displaying groupings of items from the permanent collection, many of which were

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133 George E. Hein has been closely involved with evaluation of "Time Lab" at the Strong Museum. According to Jon-Paul C. Dyson, Director of Research at the Strong, an exhibit utilizing constructivist theory exhibits artifacts in ways that allow guests to make meaning of objects for themselves; Jon-Paul C. Dyson, personal interview.
Fig. 23. Some cases in the visible storage gallery at the Strong Museum sit empty temporarily, awaiting future renovation into "Time Lab." Photo by author.

too fragile to display in the old visible storage facility. For example, one drawer is full of folded T-shirts accompanied by labels that describe how Marlon Brando and James Dean made this common form of underwear a popular form of outerwear. Also, while the content inside "Time Lab" display cases differs from that of the original visible storage, many of the

Fig. 24. Drawer units have been incorporated into "Time Lab" at the Strong Museum to display groupings of related objects. Photo by author.
"Time Lab" display cases do not appear to be any less crowded. While cases in the visible storage gallery are crowded with like items--such as row upon row of dolls, a case in "Time Lab" might be crowded with related items--such as the case depicting Barbie in the 1970s which is crowded with every Barbie and Barbie accessory imaginable from that period.

**Interpretive Strategies in Visible Storage**

Though visible storage is becoming increasingly prevalent among U.S. museums, the form that visible storage takes, and the amount of interpretation included in any given visible storage facility, tends to vary from one museum to the next. Some museums, such as the Corning Museum of Glass, offer very little interpretation in their visible storage galleries. Other museums' visible storage galleries seem to abound with interpretation, as is the case at the New-York Historical Society.

Table 2 compares interpretive strategies for general audiences identified in my background research as being used at the Museum of Anthropology at the University of British Columbia to interpretive strategies in evidence at my five case study museums with visible storage. My research identified six main interpretive strategies and only two museums--the New-York Historical Society and the Strong Museum--
Table 2. Interpretive Strategies for General Audiences Found in Visible Storage

<table>
<thead>
<tr>
<th></th>
<th>Arrangement</th>
<th>Adjacent Research Area</th>
<th>Interpretive Panels</th>
<th>Interpretive Labels</th>
<th>Automatic Audio/Video</th>
<th>Hands-on Interactives</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBC’s Museum of Anthropology</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Strong Museum</td>
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<td>X</td>
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</tr>
</tbody>
</table>

actually using all of them in their visible storage facility. **Arrangement** supplies intellectual access by providing interpretation through classification. Of the interpretive strategies identified, this was the only one shared by all museums--each museum arranges visibly similar or related objects together.

An **Adjacent Research Area** is provided by all museums with the exception of the Corning Museum of Glass and is comprised of computers, catalogs, or reading and video research stations. However, for these resources to be truly interpretive they must provide more than factual identification--they must provide context or background that allows audiences to construct their own meanings and to gain a personal understanding of the displayed objects. For example, I found the catalogs
at the Denver Art Museum, which provide only factual identification information, not to be helpful to a general audience, as opposed to the accompanying reading and video areas which are highly interpretive and provide context and meaning for the displayed objects. The information provided on computers by my case study museums may or may not include interpretive information—this is beyond the scope of my project and merits further investigation.

**Interpretive Panels** are provided at all museums except for the Metropolitan Museum of Art, where only one interpretive panel specific to the Tiffany desk is on view. While there are overhead signs identifying categories of arrangement, this is factual information and, therefore, not truly interpretive. For this reason, the Metropolitan Museum of Art is the only museum listed as *not* providing interpretive panels, in spite of the single interpretive panel that is, in fact, on display. However, it is interesting to note that the Corning Museum of Glass' only interpretive panel is in the form of an introduction to the gallery. In contrast, panels at other museums also provide cultural and regional background explanations of the objects' origins or information about the process used in the objects' creation.

**Interpretive Labels** that describe and provide context for individual objects are present only at the New-York Historical Society and
the Strong Museum. While a few items are individually labeled, what is worthy of note here is that, for the most part, labels are not situated next to individual objects. In most cases, labels take the form of tablets or booklets that visitors carry around the gallery. Additionally, these labels ask general open-ended questions that apply to numerous objects and that prompt the visitor to think about his or her own life, about how or by whom objects might be used, and about relationships between grouped objects, making this ordering more meaningful.

**Automatic Audio/Video** is very similar to an interpretive label. Here, instead of reading a label, one listens to or observes a speaker who provides context to displayed objects. Hearing audio allows the visitor to focus on the objects on display, rather than focusing on a label that
provides only text. Again, the New-York Historical Society and the Strong Museum were the only two museums that utilized this interpretive strategy.

The sixth interpretive strategy identified in this study takes the form of **Hands-on Interactives**. Here, kinesthetic experiences provide context and meaning to general audiences about displayed objects. At the Denver Art Museum, a touch table allows visitors to feel objects similar to those on display and provides them with a sensory experience that better enables them to understand the shape and composition of the objects in question. The interactive introductory panel and "Mutoscope" at the apple parer exhibit at the New-York Historical Society, and games for role playing and a dance lab in "Time-Lab" at the Strong Museum, provide similar interactive and kinesthetic experiences.

Additional interpretive strategies not necessarily found in my case study museums, but gleaned through my background research, include the use of **illustrations** and **curatorial context**. At the Pember Museum, interpretive labels for bird nests or eggs included illustrations so that audiences could associate the nests and eggs with the bird that built or laid them (see Fig. 6 on page 44 for illustration of this example). Curatorial context was provided by the Logan Museum of Anthropology through their "glass box" window into the collections version of visible storage
Here, visitors can look through the "glass box" and see museum staff and students working on collections (see Fig. 8 on page 46 for image of staff or students at work). Because visitors can see staff at work, they can place visible storage in context as a working study gallery.

In Conclusion

Visible storage has taken hold and is spreading among U.S. museums. However, clarity is needed in display storage terminology in order for museum professionals to communicate with one another about visible storage. Additionally, the form that visible storage takes may vary significantly from one museum to the next.

Almost all museums studied provide some form of object identification although, at the Corning Museum of Glass and the old section of the Strong Museum, that identification is minimal. Computer kiosks or catalogs, as used by the Metropolitan Museum of Art, the Denver Art Museum, and the New-York Historical Society, provide further identification information. However, when a facility provides only factual identification of objects, it seems to assume that identification is the only information that visitors need. However, this did not prove to be
the case when my sister and I tried looking up the use of an object in a provided catalog at the Denver Art Museum.

Three of the five museums studied have taken to heart the concept that visitors believe they are in an exhibit when viewing visible storage.\textsuperscript{134} These museums have embraced the opportunity to educate novice visitors by utilizing interpretive strategies that help general audiences connect with and make their own meanings of individual objects on display. At the Denver Art Museum, this is done through adjacent programming areas that tell about the people, places, and processes that relate to the displayed objects and through replicas that the public can touch in order to imagine how a displayed object might feel. At the New-York Historical Society, interpretation is taken a step further. Here, mini-exhibits teach about collecting, put the rows of displayed objects into context, and explain to visitors how and why the objects came to the museum. At the Strong Museum, "Time Lab" groups related objects together by period to teach children about past decades. This study confirms that many museums with visible storage are embracing interpretive strategies--though the strategies embraced and extent to which they are used tends to vary from one museum to the next.

\textsuperscript{134} Blackbourn, "Visible Storage," 23.
The Corning Museum of Glass opened its visible storage facility the same year that the New-York Historical Society opened theirs (2000). Yet, while visible storage at the Historical Society is highly interpretive, the Corning has no current plans in place for adding interpretation to their visible storage facility. And while the Historical Society is attempting to appeal to a broad audience, the Corning believes it is acceptable to serve only a select few in this particular area of the museum. This illustrates different intended audiences on the part of museums that choose to incorporate visible storage which is reflected in the varying amounts of interpretation that is included.
RECOMMENDATIONS

This study has revealed that there is widespread interest in the topic of visible storage among U.S. museum professionals. In spite of this interest, confusion in display storage terminology prevails. Many museum professionals work at institutions that have, would consider, or are currently in the process of implementing visible storage. These professionals seek guidance in strategies that they can apply to visible storage in their unique institutions. For those professionals interested in this topic, I offer the following recommendations:

Recommendation 1: Standardize Display Storage Terminology.

This study makes evident widespread confusion in display storage terminology on the part of museum professionals. The terms "visible storage," "study storage," and "open storage" may have very similar or completely different meanings, depending on the individual using the term. Before effective field-wide communication about visible storage can occur, standardization of display storage terminology must take place.

Based on my findings, I propose the following definitions as being the most accurate and logical:
Visible Storage: a type of long-term museum display storage where general audiences are given visual access to a large grouping of many related artifacts or specimens from the permanent collection. This can take the form of a window into the collections as is the case with the "glass box" display storage facility at the Logan Museum of Anthropology where visitors can watch staff and students work; or a study gallery that is a type of "bulk" exhibition. My five case study museums, as well as the Museum of Anthropology at British Columbia, are all examples of study gallery versions of visible storage.

Study Storage: a facilitated form of display storage where objects can be examined closely, and sometimes handled, under supervision. Two examples of U.S. museums incorporating study storage are the Winterthur Museum in Winterthur, Delaware, and the Bernice Pauahi Bishop Museum in Honolulu, Hawaii. Both the Winterthur and Bishop museums restrict public access to their study collections to visitors taking private tours.\(^{135}\) Study storage is typically accessed by special appointment; however, if study storage also makes collections visually available to general audiences without an appointment or tour, as is the case at the

\(^{135}\) Amy P. Dowe, e-mail correspondence; Malia Baron, e-mail correspondence.
Smithsonian Institution-Naturalist Center, it may be considered a form of visible storage as well. Sub-definitions that fit into the larger definition of study storage include: a place for scholarly research, archival files, and facilitated.

- **Open Storage**: commonly found at museums that showcase automobiles, stagecoaches, or large machinery, open storage displays stored collections in the open—not behind glass. Again, if open storage makes groupings of related objects from the permanent collections visually available to general audiences, it is also a form of visible storage.

These definitions, as well as documentation on the field-wide confusion surrounding display storage terminology, are posted on this project's product, a website called *Visible Storage Today*. Additionally, museums with visible storage and study storage are posted on this site beneath their appropriately defined term.

My goal in posting definitions onto this site is to introduce a much needed standardization of terminology by recommending definitions for these terms. Whether my definitions are the best definitions is a matter of debate. However, this study has revealed that definitions of display storage terms must be clarified and agreed upon by the field before discussion on this topic can begin. Without clarification of display storage
terms, the reigning confusion will continue to render communication regarding visible storage difficult at best.

Recommendation 2: Start a Dialog within the Field about Visible Storage.

The best resource museum professionals have is each other. Museum professionals come together to share information through list serves, national and regional conferences and workshops, and publications in order to learn from each other best practices on various topics within the museum field. It is, therefore, imperative that museum professionals continue this tradition and come together to share ideas and experiences on the topic of visible storage. Before museum staff can determine what type of display storage is best for their own institution, they should first be aware of what has been done previously. This will allow staff to learn from the experiences of others--both successful and not-so-successful--in order to find models for best practices that apply to their own institution.

This project begins the process of bringing display storage information together. It does this by providing background on a variety of museums that have incorporated visible storage, including the Museum of Anthropology at the University of British Columbia, the first museum to officially adopt a study gallery version of visible storage; the Logan
Museum of Anthropology, with its "glass box" window into the collections; the Smithsonian Institution-Naturalist Center, with its facilitated study storage that is also visible storage because it is accessible to general audiences; and the Pember Museum, with its Victorian-style visible storage reminiscent of a cabinet of curiosities and developed long before the term "visible storage" was ever conceived. Case studies of five U.S. museums that currently have study gallery versions of visible storage revealed that each museum's visible storage facility takes a different form with different levels of interpretation.

But how can museum professionals learn what others are doing? My product, a website entitled Visible Storage Today, is meant to serve as a resource for museum professionals on the topic of visible storage. By providing annotated entries with contact information of museums with visible storage and study storage, all updated through an attached e-mail link, this product serves as a tool to inform professionals on the subject of visible storage so that museum professionals can come together on their own after utilizing this resource. I therefore encourage all museum professionals who have or are considering implementing visible storage to utilize this resource and to share its availability with others.

Additionally, I recommend the utilization of professional list serves. I personally have found these to be invaluable, both in my work as
a museum professional and in my research for this project. One that I recommend for discussing interpretive strategies for visible storage is *Museum-Ed.*\(^{136}\) This educators' forum is open to anyone who is interested in museum education. Here, topics involving learning theory and interpretive strategies are regularly discussed. The *Registrar's Committee of the AAM* is a closed forum, open to registrars and collections management staff who are members of the Registrar's Committee--part of the American Association of Museums. This forum focuses on collections management issues and is an invaluable resource for dealing with how collections are cared for within a visible storage facility.\(^{137}\)

**Recommendation 3: Use Audience Evaluation to Determine Implementation of Visible Storage.**

Before considering implementation of visible storage, museums must first determine why their institution should incorporate it. What is the goal of visible storage? How does it fulfill the museum's mission? How does it fulfill audience needs? Is visible storage really the best way to make collections accessible? And, what kind of access does one hope to accomplish by incorporating visible storage? Intellectual access? Visual access? A broader understanding of what goes on "behind the

\(^{136}\) *Museum-Ed.*  
\(^{137}\) *Registrars Committee of the AAM.*
scenes" in museums? Finally, what type of visible storage should be implemented--a window into the stored collections where staff can be viewed while working, or a study gallery that takes the form of a "bulk" exhibition? Or should study storage, available by appointment only, be considered instead?

Findings from this project reveal that institutions with visible storage facilities adopt diverse strategies for visible storage with varying degrees of interpretation. Therefore, all of these questions should be asked and answered by the staff of an institution involved in the consideration process of visible storage. Front-end evaluation, prior to visible storage implementation, will provide information on the audience’s perspective of visible storage and determine interpretive strategies that would best meet their needs. Formative evaluation, which tests interpretive strategies as visible storage is developed, will verify whether those expectations are being met. Finally, summative evaluation, following implementation, will determine strengths and weaknesses and signal whether any changes should be made so that a museum with visible storage may better serve its audience.
Recommendation 4: Utilize a Team Approach in Developing Visible Storage.

Because visible storage is visually accessible to general audiences from the museum gallery, and because "many people (including some museum colleagues) think they are in the midst of an exhibit area" when viewing visible storage, visible storage should be treated as an exhibit. As such, it should be developed as an exhibit with an exhibit development team that reflects all areas of expertise. Because collections are involved, collections management staff and curators should be part of the visible storage team. And because general audiences are given visual access to the collections, educators should have a say in how these objects are presented. Curators, educators, and exhibit staff should all be involved in determining the level of interpretation provided by visible storage.

Will the facility rely only on interpretation by arrangement as was found at the Corning Museum of Glass? Or will it have a whole range of interpretation, including mini-exhibits that put the rows of displayed collections into context, similar to those found at the New-York Historical Society? Team members, considering all aspects of their various levels of expertise, will have to determine appropriate interpretive strategies for the collections and the institution in question.

Recommendation 5: Set Educational Goals and Objectives for Visible Storage.

In order to assure that visible storage meets the museum's mission while serving its audience, the team should convene and produce a clear set of goals for visible storage. These goals will determine exactly what the museum intends to accomplish by incorporating visible storage. In addition, objectives, determining how these goals will be met, must be set. Setting goals and objectives will inform team members of appropriate strategies for the implementation of visible storage.

At the Strong Museum, attendance dropped soon after it opened. Eventually the Strong conducted focus groups in order to determine what the local community wanted in a museum experience and learned that they desired a family museum that caters to children. In response, the Strong soon changed into a children's museum that focuses on history. Through brainstorming sessions among full-time staff from a variety of departments, the Strong set new goals and objectives for its second floor gallery and "Time Lab" was born.139 This example shows us that, only through audience evaluation, utilization of the team process, and a clear understanding of the institution's goals and objectives, can a form of

139 Ibid.
visible storage that is appropriate for both the museum's mission and its audience be put into place.

**Recommendation 6: Conduct Further Study on Successful Interpretive Strategies for General Audiences.**

During my visits to museums with the study gallery version of visible storage, I identified six interpretive strategies in visible storage for general audiences. These include: arrangement, adjacent research areas, interpretive panels, interpretive labels, automatic audio/video, and hands-on interactives. **Arrangement** supplies intellectual access by providing interpretation through classification. **Adjacent research areas** are made available in the form of computers, catalogs, or reading and video research areas and may provide additional interpretive information about the makers or regions of displayed objects. **Interpretive panels** may provide, among other information, cultural and regional background explanations of the objects' origins. **Interpretive labels** describe and provide context for individual objects. Interestingly, I found that labels were not necessarily situated next to individual objects in visible storage, but in most cases, took the form of tablets or booklets that visitors carry around the gallery. **Automatic audio/video** is very similar to an interpretive label, though, instead of reading, one listens to or observes a speaker who
provides context to displayed objects. Finally, **hands-on interactives** create kinesthetic experiences that provide context and meaning to general audiences about displayed objects.

Additional strategies identified in visible storage through background research in this study include illustrations and curatorial context. At the Pember Museum, interpretive labels for bird nests or eggs included **illustrations** so that audiences could associate the nests and eggs with the bird that built or laid them. **Curatorial context** was provided by the Logan Museum of Anthropology through their "glass box" window into the collections version of visible storage where visitors can see staff at work and can place visible storage in context as a working study gallery. However, alternative strategies should also be explored.

Other interpretive strategies identified in this study, but that I have not found used in visible storage, include the use of **dioramas** or painted backdrops as introduced by Charles Willson Peale, and **immersive exhibits** such as those begun in early industrial museums. A potential use for dioramas might be to replace or enhance illustrations, such as those found at the Pember Museum, so as to provide even further context for visitors to make connections with animals’ relationships to habitat and environment and to better comprehend the relationships between the animals and the items displayed. Strategies for immersive exhibits might
be implemented to better allow general audiences to feel that they are in the presence of "storage" rather than an "exhibit," if that is the intended goal of a particular visible storage facility. These and other interpretive strategies that work in different types of museum exhibits merit further exploration as to their potential use in visible storage.

Another interpretive strategy not covered in this study, but worth considering, is **modeling**. When I was at the New-York Historical Society I did not at first notice the "Mutoscope" that so vividly displayed a kinesthetic representation of an apple parer at work. Instead, I saw a guard use the machine, which, in turn, gave me permission to do the same; I copied her movements and explored on my own. Perhaps posting stationary docents or museum aids to serve as models for general audiences might be another interpretive strategy that can be utilized in visible storage.

It is worth recalling, in conclusion, that the only way we can know how well interpretive strategies work for general audiences is through audience evaluation. While I feel these strategies do serve general audiences, how well they do this has yet to be determined. Further study is needed to establish the success of these and alternative interpretive strategies for enhancing the visitor experience in visible storage.
EPILOGUE

When I first began this study, I must admit that my original impression of visible storage, based on what I had heard throughout my career as a museum professional, was not altogether positive. My initial intent was to find a way to make this unexciting form of display storage—that seemed cluttered and without interpretation—interesting and educational. But as I researched this topic, I soon realized that visible storage can be very exciting; at many visible storage facilities, clutter is at a minimum while interpretation abounds. As I recalled my encounter with black and red pottery at the Getty in Malibu (see Introduction), I remembered the sense of amazement that can be derived from even a non-interpreted visible storage facility. Viewing Greek Archaic vases as an expert, after just having studied how this black and red pottery was made, was truly a wonderful experience. I found that I was able to achieve this same sense of wonder as a novice at the New-York Historical Society when I cranked the handle of the "Mutoscope" and realized that I was replicating the experience of cranking an actual apple parer (see Findings & Conclusions). Through this study, I have learned that interpretive strategies can enhance the visitor experience of visible storage, making it a wondrous experience for expert and novice alike.
BIBLIOGRAPHY


Alexander, Edward P. *Museums in Motion: An Introduction the History and Functions of Museums*. Walnut Creek: Alta Mira Press, 1996.


Registrars Committee of the AAM. RCAAM@SIVM.SI.EDU (November 2001).


APPENDIX 1

VISIBLE STORAGE SURVEY COVER LETTER AND SURVEY INSTRUMENT
February 11, 2002

Chm. Education Guy Kaulukukui
Bishop Museum
1525 Bernice St.
Honolulu, HI 96817-2704

Dear Guy,

SUBJECT: JFKU MASTER’S PROJECT SURVEY

My name is Dana Neitzel and I am a Museum Studies graduate student at John F. Kennedy University working on a master's degree in Public Programming and a certificate in Collections Management. For my master's project, I am focusing on interpretive and educational strategies for visible storage, a combination of display and storage that is becoming increasingly common throughout the United States.

As part of my research, I would like to find out how museum professionals in the United States would describe visible storage in its various forms, and to determine who is currently using visible storage and how. Regardless of whether or not your museum uses visible storage, please take a few moments to fill out and return the enclosed survey in the self-addressed stamped envelope provided. Your information is important to my research and your assistance is greatly appreciated.

Sincerely,

Dana Neitzel
Museum Studies Graduate Student
John F. Kennedy University

Enclosure (2)
Visible Storage Survey

Please answer the following questions about visible storage and return this form in the enclosed self-addressed stamped envelope by March 15, 2002.

1. According to current literature, the following terms may have very similar or very different meanings. What do these terms mean to you?

Visible Storage

_________________________________________________________
_________________________________________________________
_________________________________________________________

Open Storage

_________________________________________________________
_________________________________________________________

Study Storage

_________________________________________________________
_________________________________________________________

2. Does your museum have any of the following?

- Visible Storage
- Open Storage
- Study Storage
- Alternative form of visible storage

3. If no, would you consider implementing?

- Yes
- No

If yes, do you consider it to be successful?

- Yes
- No

Why or why not?

4. If your museum does have some form of Visible Storage, please describe it in detail and comment on any interpretive or educational strategies (labels, catalogs, public programs ... etc.) you have incorporated and the audiences they target. (Please write on the back of this page or include additional sheets. Additional information, such as visitor survey results or label copy, would also be appreciated.)

May I contact you for clarification?

Would you like a copy of my survey results?

Thank you for taking the time to help me with my research!

Dana Neitzel, Museum Studies Graduate Student, JFKU
APPENDIX 2

COMPLETE LIST OF INTERVIEWS
INTERVIEWS

Malia Baron
Assistant Registrar
Bernice Pauahi Bishop Museum
(e-mail correspondence 11/2001)

Carrie Rebora Barratt
Curator, American Paintings and Sculpture
Metropolitan Museum of Art
(telephone interview 4/2002)

Cathy Blackbourn
Professional Development Program Manager
Ontario Museum Association
(e-mail correspondence 11/2001 & telephone interview 12/2001)

Dwyer Brown
Associate Museum Registrar
San Francisco Airport Museums
(personal interview 11/2001)

Joanna Brown
Director of Collections & Curator
Old Salem, Inc./MESDA
(e-mail correspondence 5/2002)

James Bryant
Curator of Natural History
Riverside Municipal Museum
Former Director
Pember Museum of Natural History
(telephone interview 1/2002)

Adele Burke
Director of Education

Skrball Cultural Center
(telephone interview 2/2002)

Starlyn D'Angelo
Curator
Shaker Museum and Library
(e-mail correspondence 5/2002)

Scott Eberle
V.P. of Collections & Interpretation
Strong Museum
(telephone interview & e-mail correspondence 2/2002)

Richard Efthim
Program Director
Naturalist Center, National Museum of Natural History
(telephone interview 12/2001, e-mail correspondence 6/2002)

Richard Esparza
Director
Riverside Municipal Museum
(e-mail correspondence 10/2001)

Kathy Henri
Collections Manager/Asst. Curator
Ventura County Museum
(e-mail correspondence 4/2002)

Lisa MacKinney
Program Evaluator
California Academy of Sciences
(e-mail correspondence 11/2001)

Tracy Meehan
Collection Manager and Registrar
The Adirondack Museum
(e-mail correspondence 5/2002)

Nicolette Meister
Collections Manager
Logan Museum of Anthropology
(e-mail correspondence 11/2001)

Gary Moore
Assistant Director
Gilcrease Museum
(e-mail correspondence 11/2001)

Jane-Ellen Murphy
Museum Collections Manager
University of Arkansas Museum
(e-mail correspondence 5/2002)

Amy Reeves
Registrar
Duke University Museum of Art
(e-mail correspondence 5/2002)

Anne Rowland
Curator
Museum of the Aleutians
(e-mail correspondence 5/2002)

Andrea Selbig
Registrar
Elvehjem Museum of Art
(e-mail correspondence 5/2002)

Susan Spero
Museum Educator
John F. Kennedy University
(telephone interview 11/2001)

Linda Stevens

Educational Projects Manager
National Museum of Natural History
(telephone interview 12/2001)

Mary Jo Sutton
Associate Director of Exhibits
Bay Area Discovery Museum
(e-mail correspondence & telephone interview 11/2001)

Patricia Tice
Director of Collections
Strong Museum
(telephone interview 2/2002)

Jane M. Weinke
Curator of Collections/Registrar
Leigh Yawkey Woodson Art Museum
(e-mail correspondence 5/2002)

David Whitehouse
Executive Director
Corning Museum of Glass
(telephone interview 4/2002)

Susan Youdovin
Curator of Education
Spertus Museum
(e-mail correspondence 11/2001)
APPENDIX 3

SITE VISIT INTERVIEW INSTRUMENT
Visible Storage Interview Questions

1. Institution:

2. Name/Title

3. What year did your museum implement visible storage?

4. Why did you choose to implement visible storage? What is its purpose?

5. Did you follow a model? Whose?
   4a. In what ways did you deviate from the model?

6. What % of your collections is
   _____in visible storage  _____on exhibit  _____in closed storage

7. Does your visible storage consist of
   _____complete collections  _____partial/representative collections
   7a. What kind?

8. How has visible storage at your museum changed since it was first implemented?

9. If you could, what would you change now?

10. What would you leave the same?

11. What kind of object identification does your visible storage offer?
    _____catalog records  _____kiosks  _____ID labels
    other ________________________________

12. What kind of object interpretation does your visible storage offer?
    _____context  _____interpretive labels
    other ________________________________

13. Who makes up your audience for visible storage / what % of different audiences use it?

14. Do you feel visible storage meets all audiences' needs? Why or why not?

15. If you were starting over, would you incorporate visible storage again? Why/why not?

16. What recommendations would you make to others considering visible storage?
APPENDIX 4

EXAMPLES OF SMITHSONIAN INSTITUTION-NATURALIST CENTER "MUSEUM MYSTERIES" LABELS
This is a fossil turtle shell.

Can you tell at which end the turtle’s head would have been?

(If you need some clues, check out the modern turtles near the standing polar bear).

Identifying fossils and learning about the environment in which they lived is something you can do at the Naturalist Center.

Museum scientists who study fossils are known as paleontologists. Paleontologists work to record the wide diversity of life that has existed on our planet. Some study fossils for clues about past environments. Sometimes they study modern animals and ecosystems to better understand the past.
CAN YOU SOLVE THIS MUSEUM MYSTERY?

This dog, we believe, may have been hit by a car.

MYSTERY:
1. Can you find the places on the dog’s skeleton that gave us the clues about his accident?
2. Can you find clues that tell you if the dog died from the accident or if it’s injuries healed?

Note: (Pieces of cartilage under the rib cage are missing because they fell off, not because of the accident)

Museum scientists who study mammals or other animals are also known as zoologists.

Some study how animals play important roles in the ecosystem.

Others record the wide diversity of life on our planet.
Snails grow their shells in coils.

Some coil in a clockwise direction...
...and some coil in a counterclockwise direction.

**MYSTERY:** Do snail shells in the northern hemisphere coil in the opposite direction from snail shells in the southern hemisphere?

(Clue: Check the labels to learn where the shells were collected. We have an atlas in case you need one.)

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Seeing details you never noticed before and looking up information to solve mysteries are just some of the fun things you can do at the Naturalist Center.
APPENDIX 5

U.S. MUSEUMS IDENTIFIED AS HAVING VISIBLE STORAGE
U.S. MUSEUMS IDENTIFIED AS HAVING VISIBLE STORAGE

Corning Museum of Glass
One Museum Way
Corning, New York 14830-2253
607-974-7654
www.cmog.org
  ▪ Jerome & Lucille Strauss Study Gallery contains approximately 10% of the museum's glass collection in a storage area that anyone can visit at any time.

Denver Art Museum
100 14th Ave. Parkway
Denver, CO 80204
720-913-0053
  ▪ Pre-Columbian collection is displayed as a publicly accessible study gallery with introductory panels introducing geographic areas, culture area labels with small maps, and booklets containing label information. Visible storage is enhanced with an interpretive panel, "What Makes Good Pottery," as well as with reading and video areas and family activities incorporated throughout.

Elvehjem Museum of Art
University of Wisconsin-Madison
800 University Avenue
Madison, WI 53706
608-263-3722
www.lvm.wisc.edu
  ▪ Visible storage of approximately 44 pieces of furniture representing the 16th-20th centuries in glass cases that line 2 hallways in the museum's lower level. This long-term display from the permanent collection is arranged in chronological order with labels providing basic ID information. General audiences have access whenever the building is open.

Fine Arts Collection, Luther College
700 College Dr.
Luther College Library
Decorah, IA 52101-1042
563-387-1195
- Limited visible storage of small objects with minimal signage, since objects are uniform—either all by same maker or are similar in type and age.

**Gila Co. Historical Museum**
P.O. Box 2891
Globe, AZ 85502
928-425-7385
- Collections include prehistoric pottery, tools, and a collection of Indian baskets displayed in ceiling-high display cases with minimal interpretation (docents usually present for explanation and guidance).

**Glenview Area Historical Society**
1121 Wall Kegan Road
Glenview, IL 60025
- All collections, including furniture, china, glass, textiles, toys, and dolls are on display in the 2 story completely furnished home.

**Lake Wales Museum & Cultural Center**
3255 Scenic Hwy.
Lake Wales, FL 33853
863-678-4209
- Glass-enclosed display of collections visible to the patron, but segmented to provide accurate documentation of location.

**Logan Museum of Anthropology**
Beloit College
700 College Street
Beloit, WI 53511
608-363-2305
- Combination of exhibit and storage functions in one space. A two-story "glass box" enclosure in the center of the building allows the visitor to walk completely around the central area and view a much greater portion of the collection than would normally be on display, as well as observe the staff, students, and researchers at work.

**Mercer Museum**
84 South Pine Street
Doylestown, PA 18901-4999
215-345-0210  
www.mercermuseum.org
- Design of museum allows for large amounts of objects throughout, and other objects are categorized in separate rooms with windows and windowed doors.

**Metropolitan Museum of Art**
1000 Fifth Avenue  
New York, NY 10028-0198  
212-879-5500  
www.metmuseum.org
- The Henry R. Luce Center for the Study of American Art, located on the American Wing’s mezzanine, houses those American fine art and decorative art objects that are not on view in the permanent galleries and period rooms or on loan to other institutions.
- A similar area is available for viewing the Egyptian collection where virtually all objects in the collection are on display.

**Museum of the Aleutians**
P.O. Box 648  
Unalaska, AL 99685  
www.aleutians.org
- Uses visible storage in the Permanent Exhibits Gallery to expand the archaeological displays. Drawers were built into the base of a wall of display cases and these drawers light up when opened. Drawers are used to show more examples of the featured artifacts, to show the depth of the collection, and to show the range of Unangan/Aleut production.
- There is also a window into the workroom from this gallery so visitors can see work in progress or other recently found artifacts or donations to the collection. An archaeology dig is held each summer, so this window is used to show the latest finds.

**Naturalist Center**
741 Miller Drive, SE, Suite G-2  
Leesburg, VA 20175  
800-729-7725
- The main study gallery is open to visitors 10 years of age and older and contains over 30,000 objects for close-up, hands-on study.
New-York Historical Society
170 Central Park West
New York, NY 10024
212-873-3400
www.nyhistory.org
- In the Henry Luce III Center for the Study of American Culture, visitors can view collections close-up. Interpretive exhibits provide context for the entire study gallery.

Pember Museum of Natural History
33 W. Main St.
Granville, NY 12832
518-642-1515
www.pembermuseum.com
- Victorian-style visible storage.

Sheldon Jackson Museum
104 College Drive
Sitka, AK 99835
907-747-8981
http://www.museums.state.ak.us
- Public gallery cabinets which have 72 drawers and 12 deck areas with labels and interpretation of the exhibited artifacts as well as gallery notebooks containing copies of catalog cards of all artifacts on exhibit available at the Visitor Services podium.

Somerset Historical Center
10649 Somerset Pike
Somerset, PA 15501
814-445-6077
- Barn, containing large farm equipment, allows interested visitors to see objects at close range in the form of a self-guided tour. Currently, only some equipment has interpretive labels. In 2003, interpretation will be enhanced to show the visitor changes over time with advancements in technology.

Strong Museum
One Manhattan Square
Rochester, NY 14607
585-263-2700
http://www.strongmuseum.org
One of the earliest American models of visible storage, the Strong devoted its entire second floor to visible storage when it opened as a scholarly history museum in 1982. Since that time, the Strong has become an interactive children's history museum and visible storage is in the process of being changed to a "Gatherer's Time Lab."

**Thomas Gilcrease Museum Association**
1400 N. Gilcrease Museum Road
Tulsa, OK 74127
918-596-2769
www.gilcrease.org

- Public access to collections within the context of storage and a preservation environment. Museum is in process [as of 4/2002] of redesigning visible storage to facilitate both informal and formal research.

**University of Arkansas Museum**

- Visible storage consists of a large viewing window that looks into the main storage facility and a small room adjacent which has glass walls to allow visitors to view the collection of pots stored there.

**Warren County Historical Society**
210 Fourth Avenue
Warren, PA 16365
814-723-1795
www.kinzua.net/warrenhistory

- In the Wilder Museum collection, the bulk of the collection is stored and displayed with identification tags in glass cases and cupboards.
APPENDIX 6

U.S. MUSEUMS IDENTIFIED AS HAVING STUDY STORAGE
U.S. MUSEUMS IDENTIFIED AS HAVING STUDY STORAGE

Adirondack Museum
P.O. Box 99
Routes 28N & 30
Blue Mountain Lake, NY 12912
518-352-7311
- Collections housed at the Collections Storage and Study Center include: land and water transportation; industrial, agricultural, household and homesteading tools and equipment. Objects are arranged by subject matter and are available by appointment for research. The Adirondack Museum also provides special and scheduled tours of this facility. Other storage areas contain collections of textiles, decorative and fine art, photographs, sports and recreation and are available by appointment only for research.

Bernice Pauahi Bishop Museum
1525 Bernice St.
Honolulu, HI 96817-2704
808-847-3511
www.bishopmuseum.org
- "Behind the scenes" type of tour that takes visitors to a room where particular objects have been set out in conjunction with an historical drama that is played out earlier. Glass windows allow these visitors to watch staff work on collections and to see the objects housed on shelving. These visitors may enter this area where they are shown select drawers and open shelving.

Brookside Saratoga County Historical Society
6 Charlton St.
Ballston Spa, NY 12020
518-885-4000
http://www.broksidemuseum.org
- Research materials stored in archival boxes in closed storage areas that are accessible to researchers for study purposes.

Capitol Reef National Park
HC 70 Box 15
Torrey, UT 84775
435-425-3791
- Maps, oral history interview transcripts, and manuscripts for use by staff or by special arrangement with historians.

**Children's Museum, Boston**
300 Congress St.
Boston, MA 02116
617-426-6500
- Study storage for the Native American collection abuts an exhibition area on the 3rd floor of the museum. Access is currently only available through the chaperoned school program, with a team of educators. Objects are graded with a red, orange, and green sticker system, and all objects are attached to a board or other support. Children are only allowed to handle the supports. The red objects mean do not touch, yellow means handle with great caution, and green means okay to touch carefully.

**Georgia State Parks & Historic Sites**
Chief Vann House State Historic Site
82 Highway 225 North
Chatsworth, Georgia 30705
706-695-2598
- Mostly furniture located in the Vann House facilitated by tours that are given room by room.

**Grant Co. Historical Museum**
Canyon City, OR 97820
541-575-0362
- Photo files in drawers--not visible but easily accessed by the curator or volunteer for the visitor.

**Henry Francis Du Pont Winterthur Museum**
Rte, 52
Winterthur, DE 19735
302-888-4641
www.winterthur.org
- Ceramics & Glass Study Gallery is accessible as part of a Special Subject Tour on a related topic. Room is also used for teaching MA students and occasionally for related meetings, numbering objects, and cataloging.
Leigh Yawkey Woodson Art Museum
700 N. 12th Street
Wausau, WI 54403-5007
715-845-7010
- Maintains a significant repository for drawings of animal imagery. The collection includes more than 1,000 sheets, which are matted to standard sizes. They are open to students and researchers on an appointment only basis.

Marion Koogler McNay Art Museum
6000 North New Braunfels
San Antonio, TX 78209-0069
210-805-1765
- Print collection and Theatre Arts Library have objects available to study under supervision of curator.

Mercer Museum
84 South Pine Street
Doylestown, PA 18901-4999
215-345-0210
www.mercermuseum.org
- Bucks County Historical Society allows easy access to collections with a large table and chairs for visiting researchers.

Naturalist Center
741 Miller Drive, SE, Suite G-2
Leesburg, Virginia 20175
800-729-7725
- The main study gallery is open to visitors 10 years of age and older and contains over 30,000 objects for close-up, hands-on study.

Perkins School for the Blind
175 North Beacon
Watertown, MA 02466
617-972-7541
- Tactile museum of objects used by the students--models of animals, some stuffed animals and birds, plaster models of human body parts, etc.

Shaker Museum and Library
518-794-9100
Built in 1992, the study storage facility provides access to the collection in a climate controlled area making it possible for researchers and curators to have access to the collection. A similar facility for textiles was created in 2000.

**Skirball Cultural Center**  
2701 N. Sepulveda Blvd.  
Los Angeles, CA 90049  
310-440-4600
- [Closed as of this printing 4/2002] Open for group tours by appointment only, this Study Gallery provides an opportunity for the public to view objects normally in storage and to access information and take home a computer print-out with data and an image of items of special interest to them.

**Spring Street Historical Museum**  
525 Spring Street  
Shreveport, LA 71101  
318-424-0964
- [www.springstreetmuseum.com](http://www.springstreetmuseum.com)  
  - Archival storage that visiting historians, staff and other professionals may view for research purposes.

**Strawberry Banke**  
P.O. Box 300  
Portsmouth, NH 03802-0300  
603-422-7507
- Non-principal collections that are none the less valuable from a research or study perspective for students, researchers and general scholars.

**Somerset Historical Center**  
10649 Somerset Pike  
Somerset, PA 15501  
814-445-6077
- Restricted area limited to visitors with appointments to study particular objects
University of Arkansas Museum
- A workroom near the storage facility in which researchers can make use of collections under supervision. No artifacts are actually stored there, but the space is available to researchers.

Warren County Historical Society
210 Fourth Avenue
Warren, PA 16365
814-723-1795
www.kinzua.net/warrenhistory
- All items from the Julius Bourquin County Store are displayed for visitor and student tours.
APPENDIX 7

U.S. MUSEUMS WITH PLANS TO IMPLEMENT VISIBLE STORAGE
U.S. MUSEUMS WITH PLANS TO IMPLEMENT VISIBLE STORAGE

Arizona State Library, Archives and Public Records
Arizona Capitol Museum Division
1700 W. Washington
Phoenix, AZ 85007
602-364-0304
http://www.lib.az.us
  ▪ In the process of creating and installing an exhibit that includes visible storage. Exhibit will include a viewing area into main storage space and artifact processing room. Exhibit storyline covers the collection, how it came to be, what is in it, how objects are cared for by the museum, and how visitors can care for their keepsakes at home.

Arizona State Museum
Tucson, AZ
  ▪ In the process of creating a visible storage area for its southwest pottery collection.

Benton County Historical Society & Museum
P.O. Box 35
Philomath, OR 97370-0035
541-929-6230
  ▪ Planning a new facility with visible storage components in order to give visitors a better idea of the breadth of collections.

Duke University Museum of Art
Box 90732
Durham, NC 27708
919-684-1970
www.duke.edu/duma
  ▪ Building a new museum that intends to have both study storage and visible storage.

Nevada Museum of Art
160 W. Liberty St.
Reno, NV 89501
775-329-3333
Preparing to build a new museum, that incorporates visible storage, which will open in March, 2003.

**Smithsonian American Art Museum**
- The Henry Luce Foundation Center for American Art will be housed on the museum's third floor once the renovation of the Old Patent Office is completed in 2004. Major collections to be on view in the center will include: George Catlin's Indian Gallery, impressionist and Gilded Age paintings, portrait miniatures, African American and Latino artwork and New Deal works from the 1930s.

**Spertus Museum**
618 S. Michigan Avenue  
Chicago, IL 60605  
312-322-1777
- In the beginning stages of planning a new museum and would like to incorporate visible storage.

**State Museum of Pennsylvania**
300 North Streets  
Harrisburg, PA 17120-0024  
717-783-9912
- Have plans to incorporate visible storage into renovation.

**Ventura County Museum of History & Art**
100 E. Main Street  
Ventura, CA 93001  
805-653-0323  
www.vcmha.org
- Begun planning an expansion for building and have discussed plans to incorporate visible storage.
APPENDIX 8

U.S. MUSEUMS WITH PLANS TO IMPLEMENT STUDY STORAGE
U.S. MUSEUMS WITH PLANS TO IMPLEMENT STUDY STORAGE

Duke University Museum of Art
Box 90732
Durham, NC 27708
919-684-1970
www.duke.edu/duma
- Building a new museum that intends to have both study storage and visible storage.

Mexican Fine Arts Center Museum
1852 West 19th Street
Chicago, IL 60608
312-738-1503
- Planning space for scholars in works on paper and photo vaults.