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Martha Kellogg Smith

Art Information Use and Needs of Non-Specialists:
Evidence in Art Museum Visitor Studies

Martha Kellogg Smith

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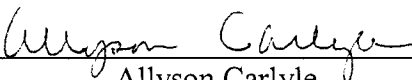
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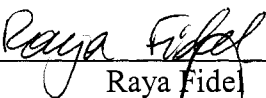


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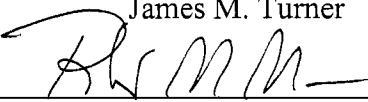
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Abstract

Art Information Use and Needs of Non-Specialists:
Evidence in Art Museum Visitor Studies

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Digital and Web technologies have created dramatic changes in art museum information systems which have in turn invited an expanding diversity of non-specialist art information seekers. Research is needed to support the organization of and access to basic art information content, and the vocabularies which frame this content, for the use of general audiences, whether they are using gallery-based or online information resources. The purpose of this dissertation is to explore the information needs and behaviors of non-specialist art viewers in order to contribute to the improvement of these information systems.

The dissertation uses qualitative meta-analysis to examine the empirical findings of a purposeful selection of studies of adult visitors to physical art museums in order to better understand: (a) the beliefs and assumptions about art information that visitors bring to art museums, (b) how visitors process information in the galleries among the artworks using physical, emotional, cognitive, and socially shared interactions, and (c) how visitors use museum-supplied information. The research question asks: what do art museum visitor studies tell us about the types of information—visual, contextual, interpretive—that adult art museum visitors seek and use as they interact with artworks in museum settings?

A conceptual framework of the types of information and information behaviors used by art museum visitors is developed from this meta-analysis of empirical

evidence and from the cross-case comparison of interpretive behavior models created by art museum visitor researchers. The framework outlines of the types of information—visual, contextual, and interpretive—that museum visitors use in combination with their information-gathering behaviors of artwork description, analysis and identification, and interpretation. The framework carries implications for museum information system design, including the creation of subject access to art information resources appropriate to the varying levels of art knowledge of general audiences. The framework also suggests areas for further research into non-specialist art information needs and uses.

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Chapter 1: The Information Context of the Study: Art Information for Non-Specialists

1.1 Introduction

During the current era of dramatic change in art museum visiting made possible by the implementation of new digital and Web technologies, there remain large gaps in our understanding of how to provide information to an expanding diversity of art audiences. Traditional art museum information systems are designed for art specialists already familiar with the concepts, vocabularies, and interpretive behaviors of art history and criticism, that is, for curators and other museum staff, academics, and students of art history. However, we know little about what information is needed by members of the general public who want to learn about art objects or need art images for their own purposes. Research is needed to support the organization of and behaviors used to access basic art content, and the concepts and vocabularies which frame this content, for the use of non-specialist audiences.

This study contributes to answering this effort by focusing specifically on the basic types of information and associated information behaviors used by general audience adult visitors in encounters with original artworks in physical “brick and mortar” art museums. This is a first step in determining what types of information systems should supply and what information-seeking behaviors systems should support for these users. The goal of this exploration is to contribute to the improvement of art information systems in art museums for general audiences.

To do this, the dissertation analyzes a purposeful selection of existing art museum visitor studies. These studies are conducted by art museum educators and researchers to improve museum interpretation, educational techniques, and visitor learning. They focus on art concepts and vocabularies expressed by non-art-specialists and examine visitors’ use of visual, contextual, and interpretive information in order to make meaning for themselves from artworks. Thus, these researchers’ findings and resulting concepts and models of viewer information use are of great interest to designers of knowledge organization schemas and navigation tools in

museum information systems and to researchers interested in a better general understanding of information use by non-art-specialists.

Qualitative meta-analysis is employed here as an appropriate method to analyze and synthesize the concepts and models that art museum researchers and educators use in these studies to describe the information use of non-specialists.

Thus, the specific research question that this dissertation poses is:

What do art museum visitor studies tell us about the types of information—visual, contextual, interpretive—that adult art museum visitors seek and use as they interact with artworks in museum settings?

1.2 Art Museum Information Systems and Their Audiences

The impetus and context for this dissertation research is the real world of practice and applications development in art museum information systems specifically and in art image documentation and retrieval systems more broadly. The wide availability of images of artworks in museums to new audiences via the World Wide Web and art museums' efforts to use Web and digital technologies to further their outreach and education missions are stimulating new research into museum and visual information users.

New audiences for fine art information and images have grown as a result of Web access to art museum materials. The increased expectations of these audiences for object information and interpretation are motivating museums to expand and adjust existing information systems to accommodate more than just the select, art-specialist audiences (often internal) that these systems have served in the past. Library and information science (LIS) and museum curatorship and object registration have provided for these systems a number of knowledge organization tools, such as metadata schemas, descriptive vocabularies, and authority lists based on art historical and museum professional practice which serve the information needs and behaviors of scholarly research. In an effort to create guidelines for subject analysis and indexing of art object and image records in electronic databases, LIS has recommended

approaches to indexing based on the theory of iconographic interpretation used by art specialists. However, few large databases of art objects or images, based in individual museums, consortia of digital museums, academic institutions, or commercial image providers, have been cataloged and indexed to any depth or consistency with these tools or this theoretical subject analysis approach. Thus, studies of system users—either specialist or non-specialist—have not been widespread or very informative in either testing knowledge organization tools or testing user behaviors of searching, browsing, and using art information to see if they reflect the theoretical model of iconographic interpretation.

In focusing on non-specialist artwork viewers and their information needs and behaviors in the museum context, this dissertation responds to calls in LIS images research to study varieties of image user needs and behaviors in contexts of use and in specific subject disciplines and application domains (Chen and Rasmussen, 1999, pp. 292-293; Jørgensen, 2003, pp. 263-266; Rasmussen, 1997, pp. 172-175; Sandore, 1999). Many LIS image researchers note that the development of technologies of image processing and access currently outpace our understanding of the needs of system users for visual information in general (Chen and Rasmussen, 1999; Enser, 1995, pp. 160-161; Goodrum, 2000, p. 63). Concurrently, there is growing concern in the museum community that research on content and intellectual access issues in museum digitization projects has lagged well behind implementation of new technologies. Deidre Stam states, “although concern with content is commonplace among speculative writers on digital imaging projects [in museums], it seems anathema to hard-core researchers” (Stam, 1994, p. 32). In response to these calls for research and to the parallel calls for user needs assessment in museum website development research (see, for example, Marty and Twidale, 2004), this dissertation concentrates not on museum technology use, but rather on the human—verbal, visual, expressive, aesthetic, and social—sides of art information needs and use that could be served by these technologies.

1.3 New Research on Art Museum Visitor Studies: Methods and Goals

In order to answer the dissertation's research question, a qualitative meta-analysis of a pertinent body of existing research—art museum visitor studies—is used to explore the extensive empirical evidence about (a) the types of visual, contextual, and interpretive information and (b) the physical, emotional, cognitive, and shared information-gathering behaviors that non-specialist adult art viewers use to examine and understand artworks in museums.

1.3.1 Art Museum Visitor Studies

Studies of non-art-specialists in the on-site museum environment already exist in the form of art museum visitor studies. Conducted by museum educators and researchers to evaluate information provision to art novices, they constitute an intriguing body of research addressing visitor comprehension of basic art concepts and the effectiveness of concept organization and vocabularies of description in museum information resources. While some of these studies are primarily demographic surveys, many others use qualitative research approaches to examine gallery conversations and behaviors of viewers in response to artworks and their accompanying information, for example, that in object wall labels. From an information perspective, the study of the effectiveness of art museum interpretation, movement in gallery arrangements, and visitor viewing behaviors is a particularly intriguing means for exploring non-specialist art information concepts, vocabularies, and browsing patterns since they are at the heart of art information exchange geared to casual viewers in informal, self-directed learning settings. Visitor studies frequently generate what LIS researchers would consider to be concepts and models of:

- personal knowledge structures (considering the roles of cognition, affect, expertise, and memory)
- information-seeking and sense-making behaviors (searching and browsing, information encountering)
- attention to relevant artwork characteristics (“document” characteristics)

- social interactions which come into play when visitors exchange information

In other words, these provide concepts and models that can easily be translated into what most information scientists would recognize as an information perspective. Museum visitor studies are information user studies, in effect, which focus on the context of one type of learning and memory institution.

1.3.2 Qualitative Meta-Analysis and a Resulting Conceptual Framework

Art museum visitor studies reveal the conceptual thinking and evaluative criteria of the museum professionals who conduct them. The studies are “constructs” themselves, created by knowledgeable research and education staff who interact professionally with visitors over the course of many exhibitions with different types of objects and information (though individual studies may explore visitor behavior in only one exhibition or even one selected display). The qualitative meta-analysis method employed in this dissertation focuses on the findings of these studies, as they are expressed in (a) narrative descriptions and observations, (b) formalized or named concepts, and/or (c) models constructed from these concepts and their relationships.

Qualitative meta-analysis is an appropriate research method to describe, analyze, compare, and synthesize the observations, concepts, and models posited by these primarily qualitative visitor studies. Originally developed for nursing and health sciences inquiry, it is a research method in which primary qualitative research studies on a given topic are assembled and analyzed systematically, holistically, and in cross-case comparisons for their findings and resulting conceptual models, as well as for their original research goals, designs, and theoretical underpinnings, in order to describe the state of knowledge on that topic (see Paterson, Thorne, Canam, and Jillings, 2001; Sandelowski, 2004; Sandelowski, Docherty, and Emden, 1997).

Thus, the *units of analysis* for this dissertation are art museum visitor studies, chosen on criteria of topical and methodological representativeness and focus on adult visitor interactions with original artworks in the galleries (to be explained in more

detail in Chapter 4 Research Design and Art Museum Visitor Study Selection). The ultimate *objects of analysis* within these studies for the purposes of this dissertation are the claims—in the form of observations, concepts, and models—that art museum researchers make about the information types and behaviors used by adult art viewers in museum settings.

From the meta-analysis of the observations, concepts, and models in qualitative art museum visitor studies, the dissertation creates and presents a general framework of artwork interpretation and information use. The purpose of the framework is to describe in general how viewers use and integrate visual, contextual, and interpretive information in the process of encountering and making meaning from artworks. The framework connects viewing and interpretation behaviors with both general and more specific types of information needed at different stages of this developmental model and thus suggests implications for art information system design.

1.4 Significance of the Study

By doing a qualitative meta-analysis of art museum visitor studies, this study serves needs highlighted in the research review literature of both LIS and museum studies: the need for research (a) in the contexts and subject domains of visual information use and (b) for concept and theory development in visual information use.

1.4.1 Contexts and Subject Domains of Visual Information Use

This study contributes to improving art museum information systems by providing a better understanding of art museums as information contexts and fine art as a subject domain, here from the perspective of general visitors and non-specialists. Museum information systems are challenged by this non-specialist audience to provide art object information accessible in different layers of difficulty, translated into useful terminology and concepts, and that serve both the narrative “exhibition” mode of information presentation as well as a database searching mode.

Intellectual organization

The findings of the meta-analysis of this study contribute to the organization of art museum information systems for the use of non-specialists by suggesting the presentation of contextual and interpretive information in areas of particular interest to novice viewers. These include artwork subject matter, information on artists, media and techniques, and original contexts of artwork creation, function, and use. The study suggests resources for accessible explanations of art historical concepts and terminologies (as opposed to object-centered specialist terminologies for experts), especially in response to the narrative, social, and individualistic learning preferences and characteristics that art museum visitors display while interacting with original objects in gallery settings. For example, more useful pathways for non-specialists could be created by adding new elements to art object and collection records, such as links to simple definitions of art terms and techniques or to comparative visual examples of related artworks. The study suggests ways of further researching these pathways and also enhancements and different approaches to descriptive cataloging and subject indexing with the exploration of more subjective artwork attributes such as artwork moods and emotions and visual styles.

Information-gathering behaviors

Art museum information systems are challenged to serve the information-gathering tasks of art viewers such as navigating physically and intellectually among artworks in collections, examining and comparing artworks, and generating information collaboratively by sharing ideas and feelings about artworks with others. The dissertation examines these tasks in the gallery-based environment. In the broader context of image searching and retrieval in electronic databases, a number of LIS researchers cite our lack of understanding of the navigational and sequential processes involved in searching and browsing behaviors with images and in using images' visual attributes in combination with contextual information supplied by associated texts

(Fidel, 1997, pp. 181-182; Goodrum, 2000, pp. 65-66; Jørgensen, 2003, pp. 244-266). Since museums are visual browsing environments par excellence, and much museum information is supplied in the form of signage and texts, museum visitor studies provide one useful, empirically based picture of how these behaviors, visual attributes, and textual information intersect.

Comparisons between on-site and online art museum visitors

Qualitative studies of in-house visitors provide concepts and models of visitors' information types and behaviors that can be compared to those being newly generated by the growing body of research on virtual visitors and museum technology users conducted by museum web developers and informatics researchers (see, for example, Marty, Rayward, and Twidale, 2003). The findings and models created by in-house visitor studies are germane to designing virtual museum exhibitions and databases, since online tools increasingly serve the same casual learners who navigate both gallery-based and virtual spaces and pick up key concepts in similarly personal and unpredictable ways. It is one goal of this dissertation to provide some of the building blocks from in-house research that can be compared to the growing body of research on virtual visitors and museum technology users.

1.4.2 Concept and Theory Development

The conceptual framework of artwork interpretation and information use, derived from empirical findings concerning viewer information use in gallery settings, contributes to the development of a broader LIS-based theoretical framework for the interpretation of visual information. One objective of the construction of this framework is to compare it to the theory of artwork interpretive analysis of art historian Erwin Panofsky which underlies current standard LIS-based art image subject indexing procedures. The goal is to explore, via the meta-analysis of empirical evidence in visitor studies and the models of viewer interpretation created by these studies' authors, whether the information behaviors and associated information types

referred to in Panofsky's theory appear in the artwork interactions and information gathering of non-specialist art viewers.

The dissertation provides a better understanding of art museums as information environments and as a result enlarges LIS visual information theory beyond the consideration of information in reproduction art images and database systems to a consideration of information in and associated with original visual artworks in gallery settings. Muh-Chyun Tang and Bradley L. Taylor stress the importance of addressing the "void" of LIS-based theory concerning the information conveyed by physical museum objects and how this information is represented in systems (Tang, 2005, pp. 52-53; Taylor, 2003, pp. 109-116).

The dissertation also responds to more general calls for the study and creation of an LIS-based theory of visual information and for exploring relevant theory in other visually oriented disciplines (Enser, 1995, pp. 140-147; Jørgensen, 2003, pp. 259-264, 271-272; Rafferty and Hilderley, 2005, pp. 71-98; Tang, 2005, p. 52). In addition, this study responds to calls for consolidating the findings of decades of empirical visitor research—as well as calls for interdisciplinary research—from the museum education research community (Dierking and Pollock, 1998; Packer and Ballantyne, 2002, p. 196; Serrell, 1998, pp. 49-52). This dissertation results in a conceptual framework of the information types and behaviors used by art museum visitors which is one response to this theory-building need.

Writing about digital information applications in museums, Stam cites the need for research that addresses the "managerial, pedagogical, social, and cognitive levels" of digital imaging for art museum projects:

This kind of research requires that techniques of social and behavioral sciences be adapted to the museological (and art institutional) situation. Without a solid body of theory and research on museums and allied institutions in general, this adaptation [of digital imaging] is difficult. A need exists, therefore, not only for research on specific applications of electronic digital imaging projects in the museum and art contexts, but also for investigation

of basic theory on the function of museums and art collection as institutions in the larger society (Stam, 1994, p. 36).

By examining the basic information needs and behaviors of in-house visitors to art museums, as framed by art museum researchers and educators in their qualitative research, the dissertation forms part of this cross-disciplinary investigation.

1.5 Conclusion and Outline of Chapters

The current chapter outlines the need for more research on the organization of and behaviors used to access basic art content for the use of non-specialist audiences in today's art museums. Analyzing existing art museum visitor studies is a way to gain understanding of non-specialists' art information concepts and behaviors, as seen through the eyes of experienced art museum researchers and educators. The qualitative meta-analysis method is employed here to collect, compare, and synthesize the observations, concepts, and models created by researchers who study art museum visitors directly. The significance of this study is that it gives us a clearer picture of art museums as information contexts and thereby contributes to concept and theory development in the area of visual information more broadly. It also suggests enhancements or different approaches to descriptive cataloging and subject access in in-house and online museum retrieval and presentation systems.

Chapter 2 provides background on contemporary art museum information and technology issues and research, including an overview of contemporary interest in art museum technologies, art images, and art museum websites. It surveys the relevant literature and research of museum informatics.

Chapter 3 surveys current LIS-based and museum-based art object and image documentation practice and provides background in LIS images research focusing on non-specialist art information.

Chapter 4 describes the dissertation research design in depth and expands on the specific methodology of qualitative meta-analysis and the criteria used to identify and select art museum visitor studies for meta-analysis in this dissertation.

Chapter 5 discusses the development of a data analysis codebook and the initial concepts on which this was based. This is followed by a description of the content and comparative analyses procedures used. It concludes with a description of the general thematic groups and levels of visitor expertise which emerge from the data and which in turn guide the meta-analysis.

Chapter 6 presents the findings of the meta-analysis of the visitor studies concerned with visitor attitudes and assumptions about art museums, museum visiting, and museum information.

Chapter 7 presents the findings of the meta-analysis of the visitor studies concerned with visitor information gathering in art museums.

Chapter 8 presents the findings of the meta-analysis of the visitor studies concerned with visitor responses to the content of art museum information.

In Chapter 9 a general conceptual framework of art museum visitor behaviors and use of information sources is developed from data generated from the meta-analysis of the visitor studies.

Chapter 10 first addresses the usefulness and limitations of art museum visitor studies and their meta-analysis for answering this dissertation's research question. It then discusses the findings from Chapters 6, 7, and 8 and the resulting conceptual framework and explores their implications for museum information system design and future research directions.

Chapter 2: Contemporary Art Museum Information and Technology Issues and Research

2.1 Introduction

This chapter focuses on art museums as information contexts and art museum visitors (both in-house and online) as information seekers. Stimulated by new technologies and the promised access to rich art object information and thematic exhibitions, non-specialist art audiences are challenging museums to create new avenues of access and new ways of presenting art concepts and vocabularies. As museum system audiences change from primarily specialist users (curatorial and academic) to a more diverse mix of users, the study of art information types and uses is becoming central to information system design.

Thus, this chapter presents an overview of the current popular interest in art museums, the expectations that museum visitors (in-house and online) bring with respect to both technology and art content, and the state of art museum information systems to respond. It pays particular attention to the educational role of art museums in lifelong and leisure learning and the implications of this for information provision.

2.2 Contemporary Interest in Art Museums and Their Websites

Both art museum attendance and art museum website visitation are flourishing in North America and around the world. Art museum attendance in the United States is astonishingly robust. Twenty-seven percent of Americans age 18 and over visited an art museum in 2002 (U.S. Census Bureau, 2004-2005, Table 1232). American art museums drew 100 million visitors in 2002, including repeat visitors, more than attended sporting events (Anderson, 2004). Similar interest in visiting art museums has been reported in Canada where one fourth of Canadians age 15 or older attended public art museums or galleries each year during the 1990s, more than attended either popular music events or live theater performances (Canada Council for the Arts et al., 2004).

Art museum websites are fulfilling predictions of the mid-1990s that website visitation would overtake in-house attendance within 10 years (Fopp, 1997, p. 149; Sullivan, 1998). Jim Ockuly reports that, while the Minneapolis Institute of Arts received 500,000 on-site visits in the fiscal year 2001/2002, the general museum website attracted about 2.5 million visits, and its ArtsConnectEd website for educational use attracted another half million visits (Ockuly, 2003, Museum Profile, para. 5). Paul Marty notes that online visitors to the Smithsonian Institution collections (not limited to artworks) are now five times the number who visit these collections in person (nearly 100 million in 2003; Marty, 2004, p. 22).

2.3 Art Museum Information and Technology Users and Their Expectations

These developments bring the opportunity for library and information science (LIS) researchers as well as museum developers to study what non-specialist artwork viewers and image seekers want and need from art image and information systems. Though we know little about non-specialists' information interests, needs, and behaviors, surveys of both in-house and online general art museum visitors reveal a growing desire for extended but intellectually accessible object and contextual information and plentiful images of artworks.

2.3.1 Web-Based Technologies

Web-based technologies, especially, have invited new audiences and stimulated new end user expectations for extensive images, rich museum object information, virtual exhibitions, and searching capabilities on art museum websites. In a survey of users of the large Web portal Virtual Library museum pages, Jonathan Bowen reports that 74% of website visitors (to all kinds of museums) expect to find online exhibitions, that is, thematic and interpretive presentations of selected museum objects in ways that mimic in-house exhibitions. Eighty-seven percent expect to find images, and 52% expect to be able to download these (Bowen, 1999, Virtual Visitor Survey, para. 6). Paul Marty attributes such high expectations for museum websites to

an increase in sophisticated media technology users, a trend he calls “consumerist” (Marty, 2005).

Museums see their websites as opportunities for adding value to and creating interest in their holdings by providing new avenues of access and interpretation. Robert Varisco and Ward Cates found that 87% of 100 art museums randomly selected from *The Official Museum Directory 2003* have websites with some sort of educational content beyond brief general museum information (Varisco and Cates, 2005, Findings, para. 2). Online reproductions of art objects, and museum objects in general, provide access to works held by distant institutions and serve both the preservation and access missions of museums. Art museums create website materials tied into current in-house exhibitions, virtual exhibitions of objects not necessarily in close physical proximity or even on physical display, and links to artworks and related materials on other websites. Digitized images of artworks permit virtual manipulations that are not possible in real life, for example, using a pointer to rotate a statue on its pedestal or zoom in on its details. Juxtaposing and processing images can also enable reconstructions of damaged works, virtual reassembly of dispersed artwork sets, and animations of working parts (Kravchyna and Hastings, 2002, Literature Review).

In addition, many museum websites now provide novel ways to serve museums’ efforts to help viewers personalize their experiences in providing interactive games and opportunities for virtual visitors to select their favorite artworks and create their own thematic exhibitions. The newest technologies offer website visitors the opportunities to participate in wikis, blogs, shared keywording of object records, and personal annotation, in recognition of the role that social interaction plays in both engaging visitor interest and in information exchange (see, for example, Shabajee, Miller, and Dingley, 2002, on community annotation and Barbieri and Paolini, 2001, on Web-based collaborative tools for virtual museum environments).

2.3.2 In-House Technologies

Gallery-based art museum visitors increasingly expect and appreciate some technological information aids, the most popular being handheld audio guides, providing recorded commentary that visitors listen to while viewing specific objects (Schwarzer, 2001, p. 37). Jim Ockuly found that in-house visitors to the Minneapolis Institute of Arts (MIA) often requested help locating specific works of art or “types of art” from both on-site staff and the in-house interactive directory (Ockuly, 2003, Major Findings, para. 2). Thirty-four percent of MIA visitors use the freestanding computer Learning Stations, and three fourths of these users say these stations enhance their understanding of art very much or quite a bit. Seventy-four percent would like to see the stations more prominently accessible “in the galleries closer to the art.” Though visitors did not necessarily expect to find such breadth or depth of information on-site in the museum, they were “particularly pleased to find it” (Ockuly, 2003, Interactive Learning Station Findings). This suggests that visitors do find information in these systems useful to refer to in close proximity to the physical artworks.

Nevertheless, visitors are still remarkably cautious about excessive reliance on and, indeed, the possible interference of intervening mediating technologies at the expense of experiencing the real thing. There is a clear recognition of the difference between the “real” and the technologically mediated, especially in art museums. A study of art museum visitors’ overwhelming preference for an informative, but traditional, exhibition of Canadian landscape paintings over a nearby gallery-based interactive media center, which allowed them to comment on and construct their own interpretations of the works on display (Lisus and Ericson, 1999), showed that visitors have clear expectations about what art museums are for. “A museum is pre-defined as an excursion through periods, histories, memories, and creative imagining. It is for observing and being rather than doing. Technology can be played with creatively elsewhere: at work, at home, at school, and at the shopping mall” (Lisus and Ericson, 1999, p. 210). Other studies have shown that even non-specialist art enthusiasts

clearly distinguish between the experience of viewing digital images of art on screen and viewing and being able to maneuver through and around original works in museum galleries (see, for example, Gay, Boehner, and Panella, 1997, p. 325). It is not the experience of the mediating technologies that draws art museum visitors ultimately: it is the opportunity to encounter original artworks *and* to draw on museum information and expertise in direct and uncomplicated ways.

2.3.3 Convergence of Web-Based and In-House Museum Information Environments

In-house and online information resources of art museums now overlap: website visitors expect to find exhibition mode presentations—parallel to what they would see on-site—and, conversely, in-house visitors are coming expect more enriched and flexible access to individual object information in the galleries—essentially in a database mode. Thus, systems are increasingly expected to support two kinds of access and information presentation. Varisco and Cates call these corresponding electronic formats as “online exhibits” and “guided tours” in contrast to “collections” and “research databases.” (Varisco and Cates, 2005, Table 2). Fiona Cameron calls them “thematic interfaces” and “searching interfaces” (Cameron, 2001, p. 309). Muh-Chyun Tang relates these to the underlying mix of narrative-centered and object-centered modes of representation inherent in all museum information organization (Tang, 2005, pp. 55-57).

One experimental response to this desire for physical and virtual site-crossing access is the development of the GettyGuide, a handheld mobile device for gallery visits to the J. Paul Getty Museum, Los Angeles. With an interactive interface, it allows visitors to search for specific objects while at the museum, proceed among artworks in either the room order or in suggested thematic groupings, search on-site by artwork subjects, and bookmark objects to come back to off-site after uploading them to personal spaces on the museum website (Hamma, 2004b, GettyGuide).

Importantly, the contexts of “real” objects and “digital” information are becoming intertwined to such a degree in contemporary art museums that researchers

and designers will be *required* to understand the differences and similarities of in-house and online art viewer experiences. Tang (2005), Varisco and Cates (2005), Paul Marty and Michael Twidale (2004), and Bradley L. Taylor (2003) emphasize the urgent need to understand the relationship of these two worlds, that is, to understand which experiences and resources translate from the on-site human-mediated activities and the physical and social context of museums to technology-mediated virtual museums. Taylor is particularly concerned with what is gained and lost in the conversion and expansion of traditional museum information forms onto the Web, particularly when digital images stand in for real objects:

What we *should* do is to carefully reconsider what role digital images might play in helping museums fulfill several of their primary objectives—preparing visitors to see collections *in situ* and extending the greater educational outreach of the institution. There are creative ways to use digital images, grounded in an understanding of how learning takes place in museums, to both enrich the site-based gallery experience and to create new, highly original experiences for audiences, both remote and on site . . . To date, most museum collections mounted on the Web have concentrated on providing digital approximations of items within their collections and supplementing these with very basic information generally available in a museum registration system or on curatorial worksheets (i.e., name of artist, title of work, date, materials, accession number, etc.). As such, these sites tend to mimic traditional models of presentation within the museum by focusing on the physical artifact (using a digital surrogate, which we now know is at best an approximation of the original item), only now decontextualized from the gallery setting (*italics original*; Taylor 2003, pp. 114, 117).

Taylor's concern is with the differences in "the nature of the real and the represented" (p. 116). It is one goal of this dissertation to contribute to a baseline understanding of viewers and information users in gallery settings with original art objects in order to compare this knowledge to our emerging understanding of virtual visitors and to contribute to improving information systems in both.

2.4 Art Museum Learning and Interpretation: Implications for Information Provision

2.4.1 Contemporary Museum Educational Missions

Museums of all kinds have intensified their outreach, educational, and interpretive mission to general audiences. Indeed this mission is now considered central to museums' existence, in comparison to their other traditional missions of collection, preservation and conservation, and curatorial research (American Association of Museums Task Force on Museum Education, 1991; Falk and Dierking, 2000; Roberts, 1997). Museum attendance is a major component of leisure and lifelong learning trends—involving children, young singles, families, midlife adults, and seniors—as well as part of cultural tourism and entertainment (Griffen and Abraham, 2000, pp. 339-340; Kawashima, 1998, pp. 31-35). This larger trend pertains to all types of experiential and cultural learning sites, including historical, ethnographic, and natural history museums, zoos and botanical gardens, science and technology centers, children's museums, and historic sites.

Museums serve 21st-century learners of great variety in ages, economic means, ethnic and racial backgrounds, multilingual abilities, learning styles, and world views (Institute for Museum and Library Services, 1999). Museums have a vital interest in presenting information in accessible ways to general audiences and non-subject-specialists, and this includes designing new approaches to museum content as well as new technologies to appeal to and be meaningful to this variety of learners.

The aim of most current museum education is experiential. Contemporary museum visitors expect opportunities to pursue free-choice and informal learning and to interpret museum objects and experiences in ways most meaningful to themselves (Falk and Dierking, 2000). The old stereotype of museums as “gloomy places with dusty bits” (an often-cited quote from a UK study of non-museum-goers; see Traveyan, 1991; see also Hood, 1983), minimally labeled and arranged in curatorially-prescribed, disciplinary classificatory orders, has long since been replaced with the model of museums as vibrant personal learning environments where new

themes and connections are both created by museum staff and encouraged among visitors. Older behaviorist and “transmission-absorption” models of museum education have been replaced with constructivist learning models, part of a paradigm shift in museum education that culminated in the 1990s (Hein and Alexander, 1998, pp. 40-44).

2.4.2 Art Museum Educational Missions

However, in art museums in particular, the shifting balance sought between museum-supplied information and interpretation, on one hand, and visitors’ personal meaning-making, on the other, is revealed in the continuing debate over teaching about artworks with authoritative information and interpretation versus letting viewers explore and relate to artworks in their own ways (Funch, 1993; Lankford, 2002; Rice and Yenawine, 2002). In a world of new educational approaches and technological aids, art museum visitors in particular still express respect for and a desire for the expertise and traditional interpretive role of museum curators and educators, the “authorized knowers” (Lisus and Ericson 1999, pp. 201, 205). Visitors expect art museums to provide a wide range of descriptive and interpretive information about the artworks they view and to provide an expert orientation to what is perceived by many non-specialists as a challenging and sometimes difficult mode of human expression (Lisus and Ericson, 1999; McDermott-Lewis, 1990).

2.5 Documentation and Access in Art Museum Information Systems

2.5.1 Current State of Object and Subject Information in Art Museum Systems

General art museum visitors’ expectations of extensive descriptive and interpretive artwork information are not often matched by the current reality of museum systems’ content. Art museums making all their holdings available on the Internet, for either online or in-house networked use, is a distant ideal. For logistical, budgetary, legal, and commercial reasons, most art museums mount only a small

portion of their holdings in their permanent collections online, and most do not yet have either full Web catalogs or publicly accessible finding aids to describe their holdings for either online or in-house use (Wallach, 2001, p. 44). In a survey of 87 art museum websites in the U.S. Varisco and Cates found that 55% include at least some “collections” information (Varisco and Cates, 2005, Figure 1). However, this may be only collection-level descriptions of the categories of artworks held, not item-level descriptions. In a survey of 29 large U.S. art museums for their use of controlled vocabularies in systems, Alison Gilchrest found that only 31% provide public access via the Web to at least some of the information in their collection databases and that these often include only their “signature” works (Gilchrest, 2003, p. 17).

Few art museums have created extensive metadata structures or made consistent use of standards to allow deep access to their holdings. The National Gallery of Art, Washington, D.C., provides an exceptionally comprehensive online search capability across their whole collection for locating specific artworks by artist, title, school of art, style, medium, creation date, and popular subject (www.nga.gov/collection/srchart.htm). However, most art museums simply have not devoted the extensive resources needed to develop access to their permanent holdings, broadly or deeply, beyond the most popular and representative objects. Important museum concerns are processing priorities to capture core information first, lack of guidelines for and staff expertise in constructing metadata structures and in choosing and applying information standards, awareness of the limits on searching capabilities in collection management software and database design (Gilchrest, 2003, p. 17), and a reluctance to mount database information that may not have been vetted for quality or curatorial agreement (Bowen, 1999, Museum Site Survey, para. 15; Bunting and O’Keefe, 2004, p. 37; Gilchrest, 2003, p. 17).

2.5.2 Changes in Collection Management Systems Towards Multipurpose Information Repositories

Museum collection management systems

Museums organize information about their original object holdings in collection management systems, for example, the commercially available systems of ARGUS and The Museum System (TMS). Traditionally, maintaining museum object information is the responsibility of museum registrars, collection managers, and documentation specialists (Orna and Pettitt, 1998). It pertains to individual object acquisition and loans, conservation records, insurance and legal information, curatorial files, reproduction rights, and overall collection inventory maintenance, as specified in museum documentation standards such as SPECTRUM (Standard Procedures for Collections Recording Used in Museums), maintained by the Museum Documentation Association in the United Kingdom (<http://www.mda.org.uk/stand.htm>). As art museums' photographic records of museum objects are increasingly being digitized, these digital images now form a part of these records.

Traditionally, collections management systems have been for in-house staff use, not for direct visitor or public access. However, both end users and content are changing. For the last 15 years art museums have increasingly presented object and related information to their publics through a new variety of media and technologies created by their curatorial, educational, and design staffs. As described above, this information is conveyed via new technologies such as gallery-based information delivery devices (for example, computer kiosks and handheld devices) and websites. As museum information "goes digital" it is increasingly being organized into more efficient, centralized, and modular repositories of information and images which feed these public access devices (Nordbotten, 2002, 2005; Vulpe and Sledge, 2005; Zorich, 1997).

This new generation of museum collections management systems with greatly expanded and networked reach, both internally and externally, now also allows the

implementation of more detailed object and subject cataloging and indexing, which in turn facilitates the appropriate selection and layering of these concepts and vocabularies for different internal and external audiences. Increasingly, extensive and standardized cataloging and indexing practice is being seen as the desired backbone of museum object documentation (Hamma, 2004a, p. 13; Hamma, 2004b, *Cataloging and User Access*). However, repurposing and linking object records and other blocks of text information (for example, museum catalogue entries and wall texts) for a variety of in-house and online uses, particularly to form virtual “exhibitions on demand,” presents new challenges for cataloging and indexing related materials (Hamma, 2004b, *Visiting Audiences and Researching Audiences*; Nordbotten, 2002).

Cataloging and indexing: object description

What has been called “label copy” forms the core descriptive formula of factual identification information about art objects in museum information systems. It provides creator, title, date, medium, measurements, credit lines, and object number within the museum (Seren, Donohue, and Underwood, 2001, p. 31). Label copy does not contain subject or thematic descriptions or contextual material for the objects (other than that embedded in some artwork titles).

These basic categories of information also form the core categories of the main current standard of art object description for systems: the Getty Standards and Digital Resource Management Program’s *Categories for the Description of the Works of Art* (CDWA). Schemas in collection management systems built on these categories can incorporate links to and encourage the use of art historical visual resources and bibliographic information standards. TMS, for example, provides a thesaurus manager and allows incorporation of Library of Congress Subject Headings and the Getty Vocabulary Program’s vocabulary and authority values of their *Art and Architecture Thesaurus* (AAT), *Union List of Artist Names* (ULAN), and *Thesaurus of Geographic Names* (TGN) (Baca, 2003, p. 55, n. 11). The application of these standards tends to

(rightly) prioritize physical object description—in order to capture basic object documentation first—and to de-emphasize subject description.

Cataloging and indexing: subject description

We do have some evidence that users of art image and information system users in general want subject access to artworks. Colum Hourihane documents the great demand for subject matter access, second only to artist name requests, to art libraries and image collections that partnered in the Van Eyck Project (Hourihane, 1996, p. 59). Catherine Gordon relates that over 80% of queries to the Witt Library of art images contain some element of “subject matter” (Gordon, 1996). Olivia Frost records a lively interest in subject access, from both art experts and art novices, to the University of Michigan’s Art Image Browser (www.si.umich.edu/Art_History/; see Frost, Taylor, Noakes, Markel, Torres, and Drabenstott, 2000, pp. 295-299). The assumption is that art museum visitors and image users would also desire such access.

Only a handful of art museums worldwide offer extensive artwork “subject” searching specifically, that is, keyword access through a website browser or in-house system to persons, events, locations, and objects depicted in individual artworks or to abstract themes, narratives, styles, or historic contexts that are either unique to single artworks or tie together sets of artworks. (Outstanding examples include the National Museum of African Art, Washington, D.C., and the Rijksmuseum, Amsterdam.) However, these search systems often rely more on free-text keyword searching of image captions than on fielded subject vocabularies, thus, retrieval consistency is a problem. In her survey of 29 large U.S. art museums, Gilchrest found that none used controlled art subject description vocabularies such as ICONCLASS or even more general subject vocabularies such as the Library of Congress *Thesaurus for Graphic Materials I* and *II* (Gilchrest, 2003, p. 14).

“All works of art have subject matter” declares the CDWA (CDWA *Subject Discussion* section). The CDWA goes further than traditional artwork documentation schemas in defining fields for artwork subjects and, indeed, in making these core

categories. So there is growing pressure to provide museum object records with subject descriptors in the form of indexing terms and phrases (CDWA's *Classification* and *Subject Description* fields) and in adding narrative subject commentaries to object records (CDWA's *Subject Identification* and *Subject Interpretation* fields). Few museums are constructing search systems to find "subject" terms in object-related texts, though several experimental academic projects are using computational linguistics tools to extract descriptive terms from art historical texts associated with images (see Blitz, 2005; Jørgensen, 2003, pp. 256, 268; and Light, 1995).

However, the practice of extensive art object and image subject indexing in art museums is still very limited, partly because of the limited guidelines on analyzing and describing subjects of artworks for retrieval systems (White, 2002). Also, curatorial opinions sometimes vary on what descriptive terms to use to capture subject themes (Gilchrest, 2003, pp. 14-15). More than anything, the lack of extensive subject indexing is hampered by a lack of knowledge about how useful this is to end users.

2.6 Research on Art Museum Information Systems

2.6.1 Testbeds

The paucity and inconsistency of cataloging and indexing at many institutions has meant a lack of large collections of art images and their information to use as research testbeds for user studies to see if knowledge organizational and vocabulary tools and existing documentation guidelines work for non-specialist *or* expert art information and image seekers.

Large consortial digital collections that supply art images and information for Internet public access from multiple institutions have attempted the most extensive art image cataloging and indexing to date in an effort to enable common access based on common information standards. These include AMICO (Art Museum Image Consortium), the Research Library Group's educational image collection (www.amico.org); Van Eyck (Visual Arts Network for the Exchange of Cultural

Knowledge), a project under the aegis of Commission of the European Community to disseminate cataloging information and images of museum objects (see Hourihane, 1996); and the Union Catalog for Art Images (UCAI), the Andrew W. Mellon Foundation's effort to compile not art images themselves, but standardized metadata for commonly sought art images (see Westbrook and Rose, 2005).

Serving academic and educational market users primarily, these projects have focused on issues of core record fields, exchange protocols, and data standards, including authority and vocabulary standards, in an effort to standardize descriptive cataloging and ensure interoperability among systems. They have not ventured into or tested the need for the more complex demands of subject indexing of art images.

2.6.2 Museum Informatics Research on Information System Users

Another approach to understanding museum information system use has fostered research by the relatively new practice community of museum informatics and web design (Marty et al., 2003). This community develops innovative in-house digital museum technologies, such as interactive gallery-based kiosks and mobile information devices, as well as museum websites and new social communication and collaboration technologies such as chats, blogs, wikis, videoconferencing, and collaborative annotation, what Varisco and Cates (2005, Table 4) call "conversation tools." One of this profession's main concerns is the development of new generation museum information management systems to collect and coordinate the object-centered content for all of these technologies, as described in Section 2.5.2 above.

Museum informatics research focuses on technology use and networked systems design in museums from a socio-technical perspective. Its research on non-specialist end users is concentrated in prototype development, feedback from usability testing of websites and in-house technologies, and web log analysis to trace visitors' technology use and wayfinding, rather than their museum content use, for example, the use of images or information to understand artworks. System user testing includes the development of museum system evaluation criteria (see, for example, Cunliffe,

Kritou, and Tudhope, 2001, and Marty and Twidale, 2004). A still rare example of such evaluation of an interactive in-house art museum information system is the study of the Micro Gallery at The National Gallery, London (Beaulieu and Mellor, 1995), which evaluates users' computer orientation and navigation experiences rather than the art content or museum experiences or needs that might have prompted their navigation choices.

In another example of this socio-technical approach to user-centered design, Kenneth Hamma, Assistant Director for Collections Information at the J. Paul Getty Museum, conceives of museum visitors having "work tasks" to accomplish and lists the "tasks" that the Getty Museum's mobile GettyGuide lets visitors do: select audio clips or images, bookmark artworks, keep running lists or groups of artworks of interest, and email images to others (Hamma, 2004b, GettyGuide). These are technology interaction tasks and strategies, however. We still have not explored the variety of art information needs that these strategies might help fulfill. Framed as socio-technical tasks in human information behavior, museum informatics and web design research has focused on user interactions with technologies rather than interactions with the intellectual content of either original objects or images of them.

There are now calls from within museum informatics for expanded research approaches to include more generalized needs assessment of end users of museum information, whether in-house or online. For example, there are calls to consider creative educational methods in museum website design (Goldman and Goldman, 2005) and to study visitors' abilities to retain information from websites compared to physical museum displays (Harold, Dusenbery, and Korn, 2005). Encouraging new ways of museum information access has foregrounded calls for research on: the optimum number of content topics in a given web tour or exhibition, meaningful visual information design, useful overviews and organizational schemes, system search and browsing capabilities, the use of controlled vocabularies and taxonomies, and the relationship of virtual spaces to the physical museum (Marty and Twidale, 2004).

In this, museum informatics and LIS seem to be converging in their desire to study intellectual organization and information behaviors beyond just system behaviors.

2.6.3 Research Trends and Limitations

In summary, research on art museum information systems has most recently consisted of inventorying the adoption of new metadata standards and schemas, for example, Gilchrest's study of the use of controlled vocabularies in art museums (Gilchrest, 2003). Evaluative research on prototype and consortial systems and their interoperability has been largely focused on the difficulties of creating consistent, agreed-upon data formats and values and core record elements across collections and among professionals (for example, Baca, 2000, 2003; Hourihane, 1996; and Stephensen, 1999).

A number of museums have detailed their experiences with their own digitization projects, but these describe decisions about hardware, software, processing, display, adoption of cataloging standards, and basic information to capture (see, for example, Coquia, 2005).

There is a marked lack of system end user studies. Both the consortial studies and the individual museum accounts often probe the experiences and opinions of visual resources and museum professionals who implement these systems. Thus, "user studies" at this point are mostly limited to the museum professionals constructing the schemas and inputting the data. These often reveal a staff discomfort with the lack of cataloging and indexing guidelines and the need for training even among visual resources and art professionals, as Baca documents in a study of the VISION project (Baca, 2000, p. 46).

Art object description practices and knowledge organization tools simply have not been tested among general museum audiences seeking art information. The lack of subject cataloging and indexing, in particular, thwarts the opportunities to explore the apparent appetite that non-specialist audiences have for subject access to art

objects and images and to test whether or not existing tools, such as vocabularies and information schemas, capture what non-specialists would like to know about art. We do not yet have a clear picture of what kinds of information and system access non-specialists want and use, hence the goal of this dissertation to explore the types of information used by art museum visitors.

2.7 Conclusion

This chapter examines the growing appetite for art museum information of both on-site and online museum visitors. Newly mixed physical and virtual environments—bridged by digital technologies—make understanding both online and in-house art viewing and information use imperative. However, research on online viewers has focused more on usability and website navigation than on art content, and, as we shall see in the next chapter, research on in-house visitors from an information perspective is rare.

New technologies and modes of access have raised visitor expectations for extensive art information from museums, which visitors trust as authoritative and which they rely on to help them make meaning from artworks in a casual, leisure learning context. Some previously unimaginable interactions with artworks and art information are now spurred by new system technologies and new audience outreach methods: the desire for searching and browsing capabilities; the desire to construct and interpret information in personally meaningful ways; and the desire to comment on and share experiences and information. A new diversity of audiences will require from museum information systems flexible, multi-layered information provision and the use of accessible art concepts and terminology.

The lack of fully cataloged and indexed art consortium or museum websites thwart art information and image seekers and limit research on end user art concepts and vocabularies. However, some of this can be explored through re-examining existing museum visitor studies from an information perspective, which is the objective of this dissertation.

Chapter 3: Art Object and Art Image Information: LIS Documentation and Research

3.1 Introduction

The information context for this dissertation research is the world of documentation practice and systems development for collections of visual art objects and their images. The main practice community involved in these areas is academic visual resources curatorship, historically considered a subdiscipline of library and information science (LIS) and archival studies. Visual resources professionals organize and create access to art object information and reproduction images in retrieval systems through cataloging, classification, indexing and keywording, metadata schema creation, and retrieval and display systems design. Seren et al. (2001, p. 31) describe this process: “Broadly defined, art documentation encompasses the description of the physical characteristics of an artwork, contextual or interpretive writings relating to it, and information required to manage the work of art.”

Historically, art-focused visual resources practice and intellectual organization conventions have primarily served audiences of art experts and their students. Most academic and museum art documentation systems, including original object, bibliographic, and visual resources cataloging and classification schemas, have been organized with concepts and vocabularies derived from specialist practice, that is, scholarly or curatorial research or teaching. LIS subject analysis guidelines and categories for image documentation in general, not just art images, derive in part from academic art theory and specifically from the art historical practice of iconography: the analysis of visual and contextual data about artworks from which subjects or themes are identified or interpreted.

Curiously, little LIS images research has been focused specifically on art image seekers and users or on on-site art museum information seekers. It has concentrated instead on users of collections of historical or commercial photography. Thus, the empirical LIS-based research surveyed below does not address directly the research question of this dissertation: what are the types of information—visual,

contextual, interpretive—that adult art museum visitors seek and use as they interact with artworks in museum settings? The research and literature review in this chapter looks instead for evidence in LIS-based research on the components of this question, that is, (a) what is known about non-specialist art image and information seekers specifically, and (b) what is known about information seeking in art museums?

The chapter begins by looking at the special characteristics of art objects and their images and why they present unique issues in information system documentation.

3.2 Art Information and Documentation Systems in Visual Resources Collections

3.2.1 Visual Resources and Art Images Documentation

Visual resources professionals now have the means to document artworks in far greater detail for powerful and flexible electronic retrieval systems than they were ever able to do with older, simpler slide and photographic reproduction cataloging systems, for example, that of Simons and Tansey (1970). This is a product of both electronic systems development and the development of art and cultural heritage documentation tools, such as the Getty's *Categories for the Description of Works of Art* (CDWA) and vocabulary and authority lists such as the Getty *Art and Architecture Thesaurus* (AAT), *Union List of Artist Names* (ULAN), and *Thesaurus of Geographic Names* (TGN). In response to the capabilities of and widespread access to art image retrieval systems and new demands by broadening audiences, visual resources curators, system designers, and researchers are exploring the multitude of object and subject characteristics of artworks and their images and are learning to view artworks from multiple potential end-user points of view. As we saw in Chapter 2, the adoption of more extensive artwork documentation practices, especially in art museums, is slow. However, as Corinne Jörgensen remarks, “given the digital networked environment in which many institutions now operate, providers can no longer ignore either the needs of other communities of users or the possibilities of wider utility or new uses for their images” (Jörgensen, 2003, p. 242).

3.2.2 Art Object and Image Information Attributes

The special nature of images in general as information-bearing objects

Library and information science has long recognized the unique problems of considering and describing visual images in general as information-bearing “documents.” At a theoretical level, LIS writers have explored the idea that visual and verbal document “informativeness” and “meanings” are ultimately incommensurable and require fundamentally different documentation approaches (Enser, 1995; Lancaster, 2003, pp. 215-247; Svenonius, 1994). In limited ways, writers have explored the nature of original cultural and material objects as “works” of information (Buckland, 1997; Smiraglia, 2004), though the primary focus of theoretical writings has been on reproduction images of objects, what visual resources collections and digital libraries hold.

Theoretical discussions of the information-bearing capacities of images have noted that images are notorious for their multiplicity of possible meanings and interpretations, which depend on the viewers, their focus of interest in the picture, and the specific visual or informative uses for which it is needed (Chen and Rasmussen, 1999, pp. 292-294; Enser, 1995, pp. 140-147). For example, a historical print can be appreciated as an artwork, serve a researcher as historical evidence, or be incorporated into creative communication, as in advertising and graphic design. Thus, depending on the focus, size, and depth of the collections they belong to and their end users, such images may require more extensive and varied verbal descriptions than texts to serve retrieval on all these dimensions of use. Image description is inherently subjective in even deciding and naming what images may be “of” or “about” (Krause, 1988). Images can answer some questions that texts cannot; however, retrieving an image to answer a specific question may be a challenge (Shatford, 1986, p. 39). A.E. Cawkell asks us to “imagine for instance, the number of words which would be needed to retrieve a picture of a particular garden out of pictures of 1000 gardens” (Cawkell, 1992, p. 181). Lastly, because they usually do not come with embedded titles or

explanatory text, images require additional contextual verbal information, unlike text documents which are at least partly self-explanatory.

Major theoretical discussion of images from LIS perspective include Enser (1995), Jørgensen (2003), and Rafferty and Hilderley (2005).

Visual art images

In visual image study disciplines generally—and in LIS subject indexing practice and research specifically—visual art is considered the most complex of human visual communication forms, primarily because of its predominately interpretive and aesthetic characteristics. Art objects and their images are unique in many ways in their requirements for documentation, as compared to historical or scientific photographs, for example. Visual resources practice and theoretical literature on cataloging and indexing art images have highlighted many problems in describing and linking art images and concepts in ways thought to be useful for users of those systems. The problems described from the perspectives of visual resources curators, catalogers, indexers, and system designers include: (a) adequately describing artworks to capture and categorize both their visual characteristics, such as physical work types, colors, shapes, compositions, and styles, and their contextual and symbolic meanings and messages, including historical contexts and abstract concepts such as “Romanticism” or “triumph;” (b) deciding how thoroughly to describe depicted elements of artworks, such as when to note a Tree of Life motif on an ancient Persian vessel or to when define and distinguish half-length, three-quarter length, and full-length portraits from each other in a given collection; (c) linking and grouping artworks into sets by means of subjects, themes, and narratives, such as scenes from the life of the Buddha or Northwest Coast Indian narratives; and (d) choosing search terms for a myriad of unanticipated personal uses and unique interpretations by many different types of art viewers, for example, a viewer interested in ways in which artists have visualized headache pain or who wants to see artworks which depict human teeth or golden retrievers (examples from Gordon, 1996).

The physicality of most artworks is intimately joined to artwork “subjects” and meanings. In most artworks, because of the artist’s choice and handling of the creation media, there are greater levels of visual abstraction or distortion from real world appearances than in documentary photographs, which appear to “copy” nature. (Art photographs are a special category of media type which deliberately play with this relationship between pictured “reality” and aesthetic media manipulation by the artist.) Indeed, some art is entirely abstract and does not reference real world objects, events, or locations at all. In contrast, historic or scientific photographs, for example, are more easily and sufficiently described and indexed by their “factual” content of depicted people, events, things, or locations. This is the type of subject information normally indexed in photographic collections, and it is what users typically search for and expect to find (see, for example, the studies of historic photography users in Collins, 1998, and Keister, 1994;). Art images often contain depicted elements, both “real” and imaginary, as well, but some art is more “factual” than other art, for example, the detailed engravings of specific species of birds by John James Audubon as opposed to the colorful but impressionistic frescoes of birds in ancient Minoan art. There are vast differences along all these dimensions among, for example, contemporary art, “Old Master” European art, and ethnic or tribal art. Likewise, the decorative arts (artistically embellished functional objects) stretch the notions of artistic and communicative intent.

Art as a creative, communicative human product defies categories and boundaries by definition and by function, of course. Visual art defies verbal description. Art objects and their images are the most difficult to describe in words for concept-based (verbal) retrieval systems because of the desire to capture and to “translate” into words at least some of the artists’ intentions to communicate messages by both formal (visual, stylistic) means and by symbolic or metaphorical means. This level of description requires both indexers and viewers’ to “decode” the artwork by calling upon their visual discovery skills (scanning and focusing on visual forms such as shapes, colors, and perspective effects), their broader cultural knowledge and

knowledge of art conventions of given eras and locations, and their own personal and emotional responses. In this, visual art is similar to other imaginative and creative works of literary fiction, music, and film, and it presents similar retrieval systems documentation problems, particularly in subject indexing at the individual work level (see Lancaster, 2003, pp. 200-214, on fiction indexing, and related problems in indexing primary materials in some humanities disciplines in Tibbo, 1994). Art objects and their images are thus the most challenging and subjective nexus of description and interpretation problems in all of LIS image documentation.

Art object and image attributes in information systems

Many LIS practitioners and researchers use the concept of *image attributes* to encompass all the different information characteristics of both artwork images and the original objects they represent in order to describe and categorize them for access in information systems. Corinne Jörgensen defines an image attribute as “a feature, component, or property of [an image] that can be represented by an information processing system. An image attribute is thus not limited to purely visual characteristics, but includes other cognitive, affective, or interpretive responses to the image such as those describing spatial, semantic, or emotional characteristics” (Jörgensen, 2003, p. 3). Categories of attributes for descriptive cataloging and subject indexing have been derived from art theory, from original object documentation practices in museums, and from long-standing descriptive bibliographic and archival standards. They form the basis of metadata schemas and data values in the form of vocabularies for these systems. Some attributes of art objects and examples of them are:

Object attributes (exemplified and biographical attributes):

1. physical types of images (paintings, sculpture, photographs, digital images) and their material details (media, measurements)
2. historical facts about images as objects (given titles, creator names, creation dates, previous and current locations)

Subject attributes:

3. generic and named depicted elements (people, objects, places, events)
4. abstract concepts or messages (emotions, moods, symbolism, eras referenced)
5. broad subject categories or genres of subject matter (portraits, landscapes)
6. stylistic, expressive, or aesthetic modes (fine art, decorative art, graphics, Shang Dynasty, Victorian)
7. visual point of view (aerial, profile, interior, exterior, detail)

Relationship attributes:

8. set or group membership or relationships (object or image belongs to a deliberately organized set)

The first two categories of information attributes above pertain to the original physical art objects and their histories and characteristics and thus may be considered “object” attributes (what Sara Shatford Layne would call *exemplified* and *biographical attributes*; see Layne, 1994, pp. 584-585). Attributes 3 through 7 pertain to what is usually considered the “subject” content of the original objects, also reproduced in their images. This includes what artworks depict and in what visual manner those elements are depicted (even if that is non-representational), what messages artworks are intended by their creators to convey, and what broad conventional pictorial types artworks are often grouped into. These are what Layne would call *subject attributes* (pp. 584-585). Attribute 7 can refer to either the visual point of view of depicted elements in the original object (a painting of the interior of a town hall) or the visual point of view of a photographic image of an object (a photographic detail of the artist’s signature on that painting). Attribute 8 refers to deliberate groupings into which original objects or their images are placed by their creators (Francisco Goya’s *Disasters of War* series of etchings) or by others (all the paintings by Impressionists which originally hung in the Paris Salon des Refusés exhibition of 1863). These are what Layne would call *relationship attributes* (pp. 585-587).

In art image information systems, object attributes (nos. 1 and 2 above) are usually captured in descriptive cataloging, and subject attributes (nos. 3 through 6 above) are usually captured by subject indexing or keywording. Image cataloging and

indexing practice and schemas for systems have traditionally emphasized the first two categories of object attributes and have been thin on subject attributes and set membership attributes. Core fields and subfields of the CDWA that capture object attributes are: Object/Work Type, Title or Name, Measurements Description, Materials and Techniques Description, Creator (Description, Identity, Role), Creation Date, Current Repository (Geographic Location, Numbers). Core fields and subfields of the CDWA that capture subject attributes are Classification (broadly corresponding to no. 5 above) and Subject (Description, Identification, Interpretation). Relationship attributes are captured in CDWA's fields for Related Works, Related Visual Documentation, and Related Textual References. As we saw in Chapter 2, current art museum information systems largely confine themselves to object description.

The Visual Resources Association has also produced a metadata element set, the *Cataloging Cultural Objects* (CCO) guide, for use in documenting reproduction images of artworks. The VRA's core data elements are a slightly smaller subset of the CDWA core metadata elements that account for both the core attributes of the original object and those pertaining to the surrogate image, such as image-level View Information (no. 7 above).

3.2.3 Subject Interpretation of Art for Documentation Systems

The object description attribute categories contain relatively concrete, factual information about artworks (however obscure or uncertain that might be). The subject description categories can contain information that ranges from depicted and relatively identifiable visual elements (nos. 3, 5, and 7 on the attributes list above) to more subjective elements (nos. 4 and 6). This continuum of "of" and "about" elements presents subject indexers with great challenges of what to designate as subjects of an artwork and, as important, where to stop.

Adaptation of iconographic art theory for subject description

From its beginnings in the early 1980s, LIS image information theory has drawn on art theory writings for basic conceptual categories of subject attributes to apply to all pictures. In particular, the logical adaptation of art historian Erwin Panofsky's iconographic analytic approach by LIS theorists, first suggested by Karen Markey (1983, 1986) and later refined by Sara Shatford Layne (Shatford, 1986), has formed the basis of now widely accepted principles of subject analysis in LIS visual resources practice. It is embedded in professional guidelines for subject analysis and description in the CDWA.

German-American art historian Erwin Panofsky published his seminal essay on the practice of iconography as the introductory chapter to his *Studies in Iconology* of 1939. He modified his essay slightly in his collection of writings *Meaning in the Visual Arts* of 1955. Panofsky's goal was to explore in detail elements of the process and methodology of iconography, "that brand of the history of art which concerns itself with the subject matter or meaning of works of art, as opposed to their form" (Panofsky, 1955, p. 26).

Panofsky distinguishes three "strata" or levels of subject matter or meaning in artworks. Level I is *primary* or *natural subject matter*, apprehended by identifying visual forms of *objects* from the perceptual world represented in artworks, for example, humans, animals, plants, and manmade objects, as well as their relationships and interactions (*events*), and the simple *expressional* qualities that represent moods or feelings expressed by the depicted participants or the whole scene. He calls all of these elements artistic *motifs*.

Panofsky's Level II of subject matter in pictures is *secondary* or *conventional subject matter*. Identification of secondary subject matter requires familiarity with the "customs and cultural traditions peculiar to a certain civilization" (p. 27), especially those *stories*, *conventional images*, and *allegories* with origins in a culture's *literary sources* (religious or secular, literary or historical, written or oral).

Panofsky's Level III of subject matter is *intrinsic meaning* or *content*. By this he means an articulation of a deeper level of meaning through an integration of the knowledge gained from the first two levels with a broader understanding of humans' use of *symbolical values* as "general and essential tendencies of the human mind" (p. 39) in the context of artists' experiences in given times and places. Panofsky at this point calls the practice of interpretation "iconology" as opposed to "iconography." By this shift he means that iconography is concerned only with initial description and classification. Iconology, on the other hand, refers to the "method of interpretation which arises from synthesis rather than analysis" (p. 32). Panofsky at this point specifically refers to the skilled interpretive processes that art historians and other cultural scholars go through.

Panofsky's model of subject analysis has been widely accepted and employed by image indexing schema developers and by some image indexers to systematically "read" or decode the subjects of all kinds of pictures. It underlies standard art image subject indexing categories in the CDWA's three Subject fields: Description (Panofsky's Level I), Identification (Panofsky's Level II), and Interpretation (Panofsky's Level III).

The process of interpretation: theory, empirical evidence, and levels of expertise

Panofsky's model is shot through with the idea of a process of understanding artworks with basic tasks of description and identification, analysis, and synthesis in a necessarily ordered way, one stage providing the essential building blocks for the next level of "reading." Indeed, he talks about "correct" interpretations succeeding each other (p. 33) which is a remarkably factual, positivist, and "scientific" approach.

LIS theorists and researchers have assumed that Panofsky's model is the process through which both indexers and image searchers go in the art image indexing *and* retrieval process. It has also been used as a research analysis tool. Linda Armitage and Peter Enser refer to the "dual applicability" of the Panofsky-based schema for analyzing both picture content and user queries (Armitage and Enser,

1997, p. 294). The Panofskian model has been used as a coding framework for analyzing queries to general image collections (Armitage and Enser, 1997). It has also been used for categorizing viewer descriptions in verbal elicitation studies (Burke, 2001). Karen Markey (1988) and Colum Hourihane (1989) analyzed existing subject classification systems and how they provide classes and terms corresponding to Panofsky's levels of meaning.

The actual use of the Panofskian model, or guidelines based on them like the CDWA, by image indexers has not been explored empirically, however. (Indeed, image indexing of any kind has received very little research; according to Jørgensen [2003, p. 229], "almost none"). Nor has the Panofskian model been tested with actual searchers in the process of image seeking (as opposed to query analysis), nor with viewers of artworks specifically in information-gathering and meaning-making activities in a museum. There have been few empirical studies of image system users that focus closely enough on all the aspects of image subject searching for the appropriateness or universal applicability of Panofsky's model to be confirmed.

We do not know if or how actual art object or image viewers—especially non-art-specialists—go through this process and employ either the levels of information or the elements of the analysis process. Nor do we know if the types of information employed at each level of analysis (visual, contextual, and interpretive) are employed in this order of analysis.

The three types of information to be explored in this dissertation—visual, contextual, and interpretive—correspond in general to Panofsky's Levels I, II, and III. It is one goal of this dissertation to explore the use of these types of information and the implied analytic behaviors outlined in the Panofskian model through examination of the results of art museum visitor studies.

The implications that many LIS researchers have drawn from Panofsky is that Level I emphasizes simple visual information that any novice viewer can "read," while Level II requires greater familiarity with specific stories and themes, that is, contextual information, to identify these specific subjects. Level III seems to require educated

integrative skills and a broad cultural knowledge. The dissertation explores the possibilities that (a) non-specialist art viewers “progress” through these levels with exposure to art museum information at hand, or (b) they simply integrate all three types of information and analytic processes in a more holistic process of meaning-making.

Further discussion of Panofsky’s model will be presented in Chapter 5 Data Analysis and Coding as a basis for this dissertation’s initial analysis categories in analyzing art museum visitor studies for information types and interactions used by artwork viewers in museums.

3.2.4 Warrant in Scholarly and Specialist Knowledge Organization Tools

Scholarly knowledge organization in art history and museology

The warrant for intellectual organization and verbal description in art image and information systems has come from museum object description practice, written art historical genres and publication practice, and research and teaching practice. Most academic and museum art information systems, including original object description, visual resources, and bibliographic cataloging and classification schemes, have been organized with attributes, concepts, and vocabularies derived from and needed by specialists (Jørgensen, 2003, pp. 122-129; Layne, 1997; Nelson, 1997; Ørom, 2003; Preziosi, 1993). Professional information users in this subject domain are academic art historians and their students, art museum curators, visual resources curators, and art museum registrars.

Art object description systems in museums usually focus on one-of-a-kind objects. Schemas and vocabularies for object attributes, for example, Chenall’s *Nomenclature* (Blackaby, 1998) and the Getty AAT, are well-developed, in part because of their origins in physical description in museum object registration, collections management, and material culture study. The primary focus of the 25 information categories of the CDWA is the description of the objects. The editors of

the CDWA state clearly that its selection of categories overall was made with the needs of academic scholars and researchers in mind.

Anders Ørom (2003) explores how paradigms of scholarly art historical practice and discourses on art have shaped bibliographic knowledge organization and documentation practice. He deliberately leaves aside parallel visual resources practice, but similar patterns and many of the same tools of organization are used in visual resources documentation. Classificatory arrangements of artworks and/or their surrogates in textual or image systems are concentrated on object-centered description. Such classifications are generally chronological, geographic-based, and media-based, as govern the art historical parts of the Library of Congress Classification, the Dewey Decimal Classification, the indexing taxonomy of the *Bibliography of the History of Art*, and traditional visual resources classifications such as that of Simons and Tansey (1970). A preponderance of research by artist names, national and ethnic group names, geographic locations, and historical periods has always fostered extensive art historical authority lists in the form of print dictionaries and indices. Current tools specific to art and architectural history which continue and systematize this tradition online are the Getty's ULAN, TGN, and AAT (for national and ethnic group names and historic or regional style terms), all of which now serve both bibliographic and visual resources documentation.

Likewise, outlines and taxonomies of conventional artwork iconographic themes such as ICONCLASS, the *Thesaurus iconographique* (Garnier, 1984) and *The Index of Christian Art* at Princeton have been developed for art specialists. They present canonical, history- and literary-based artwork themes rather than exhaustive lists of individual depicted elements, and they are strongly biased toward Western European art, particularly that of the medieval through the Baroque periods (see Jørgensen 2003, pp. 89-94, for detailed descriptions of ICONCLASS and Garnier). Several analysts of these taxonomies and thesauri note that they focus on identified themes appropriate to Panofsky's Level II subject analysis.

The intellectual and historical regimes that underlie these art history object and subject standards have been challenged by disciplinary changes in theoretical approaches to art history and criticism over the last 25 years. Jennifer Durran has examined the impact of the so-called “new art history” on bibliographic classification and the increasing need to expand its coverage to non-Western art, popular art, and visual culture themes (Durran, 1997, p. 22). Important for the context of this dissertation is that these shifts have been paralleled by changes in attitudes toward art museums—and museums in general—as keepers and shapers of cultural knowledge and identity over the last 10 years in particular (Preziosi and Farago, 2004). The same recognition of the diversity of theoretical and socially and personally constructed viewpoints and interpretations of art by art specialists that prompts the “new art history” underlies the “new museology” (Hooper-Greenhill, 1995).

As described in chapter 2, on a very real level, traditional knowledge organization in art museums is now being challenged by the broadening in art audiences, eager for expanded and accessible information and driven by Web access, new museum technologies, and museums’ efforts to accommodate lifelong learning trends. There is a broad acknowledgement of the need for cultural heritage materials documentation standards to accommodate new audiences, multiple viewpoints and explanatory narratives, and multidisciplinary approaches (Bearman, 1996, pp. 8-22; Lanzi, 1998, pp. 6-7). However, few guidelines exist yet on how to translate and apply information standards based in scholarly and museum professional work and reference resources, such as traditional cataloging formats, controlled vocabularies, and authority lists, into accessible and useful tools—both bibliographic and visual resources—for non-specialist art image and information users.

A number of writers point out that art and museum terminology especially may baffle non-specialists, and non-specialists may not use terms in comments or questions that match what experts use (see, for example, Dunn, 2000, Section 4, The Reality: Collection Level Description; and Zorich, 1997, pp. 186-188). As Anne Gilliland-Swetland and Layna White put it, “descriptions of museum objects...may be written

for curators and scholars, and the words preferred by experts might not jibe with words used and understood by others seeking information and images” (Gilliland-Swetland and White, 2004, p. 26). Kody Janney and Jane Sledge, in their study of museum questions, stress that, “the issue of terminology is challenging. The public may not know the technical vocabulary used by museum professionals. It is important that users be able to ask questions in their own voice, otherwise they may feel too intimidated to ask at all. Questions should be answered in the vocabulary that matches that of the user” (Janney and Sledge, 1995, Section 5: Additional Observations and Conclusions, para. 2). One goal of this dissertation research is to identify indications in art museum visitor studies of when art viewers express frustration or puzzlement with museum vocabulary.

Collaborative indexing

One response to the presumed need for expanded subject access to artworks are several museum projects to solicit non-specialist art image keywording online. The Fine Arts Museums of San Francisco, the Cleveland Art Museum, and the Metropolitan Museum of Art, New York, have used this ad hoc and informal response to the need for more extensive keywording, possibly providing more appealing descriptive terms to non-specialists (see Bearman and Trant, 2005; Chun and Jenkins 2005; Jørgensen 2003, pp. 255-256). Art museums have also used collaborative indexing as an encouragement to art viewers to express their thoughts on artworks in a more social way. Part of an experimental trend toward “democratic indexing” of images (Brown, Hilderley, Griffin, and Rollason, 1996), collaborative indexing of art images is another phenomenon made possible and plausible by new technologies and also by new socio-technical communities, including participants of chatrooms and listservs and contributors to wikis and blogs. Museums see these technologies as ways of responding to the participatory and social needs of museum visitors that have always been apparent in museum visitor studies.

There is a distinction between expert commentary and annotation of art object records and general viewer commentary. Both can be distributed and both can challenge information “authority” in museums (see Jørgensen, 2004a, on distributed indexing and shifting authority). So far we have little idea of how useful or interesting user-supplied keywording is to general art viewers and its relation to “authoritative” museum education and interpretation and information provision roles. To date, no extensive content analyses of these experiments with user-generated keywords have been published.

3.3 Art Information Audiences, Users, and Use

3.3.1 Art Images and Their Seekers and Users in General LIS Images Research

Even though LIS art documentation practice has a strong traditional base in art historical disciplinary warrant and theory, LIS image user research has not often focused exclusively on art image users. Most general LIS image use research has focused on queries to and retrieval from large collections of photography: contemporary or historical documentary or news photography (for example, Burke, 2001; Choi and Rasmussen, 2003; Collins, 1998; Greisdorf and O’Connor, 2002a, 2002b; Ornager, 1997) or commercial stock photography (for example, Fidel, 1997; Garber and Grunes, 1992; Jørgensen and Jørgensen, 2003). Or such research has deliberately been conducted across different types of image collections with mixed media images which sometimes include art images (Armitage and Enser, 1997; Keister, 1994). Strikingly, few LIS user query or user vocabulary elicitation studies have focused *exclusively* on either requests for or viewer description of fine art images. The analysis of user requests to the art reproduction photograph collection of Witt Library, Courtauld Institute of Art, University of London, remains the sole study of its kind (Gordon, 1996; Hourihane, 1996; later incorporated into the mixed image collection study of Armitage and Enser, 1997).

Universal basic level image description for general image seekers

Helping generalists, that is, non-subject specialists, in accessing various types of pictures in collections is embedded in many LIS image projects and much research which strives to develop “universal” basic level image description concepts and vocabularies to augment specialized and local access systems, in order to allow searchers to express the simple, or perhaps initial, needs to search more complex information records. This effort has been driven by aggregated digital collections-building in order to simplify access and navigation across increasingly extensive, heterogeneous shared digital collections. Armitage and Enser (1997, p. 287) call this “general purpose categorisation,” and at least one large visual thesaurus development project has as its goal a “more generalized indexing language” to complement domain and collection-specific vocabularies (Jørgensen, 2003, pp. 269-270; 2004b).

However, when art images are folded into these projects, the result is a loss of research data on art-specific queries, terminologies, and needs, which, as we saw above, are quite distinct from purely photographic image documentation. The need remains for art-focused research to address the specific documentation needs of a whole spectrum of art object, image, and information users from novice to expert within the art realm.

LIS research on art specialists and their information needs and uses

When LIS research has focused on end use of art images and information in particular, it has investigated art information and image seeking and use among academic art historians and art history students, that is, those already knowledgeable in art historical and critical terminologies and information genres and practices and whose information retrieval tasks are research or study-oriented (Bailey and Graham, 2000; Bakewell, Beeman, and Reese, 1988; Chen, 2001a, 2001b; Ester, 1994; Hastings, 1999, 1994; Rose, 2002; Stam and Giral, 1988). In a review of the research on their information needs and research behaviors, Joan Beaudoin (2005) characterizes

art historians (both academic and curatorial) as highly educated in their discipline, relatively slow adopters of newer information technologies, and reliant on library materials like monographs and reference works, where browsing for purposes of citation tracking and serendipitous discovery are frequently used. In their scholarly tasks they explore images of objects and written descriptions about objects in order to place works within historical and critical contexts. While non-art-specialists may exhibit any of these characteristics, ordinarily their “tasks” with artworks are not study-related, and their diversity means that only some are highly educated in art to begin with. The typical time-limited viewing and information-seeking behaviors of non-specialists in physical museum contexts may mean that the primary behaviors they share with task-oriented specialists are purposeful browsing and serendipitous discovery.

LIS research on non-specialists and their art information needs and uses

We in LIS know little about what information is needed by members of the general public who want to learn about art objects or need art images. There has been little focused research on the information needs and tasks, conceptual organization, terminologies, and behaviors of more casual art object and image users, particularly involved in browsing and discovery for its own sake.

It is difficult to distinguish “non-specialist” public queries to specialized art image collections. For example, 25% of the queries to the Witt Library are posed by the “private individuals [and] scholars” (as opposed to other “occupational” types such as “libraries” and “museums”), but how many of these individuals are truly non-art-specialists is not known (see Hourihane, 1996, p. 58). We have lists of reference questions to public library art departments (for example, Slavens, 1981) and initial research studies on art-centered searcher keywords to general World Wide Web search engines (Cunningham, Bainbridge, and Masoodian, 2004) and queries to distance reference services in art museums (Goodrum, 2003), both of which contain an unknown mix of expert and novice searchers.

Carolyn Frost and her colleagues conducted by far the largest study of online art image users to date with the University of Michigan's Art Image Browser and 2500 images of artworks from museums and academic units on campus (Frost et al., 2000). Their study compared the browsing and searching patterns in the retrieval system of both art specialists (masters degree or higher in art or architectural history or fine arts) and non-specialists. They found a variety of differences and commonalities between the experts and the non-specialists in their projected end uses for digital art images (primarily work-oriented vs. personal educational and entertainment use, respectively), their preferences for image size and quality, their receptiveness to more or less art historical information (both welcomed this, non-specialists with even greater enthusiasm), and their preferences for searching vs. browsing (experts preferred direct searching to get to what they wanted). Interestingly, the researchers found considerable evidence of interest in subject access to art images across both groups. Unfortunately, subject descriptors were missing or lacking in vocabulary control for many object records provided by campus image providers. Thus, even though the study found that both expert and novice users expressed interest in using subject access, it did not produce enough evidence to definitively characterize their specific end uses for subjects or success in finding them in the system. This research, nevertheless, provides the fullest study so far of non-specialists and their art image browsing and searching patterns and will provide a useful comparison to results from studies on non-specialists in art museum settings.

Art museums have sometimes been included in studies of collaboration projects among libraries, archives, and museums to provide online access to cultural heritage information to K-12 audiences, which can be considered non-specialist. A major contemporary study which examines online museum information users from an LIS perspective and which is concerned with content rather than strictly with technology is the Museums and the Online Archive of California (MOAC) project (www.gseis.ucla.edu/~moac/), a large, multi-year effort to survey and interview K-12 educators, university students and instructors, and museum professionals using

cultural heritage information and images, including art content, for their teaching needs. Its goal is to study the use of online images of museum objects for formal education, not the interaction with images for informal learning and use.

Karen Markey's research with art non-specialists

Karen Markey explored the spontaneous descriptive terms of non-specialist art viewers when she had them “index” a set of medieval European artwork reproductions in order to construct a thesaurus of simple concepts leading to more complex iconographic themes in art (based on her dissertation research; see Markey, 1984). Her aim was to cluster and link novice art descriptive terms to more complex art themes using basic-level depicted elements to link to more complex and canonical art themes. In this, she assumed that non-specialists would be able to label simple pictured elements at Panofsky's Level I of description. She found little consistency in viewers' descriptions, however—higher in depicted object naming than expressional qualities—but conceded that this was in part the result of the distance of this type of imagery from contemporary viewers' experiences.

Markey's study is perhaps the most important study in LIS research of non-specialists viewing and describing art images, not because it revealed the inability of 20th-century novice viewers to adequately and consistently describe complex historic artwork, but because of the assumption that it seemed to launch: that non-specialists, without art history training, are only able to operate at Panofsky's Level I and by extension require simple-level indexing of visual elements. By setting our assumptions about what novice viewers are able to describe, we are led to believe they require or prefer simple, everyday concepts for searching and access into art image and information databases. In other words, it implies that the type of information needed by non-specialists is primarily visual description. While an effort to try to hook art novices up with more technical vocabularies and concepts using what they already know from everyday visual experience might well be a good application of

object and image indexing, there has been no LIS research to find out how or if these would even be useful to novice searchers.

3.3.2 Art Information in Leisure and Lifelong Learning Information Use

LIS has not done in-depth research on the information needs and behaviors of non-art-specialists who go to either art museums or art museum websites for simple enjoyment and entertainment, personal intellectual challenges and growth, sharing with their children and families, keeping up with developments in the current cultural “scene,” or using artworks as inspiration for their own creative or spiritual endeavors. This may be partly explained by a general neglect of the study of information gathering, especially browsing and discovery patterns, for leisure and “entertainment” use in LIS information-seeking research and literature more generally (Case, 2002, pp. 85-88, 102-108). Ironically, it may be part of a more general dismissal of images in LIS research, up until recently, as “entertainment” rather than serious information sources, and thus less important than text information research (Turner, 1993, pp. 245-246; Turner, 1999, p. 14). It may also be explained by the challenge of understanding the great range of non-specialist museum visitor needs—Esther Bierbaum cites their intellectual, recreational, emotional, educational, and aesthetic needs (Bierbaum, 2000, p. 153)—that are arguably broader, more open-ended, and less task-oriented than those of academic museum information users.

As noted above, this kind of information-seeking context is closer to, for example, public library fiction browsing and discovery behaviors and preferences, about which LIS has some knowledge which is probably applicable to other imaginative information forms (for example, Clare Beghtol’s analysis of fiction classification based on data elements of characters, events, spaces, and times [Beghtol, 1994] and Annelise M. Pejtersen’s studies of indexing for public library fiction seekers [for example, Pejtersen and Austin, 1983-1984]; see also Lancaster, 2003, pp. 200-214). This type of information browsing relies more on subjective motivations and serendipitous discovery.

In the context of everyday life information seeking, LIS researchers are beginning to explore the sociological study of leisure activities for evidence of information acquisition and information behaviors, particularly in the study of hobbyists and leisure interest communities. These groups include “liberal arts enthusiasts” (surely including many art museum visitors) who pursue subject information for the pleasure of learning (see Hartel, 2005, p. 315). With these types of learners and information-seekers, levels of expertise between experts and enthusiasts begin to blur.

Indeed, non-art-specialists are not necessarily uninformed about art. In fact, art museum visitor surveys and studies show that some visitors know a lot about art, in part, the result of the typically higher education levels, greater levels of lifelong arts participation, and greater needs for “enjoying and seeking out thinking and learning activities in general” of frequent art museum attendees (Hendon, 1990; Packer and Ballantyne, 2002, pp. 190-191; see also Zolberg, 1994, pp. 57-59). Non-specialists’ experience of art information and images ranges from clear novice to “advanced amateurs” (McDermott-Lewis, 1990, pp. 5-6) to passionate amateur “specialists” in one artist or art form. Taylor also points out that art expertise ranges along a continuum of personal knowledge bases and understanding; it is not dichotomous (“know”/ “not know”) (Taylor, 2001, p. 53).

Non-specialists’ end uses for art objects, images, and information run a gamut of needs from informational and comparative (for example, for collectors and enthusiasts in one type of art) to visual inspiration for their own creative endeavors (for example, for non-professional artists and craftspeople). The general assumption is that they are less likely to be familiar with broad range of specialized art historical and criticism terms and concepts and that there will be a broader range of knowledge and abilities than among specialists. What are the “tasks” of casual art museum visitors, and what types of information—embedded in the objects, in verbal and text commentary, and in the viewers’ own experiences—aid or satisfy these tasks? It is

one goal of this dissertation to explore the dimensions of expertise and information tasks of non-specialist art viewers, observed here in gallery settings.

3.3.3 LIS Research on Visitors as Information Seekers in Physical Museums

Library and information science research on art object and information seekers and users has logically been with surrogate images, because, by definition, images of artworks are held in databases that are the chief object of LIS concern (be they physical film or photomechanical prints or digital images). LIS-based information user or viewer research in the context of physical collections of original cultural objects, including artworks, has been very rare. Conceiving of art museums as information institutions has not engendered much qualitative *or* quantitative study of actual visitors and viewers of original art objects, their use of accompanying information sources, and their information behaviors in museums.

Among the few LIS-based research studies in this context, Taylor conducted an experiment with art museum visitors specifically in order to gauge the differences between the emotional impact of a variety of artwork reproduction types and the original objects in order to explore the impact of surrogation on visual information (Taylor, 2001). Taylor notes that few LIS images studies “test” subjects with original artworks and that his study “will be one of the first in the library and information studies field to investigate possible differences in the way viewers respond to original works of art as compared to surrogate reproductions of the same” (p. 63). Interestingly, Taylor notes that almost all experimental aesthetics and psychology of art research is also carried out with reproduction images instead of originals. Corinne Jörgensen finds the same assumption in human vision and perception studies: “It should be noted that there is also a fundamental assumption that visual perception of an image and of the ‘real’ world are *functionally* equivalent” (italics original; Jörgensen, 2003, pp. 9-10).

As we saw in Chapter 2, there are growing calls for research into the differences between the experiences of museum object viewers in the virtual and the

“real” environments. In his study of 2001, Taylor deliberately focuses on the issue of surrogacy and does not explore the role of spatial, environmental, and social experiences of museum art-viewing in information gathering, an approach that remains unexplored in LIS (though Taylor does raise these issues in his article of 2003). Many of these will be examined by the Project DigiCulture study of a corpus of art museum visitor studies done over a 40-year period at the Musée d’art contemporain (MACM) in Montréal. This is rare example of an LIS-based study of art museum visitors which will provide a longitudinal picture of visitors to one museum—and an evolutionary look at the visitor study process—in order to analyze visitors’ expressed needs for information, their information behaviors in the various spaces of the museum including the art resource center, the types of information and documents sought by visitors, and their informal sources of information (see Gauthier and Pouchot, 2004, and Turner, Bertrand-Gastaldy, Bergeron, Gauthier, and Pouchot, 2005).

Research on museum visitors’ questions

One way the information needs of museum visitors in general have been explored is through visitor online query and on-site question studies conducted by museum studies professionals.

We do know that, offered the means and an opportunity to query responsive museums, online museum visitor “feedback and follow-up questions are voluminous, suggesting that the general public wants additional or different information than museums currently offer in their programming. In 1995, one popular site [National Museum of American Art] reported over 600 follow-up requests per month from individuals who visited it online” (Zorich, 1997, p. 182). The National Museum of American Art is now one of several institutions taking part in an LIS-based study of queries to digital museums and digital libraries from a virtual reference perspective (Goodrum, 2003).

Interestingly, parallel uncertainty still exists about what questions on-site museum visitors ask. Elizabeth Orna, a longtime information systems consultant to museums and co-author of *Information Management in Museums* (Orna and Pettitt, 1998) notes: “There seem to have been [as of 1994] surprisingly few attempts to answer the question: what access do users want? One cannot but be struck by the contrast between all the publicity about investment in IT for multimedia access and the poverty of information about simple things like the questions people ask and who asks them” (Orna, 1994, p. 25). Helen McCorry and Ian O. Morrison in researching questions asked in museums in the United Kingdom in the mid-1990s remark that, “on examination, it transpires that very little work has been done on what sorts of questions are asked in museums, and much of what has been done has concentrated on ‘front-of-the-house’ activities such as signposting and providing enough lavatories” (McCorry and Morrison, 1995, p. 4). Likewise, Tony Gill of the Research Libraries Group Cultural Materials online collection, begun in 1999, still reports as of 2002 the “surprisingly scarce literature on user access requirements for cultural heritage information,” and notes finding only the following projects (Gill, 2002, *Designing the RGL Cultural Materials Model*, para. 7), none focused exclusively on art museum collections.

In 1993 McCorry and Morrison studied 1013 questions submitted to a variety of museum and public gallery staffs across the United Kingdom in a study called the Catechism Project (McCorry and Morrison, 1995). The Getty Art History Information Program (AHIP) also conducted a series of meetings in 1995, called the Points of View project, of museum information specialists who provided and examined a range of visitor questions about museum objects (not limited to art objects) to make general recommendations for a research agenda on meeting the needs of a wide range of museum goers, from novice to expert (Sledge, 1995). In a further study, Kody Janney and Jane Sledge (Janney and Sledge, 1995) analyzed about 1500 general museum visitor questions from the Points of View project and others, including those from the Catechism project, to create a preliminary information attribute set for the Cultural

Heritage Information Online (CHIO) project of the Consortium for the Computer Interchange of Information (CIMI).

Grouping the queries on an open and “ad hoc” basis, that is, not mapping to any existing image or object information schemas, all of these researchers found that museum-goers mostly had questions about specific objects, broad classes of object and subject themes like “crafts” and “transportation,” objects with particular associations (for example, with individuals or locations), and specific information on dates, materials, methods of creation, and style. The Catechism project showed that questions about object “iconography” were considerably more characteristic in art and antiquities collections and in large photograph collections, though still not voluminous.

The Catechism, Point of View, and CHIO projects report very valuable general characteristics of museum visitor reference questions. They do underscore the need to understand and anticipate non-specialists’ vocabularies and kinds of concepts. However, none separates out questions specific to artwork viewers, from the variety of museums contributing question samples. Nor do the studies delve into the characteristics of the museum question-posers themselves. They examine questions submitted by visitors to museum staff. However, if the museum intermediaries reported when and under what circumstances the questions were asked in the galleries or at other locations, this is not detailed in these reports. (The CHIO project also mixed in queries made to a commercial supplier of art images.) In other words, these are query studies, not user-in-context studies, and thus are only part of the picture of viewer information needs, here separated from the circumstances that prompted the questions.

3.4 Conclusion

This chapter outlines the special requirements of art object and image documentation in information systems in comparison to other image types. Subject indexing is the most challenging aspect of artwork description, and LIS researchers

and documentation schema designers have turned to iconographic art theory to provide a framework for describing the visual, contextual, and interpretive information associated with artworks and the associated information behaviors of description, analysis, and interpretation. This theoretical framework, while widely accepted in the documentation community, has never been tested with a large group of non-specialist art viewers and information seekers. This dissertation examines art museum visitor studies for evidence of the usefulness of these information types and their associated behaviors for non-specialists.

The chapter also argues that scholarly art documentation tools—object and subject classification schemas and vocabularies—that are currently employed to capture object and subject attributes may not serve non-specialist system users, in part because of the difficulties of expert vocabularies. This realization and the lack of extensively cataloged and indexed art object and image collections have spurred museums to try a new approaches to creating more accessible information with more common vocabularies for generalists by soliciting artwork subject indexing from online viewers.

The slim LIS-based research on non-specialist art object and image viewers is focused on retrieval tasks in systems of surrogate images. New research needs to focus exclusively on art object and image viewers (apart from mixed media image collections) and their special information needs. It needs to be supplemented with studies of visitors to art museums which follow a more general model of information-in-context behavior studies, those that focus on “how people need, seek, give, and use information in different contexts, including the workplace and everyday living” (Pettigrew, Fidel, and Bruce, 2001, p. 44). Needed are studies which look at viewers’ interactions with artworks and physical surroundings, including other people, as well as navigation through collections in both browsing (exhibition) and searching (database) modes.

Chapter 4: Research Design and Art Museum Visitor Study Selection

4.1 Introduction

The goal of this dissertation research is to increase our knowledge about non-specialist art viewers and the types of information they seek and use. The research question asks: what do art museum visitor studies tell us about the types of information—visual, contextual, interpretive—that adult art museum visitors seek and use as they interact with artworks in museum settings?

The research describes this non-specialist experience through the eyes of investigators reporting on their grounded, qualitative field study of art museum visitors. The dissertation analyzes the observations, concepts, and models created and reported by these museum researchers. Thus, the research is analytical and comparative in looking across many visitor studies for emerging patterns and common themes.

In order to analyze art museum visitor studies systematically, the dissertation research takes the form of a qualitative meta-analysis of the findings of selected published research studies of museum visitors carried out over the last 20 years in the United States and Canada, countries with established traditions of museum visitor research and study publication.

The qualitative meta-analysis research design is a form of qualitative case study which employs purposeful sampling of cases with specific selection criteria. The texts of the selected visitor studies have been analyzed in cross-case comparisons in order to generate a framework of information concepts and their relationships which describes, based on the reports of museum researchers, the experience of non-specialist art viewing and information behaviors in museums. The text coding and analysis process are described in Chapter 5, the findings and analyses are presented in Chapters 6, 7, and 8, and the conceptual framework resulting from this process is the topic of Chapter 9.

4.2 Characteristics of Art Museum Visitor Studies and Their Usefulness to This Study

Art museum visitor research in North America and Europe over the last 35 years has taken the form of visitor demographic and attitude surveys, formative or front-end studies of specific exhibits (before exhibit opening), summative exhibit evaluations (after opening), and assessments of interpretive aids such as labels and audio tours (Pitman, 1996, pp. 252-253). Some art museum visitor studies of this type are basic research on visitors' museum-going activities, information retention, social interactions, and motivations, including intellectual, entertainment, aesthetic, and social (Kavanagh, 1991). Some visitor studies are applied research conducted to gauge the impact of existing exhibitions and programming or to plan upcoming exhibitions or programming (Diamond, 1999; Dierking and Pollock, 1998; Korn and Sowd, 1990).

They are conducted by museum staff (curators, educators, exhibition designers, publications staff, administrative and/or marketing staff), sometimes using professional evaluation consultants and sometimes in collaboration with academic researchers (Dierking and Pollock, 1998). Their results are published in museum and education professional journals, collected in multi-author anthologies, and reported at colloquia and conferences such as American Association of Museums annual meetings and Museums and the Web conferences. Many art museum visitor studies are never published, however, in part because internal studies tend to be evaluations of museum-specific exhibitions or programs.

Art museum visitor studies are motivated by museums' educational goals and functions. Their paramount aim is improving museum interpretation, educational techniques, and thus visitor learning. They examine assumptions about visitors' interests in and understandings of concepts addressed in exhibits, particularly when key ideas may be spread throughout exhibitions and visitors may not view objects or information sources in the "expected" order (Dierking and Pollock, 1998).

Visitor studies use a variety of quantitative and qualitative research approaches including questionnaires and surveys, entrance and exit interviews, entrance and exit testing for attitudes and retention, gallery observations, recorded “look-aloud” commentaries in the galleries, and focus groups (Dierking and Pollock, 1998; Hooper-Greenhill, 1994). These studies are often conducted in single museums, but a number of studies also compare results across museum types, for example, the study of the time spent in science-related vs. non-science-related museum exhibitions (Serrell, 1998). While some studies are evaluative rather than basic research and thus are less concerned with, or not explicit about, underlying theory, other studies have been framed with a variety of theoretical paradigms (for example, behaviorism, social constructivism, symbolic interactionism, discourse analysis), methodological approaches (for example, conversation analysis, ethnomethodology, grounded theory), and art and aesthetic education models (for example, Discipline Based Art Education, stages of aesthetic development) (Lawrence, 1991).

Art museum visitor studies are an appropriate object of study for exploring non-specialist art information use. Describing and analyzing a purposeful cross-section of art museum visitor studies systematically and in depth provides a useful perspective into viewer information concepts and behaviors *as reported by* museum researchers in the field. The mix of research methods in these studies supplies multiple interpretations of visitor experiences and contributes to building a “mosaic” of concepts and interpretations of these experiences. Such a variety of approaches allows for useful cross-case comparisons and engenders the specific methodological and research design choices described in the following sections.

4.3 Methodological Choices: Case Study and Qualitative Meta-Analysis

4.3.1 Art Museum Visitor Research Studies as Cases

The qualitative case study approach—and a specific, practical application of that in the qualitative meta-analysis method—is used in this dissertation to define art

museum visitor studies as *units of analysis*. The case study approach helps us to conceive of research studies as events and the published reports of these events as representations which can be subject to case study themselves. Charles Ragin states that, “virtually every social scientific study is a case study or can be conceived as a case study, often from a variety of viewpoints. At a minimum, every study is a case study because it is an analysis of social phenomena specific to time and place” (Ragin and Becker, 1992, p. 2). Since text documents are usually considered secondary or supplemental evidence for the purpose of triangulation in case studies in field research, the question arises about whether the written record of that event cannot also be treated as a case—or a representation of the case—to be compared with other written records of other studies examining the same phenomenon. Qualitative meta-analysis answers this methodological need with a special cross-case analytic approach focusing on research reports as primary data.

The primary data in this dissertation is a purposively sampled subgroup of published art museum visitor studies, chosen on criteria of topical relevance and focus on adult visitor interactions with original artworks in the galleries and bounded in time and geographic origin. The primary *objects of analysis* within these studies are the claims that art museum researchers make about the information types and behaviors used by adult art viewers in museum settings and their reports and direct quotes of visitor comments. The studies are the “field;” their authors’ descriptions, findings, and resulting conceptual categories and frameworks are the “data.”

The usefulness of a case study orientation in this dissertation is that it provides rationales—if not exact models—for (a) using specific criteria for sampling and selection from a “universe” of studies (Stake, 2000, pp. 438-440); (b) comparing cases with cross-case analytic approaches to find commonalities of themes and patterns (Miles and Huberman, 1994, pp. 172-238; Ragin and Becker, 1992); and (c) balancing and integrating the findings of specific cases with generalizations at increasingly

abstract levels of explanatory power which apply to several or many such cases (Strauss and Corbin, 1998, pp. 284-285).

4.3.2 Qualitative Meta-Analysis

Qualitative meta-analysis is a research method in which primary qualitative research studies on a given topic are assembled and analyzed systematically, holistically, and in cross-case comparisons for their findings and resulting conceptual models, as well as for their original research goals, designs, and theoretical underpinnings, in order to describe the state of knowledge on that topic (Paterson et al., 2001; Sandelowski, 2004; Sandelowski, Docherty, and Emden, 1997). It has been developed in response to the burgeoning body of qualitative research in the social sciences from the 1970s onward (Sandelowski, 2004, p. 892; Wang, 1999; Westbrook, 1994, p. 242). This approach uses analytic methods and techniques similar to the analysis of primary field research data—content analysis and constant and other types of comparison—but applies them to a fundamentally different field of “primary” data, that is, to existing qualitative field studies.

The better known counterpart of this method is quantitative meta-analysis, in which quantitative research studies are compared and their findings integrated on the basis of their shared research questions, hypotheses, variables, treatments, measurements and statistical methods, and resulting outcomes of statistical significance (see Cooper, 2004; Cooper and Hedges, 1994; Rosenthal, 1991). Both types of meta-analyses stress fundamental comparisons across multiple studies of: analytic objectives; inclusion and exclusion criteria; standardized protocols for literature review, case screening, and data collection; and methods of combining the analyzed studies’ results, conclusions, and limitations (Schutt, 2001, p. 410). However, quantitative-based research deliberately reduces or “normalizes” the richness of the layers and the individualism of the original researchers’ theoretical or conceptual stances and interpretations, whereas qualitative meta-analysis deliberately

addresses the complexities of the layers of inquiry implicit in this kind of inductive document analysis. Qualitative analysis, by definition, deliberately seeks varieties of evidence and description to illuminate a phenomenon as seen from multiple viewpoints.

There is a clear distinction between (a) a literature review to define and situate problems from which particular research questions spring and (b) a systematic review of a purposeful selection of research studies in order to consolidate answers to these research questions by means of further analyzing commonalities and differences of research results and conclusions. The former is a secondary research literature review and the latter a meta-analysis of primary documents (Strauss and Corbin, 1998, pp. 47-52).

Additional analysis procedures of content and comparative analysis used in this dissertation are discussed in Chapter 5 Data Analysis and Coding.

4.4 Identification, Selection Criteria, Purposeful Sampling, and Characteristics of the Selected Studies

4.4.1 Identification of the Primary Studies

In order to make a selection from a broad range of art museum visitor studies, purposeful sampling was used to find the studies most likely to contribute to answering the dissertation's research question. Qualitative meta-analysis requires an initial comprehensive review of the field of extant research studies on the research topic in order to choose from as complete a "universe" of studies as possible (Paterson et al., 2001, pp. 35-38; Sandelowski, 2004, p. 892). The gathering and selection of studies for analysis here began with a thorough and systematic review of the major annotated bibliographies and indexes of museum visitor studies and museum studies more generally to identify relevant empirical art museum visitor studies and to provide an overall familiarity with this body of research. It also included searches in major social science, education, and humanities research and citation databases for relevant

studies in professional museum curatorial and education journals and conference proceedings. A particular effort was made to identify previous meta-studies and research reviews, though these appear to be rare (critical overviews include Dufresne-Tassé and Lefebvre, 1994; Pitman, 1996; and Serrell, 1998). The review continued with further citation follow-up until redundancy of references to studies became evident. The list of resources used in this search and review is found in Appendix A.

4.4.2 Study Selection Criteria

Studies were then selected purposefully from this universe for their information richness and their potential to provide insight into the research question under investigation (Patton, 2002, p. 230). The selection criteria for purposeful sampling conducted here was based on the guidelines for evaluating the usefulness and value of primary research studies and for inclusion and exclusion of such studies in a meta-study as outlined by handbooks of the qualitative meta-analysis method (Paterson et al., 2001, pp. 39-46; Sandelowski et al., 1997, pp. 368-369) and case study (Stake, 2000, pp. 438-439). The purposeful sample of art museum visitor studies selected meet the following general criteria.

(1) Topical similarity. The selected studies are concerned with the “same substantive phenomenon, event, or experience” (Sandelowski et al., 1997, p. 368). They focus on the adult art museum visitor experience, on art museums specifically (in contrast to some studies that look at a mix of museum types), and on visitor interaction with original artworks in the galleries. The studies focus on adult and young adult art museum visitors rather than on children (either as individuals or in school tour groups). They include, however, studies of family groups which include children.

(2) Methodological similarity and diversity. The selected studies are in-depth, qualitative studies with a variety of inquiry methodologies. Though they may also include descriptive demographic data, they go well beyond characterizing simple

visitor demographics. These studies have been conducted with a variety of data collection and analytic methods (gallery observations and conversation analysis, pre-visit and post-visit interviews and open-ended questionnaires, case studies, analysis of diaries of museum visits). One half of the studies employed at least two of these approaches.

(3) Basic research. Basic research studies, in contrast to evaluative or summative research, are more likely to support their research with underlying theoretical or conceptual frameworks and to provide in-depth discussion of findings with resulting statements of conceptual or theoretical import. Stake defines such cases as instrumental cases, those intended to enlarge a body of knowledge about a situation or phenomenon in general (Stake, 1995, pp. 63-64). They are likely to be more rigorously designed and conducted, as well as peer-reviewed for publication. The purpose of all of the selected studies here is basic research, regardless of (a) whether they were conducted as either preliminary (front-end or formative research) to the design of exhibitions or galleries or as evaluations of already-mounted exhibits (summative research), or (b) whether they examined one exhibit and one group of visitors or many exhibits and many visitors. The aim of all these studies is to illuminate art museum visitor behaviors and attitudes broadly, and their publication attests to the belief of these researchers in their generalizability beyond the implementation or improvement of local museum practice.

(4) Quality of the research. The selected studies meet general quality criteria in literature and research review guidelines (see, for example, Cooper, 1989, and Fink, 1998, pp. 215-237). These include clearly stated research objectives, adequate sample size and inclusion criteria, complete description of the research design and data collection, and conclusions supported by the data. These studies have been peer-reviewed for publication in professional and scholarly journals and books (with the exception of the studies published online by the Smithsonian Institution), thus ensuring a basic level of quality. All the studies were conducted and published by

established researchers—museum educators and evaluation staff, academics, and museum evaluation consultants—with records of study and publishing over time.

(5) Published studies. Only published research studies were selected here for meta-analysis, because of the difficulty of locating and obtaining unpublished and often proprietary and undistributed research studies produced internally in art museums. Published reports are more frequently conducted as basic research and have the advantage of peer review. Indeed, publication can be seen as a device for screening and maintaining quality in primary study selection (Paterson et al., 2001, pp. 35-36).

Many evaluation studies of art museum exhibit effectiveness are in the form of masters theses and graduate student work for museum studies programs, in both North America and Europe, sometimes abstracted in major museum studies bibliographies such as those maintained by the Smithsonian Institution and the Group for Education in Museums (GEM) in the United Kingdom. Theses were not examined for this dissertation.

European art museum visitor studies have not been included here. These are often internal to museums and difficult to obtain (for example, studies for the redesign of the British Galleries at the Victoria and Albert Museum, London; see the summary of these studies in Durbin, 2000). Much European research is produced as academic research projects, for example, that conducted by the universities of Utrecht and Amsterdam in The Netherlands (Haanstra, Van der Heijden, and Sas, 1996) and the University of Leicester in England. These, too, are difficult to obtain. An early, landmark research study on public attendance in art museums was the in-depth study of visitors to French museums and a selection of other museums in Italy, The Netherlands, Spain, Poland, and Greece in 1964-1965 by Bourdieu and Darbel (translated into English in Bourdieu and Darbel, 1990). This was primarily a sociology of art study, however, which examined class differences in preferences and

attendance patterns, rather than a study for improving actual museum service and resources (Hooper-Greenhill and Moussouri, 2001, p. 24).

North American researchers are credited with being at the forefront of audience and visitor research, and research from an educational point of view, because of an historic orientation toward public education in museums (vs. a curatorial and expert emphasis in European museums; see, for example, Graf, 1994, p. 79; and Hooper-Greenhill, 1994, pp. 138-139). For the purposes of this study, published North American art museum studies—particularly extensive and influential studies such as the Getty Focus Group Experiment and the Denver Art Museum Interpretive Project—furnish adequate coverage of and evident saturation on the topics of interest to this dissertation: visitor information behaviors and use.

4.4.3 Other Characteristics of the Selected Studies

The visitor studies selected include large, multi-phase research projects in which the results of several or many research studies were combined (Cleveland, 1993; Getty, 1991; McDermott-Lewis, 1990; Smithsonian-Buddha, 2004; Smithsonian-Chinese, 2005). They also include smaller studies focused on visitors' reactions to one exhibition (for example, Stainton, 2002) and even one displayed object (Eversmann, 1997).

The selection of studies represents a variety of medium-to-large size art museums and represents a variety of types of art experienced by the study participants (Western European and North American, Asian, African, "Old Masters," contemporary art, decorative arts).

Eight of the 12 studies explicitly examine and break out their findings about art museum visitors by frequency of museum attendance and/or by experience with art or museum visiting in general. Many also gathered demographic data on their participants: age, gender, education, occupation, and ethnicity. The value of this data

is to help illuminate possible differences in visitor types and their interactions with artworks and art information.

Some studies can be grouped together methodologically and philosophically based on institutional affiliation. For example, studies originating in the Museum Learning Collaborative research group at the University of Pittsburgh share the analytic approach of conversation analysis (Abu-Shumays, 2002; Stainton, 2002). The studies conducted by the Office of Policy and Analysis at the Smithsonian Institution—represented here by two studies of related Asian art exhibits (Smithsonian-Buddha, 2004; Smithsonian-Chinese, 2005) conducted several years apart—share a focus on exploring visitor satisfaction in relation to frequency of visiting and levels of personal interest in art. Other individual studies explore other kinds of models or theories, for example, the applicability of reading and literacy models to museum learning (Eversmann, 1997) and aesthetic development models (Housen, 1987) in art museum viewing.

4.4.4 Sample Size

The number of primary studies selected for a meta-analysis should provide enough data to allow comparisons of target concepts and to contribute substantially toward answering the meta-analyst's research question(s), as well as representing a variety of independent primary investigators (Paterson et al., 2001, p. 36). For qualitative meta-analysis, Paterson et al. (2001, p. 38) recommend the examination and comparison of at least 12 discrete studies. Sandelowski et al. (1997, p. 368) suggest 10 as the upper limit. These qualitative meta-analysis methods guidelines often used in a health sciences context, however, where the sheer thickness of study findings, particularly in ethnographic studies, require more restrictive inclusion. The purposeful sample of less dense and less extensive art museum visitor studies for this dissertation includes 12 discrete studies.

4.5 Synopsis of the Selected Studies

Table 4.1 which follows gives a synopsis of the selected studies by research project name and/or researcher(s), citation format used here, date of publication, museums where conducted, the type of art which was viewed by study participants, and the data collection method(s). As part of the initial single-case descriptive analysis of these studies, this and other study information was captured in data collection forms which provide more information on the individual studies (see Appendix B).

Five of the 12 studies are cited in Table 4.1 by organization or museum name when they represent the work of many researchers over several phases or exhibitions (Cleveland, 1993; Getty, 1991; McDermott-Lewis, 1990; ROM, 1991; Smithsonian-Buddha, 2004; Smithsonian-Chinese, 2005). The Getty study citations in some cases have the individual names of the eleven participating museums appended if mentioned in the original study.

Seven of the 12 studies cited in Table 4.1 by author name represent the work of one to three researchers, usually conducted in one exhibition (Abu-Shumays, 2002; Duhaime, 1989; Eversmann et al., 1997; Housen, 1987; Leinhardt, 2002; Stainton, 2002; Worts, 1995). These studies are cited here and in all the following chapters by the name of the first researcher and without publication dates in the following chapters in order to avoid long citation strings when many studies are referred to at once.

4.6 Conclusion

This chapter describes art museum visitor studies as a body of research and as an appropriate field of inquiry for studying non-specialist art viewers and the information they use and seek. It presents the rationale for the research design of this investigation as a qualitative meta-analysis, a systematic method of analyzing a purposefully selected group of existing research studies on a given topic in order to synthesize both their empirical results and the resulting concepts and models of the

original researchers on this topic. The chapter summarizes the procedures used to identify and select the primary art museum visitor studies according to criteria of topical relevance, methodological similarity and diversity, basic research goals, quality of research, and publication status. It also provides a synopsis of the selected studies.

Table 4.1 Art Museum Visitor Research Studies Selected

<i>Citation format</i>	<i>Researchers or Group</i>	<i>Date of pub.</i>	<i>Museum</i>	<i>Type of art</i>	<i>Methods</i>
Cleveland	Cleveland Renaissance-Baroque reinstallation	1993	Cleveland Museum of Art	European art: Renaissance and Baroque paintings, sculpture, decorative art	Interviews
Getty	Getty Focus Group Experiment	1991	11 museums (specific museum appended where mentioned)	Multiple	Focus groups
McDermott-Lewis	McDermott-Lewis; Denver Art Museum Interpretive Project	1990	Denver Art Museum	Multiple	Interviews
ROM	Lockett	1991	Royal Ontario Museum (ROM), Toronto	Ancient Near Eastern art, ancient Chinese art	Observations, interviews
Smithsonian-Buddha; Smithsonian-Chinese	Smithsonian Office of Policy and Analysis	2004-2005	Arthur M. Sackler Gallery, Washington, D.C. (two exhibitions)	Asian art: Buddhist sculpture, Chinese ceramics	Questionnaires, interviews
Abu-Shumays	Abu-Shumays and Leinhardt	2002	Carnegie Museum of Art, Pittsburgh	African art: sculpture, ceremonial objects, jewelry	Case study of two visitors; content analysis of conversation, observations
Duhaime	Duhaime, Ross, and Joy	1989	Musée de l'art contemporaine, Montreal	Contemporary art: paintings, sculpture	Observations, interviews
Eversmann	Eversmann, Krill, Michael, Twiss-Garrity, and Beck	1997	Henry Francis du Pont Winterthur Museum, Winterthur, Delaware	Decorative art: furniture	Interviews
Housen	Housen	1987	Institute for Contemporary Art, Boston	Contemporary art: paintings, sculpture	Interviews, "look-aloud" elicitation
Leinhardt	Leinhardt, Tittle, and Knutson	2002	5 art museums (among other kinds of museums)	Multiple (incl. NW Coast Indian, quilts)	Content analysis of visitor diaries
Stainton	Stainton	2002	Carnegie Museum of Art, Pittsburgh	African art: sculpture, ceremonial objects, jewelry	Content analysis of visitor conversation, observations
Worts	Worts	1995	Art Gallery of Ontario (AGO), Toronto	Canadian art: 19 th -20 th c. paintings	Content analysis of visitor response cards

Chapter 5: Data Analysis and Coding

5.1 Introduction

This chapter describes the process used to develop a codebook for the meta-analysis of the selected art museum visitor studies. It begins with a description of the initial concepts of information types and interactions posited in this study's research question. It also lists subquestions related to these concepts of the research question, developed to query the evidence in the visitor studies. It then explains how data coding and analysis captured and categorized emerging themes—anticipated and unanticipated—from the primary study data. It discusses the variations in definitions of museum visitor expertise in the primary studies, one important facet of this study's meta-analysis because of its relevance to different levels of museum visitor information expectations and use. The chapter ends with an overview of how the findings resulting from this coding process are laid out in Chapters 6, 7, and 8 and relate to the structure of the conceptual framework of artwork interpretation and information described in Chapter 9.

5.2 Research Question and Initial Concepts of Information Types and Interactions

The specific research question that this dissertation poses is:

What do art museum visitor studies tell us about the types of information—visual, contextual, interpretive—that adult art museum visitors seek and use as they interact with artworks in museum settings?

In this research question, the dissertation posits its initial conceptual categories of information types (visual, contextual, and interpretive) and interactions relevant to art viewing and information behaviors (seeking and using) of non-specialist adult visitors in art museums. These concepts have guided this investigation of artwork viewing as an information-gathering process. They provided an initial framework for qualitative data analysis by suggesting important leads to identify empirical indicators and to develop concepts grounded in and emerging from the data. They also served as

an ongoing—and evolving—touchstone for the comparative analysis of the conceptual constructs uncovered in the visitor studies.

The following are the basic definitions of the initial concepts used in the research question, with indications of their origins in art theory and cultural heritage image indexing and knowledge organization.

5.2.1 Information Types: Visual, Contextual, Interpretive

The general categories of the types of information that visitors seek and use for learning and meaning-making are defined for this study as follows:

1. Visual information: perceptual characteristics of the art objects themselves, for example, characteristics of forms and depicted subject matter, and perceptual characteristics of the visual display and physical layouts of art object collections in the galleries. Further examples of these perceptual characteristics include colors, shapes, compositional elements, elements of style and creation techniques, objects or scenes in or on art objects, and degrees of visual abstraction.

2. Contextual information: historical, cultural, and biographical information associated with art objects, that is, explanatory or “factual” information about artworks that is exterior to the objects themselves, such as creator names, creation dates, etc. These are information concepts that situate objects in time, space, and human culture, including the biography of the creator(s).

3. Interpretive information: meanings associated with art objects by both the museum and the visitor, that is, analytical and narrative interpretation of and affective reactions to artworks, expressed in texts or spoken words. These information concepts include symbolism and emotional and expressive or communicative elements.

These broad categories of visual, contextual, and interpretive information types are derived from the theory of iconographical subject interpretation on which much art image indexing is based in contemporary documentation practice. (They were proposed for library and information science (LIS) image indexing use originally by Sara Shatford Layne (Shatford, 1986; Layne, 1994) and others, and are outlined in

Chapter 3, section 3.2.3 above.) In particular, these three categories of information types correspond roughly to the three types of information used in art historian Erwin Panofsky's successive levels of artwork subject interpretation (Panofsky, 1955):

- pre-iconographical descriptive information (here: “visual”),
- iconographical analytic or identifying information (here: “contextual”)
- iconological interpretive information (here: “interpretive”).

These theoretical information types are now instantiated as image indexing information attribute categories for descriptive, named, and abstract information in standard cataloging schemas for cultural heritage materials, such as the Getty's *Categories for the Description of Works of Art* (CDWA) and the Visual Resources Association's *Cataloging Cultural Objects* (CCO). One objective of this dissertation is to explore, via art museum visitor studies, whether these information types appear in the artwork interactions and information gathering of non-specialists. If these types appear, how they are used and what are their relationships with each other and with specific behaviors? Are these information types intertwined and used simultaneously and/or iteratively in a process of meaning-making from artworks?

5.2.2 Interactions: Seeking and Using Information

How visitors “interact” with artworks refers in this dissertation to specific observable behaviors used in viewing art objects in the physical museum setting and which are recorded in some way in visitor studies. These include walking through galleries and pausing at artworks of interest (whether in a pre-determined sequence or not), walking around three-dimensional artworks, moving up close or farther back from artworks for different perspectives, reading accompanying texts (wall labels, brochures, catalogues) or listening to audioguide tapes or tour leaders while viewing the artworks, using interactive information devices, and conversing with others or writing, as on response cards, about the artworks or the museum experience or setting.

Panofsky's successive levels of artwork interpretation, and the corresponding cataloging and indexing steps suggested in the CDWA and CCO, imply an ordered and progressive framework of information behaviors: (a) describing, (b) analyzing or identifying, and (c) interpreting. Though these steps are assumed to be a process through which both image indexers and image searchers pass, how these might be manifested by non-specialist art viewers and information seekers is not well understood and has never been researched by LIS investigators. One objective in this dissertation is to explore, via art museum visitor studies, the interaction strategies that visitors use in collecting, processing, and generating art information and to determine if these are used in an ordered or progressive way.

5.2.3 Definitions of Additional Terms Used in This Study

“Non-art-specialists” or “non-specialists” here are general art museum visitors who are engaged in leisure learning rather than research or study tasks for academic work or school assignments. Leisure learners will inevitably vary along a continuum of art and museum-going expertise and a range of personal learning styles, interests, and motivations for art viewing and museum going. The focus here is simply on a type of end use that is not work-task or curriculum directed. The term “viewers” is used interchangeably with “visitors” in ways that are clear in context.

In this study the terms “art objects” and “artworks” refer to the original objects in the museums. “Art” is defined here as the visual fine and applied arts and includes whatever objects that general or specialized publicly accessible art museums are likely to collect, hold, and exhibit. This includes the traditional and contemporary fine arts such as paintings, sculpture, prints, and drawings; communication and design arts such as graphics, product design, ceramics, fiber art, and jewelry; and folk arts (from a definition of the visual arts developed in the National Standards for Art Education; see Consortium of National Arts Education Associations, 1994).

5.3 The Coding Process and Codebook Development

5.3.1 Data Analysis Procedures: Content Analysis and Comparative Analysis

Qualitative meta-analysis is not prescriptive regarding detailed techniques used to analyze, compare, synthesize, and represent the results of the primary research studies included in a meta-analysis. The meta-analyst may choose whatever is appropriate to the meta-study, although the use of verbal content analysis is almost universal (Paterson et al., 2001, pp. 59-60; Sandelowski, 2004, p. 892). This dissertation employed analysis and comparison techniques from grounded theory and content analysis, including verbal document analysis, open and axial coding (defined below), and categorization of concepts and relationships found in the data. Analysis began with within-case analysis using visitor study data collection forms to gather basic descriptive information on the selected studies, including their research objectives, research designs, theoretical or conceptual frameworks, and basic findings and conclusions (see Appendix B for completed forms). This basic description was followed by open coding of identified concepts across the texts of all the selected visitor studies, then axial coding and cross-case analysis of all the studies taken together. The progressive refinement of the codes resulted in the creation of the final codebook in Appendix C.

5.3.2 Coding

First-round coding

The first round of coding consisted of open coding, done serially across all the selected visitor studies. Open coding is the “analytic process through which concepts are identified and their properties and dimensions discovered in the data” (Strauss and Corbin, 1998, p. 101). This process is equivalent to steps in the case study method of “analysis of themes” (Creswell, 1998, p. 249), “development of issues” (Stake, 1995, p. 123), and “categorical aggregation” (Stake, 1995, pp. 74-77).

The selected visitor studies were photocopied and coded manually. They ranged from nine to 176 pages, though coding focused primarily on researcher definitions and conceptualizations, findings, interpretations, and conclusions, with particular attention to the researchers' concepts in their resulting models and typologies, where constructed. Direct quotes from study participants included in the studies were coded when illustrative and instructive. Their inclusion by the primary study authors was taken as an indication of the saliency or of especially pertinent or typical expressions used by museum visitors. Coded phrases and text sections were then transferred into word processing documents and then grouped across studies by coding category for cross-case analysis.

The following specific research subquestions guided the initial examination of the visitor studies for basic concepts during open coding. They expanded on the central research question and anticipated specific indicators of evidence.

1. What information do visitors express a need for in the presence of the actual art objects? When in the viewing process do they express these needs?
2. What are the qualities or attributes of artworks that are most engaging and informative for these viewers?
3. How do visitors relate these attributes to the meanings and interpretations they make?
4. How does the physical, dimensional, or tactile nature of the objects influence information gathering?
5. How does the physical nature of the museum environment or display influence information gathering?
6. How do museum visitors physically browse, interact with, and search among art objects?
7. What text and other media information sources do viewers consult for information?
8. What do viewers express when interacting with concepts or terms used in these sources (for example, satisfaction, difficulties, or puzzlement)?
9. How do museum visitors interact with other people to exchange information—both in visitor groups such as families and with museum staff and docents?

To answer these questions, the selected studies were examined for evidence explicitly observed and reported by the visitor study researchers or reported by the

original study participants. Evidence sought here was empirically derived, but filtered through the primary researchers' selections, interpretations, and reports of their data.

Subsequent coding, cross-case analysis, and codebook development

Early coding frames were developed from the interplay of ideas about (a) the initial concepts of this study's research questions, that is, information types and visitor interactions with artworks, (b) the set of research subquestions listed above, and (c) the data emerging from the studies themselves. Open coding produced a variety of themes. The iterations of the early coding frames identified and clustered primary themes and secondary themes. The search for variations and subdivisions of themes is known as axial coding, which is the "process of relating categories to their subcategories, termed 'axial' because coding occurs around the axis of a category, linking categories at the level of properties and dimensions" (Strauss and Corbin, 1998, pp. 123).

These themes were then applied to and further refined in cross-case analysis (comparisons among the visitor studies). Cross-case analysis is "examining themes across cases to discern themes that are common to all cases" (Creswell, 1998, pp. 249-50). Boyatzis (1998) and Miles and Huberman (1994) were used as general thematic identification and comparative analysis guidelines. Coding continued until recurring themes and the patterns of their relationships became evident across the studies (that is, reached "saturation"). Subsequent refinements of the scheme resulted in the final codebook in Appendix C.

5.4 Coding Themes

During the coding process themes emerged from the reports of the art museum visitor researchers concerning art information types and information behaviors used by museum visitors. The identification and categorization of these themes resulted in three overarching thematic groups in the final coding frame: (a) visitor attitudes and assumptions about art museum information in general, (b) visitor information

gathering from the museum environment, from the artworks themselves, and from museum-supplied resources, and (c) visitor responses to the specific content of museum-provided information. These three thematic groups became the top-level themes of the codebook, namely:

- Thematic group 1: *Visitor attitudes and assumptions about art museums, museum visiting, and museum information*
- Thematic group 2: *Visitor information gathering in art museums*
- Thematic group 3: *Visitor responses to the content of art museum information*

Coded themes were clustered under each of these thematic groups and each given abbreviated code tags for marking themes in the visitor study text analysis. (For a full list of codes, their code tags, and definitions see Appendix C.) For example, six themes were identified that pertain to Thematic group 1: *Visitor attitudes and assumptions about art museums, museum visiting, and museum information*. These are:

- *Visitors' background art information and museum-going skills* (code tag BACK)
- *Visitors' belief in the usefulness and value of art museum information* (code tag USEFUL)
- *Information and "meaning"* (code tag INFO/MEAN)
- *Learning about art and "experiencing" art* (code tag LEARN)
- *Art museum awareness* (code tag AWARE)
- *Social assumptions about art museums* (code tag SOC/ASSUM)

Each of these themes captures one aspect of visitors' attitudes and assumptions about art museums and their information.

As these themes emerged throughout all the thematic groups, codes were refined, multiplied, and sometimes collapsed together to take into account theme variations. Some themes of visitor activities of information gathering broke out into distinguishable and nameable differences which were then coded separately, for

example, the difference between *Museum-prompted information-gathering tasks* (visitor's use of directive labels or other instructions given by the museum; code tag MTASK) and *Self-imposed information-gathering tasks* (activities for examining or evaluating artworks that visitors assign themselves; code tag STASK). Some coded themes came to encompass opposite concepts, because they were often intertwined in the data, for example, *Visiting in groups and visiting alone* (code tag VISIT). Some codes turned out to have been applied to related experiences and were subsequently collapsed together, for example, *Responses to visual and physical aspects of artworks* (code tag VIS) which captured a range of visitors' physical interactions with artworks.

A few specific themes did not emerge directly from the data but were developed as etic categories (as defined by Miles and Huberman, 1994, p. 61), that is, categories developed here from the meta-researcher point of view. For example, in spite of their overall regard for art museum information, visitors do sometimes exhibit a *Visitors' distrust of museum information* (code tag DISTRUST) when they encounter specialized art concepts or terminology which seem to obscure information rather than provide answers. None of the original visitor researchers identified this concept explicitly. However, after the idea was identified as recurrent, particularly in studies of visitor reactions to art object text labels, this theme was then specifically coded.

Certainly whole categories of themes can also be considered etic categories. The three overarching thematic groups and many of the themes are expressed as information-related concepts, for example, the third thematic group of *Visitor responses to the content of art museum information*. These were not specifically identified as information-related responses by the original study researchers, but were created in the meta-analysis to collect evidence relating to the dissertation's initial concepts of information types and information-seeking and using behaviors.

There were, however, no codes based on the three types of information highlighted in this study's research question (visual, contextual, and interpretive information). It became clear that these types of information are threaded throughout

almost all the themes of visitor attitudes, responses to artworks, and types of information used. How the data reflect these categories of information in more complex ways is addressed in the data analyses in Chapters 6, 7, and 8 and in the conceptual framework of artwork interpretation and information use in Chapter 9.

5.5 Defining Visitor Types and Expertise

The basic goal of this study is to identify the types of information sought and used specifically by non-art-specialists in interacting with artworks. Thus, identifying instances where the primary studies distinguish among visitor levels of art expertise and museum-going experience is essential. The purpose of identifying these distinctions is that it enables the stratification of information behaviors and types of information sought and used by visitors at different levels of experience.

No study selected for this meta-analysis focuses only on “non-specialists,” though eight of the 12 studies characterize and stratify their findings, at least in part, by the frequency of visitor museum attendance and/or by general levels of visitor experience with art viewing. However, definitions and criteria of these researchers for “frequency” and “experience” vary in precision and boundaries. For example, quite a bit of variation is apparent in the numeric criteria for infrequent, occasional, and frequent museum visiting patterns.

- Infrequent visitors are described as attending one time a year (Cleveland), once or twice a year (McDermott-Lewis), 1-3 times a year (Smithsonian), or “seldom” (Stainton).
- Occasional visitors are described as attending 2-12 times a year (Cleveland), 3-5 times a year (McDermott-Lewis), 4-10 times a year (Smithsonian), or “occasionally” (Stainton).
- Frequent visitors are described as attending 12 or more times a year (Cleveland), six or more times a year (McDermott-Lewis), 10 or more times a year (Smithsonian), and “several times a year” (Stainton).

(See Cleveland, pp. 8-11; McDermott-Lewis, p. 40; Smithsonian-Buddha, p. 14; and Stainton, p. 224, Table 7.1.)

Art museum attendance frequency alone does not tell the whole story of visitor types, however. Several issues complicate the notions of non-specialist visitor “expertise” or knowledge of art, including educational levels and previous exposure to the arts in general (see, for example, McCarthy, Ondaatje, Brooks, and Szántó, 2005, and Schuster, 1991). For the purposes of coding and analysis, this dissertation reduces the varied criteria of non-specialist visitor expertise levels in these primary studies into general descriptions of two experience levels. It employs terms that avoid exact references to either museum-visiting frequency or measures of art expertise by using instead the broad terms “inexperienced” and “experienced.” The definition of the code for *Inexperienced visitors* (code tag INEXP) is: infrequent and occasional visitors with low to moderate levels of art knowledge and museum-going experience. The definition of the code for *Experienced visitors* (code tag EXP) is: frequent visitors with moderate to high levels of art knowledge and museum-going experience.

5.6 Overview of Chapters 6, 7, and 8 on Findings and Analysis

The current chapter describes the development of the coding process and codebook used to analyze the 12 selected art museum visitor studies. The following three Chapters 6, 7, and 8 present narrative descriptions of the findings of the meta-analysis of these studies using this codebook. These chapters look at what the studies, taken together, say about the visitor attitudes toward art museum information and the types of information and information behaviors used by visitors.

The findings and analysis of the empirical evidence from the visitor studies presented in these three chapters are divided according to the three overarching thematic groups of the coding scheme developed here. They are also organized in a way that reflects the progression of visitors through the museum environment. The progression of the themes and their analysis in these chapters is, in effect, a logical

recounting of the process of how visitors focus and progress in the galleries and how this affects their use of information.

At the broadest level, Chapter 6 presents the findings and analysis of general visitor attitudes and assumptions about art museums and their role in providing information and “meaning” (Thematic group 1: *Visitor attitudes and assumptions about art museums, museum visiting, and museum information*). At a narrower level, Chapter 7 presents the findings and analysis of visitor information gathering in art museums (Thematic group 2: *Visitor information gathering in art museums*). It focuses on how the physical environment of museums provides orientation and contextual information to—and at times hinders—visitors. Then at the level of experiences in the galleries, the chapter considers visitors’ responses to individual artworks and their accompanying information and visitors’ use of visual exploration, emotional associations, intellectual strategies, and social collaboration to gather information in order to understand artworks. Finally, Chapter 8 presents the findings and analysis of visitor reactions to the specific information content and formats of museum information sources (Thematic group 3: *Visitor responses to the content of art museum information*).

In each of these following chapters, where found in the data, inexperienced visitors’ and experienced visitors’ behaviors and reactions are described separately. All other findings pertain to all kinds of visitors. The differences between information use and behaviors of inexperienced art museum visitors in contrast with experienced visitors will be arrayed more systematically in the conceptual framework of artwork interpretation and information use in Chapter 9.

Chapter 6. Findings and Analysis: Visitor Attitudes and Assumptions About Art Museums, Museum Visiting, and Museum Information

6.1 Introduction

This chapter begins a narrative description of the findings from the meta-analysis of the 12 selected art museum visitor studies. The purpose of the meta-analysis is to describe the state of knowledge about the types of information sought and used by and information behaviors of art museum visitors, as reported by art museum visitor researchers. This description is detailed in Chapters 6, 7, and 8.

The specific analysis techniques employed in the meta-analysis were content analysis of the primary visitor studies, with particular focus on the empirical findings of the primary researchers as expressed in (a) their narrative descriptions and observations of visitor information behaviors and use and in (b) direct quotes from the original study participants. The coding scheme developed from initial concepts in this dissertation's research question, the list of research subquestions, and themes emerging from the data was used to analyze what the primary studies, taken together, tell us about art museum visitor information uses and behaviors.

This chapter presents the findings of the meta-analysis concerned with the first of the three overarching thematic groups discovered in the data analysis (Thematic group 1 of the codebook): *Visitor attitudes and assumptions about art museums, museum visiting, and museum information*. It details what the primary studies tell us about the assumptions and beliefs that general visitors hold about art museums and their role in providing information and “meaning” to visitors, as well as their own desires and expectations for information about the art objects.

The format of study citations used in these three findings chapters is by abbreviated study name and page numbers (see Table 4.1 in Chapter 4 for a list of these citation forms and the studies they represent and Appendix B for complete information on the individual studies). The citations indicate the most representative mentions of given findings. They do not necessarily include of all the mentions in the

data. Some findings are relatively common across many of the studies and not every mention is explicitly cited, for reasons of avoiding long strings of citations. Direct quotes from visitors are marked as such. All other quotes come from the studies' researchers, not the visitors.

6.2 Findings: Visitor Attitudes and Assumptions About Art Museums, Museum Visiting, and Museum Information

This overarching theme focuses on visitors' needs and desires for art museum information and their assumptions about the information-providing role of the museum. It also focuses on visitors' perceptions of the level and quality of their own background knowledge and museum-going experience.

Five themes around visitor attitudes and assumptions about art museums and their information were discovered in the analysis. Each is detailed below. Data which supplied the evidence for each of these themes were tagged in the content analysis with the code(s) indicated below. The list of all the codes and their definitions are found in Appendix C Codebook.

6.2.1 Art Museum Awareness and Social Assumptions About Art Museums (code tags AWARE and SOC/ASSUM)

These interrelated themes focus on (a) what visitors think the art museum (the one currently visited) has to offer, (b) comparisons they make to what they have found in their previous experiences at this or other museums, and (c) their assumptions about who goes to art museums and how one should act in art museums. The two themes of *Art museum awareness* and *Social assumptions about art museums* were coded separately, but combined in the analysis since they describe intertwined preconceptions that visitors—particularly inexperienced—have about art museum-going.

Inexperienced visitors often do not know what the art museum has to offer in terms of variety and depth, and they may believe that one visit exhausts its offerings,

unaware of the information on changes in programming and exhibitions (Cleveland, p. 9; Getty, p. 11). Inexperienced visitors are often unaware of specific objects on exhibit (Getty, p. 11).

In addition to assumptions that inexperienced visitors hold about the roles that museums play and what they have to offer visitors, inexperienced visitors also hold beliefs about who goes to museums and how they need to behave while there. They assume that art museums are mainly for the “upper class” and that one has to dress up and to speak in a hushed manner when visiting (Getty, p. 10; Duhaime, p. 7).

Experienced visitors are more likely to compare their current museum visit with previous visits to this museum or to other museums or exhibits of similar objects, at times recalling having seen the same objects elsewhere (Smithsonian-Chinese, p. 2). They bring favorable impressions and regard for the quality of the museum and its collections (Smithsonian-Buddha, pp. 3-4; Smithsonian-Chinese, pp. 2, 8).

6.2.2 Visitors’ Background Art Information and Museum-Going Skills (code tag BACK)

This theme focuses on visitors’ art knowledge and museum-going experience and their preconceptions of the museum experience.

In the interviews conducted in the visitor studies selected for meta-analysis here, art museum visitors often express their awareness of and mixed feelings about their own levels of art background and museum-going experience. Inexperienced visitors often feel self-conscious about art museum going. They are aware they lack knowledge about art and have little idea about what would interest them or what would help them, because they “really don’t know what to look for” (McDermott-Lewis, p. 20). They often have the expectation that the museum will not help them. They assume that other visitors (and museum staff) know more than they do. They have great deference for the authority of the museum and assume a “single correct answer” to their questions about artworks (Getty, pp. 10, 110). Overall, the art

museum visit is viewed as intimidating by inexperienced visitors (Getty, pp. 10-11, 60; McDermott-Lewis, pp. 20-24; Duhaime, p. 35).

Though inexperienced visitors “want to be told what to think and do” (Getty, p. 110), ironically, they do not want to be talked down to or have judgments about artworks made for them (McDermott-Lewis, pp. 22-23), which reinforces their self-described sense of “smallness” and “unworthiness” (Cleveland, pp. 40-41).

Language is often the barrier to understanding and expression, and art museum visitors recognize their lack of familiarity with visual art terminology and concepts. It is hard for inexperienced visitors to find the words to express themselves about visual experiences (Duhaime, pp. 7,12) and complicated ideas in art (Cleveland, p. 87). The theme of descriptive art vocabularies emerged as a major component in visitor experiences and is discussed in detail in Chapter 8 Findings and Analysis: Visitor Responses to the Content of Art Museum Information.

6.2.3 Visitors’ Belief in the Usefulness and Value of Museum Information (code tag USEFUL)

This theme focuses on visitors’ desire for art museum information and their belief that information enhances appreciation. The theme was also coded to include the converse: visitors’ statements about instances when museum information interferes with their enjoyment of art.

The majority of art museum visitors do have a firm faith in the usefulness of museum-supplied information as the key to understanding artworks. They generally believe that more information is better (Getty, p. 21). Indeed, many visitors hunger for it and say there is “never enough” information (Getty, p. 38).

But most visitors do not want to be overwhelmed with information. Inexperienced visitors often want just “the basic ideas” to get started, to be guided initially and then “set free,” which is at odds with their statements about “more is better” (McDermott-Lewis, pp. 10-11). They also do not want the information interfering with their emotional and personal enjoyment of art and are suspicious of

expert knowledge as being too “intellectual” and cold (McDermott-Lewis, pp. 12-13, 16-17, 23).

Similarly, experienced visitors do not want to be forced to absorb information or use particular information sources; they want challenges but also choice in structuring their own learning (Housen, p. 49). Experienced visitors mostly view supplied information as important but not necessarily essential for personal meaning-making. They believe one can have a “naïve enjoyment” of artworks without information (McDermott-Lewis, pp. 25-26). Information simply helps viewers to see more in the artworks and to “flag where to stop” (McDermott-Lewis, p. 27). Experienced visitors recognize that information can supply you with some understanding and increased appreciation even of an artwork you do not like (Getty, p. 21).

The evidence in the visitor studies suggests that visitors have a mix of feelings about their own lack of experience and the need for museum-supplied information and, on the other hand, their declared need to choose how much and how to use that information for personal learning and enjoyment. As a result, the subtle distinction between themes of supplied museum information and personal meaning-making were coded separately as two themes: *Information and “meaning”* and *Learning About Art and “Experiencing” Art*. These themes are described in detail in the next two sections.

6.2.4 Information and “Meaning”(code tag INFO/MEAN)

This theme focuses on the differences between visitors’ perceptions of personal interpretation in encounters with art in relation to the “educational” information provided by the museum.

Sometimes visitors equate understanding “meanings” of artworks with just having the stories or pictorial elements identified for them (McDermott-Lewis, pp. 16, 37, n. 21). A visitor says, “I always get a little brochure and it never has enough information. It should have a longer paragraph for each painting telling me what I’m

supposed to think about. Like all of the portraits. Who are all of those people? Why did they have their portrait painted?” (Getty, p. 21).

This goes to the fundamental issue of who “makes meaning” in art museums: the visitor or the museum staff. On one end of the continuum visitors want the museum to supply the information they need to understand the artworks (Getty, pp. 21, 110; Duhaime, pp. 28-31), and, on the other end, visitors want the freedom to make their own meanings from personal encounters with art. These visitors “prefer visual experience over text” (Getty, p. 25). Inexperienced visitors want to view artworks that are “easily accessible in meaning,” but they often relate to artworks, at least initially, not with museum-supplied “meanings,” but for personal reasons, based on their own memories and associations (McDermott-Lewis, pp. 16-17; Leinhardt, p. 130).

More experienced visitors actively practice meaning-making in art museums. For example, docents trained for interpretation in a natural science museum instinctively know how to use their own visual skills, background information, supplied textual information, and each other to try to understand objects in an art museum. They have “rehearsed and practiced” making meaning and transfer some of these skills when encountering new visual and cultural material. They know when to request more information to supplement their meaning-making and sometimes decry the lack of useful information to do so (Abu-Shumays, pp. 70-72)

6.2.5 Learning about Art and “Experiencing” Art (code tag LEARN)

This theme focuses on the differences between the visitor learning process and more visual, emotional, and personal responses in art museums.

Visitors make the distinction between how an object (or an exhibition as a whole) makes them *feel* and what they *learn* from the object or exhibition. Both are important to visitors and frequently reported. Of visitors to the Chinese ceramics exhibit, 65% said they were moved by the beauty of the objects, and 57% said that they gained knowledge (responses not mutually exclusive; Smithsonian-Chinese,

p. 10). Smithsonian researchers report that many visitors distinguish between the “experiential component” (emotions and aesthetic responses aroused) and the “informational component” (what learned, information or knowledge gained) (Smithsonian-Buddha, pp. 6-7).

Some visitors expect to be taught, which is may be part of the belief that “art is good for you” (Getty, p. 49). Some think a visit is composed of things to be done or learned, one visitor comparing it to a sort of “Great Books” approach (McDermott-Lewis, p. 9). On the other hand, many visitors see their art viewing as a process of self-discovery and that intellectualizing about artworks is “laborious and unexciting” (Duhaime, pp. 28-31). Many visitors resent being quizzed in an effort to reinforce the learning of information. For example, they dislike “flip labels” which hide an answer to a question to be revealed by lifting a cover on an object label. As one visitor puts it: “Lift the sheet and find out how dumb you are” (Cleveland, p. 31). Embedded questions in museum materials sometimes remind viewers of being tested in school (Cleveland, pp. 35-36). However, there is a split here between inexperienced visitors and experienced visitors: inexperienced visitors prefer “directive labels,” those that actively teach what to look for or ask questions, while experienced visitors prefer labels with more straightforward information (Cleveland, pp. 85-86).

Common to both inexperienced visitors and experienced visitors is their desire for choice. Inexperienced visitors want to choose what to learn and how hard to work at it, preferably not too hard (McDermott-Lewis, pp. 10-11), and experienced visitors want learning to be optional and “accidental” (McDermott-Lewis, pp. 25-27).

6.3 Analysis: Information Skills and Meaning-Making in Art Museums

There are two types of information skills that art museum visitors must learn that lead to personal meaning-making: art-viewing skills and museum-going skills.

The art-viewing skills are reported in the observations of art museum visitor study researchers. The studies reveal the great variety of visual, spatial, verbal, and communication skills involved: scanning the “landscape” of a gallery; navigating and

choosing to stop, look, and read; focusing on object details; focusing on museum-supplied or personally motivating themes or details; searching for specific artworks; remaining open to discovery and serendipity by browsing; categorizing and naming in comparison exercises; and verbalizing about artworks.

Visitors also learn a repertoire of museum-going skills which include deciphering the information conventions of museums. This often has to do with understanding the format and content of museum texts and facility in using labels, wall texts, and guides like catalogues. For example, in recognition of how unfamiliar some visitors are with the conventions of object labels, the Cleveland Museum staff wrote a “how to read a label” brochure, detailing the parts and content of labels for new visitors (Cleveland, p. 43). Museum-going skills also include strategic visit planning using resources at hand and, often, making choices to focus on fewer individual works and their information, rather than trying to comprehend a whole collection or a whole museum.

The objective of learning these skills is to serve meaning-making—that is, interpretation—in response to art in the museum context. The concept of meaning-making from artworks is not clearly defined in the particular visitor research studies selected here for meta-analysis. A definition of meaning-making can be inferred from these studies, however. In it, visitors use the following elements in order to understand art objects in a way that makes sense to them:

- their own visual exploration skills
- their own background information (including knowledge bases, emotions, memories, and associations)
- their personal characteristics of learning styles, education, and professional orientation
- museum-supplied information
- each other in pairs or groups

The outcome of meaning-making is for viewers to relate these artworks to their own lives and experiences *and* to place them in their larger understanding of art and human culture.

However, visitors, particularly inexperienced visitors, may not fully utilize the elements listed above for successful meaning-making. They may not see art museums as places to learn and apply interpretive skills, for example, description, classification, association, and evaluation (Eversmann, p. 151), which are elements of information-seeking and interpreting behavior. In addition, visitors may confuse “information” and “meaning.” The assumption for some inexperienced visitors may be that artwork information provides the keys to how one is supposed to look at art generally and that it provides the “right” answers (Getty, p. 110). These visitors may not recognize that meanings are not fixed or “correct” and that they build meaning themselves, using both provided information and the sets of skills outlined above. They do not necessarily recognize meaning-making as an open-ended, self-generated process.

Coding for the themes of learning vs. “experiencing” artworks leads to the conclusion that art museum visitors must draw on a range of skills, as listed above, to make their own meaning from art. This realization leads directly into distinguishing and coding for more specific information-gathering skills that visitors bring with them or develop with growing art-viewing and museum-going experience. These skills are described and discussed in the following Chapter 7 Findings and Analysis: Visitor Information Gathering in Art Museums.

6.4 Conclusion

This chapter presents the findings from the meta-analysis of the selected art museum visitor studies that relate to the beliefs and assumptions about museum information and their own art-viewing skills that visitors bring to museums. Specific evidence of the range of skills and attitudes cited in this chapter that art museum visitors exhibit are explored in the following two chapters. Chapter 7 explores how visitors process information in the galleries among the artworks using physical, emotional, cognitive, and socially shared interactions. Chapter 8 explores how visitors react to and use museum-supplied information.

Chapter 7. Findings and Analysis: Visitor Information Gathering in Art Museums

7.1 Introduction

This chapter presents a narrative description of the findings of the meta-analysis which are concerned with the second of the three overarching thematic groups (Thematic group 2 of the codebook): *Visitor information gathering in art museums*. It presents and analyzes the empirical evidence reported by the art museum visitor studies for the specific activities of visitor information gathering, both observed and described by the study researchers and self-reported by the study participants. Information gathering is laid out here as a progressive experience, from physical orientation within the museum to physical, emotional, cognitive, and socially shared engagement with the artworks.

7.2 Findings: Visitor Information Gathering in Art Museums

This thematic group focuses on visitors' physical, visual, emotional, intellectual, and social responses as information-gathering activities in the art museum-going experience. Many themes around visitor information gathering in the museum were discovered in the analysis. Themes were coded and are grouped here by categories of responses to the museum environment and navigation through the galleries (7.2.1), initial attraction to and physical responses to individual artworks (7.2.2 and 7.2.3), emotional and creative responses to artworks (7.2.4), cognitive and intellectual strategies for information gathering (7.2.5), and social information gathering and construction (7.2.6).

Data which supplied the evidence for each of these themes were tagged in the content analysis with the codes indicated below. The list of all the codes and their definitions are found in Appendix C Codebook.

7.2.1 Responses to the Museum Environment and Navigation Through the Galleries

Museum design and atmosphere (code tags DESIGN, EXT, SETTING, DISPLAY, PERIOD, LIGHT, and CROWD)

These themes focus on visitors' responses to the physical design and decoration of the museum and the feelings evoked by the museum as a whole. They also include visitors' awareness of the role of the museum settings and displays, such as period rooms, in providing an intellectual and visual context for artworks. They include visitors' perceptions of how physical aspects such as crowded conditions and bad lighting impede their information gathering.

Art museum buildings have a marked impact on visitors because of their size and their often imposing architecture (either historic or strikingly contemporary) (Getty, p. 28; Smithsonian-Buddha, p. 8; Leinhardt, pp. 113-114). Buildings are considered part of the whole aesthetic experience of going to an art museum (Getty, p. 28; Duhaime, pp. 32-34). They carry a cachet of being a "sacred" space that distinguishes them from other public buildings (Smithsonian-Buddha, p. 8; Duhaime, pp. 7, 32-34).

Interiors are very important as settings for the art objects, and visitors comment on the impact of wall colors and object displays (Getty, p. 29; Smithsonian-Buddha, pp. 4-5, 9). Inexperienced visitors especially mention dramatic exhibition designs as helping them understand the contexts of the artworks (McDermott-Lewis, pp. 27-30). Visual design cues in the gallery itself help inexperienced visitors identify the cultural and historical contexts of art objects, such as wall colors and motifs indicating a Chinese setting for ancient bronzes (ROM, p. 31).

While experienced visitors also mention the role of display techniques and styles, they are more concerned that visual access to the artworks is preserved, so they can view the objects without crowded conditions or glare from lighting (McDermott-Lewis, pp. 24-25). Visitors in general comment on the direction and origins of lighting if it causes a glaring interference (Getty, p. 29) or if labels are poorly lit

(Getty, pp. 25, 29). Visitors sometimes find the fit between museum interiors and art objects jarring, as in the contrast between a very modern building and the sensibility of very old Japanese scrolls exhibited (Leinhardt, pp. 114-15). At times art museums are criticized for being too cold and as thwarting an intimacy with the art objects (Duhaime, pp. 32-34). Smaller spaces within museums are appreciated for the opportunities for tranquility and intimacy with the artworks (Smithsonian-Chinese, p. 3; Duhaime, pp. 32-34).

Museums, by definition, “objectify” historical artworks by removing them from their original use contexts or groupings, for example, at religious, civic, or royal sites. Display modes such as cases and physical supports signal that “this is a museum display” (Eversmann, pp. 162-163). Visitors prefer exhibit styles that restore and provide context, both physical and intellectual. They prefer historic artworks and objects in room settings or grouped thematically (with a storyline presentation including artifact labels and perhaps graphics) over objects displayed alone (with individual labels only) or grouped taxonomically (with similar objects having their own labels, but no connecting text) (ROM, pp. 22-25). Period rooms, reconstructed interiors complete with furnishings and artworks from another era, or vignette arrangements of objects related by time and place, are well liked for creating an historical context (Getty, p. 29).

Crowds are a universal problem in viewing artworks. Visitors comment on difficulties of maneuvering around crowds in small spaces or in front of display cases and of several visitors attempting to read labels at the same time (Getty, p. 25; Cleveland, pp. 31, 38-39; Smithsonian-Buddha, p. 5).

Wayfinding (code tag WAYF)

This theme focuses on how visitors move about in the art museum, including their orientation using its intellectual and physical organization and their reactions to signage, room numbering and differentiation, and other visual and spatial cues.

Visitors navigate to and around artworks based on the physical and intellectual (by chronology, culture, and/or object types) layout of the art museum. Visual cues such as signage and differences in size, shape, and decoration of galleries help them to orient themselves. Visitors discover that museum room arrangements and the collections that specific galleries display can change over time, however (Getty-Philadelphia, p. 172), and the results can be “maze-like” (Getty-Toledo, p. 175). Changing exhibitions may vary in their layouts: curators may use thematic or even “random” groupings for some and chronological or other logical progressions for others (Stainton, p. 232; Getty, p. 26). Thus, visitors can get mixed up in understanding which direction to take and end up going backwards or in a roundabout way (Leinhardt, pp. 116-117).

Visitors want prominent and consistent signage, room numbering, and maps (Getty, pp. 26-27, Getty-Cleveland, p. 155; Cleveland, pp. 43-44, 59-60, 86). They find useful overviews of the contents and types of art held in the individual galleries, including that in wall texts (extended explanatory or background texts pertaining to a group of artworks or a whole gallery; Getty, pp. 26-27). They want to learn the reasoning (or historical changes such as room additions) behind the layouts (Leinhardt, p. 116; Getty-Washington, D.C., pp. 169, 172). When objects are placed in galleries that are often similar in size and shape, visitors sometimes miss the marked boundaries between collections from different times and places. They want obvious separations between adjacent exhibitions, differing types of art, and differences in geographic origins and chronologies of art (Getty, pp. 26-27; Smithsonian-Chinese, pp. 2, 5). Visitors frequently remark on gallery maps which are out of date or thwart the location of particular galleries or artworks (Getty, pp. 26-27; Getty-Philadelphia, p. 170).

More savvy visitors use gallery layouts to their advantage at times, for example, by starting from the end of an exhibit to avoid crowds or by passing quickly through an exhibit first to pick out striking pieces to return to (Leinhardt, pp. 117-118).

Planning a visit and focusing (code tag PLAN)

This theme focuses on visitors' mental strategies used to get around the galleries, including pre-planning with museum resources when in the museum (that is, not prior to arriving). It also includes visitors's references to wandering vs. focused searching among the artworks.

A subtle distinction emerged in the data resulting in the creation of two separate codes for *Wayfinding*, that is, how visitors move about in art museums and their physical and intellectual orientation, and for *Planning a visit and focusing* in which visitors use pre-planned strategies to get around the galleries, including planning with museum information resources. How precisely visitors to art museums plan their visits in advance depends in part on the purpose of their visits. Some come intentionally to wander and explore, remaining open to serendipity and discovery; these visitors tend not to plan ahead (Leinhardt, p. 110). One visitor puts it: "The lack of planning gives me a sense of relaxation and adventure. And rarely do I read anything before about exhibits—I like the freedom of discovering things on my own in museums" (Leinhardt, p. 110). Others plan more targeted visits in order to see specific artworks or aspects of an exhibit. They may be following up on objects or displays previously encountered in their reading or travels (Leinhardt, pp. 110-111). Experienced visitors are more likely than inexperienced visitors to be deliberate in planning ahead what specific objects or exhibits to see. They may consult on-site guides, such as maps, bookstore guides, or the front desk, to help them find what they are looking for (McDermott-Lewis, pp. 24-25).

We have already seen that more museum-savvy visitors know how to survey the landscape while in exhibitions to pinpoint what they want to see, particularly in crowded conditions (Leinhardt, pp. 117-118). Some visitors pass through the galleries using a general scanning behavior, on the lookout for interesting objects in the vicinity or further on: "They scanned the works in passing, rather like someone watching the scenery from a car window" (Duhaime, p. 11).

As themes having to do with visitor responses to the art museum environment emerged, codes multiplied to take into account increasing granularity of visitors' information-gathering focus in museums. Thus, coded separately were the environmental design and layout aspects of museums that impact visitors' information gathering and orientation (discussed in the section above) and visitors' information gathering from the art objects themselves (discussed in the next section).

7.2.2 Responses to Individual Artworks

Attraction and holding power of artworks (code tag ATTRAC)

This theme focuses on visitors' initial attraction to artworks and what prompts visitors to stop, keep looking, and begin reading object labels.

The strong role of the visual and physical aspects of artworks attracting viewers and then leading them to seek more information on the works emerged from the data in these visitor studies. At the level of individual artworks, visitors tend to stop and look at provocative, visually striking, or unusual works, particularly those that spark their own memories, associations, or background knowledge. Or they stop at works that the museum has displayed and contextualized in a striking way (Leinhardt, p. 121; Smithsonian-Buddha, p. 4). Visitors to the Chinese exhibit found the *congs* (ancient Chinese ritual bells) and Tang Dynasty horse sculptures very striking and intriguing because of their shapes, colors, and obvious age (Smithsonian-Chinese, p. 3). Inexperienced visitors in particular tend to wander until attracted by a work; they notice colors and subject matter first (McDermott-Lewis, pp. 12, 20).

The presence or absence of an object label does not determine whether viewers will stop (Cleveland, pp. 79, 81). It is only after they are attracted to a particular artwork that visitors read at least some of the label and decide to spend some time with the work to examine its details (Cleveland, pp. 79, 81; Smithsonian-Buddha, p. 4). Visitors to an African art exhibit were strongly drawn to a wooden figure covered with nails driven into it, many speculating about its connection to "voodoo dolls," and

immediately sought the label to help them understand the piece (Stainton, p. 238). Some visitors go back and forth between viewing the artwork and reading the label (Duhaime, p. 11) or a handout such as a brochure (Getty, p. 24). Experienced visitors in particular can find alternating between reading labels and looking back at the artwork to be disruptive, however (McDermott-Lewis, pp. 25-27).

Visitors read in small bits, perhaps scanning for what they seek (Cleveland, p. 81). “People read what they wanted to read; when they became tired or began to feel disinterested, they stopped reading and moved on to the next work of art” (Cleveland, pp. 78-79).

Newness, surprise, and familiarity (code tag NEW)

This theme focuses on visitors’ frequently expressed surprise at artworks and their discovery of new things and, conversely, occasional remarks about the sameness of objects or their aspects, which brings boredom.

Inexperienced visitors may not know what the art museum has to offer, so they are often pleasantly surprised when they visit (Cleveland, p. 9; Getty, p. 16).

Inexperienced visitors like pleasant surprises in being exposed to new things; they do not like unpleasant surprises (McDermott-Lewis, pp. 10-11).

Experienced visitors seek novelty and experiences that “knock their socks off.” As one visitor puts it, “I want to be able to say, ‘oh, my god, look at that!’” (McDermott-Lewis, pp. 31-33). They like to encounter questions or problems about works that lead them to new discoveries, and they like to see new things in already familiar artworks (Cleveland, p. 13; Housen, pp. 48-49).

Both kinds of visitors welcome changes in exhibits, because unchanging displays become boring (Getty, p. 31; McDermott-Lewis, pp. 10-11). For both, the unexpected brings excitement and greater interaction with artworks, which leads visitors to view the rest of the exhibit in a new light (Duhaime, pp. 31-32). Fine distinctions among similar objects frustrate some viewers, however (Smithsonian-Chinese, p. 5). As one visitor says, “I hate to say it, but it is sort of

monotonous...because of the similarity of the artifacts [here Buddha statues]” (Smithsonian-Buddha, p. 4).

7.2.3 Information Gathering in the Galleries: Physical Responses

Responses to visual and physical aspects of artworks (code tag VIS)

This theme focuses on visitors’ physical interactions with artworks (movements to see the works and physical reactions to them). It includes references to visual elements in the artworks specifically mentioned by visitors.

Gallery observations of and self-reports by art museum visitors reveal the many ways in which viewers examine the physical artworks and the many aspects of their visual attention. While viewing artworks, some employ back-and-forth movements from distant viewing (3-4 feet or more) to walking up close to and zooming in on details (as close as 8 inches). They bend sideways to see particular details and look from different angles. They gesture and draw others’ attention to visual aspects, especially for children. Occasionally they even touch artworks (Duhaime, pp. 9-11).

Viewers report examining and identifying materials and ornamentation such as gilding and details of craftsmanship and techniques such as carving, brushstrokes, and needlework. They look at colors, forms such as curves on furniture, and depicted elements in pictorial works such as motifs, subjects and stories, faces and expressions, gestures and postures, clothing and jewelry. They look at art styles and schools of art and are particularly struck by the age and condition of very old or rare artworks (Getty, pp. 14-15; Eversmann, p. 146; Duhaime, pp. 11, 14; Stainton, p. 250; Smithsonian-Buddha, pp. 7, 9; Smithsonian-Chinese, p. 13).

Inexperienced visitors are sometimes confused about whether they are looking at originals or copies of works (Getty, pp. 19, 37, 48) and express their inability to distinguish objects of great quality vs. objects of “tourist art” (Stainton, p. 252). They are particularly drawn to details of intricate work. They search for “mistakes” and

judge whether they themselves could have done as well (McDermott-Lewis, pp. 11-12). They are limited, however, in their ability to analyze and verbalize about formal and compositional elements, colors, and qualities of space and light (McDermott-Lewis, pp. 20-21; Stainton, p. 246).

Experienced visitors tend to be more interactive with artworks in that they move around and closer to works more in an effort to get a better view and to avoid other viewers and glare from lighting. This group *starts* with visual exploration of objects, sometimes deliberately inventorying what they see, often in search of surprises and new elements. In their descriptions, they cite more formal elements, such as compositional elements, lines, colors, and textures, than do inexperienced visitors. They note the facility of artists with materials, but do not necessarily equate great art with intricate workmanship (McDermott-Lewis, pp. 24, 30-33). Visitors who are artists themselves have much interest in very close examination of materials and techniques (Duhaime, p. 14).

Time spent with artworks (code tag TIME)

This theme focuses on how much time visitors take and visitors' comments on taking time to view the artworks.

How long visitors stop in front of artworks has been measured by a number of researchers. Viewers pause anywhere from 20 seconds to 10 minutes (Duhaime, pp. 9-11), but can spend as little as one to four minutes in some whole galleries (Cleveland, pp. 63-64) and as little as 30 minutes total at the museum (Housen, p. 45). Artworks "earn" the attention of viewers who then decide to pause, look, and read labels (McDermott-Lewis, pp. 12, 137; Cleveland, p. 79). Viewers may stop to look at artworks, move on, then return to look again (Duhaime, p. 9-11).

In spite of their sometimes hasty passage through galleries and brief stops, both inexperienced and experienced visitors recommend spending time with artworks, and experienced visitors say that having enough time with an artwork is critical (Getty, p. 14; McDermott-Lewis, pp. 12, 30-31).

7.2.4 Information Gathering in the Galleries: Emotional and Creative Responses and Strategies

Emotions (code tag EMOT)

This theme focuses on visitors' emotions aroused in active interaction with artworks and reactions to the whole visit experience.

Motivations for visiting art museums involve both intellectual and emotional purposes (Eversmann, p. 157; McDermott-Lewis, pp. 33-34). Emotional connections with artworks are essential for both inexperienced visitors and experienced visitors. Many visitors cite visiting art museums as a way to relax and to escape daily life for a while. They express a gamut of emotions including joy, exhilaration, excitement, calm, spirituality, inspiration, surprise, and puzzlement (McDermott-Lewis, pp. 8-9, 24; Duhaime, p. 25; Smithsonian-Buddha, pp. 7-9; Getty, pp. 14-16). Emotions are evident in visitors' physical reactions to artworks, in their grimaces or their smiles (Duhaime, p. 11).

Inexperienced visitors tend to seek out pleasant emotions and judge artworks—even based on their colors—as “good” or “bad,” in part, because of how the works make them feel; they recoil from unpleasant or startling works. They feel that intellectualizing about artworks or dissecting them is a colder approach (McDermott-Lewis, pp. 12-16, 20-21). Visitors with less well developed critical analysis experience with artworks prefer to use their emotions, intuitions, and immediate reactions to artworks as guides to meaning-making (Housen, pp. 47-48).

Experienced visitors also say their experiences with artworks are primarily emotional, that they “value the right to react.” However, they recognize a greater balance between reacting emotionally and analyzing artworks rationally (McDermott-Lewis, pp. 33-34).

Memories and associations (code tag MEM)

This theme focuses on visitors' personal memories of experiences, people, and things in the past and associations with experiences, people, and things in the present triggered by the artworks.

Memories and associations are closely linked with emotional reactions to artworks. Viewers are often drawn initially to objects because they evoke memories (Leinhardt, p. 121). Visitors are reminded of similar objects they have seen elsewhere, of personal memories, and even of popular culture elements, for example, a depicted face resembling a movie character (Stainton, pp. 238-239, 242-243; Eversmann, p. 147; Duhaime, pp. 22-26). Visual memories help viewers decipher unfamiliar objects, for example, relating plant and animal motifs on Chinese bronzes to other Chinese art objects recalled (ROM, p. 31). Memories provide personal contexts for artworks, regardless of the contexts supplied by museum information. Recounting memories often involves personal storytelling, so memories are linked to creative and imaginative reactions to artworks (Eversmann, pp. 147, 161; Worts, pp. 181-183). It appears that memories are harder to evoke with contemporary art, particularly abstract art, which may contribute to greater difficulties for many visitors in understanding and making meaning from these works (Duhaime, pp. 25-26).

In turn, visitors recall vividly in exit interviews the most striking artworks they have stopped to view (Cleveland, pp. 73-74, 87). Overall, visitors say what they most remember about works are color, details, subject, the artist's name, and the work's expressional or emotional qualities (Cleveland, pp. 73-74).

Creating and storytelling (code tag CREAT)

This theme focuses on visitors imagining the lives of and telling stories about others associated with the artworks (for example, original users of the objects or the artists), particularly in times and places past.

Visitors frequently create “stories” around characters in artworks (McDermott-Lewis, pp. 17-20). They enter the world of the artwork itself by imagining themselves in the pictured or evoked time and place. They also envision and connect with others from different times and cultures (Duhaime, pp. 28-31; Getty, pp. 13-14; Cleveland, p. 11; Worts, pp. 179, 181-183). They sometimes fantasize about owning the artworks themselves (Duhaime, pp. 28-31).

Judgments (code tag JUDG)

This theme focuses on how visitors value artworks, including primarily subjective reactions to how an artwork is “good” or “bad” and the reasons visitors give for their judgment. This is not the same as “interpreting” the artwork, that is, talking about what the work means.

Visitors make judgments about artworks in a number of ways. They judge whether they “like” a work or not and whether a work is “good” or “bad,” authentic, well-done, in good condition, and of value as a “masterwork” (Eversmann, p. 147; McDermott-Lewis, pp. 13-16; Getty, p. 47).

Inexperienced visitors are quick to judge works and believe it is appropriate to do so. They do not want others to make judgments for them, but they are curious about how museum experts make their judgments. They admit they find it hard to articulate why they like a work. They base their judgments as much on personal memories and associations as on a knowledge of art (McDermott-Lewis, pp. 13-16, 21-24; Eversmann, p. 147).

Experienced visitors also judge works, but recognize that judgments are based on diverse criteria and that likes and dislikes can vary. Many can and do verbalize on why they like a work. They do not have to like an artwork, or an aspect of an artwork, to appreciate it as important or challenging (McDermott-Lewis, pp. 31-35).

7.2.5 Information Gathering in the Galleries: Cognitive and Intellectual Strategies

Comparison (code tag COMP)

This theme focuses on visitors' activity of comparing whole artworks or parts of artworks before them to other works nearby in the galleries or comparing features to well-remembered specific artworks seen elsewhere.

Visitors use two strategies in thinking about artworks: (a) focusing on individual—especially key—objects and (b) comparing objects (Smithsonian-Chinese, 3). The role of visual comparisons of artworks at hand to artworks nearby or remembered emerged very strongly from the data in these visitor studies. Visual comparison is frequently used by visitors to study and contrast artworks with other artworks on display in the current exhibit, prompted either by museum directions and juxtapositions of objects or by their own motivations (Getty, p. 15). Experienced visitors in particular heavily use comparison to nearby works and remembered works (McDermott-Lewis, pp. 30-31).

Comparisons are made on the basis of similarity in appearance or function to known artworks from the same culture, time, or place, or artworks from entirely different origins, for example, in comparing ancient Greek motifs to Aztec motifs (ROM, p. 31; Stainton, p. 239). Comparison of this type presupposes a previous knowledge of other art objects (Eversmann, p. 147). Visitors can be reminded of objects, especially in the decorative arts, from their own lives or ethnic heritage (Eversmann, p. 147; Stainton, p. 239). Visitors who are art collectors themselves bring their expertise in judging differences and degrees of quality (Stainton, p. 251). Both inexperienced and experienced visitors sometimes request that related artworks be placed in groupings in galleries in order for them to compare the variety of artworks from a given time and place (Cleveland, p. 8). Visitors sometimes compare their reactions to whole exhibits or collections in the current museum with whole exhibits or collections they have seen in other museums (Duhaime, p. 36; Smithsonian-Chinese, pp. 2, 8).

Museum-prompted information-gathering tasks (code tag MTASK)

Some of themes of visitor information-gathering activities broke out into distinct types which were coded separately, for example, the difference between *Museum-prompted information-gathering tasks* (visitor's use of directive labels or other instructions given by the museum) and *Self-imposed tasks information-gathering tasks* (activities for examining or evaluating artworks that visitors assign themselves).

The theme of *Museum-prompted information-gathering tasks* focuses on visitors' use of directive labels or other instructions given by the museum as activities to look for specific things or to consider artworks from a particular point of view.

Directive museum labels and other museum materials sometimes point out comparisons that visitors can make to other artworks physically nearby. Visitors usually appreciate and sometimes find these directed comparisons very compelling and instructive. They cite having to look more closely to see subtle differences and being challenged by these exercises (Smithsonian-Chinese, p. 4). They work especially well with small objects placed side by side. However, visitors can have trouble making comparisons if the artworks are not in close proximity or cannot be located or the comparison instructions are vague ("what other paintings in this room can you find that share elements of this revolutionary new style?") (Cleveland, pp. 33-34). Visitors can also be confused by too many suggested comparisons, by trying to relate multiple artworks at once, and by clusters of viewers in close quarters trying to make the same comparisons (Cleveland, pp. 38-39). Visitors sometimes feel like they are being "tested" and as if they are back in school, at odds with the casual learning environment that they expect (Cleveland, p. 33).

Comparisons suggested by museum materials are only one kind of exercise that museums suggest viewers try. "Look for" tasks suggest that viewers look more closely at details of artworks (for example, looking for the depicted dust on a lute in a still life painting; see Cleveland, pp. 33-34), to find particularly interesting things, to look at a work in another way, and to focus on particular works rather than being

overwhelmed by huge collections (Getty, pp. 19, 46). These instructions are frequently appreciated. As one visitor says, looking for the detail of dust “made me feel a little sharper and, I think, more aware” (Cleveland, pp. 33-34). Another task that art museums use is soliciting viewer comments on works seen, as in “share-your-reaction” cards, where visitors record their own reactions to works to post for others to see (Worts, pp. 170-177). They also set up creative visualizing exercises, where visitors are encouraged to place themselves into the pictorial world of an artwork (Worts, pp. 177-185).

Self-imposed information-gathering tasks (code tag STASK)

Contrasting with museum-prompted tasks, this theme focuses on tasks or activities for examining or evaluating artworks that visitors invent and give to themselves.

As in other instances where the initial coding resulted in several important distinctions among visitor experiences and thus re-coding for finer differences, the distinctions between preferences for museum-prompted tasks and self-imposed tasks indicate another area where inexperienced and experienced visitors diverge in their preferences and behaviors. Experienced visitors in particular sometimes create activities or tasks for themselves in the galleries. Visitors may, for example, observe how artists paint eyes throughout a collection (Cleveland, p. 15). They create their own thematic “paths” to view chosen aspects. They may also deliberately ask themselves more open-ended questions such as “what does this mean?” or “what was the artist trying to express here?” (Cleveland, pp. 11, 15) or “what does this object mean to me?” or “why has this object been placed next to that object?” (Abu-Shumays, p. 79).

Interestingly, gallery-based research methods where visitors are asked to complete tasks, including simply talking about what they see, are often well-received and found enjoyable and thought-provoking. These can be questions on cards to

prompt conversations by participants under observation (Stainton, p. 229) or questions asked about reactions to given art objects in interviews (Eversmann, p. 159).

7.2.6 Information Gathering in the Galleries: Social Information Gathering and Construction

Visiting in groups and visiting alone (code tag VISIT)

This theme focuses on visitors' preferences for visiting the art museum with others or visiting alone. It includes visitors' remarking on the advantages and disadvantages of either. Data coded here encompassed opposite concepts since visitors often combined and contrasted their opinions on the possible variations in visiting in one comment. Coding for this theme also included the primary researchers' takes on what happens when viewers respond to artworks together in the processes of information exchange and creation, for example, in using conversation to figure out artworks together.

One of the motivations for art museum visiting is social. Going with others creates the opportunity to share the experience and get different points of view on what is seen (Getty, p. 16, 55; Eversmann, pp. 158-159). Generally, inexperienced visitors prefer to visit with someone else (McDermott-Lewis, pp. 9-10; Cleveland, p. 8). Visitors with less well developed critical analysis experience with artworks like to share their ideas and feelings with others (Housen, p. 47). Experienced visitors are more equally divided on whether they wish to visit with others or visit alone (Cleveland, p. 13; McDermott-Lewis, p. 27). Visiting alone allows viewers to reflect quietly, to welcome introspection and self-discovery (Getty, p. 16), and to set their own pace (McDermott-Lewis, p. 27; Cleveland, p. 13).

The size of the visiting group may influence how much collaborative information generation takes place. Larger groups tend to be noisier, suggesting that their focus is primarily social (Duhaime, p. 11). Pairs may together construct meanings for artworks by conversing and using each others' knowledge and sharp eyes (Duhaime, p. 11; Abu-Shumays, pp. 76-77). Likewise, the frequent use of "text

echo,” or reading aloud of parts of artwork labels to others, suggests collaborative meaning-making and explanation (Stainton, p. 238). Talk is prompted by the objects, the label or wall text copy, and reactions to others’ comments (Stainton, pp. 219-220).

One specific social motivation mentioned for desiring museum information is to help explain artworks to children if they are part of the visiting group (Getty, p. 47). Most useful in this case is background information. One visitor cites this in the exhibit of Buddha sculptures: “If I brought kids, I would have preferred more context. This is abstract for kids” (Smithsonian-Buddha, p. 6).

Other visitors not in one’s group (code tag VISOTHER)

This theme focuses on visitors’ interactions with other visitors (that is, strangers) in the gallery, not including staff.

Visitors watch how other visitors experience art (Getty, p. 65). They sometimes engage in dialogues or debates with other visitors via response cards or comment sheets, as in visitors who debated in a reaction log whether or not a Rubens painting of a nude is “pornographic” or whether an abstract Jackson Pollock painting is really art (Cleveland, p. 17).

Museum staff (code tag STAFF)

A few coded themes, though producing some useful evidence, did not produce enough from these particular studies to enlighten us on their information-related relevance, for example, the theme of *Museum staff* (visitors’ interactions with staff such as docents, guards, and information desk people) and the related theme of *Information from human guides* (visitors’ references to information presented by docents or tour guides; code tag INFOGUIDE).

We do learn that visitors react to museum staff who are present, sometimes favorably, sometimes not. Docents are mentioned as being informative, and researchers think of them as role models for general visitors (Getty, p. 50; Abu-Shumays, p. 47). Guards are often felt to be intimidating, as if they are scrutinizing

and following visitors, though at times they are also praised for being helpful and knowledgeable (Getty, p. 32).

Likewise, coding for the theme of *Follow-up information* (code tag FOLLOW) to collect visitors' references to the use of either museum or outside information resources after visiting the museum produced very little evidence from these particular visitor studies on ways that visitors consult museum staff or other resources for further information on the artworks. For example, the Cleveland visitor study points out briefly that, in spite of their popularity especially among experienced visitors, we know little of how visitors use the take-home brochures (Cleveland, pp. 39, 86).

Among a few themes that seemed initially promising, but their coding gathered little relevant evidence, was the theme of *Conversation and communication metaphors* (code tag METAPH), to indicate visitors' references in metaphorical ways to "conversations" or communicating in some way with the artworks themselves or with others not present, such as the artists or past owners. Experienced visitors describe "talking" to the artists or to themselves in their internal dialogues before artworks (McDermott-Lewis, pp. 36, 38; Eversmann, p. 166). Researchers describe the exchange between viewers and museum materials as "conversations" with curators (Stainton, p. 250; Eversmann, pp. 161-162). Such references do underscore the social nature of visitors' art-viewing experiences, though references included in these studies were not numerous enough to draw broader conclusions.

7.3 Analysis: Visitor Information Gathering in Art Museums

7.3.1 Wayfinding in Art Museums

The museum setting itself and its organization at the gallery and display levels can support or confuse the intellectual organization of artworks intended by the museum. Museum layouts and designs impact navigation, visit planning, and focusing. Visitors use intuitive visual cues and signage in this environment, but changing curatorial organization, museum design changes, crowded conditions, or the

sheer extent of large museums may confuse them. Intelligibility is key to helping dispel the intimidating feeling that museums can create.

Clear layouts of artworks by media types (paintings, sculpture), functional classifications (decorative art, ceremonial objects), thematic classifications (landscapes, Buddhist figures), chronologies (the medieval galleries arranged between the antiquities and the Renaissance galleries), and the location of specific works are clearly desired by the majority of visitors who like to wander, but amid an intellectual structure.

7.3.2 Artworks and Texts: Looking and Reading

Visual and physical aspects of artworks

The physical presence of artworks and the opportunity for visual and spatial examination are crucial to visitors. Moving about artworks, alternately zooming in and standing back, and imagining how heavy or rough or silken an object might be are ways of information gathering. The studies analyzed here provide a long list of artwork elements that viewers look for: media and creation techniques, colors, forms, human figures and expressions, art styles, and craftsmanship. The experience of looking at the “real” object, rather than reproductions of them, is mentioned as important, particularly by first-time visitors (Smithsonian-Chinese, p. 7). One visitor says, “this is much more than a picture in a magazine or an article in a book. This is real history—seeing the three-dimensional object” (Buddha, p. 7).

Visual to text

While specific behaviors in the intimate interchange between viewing objects and reading object labels are not the focus of this group of visitor studies, the studies do show that viewers are first attracted by the visual, then stop to read the text. On the whole, visitors read and use the text information in “short bursts” (McDermott-Lewis, p. 137), because they spend their time efficiently in a strategy of processing an

exhibition, at least initially. One important aspect of the visual-verbal interaction is “text echo,” the reading aloud of text passages among a group of visitors (first described by McManus, 1989) and the collaborative use of this information. The use of text instructions for suggested looking or comparing exercises is another instance where visitors make active use of text while viewing the artworks.

7.3.3 Responding with Emotions, Memories, and Storytelling

Emotional and creative responses to artworks are part of information gathering, particularly in viewers’ initial attraction and orientation to a work. These responses come before intellectual engagement with the work. Several researchers make a distinction between a visitor’s immediate affective and aesthetic response and a learned “critical interpretive response” (Abu-Shumays, pp. 78-79; Stainton, pp. 218). Abu-Shumays characterizes the former as being the “wow,” “neat,” and “gee-whiz” approach to objects which is only a “first step” in understanding artworks, to be supplemented by a supply of authoritative information and the teaching of viewing skills (Abu-Shumays, pp. 78-79).

Powerful aesthetic and emotional reactions and the use of one’s memories and associations are essential for all visitors, inexperienced through expert. Visitors’ own visual and emotional reactions may sometimes block out or cast doubt on museum-provided information, however. Stainton notes that viewers had difficulty rationalizing their own emotional reactions with the straightforward anthropological explanation of why nails were driven into the wooden African figure, having nothing to do with a seeming cruelty or any connection to the frequently associated “voodoo dolls” (Stainton, pp. 238).

Visual memories provide personal contexts that supplement contextual object information supplied by the museum. Remembering similar artworks, objects, and motifs help viewers identify and place works. Memories also supply culturally shared images from past or current culture, from the trivial (comparisons to movie characters)

to unconsciously shared visual archetypes which are part of collective cultural knowledge bases (called “cross-cultural comparisons” by Stainton, p. 139).

Finally, artworks invite creative and narrative responses which emerge in viewers’ storytelling and imagining. The same response has been found in library and information science viewer elicitation studies which show that viewers read into photographic images their own stereotypes of people, places, and events, often extending the stories of the images with embroidered narratives (see O’Connor, O’Connor, and Abbas, 1999). Worts sees this reaction to artworks as the completion of the creative process begun by the artist and as “a powerful complement to intellectual insights of museum experts” (Worts, p. 166).

7.3.4 Intellectual Responses and Strategies: Comparisons and Other Information-Gathering Tasks

Intellectual or cognitive responses are defined here as deliberate or conscious acts to gather information, as distinguished from responding with emotions, memories, associations, and storytelling, the latter being what McDermott-Lewis calls a “reactive stance” (McDermott-Lewis, pp. 11-12).

As these visitor studies demonstrate, visitors—particularly inexperienced—do find useful the activities and specific tasks suggested by art museum resources. Museum-suggested activities build both art-viewing and museum-going skills. However, suggested activities still make up a relatively small part of museum resources for adults, particularly in object labels. “Information-driven labels are the norm and experience-driven labels...are the exception. These labels encouraged looking, and visitors felt as though they had discovered something” (Cleveland, p. 77).

Visual comparison of artworks and their details is a skill which comes naturally in the first parts of artwork exploration (Housen, p. 43). But it can also be made conscious, tutored, and deepened, as in museum-suggested comparisons. Comparisons are categorization skills ultimately, because viewers have to sort out by visual, thematic or story treatment differences, and “of” and “about” differences.

“Look for” tasks are also skill-building for careful looking. Visitors find these rewarding and sometimes eye-opening.

When activities are not suggested by the museum, visitors—particularly experienced ones—sometimes create activities for themselves. Few adult visitors have school or work “assignments” to fulfill, so, interestingly, they give themselves tasks. These are information-gathering challenges that one gives oneself for their own sake and for their intrinsic interest. Creating one’s own paths—for example, the visitor who studied how eyes were rendered in various artworks—can be thought of as a form of personal indexing.

Visitors appreciate museum displays such as groupings and period rooms which encourage comparisons of objects and their styles, sizes, and functions within a reconstructed context. Visitors also make comparisons at all levels to artworks previously seen: artwork details and motifs (such as comparing geometric borders in Aztec and ancient Greek art), artwork functions (such as the African neck rests compared to neck rests from other cultures), whole works, and whole exhibitions to other exhibitions seen (Smithsonian-Chinese, pp. 2, 9, 12). This presupposes previous exposure, knowledge, and memories.

7.3.5 Social Information Gathering and Construction

Inexperienced visitors express a distinct preference for going to museums with others, suggesting that they welcome the opportunity to try and understand artworks together. More experienced visitors are quite evenly split on whether prefer going alone, in groups, or as the circumstances dictate (Cleveland, 13; McDermott-Lewis, p. 27), suggesting that they feel themselves equipped to understand, or at least, to experience art on their own *or* with others.

As a social and collaborative effort in information gathering and meaning-making, group visiting involves verbal communication. This is one place where actual vocabulary and conceptual issues become explicit (hence researchers’ interest in recording conversations in galleries). Visitors who find it hard to talk about visual

qualities and contextual connections often use “text echo” or the reading aloud of artwork labels to others. This active use of museum-supplied words and concepts enables not only communication but shared learning.

7.4 Conclusion

This chapter surveys and analyzes the evidence from art museum visitor studies on visitors’ visual, emotional, intellectual, and social responses to artworks, in order to better understand how visitors gather and use information in a variety of ways to create personal meaning in their viewing experiences. Chapter 8 surveys and analyzes visitors’ reactions to and use of specific museum information sources.

Chapter 8: Findings and Analysis: Visitor Responses to the Content of Art Museum Information

8.1 Introduction

The previous chapter focused on the information environment of the art museum setting and on visitors' information gathering by means of personal reactions and deliberate strategies. This chapter continues the narrative description of the findings of the meta-analysis, here concerned with the third of the overarching thematic groups discovered in the data analysis (Thematic group 3 of the codebook): *Visitor responses to the content of art museum information*. It presents and analyzes the empirical evidence reported by the visitor studies on visitors' preferences and desires for information content and formats in resources about individual artworks provided by the museum.

8.2 Findings: Visitor Responses to the Content of Art Museum Information

This thematic group focuses on visitor references to the content of different sources of information in the art museum. Many themes around information content were discovered in the analysis. Each theme is detailed below. Themes are grouped here by categories of types of museum information (8.2.1), sources of museum information (8.2.2), special documentation issues relating to specific types of art (8.2.3), vocabulary and writing style of museum information (8.2.4), and visitors' occasional distrust of museum information (8.2.5). Data which supplied the evidence for each of these themes were tagged in the content analysis with the codes indicated below. The list of all the codes and their definitions are found in Appendix C Codebook.

8.2.1 Responses to Types of Museum Information Provided

Studies of artwork information text resources, such as object labels and brochures provided in the galleries, indicate what visitors want in the way of

information content and formats. Research studies ask what elements visitors wish to see included and in what order they should appear (Eversmann, p. 144; Cleveland, pp. 20-27).

Overviews of collections or exhibits (code tag INFOOVER)

This theme focuses on visitors' references to text overviews of the contents of whole galleries or exhibits.

Inexperienced visitors in particular want overviews of the museum collections or an individual exhibit in order to orient themselves and organize their visit (Getty, p. 18). Many visitors say they appreciate programs, slide shows, films, and individual gallery statements that describe the contents of whole rooms and exhibits. Such resources provide historic and artistic contexts (Getty, pp. 19, 160, 163, 176).

Information on individual artworks (code tag INFOART)

These themes focus on visitors' references to the basic elements of artwork information they need and/or what they want to know first.

In addition to their desire for broader overviews of groups of artworks, visitors are clear that they want information directly relating to the individual artworks in front of them (Getty-Cleveland, p. 158; McDermott-Lewis, p. 137). To understand these works better, they report a wide range of additional information they would like: the subject of the work and why it is significant historically, culturally, or artistically; symbols employed; how the piece was made and how it functioned (particularly historical or ceremonial objects); the artist's life and reasons for creating the work; the school of art. Inexperienced visitors in particular want a selection of basic information about the objects they view—beginning with the subject matter—in a brief, synoptic format (McDermott-Lewis, pp. 10-12; Getty, p. 25).

In artwork labels, visitors most frequently cite contextual information pertaining to the artwork and then subject matter as the two most important information elements. "Visitors seemed to feel strongly that such information was

essential to their enjoyment/understanding of a work of art” (Cleveland, p. 20). Contextual information may mean to visitors information on the culture of origin of the artworks, as well as particulars about the artwork itself. For example, visitors to the exhibition of ancient Buddhas appreciated the information on the different Chinese dynasties and their artistic styles. They wanted more information on the pronunciation of the Chinese terms, the symbolism of hand gestures, the differences among various forms of the deities associated with the Buddha figures, the puzzling androgynous appearance of many figures, and the original religious use of the statues (Smithsonian-Buddha, pp. 5-6).

Preferences for supplied information vary slightly by visitor experience: inexperienced visitors prefer to find information on artwork style and techniques; experienced visitors prefer labels that explain style or formal analysis, techniques, and historical context (Cleveland, pp. 25-27).

Information on artwork subjects (code tag INFOSUBJ) and *Information on artwork styles* (code tag INFOSTYLE)

These themes focus on visitors’ references to the pictorial or abstract subjects of artworks and their references to the visual styles of artworks.

Art museum visitor researchers describe what visitors refer to as the “subject matter” of artworks to mean the depicted characters, plots, and narratives of pictorial artworks like paintings or prints (Cleveland, pp. 20-22, 85). Inexperienced visitors focus on “obvious” subjects and story elements first ((McDermott-Lewis, pp. 11-12, 37). Visitors want to have depicted stories, myths, and legends explained to them. Closely allied with these explanations are the identification and explanation of visual symbols (Cleveland, pp. 20-21; Getty, pp. 22-23, 61). If the artwork is or was a functional object, for example, decorative artworks, visitors want to know first what the object is and how it is or was used (Cleveland, pp. 25-27; Getty, p. 23), which is another type of “subject” and “story” of an artwork.

Whether the artwork is a pictorial work (for example, a painting, sculpture, or print) or a decorative art object sometimes determines what information visitors prefer to see. They want the first lines of a label to answer “what is it?” If the work is a painting or sculpture, the title may already include the pictorial subject matter identification. If the work is a decorative art object, it may identify what the object is in terms of form or function (for example, a lace collar or a fall-front desk) (Cleveland, pp. 18, 25-27).

The visual and artistic style of artworks, in particular the degree of visual abstraction away from realistic representation, plays an important part in visitors’ figuring out subject matter. Inexperienced visitors prefer more realistic styles in pictorial artworks in order to orient themselves with visual elements that are already familiar to them (Housen, p. 43). They want to see artwork that is “recognizable,” “believable,” and “convincing” (McDermott-Lewis, p. 15). Inexperienced visitors have expectations for “comprehensibility” and “beauty” that more abstract contemporary art, in particular, seems to contradict (Worts, p. 85). Viewers of abstract art find pleasure in recognizing specific identifiable visual references, for example, images of ancient classical statues worked into contemporary Greek art (Duhaime, pp. 25-26). Otherwise, many viewers are uncomfortable with abstract art that lacks recognizable “anchors” for interpreting meanings.

Information on artwork functions (code tag INFOFUN)

This theme focuses on visitors’ references to the original functions of artworks, for example, ceremonial, religious, or commemorative.

Closely related to artwork subjects are artwork functions, particularly of ceremonial or decorative art pieces which might be or might have been actively used in ceremonial or household settings. Visitors express interest in how art objects functioned in their original contexts and cultures of creation, for example, how portraits were used (Cleveland, p. 13). Objects which were intended for actual use prompt speculation from viewers on their comfort for their original users, for example,

wooden African neck rests for sleeping or the weight of heavy jewelry (Stainton, pp. 240-242). Such objects also raise questions about the social status of the original users (Stainton, pp. 240-242).

Information on artists (code tag INFOARTIST)

This theme focuses on visitors' references to information about the artist(s).

Few topics interest visitors more than the artists who created the works they are seeing. Inexperienced visitors seek insights into artists' creativity and thought processes as well as background on their lives. They wonder about the motivations behind an artwork's creation and what the artist was trying to communicate (Getty, p. 24; McDermott-Lewis, pp. 17-20; Cleveland, p. 8). This is particularly true in collections of contemporary art: 42% of visitors to the Institute for Contemporary Art, Boston, spontaneously mention liking the information pamphlets on the artists (Housen, p. 46). Inexperienced visitors apparently do not consider much how the artists make formal choices of colors and composition to accomplish their goals, however (McDermott-Lewis, p. 20-21).

Experienced visitors also ask about artists' biographies, particularly those of famous artists (Cleveland, p. 13). While also expressing an interest in artists' motives, they demonstrate awareness of artistic choices made, such as choosing imagery and formal elements to achieve an effect (McDermott-Lewis, pp. 27-30).

Information on other peoples and cultures (code tag INFOPEOP)

This theme focuses on visitors' references to others associated with the artworks (not including the artists), such as original users or owners, and to their interest in broader connections to other cultures and times.

Most viewers seek a window into past cultures via historical artworks. Inexperienced and experienced visitors alike look for underlying human connections linking them with people and civilizations now gone (McDermott-Lewis, pp. 17-20,

27-30). More experienced viewers routinely seek to place the work within a larger historical context and feel that this is essential for understanding (Cleveland, p. 13).

Visitors also make human and cultural connections from old works to the present, as, for example, by visitors to the Buddha sculpture exhibit who mentioned the destruction of the Bamiyan Buddhas by the Taliban in Afghanistan (Smithsonian-Buddha, pp. 6, 8). Contemporary viewers demonstrate a great fascination and respect for particularly ancient objects and the values, world views, and craftsmanship they represent (Getty, p. 161; Smithsonian-Chinese, p. 15; McDermott-Lewis, pp. 27-30). They are particularly fascinated with views into everyday life in ancient times (Smithsonian-Chinese, p. 7; ROM, pp. 27-28).

Information on artwork media and techniques (code tag INFOMED)

This theme focuses on visitors' references to the media and creation techniques of artworks.

When visitors are asked what categories of information they want provided, information on the artwork medium follows context and subject matter closely (Cleveland, pp. 18-19). They are interested in details of special techniques such as gilded ornamentation (Smithsonian-Buddha, p. 5) or how smooth white gesso is applied to painting surfaces to prepare for under-drawings (Cleveland, p. 39). Viewers of contemporary artworks are particularly interested in how objects are fabricated and in how unexpected materials such as bedsprings and gas jets come to be incorporated into some works. They are willing to reassess artworks if they learn a bit about their construction (Duhaime, pp. 31-32)

The Cleveland Museum researchers report a suggestion by one visitor to put a damaged painting in better view (instead of high over a doorway) to enable visitors to learn about technically not-so-perfect or repaired objects (Cleveland, p. 58).

Information on artwork valuation (code tag INFOVALU)

This theme focuses on visitors' references to the value of artworks from the standpoint of renown or monetary value.

Visitors in general sometimes wonder why art objects are considered significant and important in the art world and why they are chosen and displayed by museums (Getty-Boston, p. 167). While they are aware of curatorial choices, inexperienced visitors in particular have mixed feelings about experts' judgments and selections. They value "masterworks" by recognized artists and wonder why other works—unfamiliar to them—are valued so highly, especially in monetary terms (McDermott-Lewis, pp. 13-16, 21-24; Cleveland, p. 8). Inexperienced visitors want a guide to know which artworks and artists in the gallery are the most "important" and why (Cleveland, p. 8; Getty, p. 19).

Information on artwork provenance and collecting context (code tag INFOPROV)

This theme focuses on visitors' references to the history of the object itself, including its presence in previous collections and how the museum acquired it.

Dry details of artwork provenance and credit for donations are mentioned last on visitors' lists of desired types of information (Cleveland, p. 25). Nevertheless, visitors are sometimes fascinated by the facts of some artworks' original discovery (Smithsonian-Buddha, pp. 5, 7) and do wonder about how some objects came to the museum (Getty-Boston, p. 167).

8.2.2 Responses to Sources of Museum Information Provided

Visitors have a range of preferences for how they wish to access information in the galleries, for example, in object labels and wall texts or by audio-visual means. The preference variations are based in personal learning styles and visiting group make-up (McDermott-Lewis, p. 137; Getty, p. 25; Cleveland, p. 8).

Information on object labels (code tag INFOLAB) and *Information in wall texts* (code tag INFOWALL)

This theme focuses on visitors' references to the choice and order of information content of object labels and longer wall texts.

By far the most research on visitor preferences for information forms in these visitor studies is on visitors' use of art object labels. This proved to be a rich source of data for the meta-analysis as these indicate visitor preferences for both information content and information order of importance. Visitors' preferences for label content are described in the data coded for *Information on individual artworks* (code tag INFOART) above.

Most visitors make use of labels, but attend to the parts of their texts selectively (Cleveland, pp. 78-79; Stainton, p. 249). While many visitors say they want more information on the labels (Getty, 22), conversely, some say they prefer only one big idea presented at a time (Cleveland, p. 86). Visitors prefer the classic information arrangement of basic identification elements (artist, title, medium, country of origin, dates) first, followed by one or two very short paragraphs, and at the end details of museum accession number and credits (Cleveland, p. 25). They prefer prose explanations, but in a concise, uncomplicated, and easy to read style. Experiments with briefer, bulleted listing of information points on labels show that this works for only a few readers. Most readers feel this approach oversimplifies information and prefer standard prose paragraphs, albeit concise (Smithsonian-Chinese, p. 15; Cleveland, p. 82). Nor do visitors want long lists, for example, series of artists' names, embedded in prose descriptions (Cleveland, pp. 33, 40-41, 77).

Research shows that the physical type of the artworks influences what readers want to see listed on labels first. For paintings and sculpture, visitors prefer artist names and artwork titles first. For decorative or ceremonial art objects, visitors want the object type specified first, before the maker or cultural origins (Cleveland, p. 18).

Labels that pose questions can backfire, since viewers do not like to feel they are being tested (Cleveland, pp. 35-36). In fact, visitors do like directive labels (which

direct the viewer to look for something specific), but this preference is more characteristic of inexperienced viewers; experienced visitors prefer more straightforward informative labels (Cleveland, pp. 85-86).

The Cleveland visitor study specifically included wall texts—longer descriptive texts giving overviews of whole galleries—in some of their smaller studies of viewer reactions to size and placement of gallery texts. They point out that wall texts serve as orientations to the contents of whole galleries for visitors. They provide “the conceptual framework of a gallery” (Cleveland, p. 43). The Getty study records visitors’ wishes for larger typefaces in wall texts (Getty Dallas, p. 160). Overall, the evidence presented here was too thin, however, to draw any conclusions on how many visitors actually read wall texts and how they use this source of information.

Information in brochures (code tag INFOBRO)

This theme focuses on visitors’ references to the choice and order of information content of brochures and handouts of various sorts in the galleries, including take-away materials.

Visitors find gallery handouts or brochures helpful (Getty, p. 24; Housen, p. 46), and experienced visitors like them particularly, since they can provide deeper information on selected artworks and on selected categories of art such as still lifes or textiles, as well as providing enriching background material, like the writings of authors contemporary with the artists represented (Cleveland, p. 43). Many visitors like the idea that they can read them while looking (Getty, p. 24) and also take them home (Cleveland, p. 39). Brochures are often overlooked by visitors, however (Cleveland, p. 61; Getty, p. 24).

Information from other sources (code tag INFOOTHER)

This theme focuses on visitors’ references to the content of other sources of information in the museum, including films, slides, photos, and maps.

Visitor comments on these sources are quite sparse in these particular visitor studies. However, they provide some idea of how visitors use additional visual and graphic information sources. Comparative photographs either beside artworks on the wall or in gallery brochures are thought very helpful to illustrate, for example, the use of tribal art pieces in ceremonies or artists at work in creating the pieces (Abu-Shumays, pp. 76-77; Cleveland, p. 39). Orientation films and slide shows are found useful, but visitors are not always aware of them (Getty, pp. 19, 163). Maps showing, for example, the extent of civilizations, are used inconsistently, and viewer reactions vary on how dense the overlays of information on these should be (ROM, pp. 37-38).

Information from human guides (code tag INFOGUIDE)

This theme focuses on visitors' references to information content presented by docents or tour guides.

Surprisingly little research was included in this group of visitor studies on the use of docents and guides. The few mentions were coded as *Information from human guides* (code tag INFOGUIDE) and as interactions with *Museum staff* (code tag STAFF). Docents are mentioned by visitors as being informative, and researchers think of them as role models for general visitors (Getty, p. 50; Abu-Shumays, p. 47). Visitors sometimes express lack of knowledge about available tours, but when they do go on tours, expect that guides will tell them how to appreciate the artworks (Getty, p. 20).

Information source formats (code tags FORMLAB, FORMWALL, FORMMAP, and FORMBRO)

Viewer responses to the physical and visual formats of textual and graphic information sources were also coded. This included visitor responses to the sizes, legibility, typeface sizes and styles, and placement near the artwork of object labels, wall texts, maps, and brochures. Only the Cleveland label studies focus extensively on the formatting aspects of these sources, thus, making generalizations about visitor

preferences for readability and accessibility is difficult from these studies alone. These types of viewer responses were in the end judged less relevant to the focus on information content here.

8.2.3 Types of Art and Art Collections and Their Special Documentation Needs (code tag SPECNEED)

This theme is focuses on visitors' references to specific types of information presented or desired for specific types of art, including different object types (for example, paintings vs. decorative art objects), art of unfamiliar or distant cultures, or art that simply might need more explanation, such as contemporary art.

Different types of art present different information issues to visitors. By definition, visitors need more cultural and geographic information about art objects from different times and cultures. In general, visitors in North American museums do not need as much explanation for North American or European artworks. Non-Western art in general needs more explanation (Getty, pp. 23-24, Getty-Dallas, pp. 159-160; Getty-Boston, p. 166).

Visitors find the vast cultures of the ancient world, for example, Asian, Ancient Near Eastern, and Pre-Columbian, especially daunting to try to understand, and they feel overwhelmed by the presumed expertise needed (ROM, pp. 27, 29-30; Smithsonian-Chinese, pp. 9, 15). They express the need for more definition of cultures and differentiation from neighboring cultures, at times using familiar "landmarks" of civilizations past to help them place other cultures in time and place (ROM, p. 27). Visitors want symbols, myths, and legends explained, as well as functions in original sacred or ceremonial contexts (Getty, p. 23). On a more human level, visitors like to encounter art objects from everyday life from ancient times (ROM, p. 27; Smithsonian-Chinese, p. 7).

Visitors sometimes express some confusion over finding what they consider historical or anthropological artifacts in among artworks, for example, Native American objects in an art museum (Getty, p. 23).

The physical types of objects also present slightly different information issues. For example, the type of information that visitors prefer to see listed first on object labels varies by whether the work is a painting, sculpture, or decorative object. For paintings by famous artists especially, visitors prefer artist names to be listed before titles. For objects, the identification of the object itself is preferred first (Cleveland, pp. 18-19, 22). For pictorial artworks like sculpture or paintings, visitors are concerned with information on style and forms; for decorative objects they are more concerned with the details of creation techniques (Cleveland, p. 22).

Contemporary art presents many information challenges. It creates a “great divide” between inexperienced visitors and devotees in museums dedicated to contemporary art (Duhaime, p. 21). It leaves many viewers anxious and confused, and inexperienced visitors leave museums convinced they will never understand it (Getty-Philadelphia, p. 171). Visitors ask for more information on artists’ intentions and help in making sense of these pieces, because it often seems to them that the works take little effort to create (Getty, 24), and they confound expectations for beauty and meaning (Worts, p. 185). Museum-supplied explanations and information “seem like empty rationalizations for what they [visitors] see as a sham” (Worts, p. 178). Visitors may find very abstract artworks impossible to grasp without some recognizable and nameable elements, like symbols or recognizable forms (Duhaime, pp. 25-26, 31).

8.2.4 Vocabulary and Writing Style of Museum Information (code tags VOCAB and WRITING))

These themes focus on visitors’ references to the vocabulary used in museum resources and their references to the writing in museum text sources, including styles, length, and complexity.

A recurrent theme in art museum visitor studies is the difficulty that visitors have with art vocabulary terms. Visitors report encountering unfamiliar art history terminology (Getty, pp. 22, 40; Getty-Cleveland, p. 158; Getty-Los Angeles, p. 164) and terms from foreign languages and cultures (Getty-Boston, p. 166), for example,

kast (a type of Dutch storage cupboard), *krater* (an ancient Greek drinking cup), and *polychrome* (painted with many colors) (Cleveland, pp. 19, 75). Historic geographic references may be confusing, for example, the exact coverage of *Netherlandish* and *Neopolitan* (Cleveland, p. 76). To many frustrated visitors, the use of such terms in museum resources seems elitist and sounds like unconvincing “artspeak,” particularly when used to discuss contemporary art (Worts, p. 185).

Visitors do learn vocabulary at the museum as they read labels or go on tours, sometimes quite rapidly, and reuse the terms on site (Eversmann, p. 158). This partly depends on how well the object labels in particular support and explain the terms used. If label copy stresses one type of words and ideas over others—for example, ethnographic terminology over aesthetic terminology—visitors tend to pick up on this (Stainton, pp. 231, 249). Inexperienced visitors express a desire for warm, engaging, descriptive language, though some experienced visitors prefer more straightforward description (Cleveland, p. 34). Sharp-eyed visitors point out inconsistencies among labels on works throughout a gallery or an exhibition, for example, inconsistent explanations and identifications of the terms *realism* and *Mannerism* (Cleveland, pp. 31, 34; see also Getty, p. 162).

The use of specialized terms in museum resources is only one aspect of vocabulary issues. Inexperienced visitors in particular say they are limited in their own vocabularies to describe artworks. They believe they need to learn the “language” of art description and interpretation (McDermott-Lewis, pp. 20-24). Sensory and visual experiences are hard for many to express in words (Duhaime, pp. 7, 12). Inexperienced visitors generally use well-known words to talk about aspects such as color, details, and emotions (Cleveland, p. 87), whereas experienced visitors can use a more specialized “short hand” terminology, for example, talking in a sophisticated way about the “vocabulary” of forms in a given work (Stainton, p. 247).

8.2.5 Visitors' Distrust of Museum Information (code tag DISTRUST)

This theme focuses on visitors' occasional references to untrustworthy or inconsistent elements in art museum information.

In spite of the great regard that most visitors have for the reputations of art museums, the integrity of their purposes, and the quality of their artwork information and curatorial interpretation, visitors do question museum information at times (Getty, p. 55) when they encounter specialized art concepts or terminology which seem to obscure information rather than provide answers. None of the original visitor researchers identified the concept of distrust explicitly. However, after the idea was identified as recurrent, particularly in studies of visitor reactions to art object text labels, this theme was then specifically coded.

Visitors pick up on inconsistencies in label and wall text information from object to object in an exhibition and from room to room in a larger museum context, for example, failures to define basic terms such as *realism* consistently (Cleveland, p. 34; Getty, p.162). They spot the hit-and-miss quality and incompleteness among museum resources (Getty-Chicago, p. 152) and wonder why the care that goes into preparing information for special exhibits is not extended to permanent collections (Getty-Washington, D.C., p. 167). They also are remarkably attuned to inconsistent interpretive viewpoints, for example, spotting writing biases in label copy that seem to favor the approach of one artist over another in a comparative exercise (Cleveland, p. 31-32).

No type of museum explanation raises more suspicion than that written for contemporary art. Visitors sometimes distrust curatorial explanations and prefer the direct explanations of the artist(s) who created the work. They prefer the artist's own words (Getty, p. 55, 110).

8.3 Analysis: Types of Art Information Used by Visitors

As the findings from the meta-analysis demonstrate, museum-supplied information includes a broad range of topics relating to individual objects and their historical and cultural backgrounds: physical object descriptions; depicted stories and abstract themes; functions of artworks in their original creation contexts, such as religious or ceremonial; visual and artistic conventions, such as the use of perspective or symbolic devices; schools of art and visual styles; associated figures (artists, patrons, collectors); and related history and criticism.

The museum visitor studies selected for this meta-analysis include many visitors' comments on the kinds of information they like to find, on what is lacking, and on what they would like to see provided. The studies also tell us about what information visitors want to see first (for example, in object labels), giving us some idea of visitor priorities for information content and formats.

The two primary conclusions that these visitor studies support are that:

(1) Visitors want concise artwork overviews, what the Getty study terms "brief synopses" of "distilled information (artist, symbols, cultural context, technique)" (Getty, pp. 25, 61) and what McDermott-Lewis calls "basic ideas" (McDermott-Lewis pp. 10-11). Visitors first want to know "what is it?" followed by the artworks' context, subject matter, and some information on what it is made of (Cleveland, pp. 18-21).

(2) Visitors want the information to pertain to the object in front of them. Stainton's analysis of museum conversations shows that visitors of all kinds talk most about things directly related to the objects and ideas associated with them (Stainton, p. 248; see also Getty, p. 158, and McDermott-Lewis, pp. 37, 137).

8.3.1 Artwork Subjects

The subject matter of artworks is often noted by visitors. Although subject matter overlaps with contextual information (addressed in the next section), it is of

special interest to library and information science since it concerns the possibility of subject indexing for information systems, and so we will examine it here separately from contextual information.

It is not clear what visitors themselves think of as artwork subject matter. Researchers generally interpret their references to subjects to mean the stories that pictorial artworks tell, the depicted events, characters, and scenes from narratives in literature, history, legend, and myth. For objects such as decorative and ceremonial art, visitors want to know how these objects were used (Cleveland, p. 85), in effect, the “stories” of their use, so the concept of subjects can vary by artwork type. For visitors subjects also seem to include abstract themes of artworks and the meanings of symbols. Thus subject matter encompasses references to both depicted elements (what the subject is “of”) and abstract elements (what the subject is “about”). But visitor study researchers and visitors are both vague on these parameters, and none of these studies focuses specifically on the notions of “of” and “about.” As noted in the findings above, artwork visual style along a continuum from realistic depiction toward abstraction is closely tied to viewers’ discernment and understanding of subject matter.

8.3.2 Artwork Contextual Information

Likewise, visitors’ expressed desire for contextual information is ultimately vague. The use of the term and concept of “context” in these art museum visitor studies is primarily that of the researchers in their analyses. Visitors may simply think of this as “background information,” broadly defined. However described, visitors do not want contextual information to get too extensive or to wander too far away from the object in front of them. Context may be more narrowly object-centered (for example, the circumstances of a particular artwork’s creation) or more broadly culture-centered (for example, the use of funerary portraits like the one at hand in a particular culture).

Contextual information on artists, media and techniques, art object valuation, and original contexts of an artwork's creation, function, and use are frequently mentioned by visitors as being of interest to them.

Information on artists

Visitors are interested in individual artists' biographies, but frequently in the more narrow sense of the artist's relationship to the particular object at hand, especially the artist's motivations for creating this work and its messages. Here, experienced museum visitors mention their awareness of artists' choices and uses of media, colors, and compositional devices to convey their messages, while inexperienced visitors make the connection between deliberate formal choices and the resulting effects less frequently.

Information on media and techniques

Visitor studies suggest that viewers are interested in the physical aspects and fabrication of artworks, particularly the unusual or unexpected. In contemporary art, for example, there is a great variety of materials and techniques which is often starkly different from the "canon" of traditional art materials, whether oil on canvas in Western painting or jade carving in Asian art.

One of the interesting aspects of museum-visiting reported by these studies are the kinesthetic responses to art objects that one would actually use, for example, pieces of jewelry or ceremonial objects. Visitors remark on their weight or texture or probable degree of comfort.

Information on artwork valuation

Museum visitors are interested in the valuation of artworks and in the assessment criteria used by experts and curators. This sometimes ties in to the provenance or collecting history of an art object and how and why it was selected for

this museum or exhibition. This curiosity ties in to visitors' own (often untutored) practice of judging art.

Information on original contexts of artwork creation, function, and use

Placing artworks in time, geography, and human contexts is very important to visitors. Museum curators and educators create period, thematic, cultural, and biographical context groupings which are all framed in information choices and organization. Not only do museums convey information about individual objects, they provide collective and cumulative information about these contexts.

Specific types of art and art collections have their special information requirements. Specialization in the description of certain object types is thought more characteristic of experts, but inexperienced visitors also make distinctions in the type of information they prefer to see, or at least to see first, according to object type.

The very richness of world art brings significant and varied difficulties to describing artworks and their contexts of creation and use. The degree of familiarity with the arts of other cultures depends on their distance from one's own culture. Ethnic and tribal art often raise the basic questions of "what is it?" and "how is (was) it used?" Such objects may also prompt the even more basic "what is art?" question and how this varies from culture to culture. The type of contextual information provided also depends on how the objects are framed by a given exhibition. The "Voices of Africa" exhibition, used as the site of two visitor studies in the meta-analysis, deliberately framed the variety of objects as art, though labels gave extensive social and cultural background which visitors reflected in their museum conversations (Abu-Shumays, Stainton). Visitors may be similarly challenged by the relative unfamiliarity of ancient art. Viewers use their own knowledge of historical landmarks to relate works in time and geography (for example, using a general knowledge of the Roman Empire to place Ancient Near Eastern civilizations; see ROM, p. 27).

8.4 Writing Style, Formats, and Vocabulary in Museum Information Sources

Research on visitor use of labels and wall texts reveals preferences for text format, legibility, and content. The standard conventions of object labels in particular are usually recognized and preferred (see also Hall, 1988). Visitors like an ordered format of artist or object type (depending on the art form), title, medium, country or culture of origin, and date, followed by a concise prose description of the salient points of subject, thematic, or contextual information. While inexperienced visitors in particular like labels with embedded instructions pointing out specific things to look for, the Cleveland label studies note that visitors do not necessarily distinguish among identification, interpretive, or thematic label types (Cleveland, p. 79).

Museum vocabulary use is an issue that is raised over and over by visitors. The visitor studies selected here are not focused on collecting visitor reactions to, use of, or retention of specific art terms. The conversation-focused studies analyze the structures of and references in museum talk (Abu-Shumays, Leinhardt, Stainton), but do not analyze for specific terms used by visitors. Rather, it is in the studies of general visitor opinions on museum materials, and especially in label studies, where visitors' perplexity and frustration about unfamiliar art historical and foreign terms become evident.

Visitors often arrive with limited experience in verbalizing about art, particularly in describing visual forms such as compositions and artists' creative processes. Visitors do learn vocabulary as they go, partly through the practice of text echo (Stainton, p. 238) and partly in being exposed to new terms during tours (Eversmann, p. 148). Inexperienced visitors are more likely to appreciate lively and descriptive writing in texts, which may help them develop their own descriptive vocabularies. Experienced visitors prefer a more straightforward writing style, though they may use sophisticated and precise descriptive vocabularies themselves, learned through previous exposure.

Visitors' occasional distrust of museum information seems to be linked most closely to vocabulary use in museum materials. It seems to be centered on inconsistencies in written explanations and in the coverage and definition of terms, rather than in doubting the trustworthiness of the information itself (with the exception of overly erudite explanations of contemporary art).

8.5 Conclusions on the Major Themes of the Meta-Analysis

The meta-analysis of the 12 selected visitor studies found evidence of the strong roles of the following elements in the information gathering and use of art museum visitors:

- Visitors' ambivalent attitudes towards their own art backgrounds, usually expressed as a self-conscious lack of art knowledge and descriptive vocabulary
- Visitors' basic belief in and regard for the authority of art museum-supplied information
- Visitors' confusion between being given information about artworks (the "right" information) and constructing meanings and understandings of artworks on their own
- The strong role of museum environmental elements in providing intellectual organization and contextual information to visitors
- The striking attraction of the visual and physical aspects of artworks to visitors
- The strong roles of emotions, memories, and personal storytelling in reaction to artworks, as being initial ways of visitors supplying their own information to understand artworks
- The importance of information-gathering "tasks" suggested by the museum or invented by visitors themselves, in particular, comparisons among artworks at hand or remembered
- The strong role of social interaction for collaborative information gathering and understanding

- The wide variety of types of artwork information that museum visitors seek, use, and comment on in museum-supplied sources
- The frequently-mentioned difficulties that visitors encounter with art historical and descriptive vocabularies

The evidence for many of these elements varied by level of visitor experience with art-viewing and museum-going, here coded into the two levels of “inexperienced” visitors and “experienced” visitors when broken out in the data. The dimensions of these visitor experiences supply valuable insights into the nature of the developmental progression of increasing art-viewing and information-seeking skills that will be described in more detail in the Chapter 9 Conceptual Framework of Artwork Interpretation and Information Use.

8.6 Conclusions on Types of Information Used by Visitors: Visual, Contextual, and Interpretive

Returning to the three types of information listed in this study’s research question—visual, contextual, and interpretive—we are now able to add some dimensions to the definitions and uses of each from the empirical evidence supplied by art museum visitor studies. We will see how they are incorporated at a theoretical level into a conceptual framework of artwork interpretation and information use in Chapter 9.

8.6.1 Visual Information

Visual information was defined for this study as the perceptual characteristics of the art objects themselves, for example, characteristics of forms and depicted subject matter, and perceptual characteristics of the visual display and physical layouts of art object collections in the galleries. Further examples of these perceptual characteristics include colors, shapes, compositional elements, elements of style and creation techniques, objects or scenes in or on art objects, and degrees of visual abstraction.

From the empirical evidence we can say that visual information can be read from the actual art objects, but also from remembered or imagined objects (in the mind's eye), from comparative illustrations provided, and from the environment in which the artwork is displayed. Visual information is collected in visual comparisons, the viewing of artwork details, and overall scanning behaviors in the galleries.

8.6.2 Contextual Information

Contextual information was defined for this study as historical, cultural, and biographical information associated with art objects, that is, explanatory or “factual” information about artworks that is exterior to the objects themselves, such as creator names, creation dates, etc. These are information concepts that situate objects in time, space, and human culture, including the biography of the creator(s).

From the empirical evidence we can say that contextual information relates not only to the specific art object at hand, but also to the broader classes of objects to which the object belongs. Contextual information is also brought by the viewers themselves who understand artworks in relation to their own backgrounds and experiences. Contextual information is created by curators in specific exhibitions and displays. It is not fixed but varies according to curatorial selection and thematic emphasis and by physical juxtapositions and groupings, as in period rooms. It thus blurs into interpretive information.

8.6.3 Interpretive Information

Interpretive information was defined for this study as the meanings associated with art objects by both the museum and the visitor, that is, analytical and narrative interpretations of and affective reactions to artworks, expressed in texts or spoken words. These information concepts include symbolism and emotional and expressive or communicative elements.

From the empirical evidence we can say that visitors' own interpretations are put forth early on as personal “judgments” based initially on their own preferences and

associations. Naïve evaluations of inexperienced visitors develop into critical analytical interpretations with a more expansive consideration of museum-supplied information and a growing framework of art-viewing skills.

These three types of information are not mutually exclusive and are often used simultaneously to understand artworks. For example, information on media and techniques is primarily visual, that is, what can be seen with the naked eye. But factual information about the ingredients or technical application of the media might be considered contextual information. Though biographical information about artists is contextual information, a given artist's recognizable style is visual information. Information on art object valuation is both contextual and interpretive.

Chapter 9: Conceptual Framework of Artwork Interpretation and Information Use

9.1 Introduction and Description of the Conceptual Framework

One outcome of the meta-analysis of art museum visitor studies is the construction of a conceptual framework of artwork interpretation and information use by non-specialist art viewers. The purpose of this framework is to describe in general the information behaviors of art viewers and how they use and integrate various types of information in the process of encountering and making meaning from artworks. The framework describes the development of non-specialists from the “inexperienced” to the “experienced” levels of artwork understanding and appreciation, in effect.

The conceptual framework focuses on art-viewing and interpretation skills—and information use related to these—rather than museum-going skills (for example, learning to navigate exhibitions efficiently or read museum labels correctly). In recognition of this emphasis, the explanation following will use the term “viewers” rather than “visitors” unless referring directly to empirical findings concerning museum visitors.

The conceptual framework is structured as a three-level progression in artwork interpretation and information use, with the three steps of Description, Analysis and Identification, and Integration. The framework describes in a generalized way the experience of encountering new and unfamiliar artworks.

At the first level (Description) viewers use their own knowledge and personal memories and associations to decipher and make meaning from unfamiliar artworks. Viewers most notably respond to newly encountered artworks with verbal description of what they see and feel, based on their initial reactions. At the next level (Analysis and Identification), visitors realize the need to use closer visual examination of the artworks and to consult outside sources of contextual information to place the works in broader frameworks of chronology, geography, artistic styles, and artist biography or cultural origins (thus the need for analysis and identification of specific stories, themes, and artwork functions and the circumstances of creation). At the final level

(Integration), viewers relate their own interpretations, contextual knowledge, and judgments to others' interpretive opinions to deepen their understanding and appreciation of these works in broad human and historical contexts. Each level of the framework involves specific information-gathering behaviors and the use of specific types of information.

The framework describes both (a) how non-specialists might encounter and “decode” specific unfamiliar artworks and (b) the more generalized experience of non-specialists viewers over time as they develop, retain, and practice their art interpretation skills and use of information sources. The viewing and information-using skills described in this conceptual framework are cumulative. Viewers build on the behaviors and information types and sources used at one level and incorporate these into the next level.

In spite of the specificity of the levels, the framework is a generalization of both the experience with specific artworks and the developmental experience of viewers over time. Viewers will not necessarily pass through the whole three-level process in every new encounter with every artwork, whether unfamiliar or familiar, because previous knowledge about and experience with specific works and various types of art will vary among individual viewers. In addition, the conceptual framework stresses the shifting interplay of basic information types used by viewers. All types of art information—visual, contextual, and interpretive—are used at each level, but with varying emphasis over the levels.

9.2 Development of the Conceptual Framework

The conceptual framework presented in this dissertation grows out of the confluence of the empirical data from the art museum visitor studies, the visitor study researchers' models based on this data, and the correspondence of this data and researcher models to the theoretical model of artwork interpretation of Erwin Panofsky which underlies current library and information science (LIS)-based guidelines for subject indexing of art objects and images. The roles of the empirical data and

researcher models in the construction of the framework are explained here, while the relationship of the framework to Panofsky's model is explained in sections 9.6.1 through 9.6.3 below.

9.2.1 Empirical Data From the Meta-Analysis

The empirical data from the visitor studies pertaining to the differences in art-viewing experience are brought together in this framework to create generalized descriptive portraits of non-specialist viewers at each of the three levels of artwork interpretation and information use (see sections 9.6.1, 9.6.2, and 9.6.3 below). The evidence for each of these levels was pulled from across the empirical findings and the resulting themes of the meta-analysis to characterize each level in a synthesis (as opposed to the theme-based arrangement of the findings in Chapters 6, 7, and 8).

The data did not provide evidence for the dimensionality of "inexperience" vs. "experience" for every meta-analysis theme, but most themes were either specifically delineated by museum visitor experience levels by the original researchers (and thus specifically coded with the tags *Inexperienced visitors* or *Experienced visitors*), or differences in experience levels can be inferred from the evidence. For example, both inexperienced and experienced viewers use visual comparisons for information gathering. But inexperienced viewers like to be given comparison tasks in museum directive labels or other instructions. Otherwise inexperienced viewers do not really know where to start. More experienced viewers like these directions less and often prefer to invent their own comparison tasks. Thus, the skill of visual comparison can be seen to develop from following museum-provided examples to creating comparisons of one's own. This conclusion was inferred from the meta-analysis of empirical evidence.

9.2.2 Comparisons to Art Museum Visitor Researchers' Models

The development of the conceptual framework also involved examining and comparing models of art viewing and meaning-making put forth by the art museum

researchers represented in this selection of visitor studies. Their models are also based on the empirical evidence derived from observations and interviews with art viewers in the galleries.

Models created by four researchers in this selection of visitor studies were compared, and commonalities or overlaps of themes and levels were identified. These researchers all support the conception of art viewing and meaning-making as a progressive process, though their models vary in the number of “levels” or “stages” in this process. They include three-stage, four-stage, and five-stage models. These models are described and compared in section 9.3 below.

9.2.3 The Three-Level Framework

The basic focus of this dissertation is on non-art-specialists and their use of art information. The data used here—art museum visitor studies—focuses on general non-specialist art viewers (disregarding the possible infrequent presence of a few true museum-visiting professional “art experts” who may have participated in the studies). The data were only coded for “inexperienced” and “experienced” non-specialists, because the two-level distinction was as granular as most of the studies reported. Only the Cleveland study explicitly broke out visitor types into three levels (“Infrequent,” “Occasional,” and “Frequent” museum visitors). However, not in all of Cleveland’s sub-studies were consistently analyzed with these three types, and the mid-level “Occasional” visitor was hard to distinguish from the “Frequent” visitor.

The dissertation’s conceptual framework follows the general development of non-specialist viewers through three stages, moving from inexperience to experience. However, there is no necessary implication that the mid-level in this framework represents a specific type of viewer at a mid-level of development. The mid-level of viewer experience for the conceptual framework (Level II Analysis and Identification) is inferred, because viewers do not jump directly from inexperience to a high level of experience. The three-, four-, and five-level steps described in the art museum visitor researcher models of viewer interpretation were especially useful in filling in some of

the aspects of the transition steps from relative inexperience to relative experience. The second level describes this transition, in effect, and provides a framework for slotting in specific types of information needed and requested by the viewers in this transition. In terms of museum-supplied information and expanded explanations of art terminology, it is this mid-level that is the richest and most suggestive of what is needed for systems and resources to aid the transition from inexperience to experience (to be addressed in Chapter 10).

9.2.4 Tables of the Levels of the Conceptual Framework

Tables 9.2, 9.3, and 9.4 lay out the relationships for each level of artwork interpretation and information use of:

- Information constructed by viewers, that is, what viewers construct as subject interpretations and meanings of artworks at a given level of artwork interpretation and information use (column 1)
- Viewers' information behaviors, that is, viewers' strategies to gather, process, and communicate about artworks at that level (column 2)
- Information needed by viewers to construct subject interpretations and meanings of artworks at that level (column 3)
- The types of information used by viewers to construct subject interpretations and meanings at that level (column 4)

9.3 Models Created by Art Museum Visitor Researchers

The researchers represented in this selection of art museum visitor studies formulate a variety of models of art-viewing and interpretation behaviors based on their empirical observations of visitors. Three of the visitor studies in this meta-analysis construct models of art museum visitor behaviors (Eversmann, Leinhardt, and Abu-Shumays), and one analyzes empirical findings with a parallel theoretical approach derived from previous empirical research on art viewers (Housen). These models are cast in progressive stages of understanding and meaning-making. None is

explicitly connected with the researchers' defined levels of visitor types and expertise, however (as described in Chapter 5 Data Analysis and Coding, section 5.5). A hierarchical and progressive nature of art museum learning matched to increasing visitor experience is nevertheless suggested by their models.

Eversmann describes the process of viewing and interpretation ("visitor response" types) as being a combination of four behaviors: (a) *Description* is used by viewers in observing and naming identifiable characteristics of artworks such as form, ornament, materials, and technology. (b) *Classification* is placing an object in a group on the basis of aspects such as style or date; it includes naming the object as a whole work. (c) *Association* means "connecting objects in intangible ways to other objects, people, and personal or historical settings and events," which include references to personal memories, comments about other people associated with the object, and its original functions, in an effort to give the object context. (d) *Evaluation* produces a judgment of the art object and may involve aspects of liking or disliking the object and considering its value (monetary, ideological, personal), age, or physical condition. (See Eversmann, 146-147.)

Leinhardt described the cognitive tools used by the viewers of artworks who recounted and constructed meaning from their art museum experiences in written diaries: (a) *Description* is used to enumerate and describe the objects. (b) *Analysis* reflects the detailed inspection of the components of artworks and involves comparisons to other artworks remembered from other settings. (c) *Narrative identification* involves creating stories about the artworks usually as a result of a feature noted in the *Analysis*, but also as a result of imagining themselves as part of the story. (d) *Weaving* is the culmination of the process of meaning-making, involving all the strands of analysis, "moving from large panoramic images to very small fine-grained components as they examined a specific piece." It also involves integrating personal experiences such as previous travel experiences and readings. (See Eversmann, pp. 146-147.)

Abu-Shumays drew the stages of artwork interpretation from four components of visitor conversations: (a) *Listing* is the naming of objects (in answer to “what is it?”). (b) *Analyzing* is the description of features or qualities of an art object (in answer to “what is it like?”). (c) *Synthesizing* involves comparing the object at hand with other objects nearby or remembered (in answer to “how is this object like (or unlike) that object?”). (d) *Explaining* completes the process when the viewer is able to account for the object in a way that is coherent and makes sense to that viewer (in answer to questions such as “why is this here?” or “how does this work?”). Abu-Shumays further embeds these behaviors in an overarching Object-Based Activity Model (OBAM) which accounts for all the activities of museum visitors. *Listing*, *Analyzing*, and *Synthesizing* fall under the *Identify* rubric of the OBAM, while *Explaining* falls under the *Interpret* rubric of the OBAM. (See Abu-Shumays, pp. 54-55, 62.)

Housen used her previously developed model of aesthetic development (see Housen, 1983, 1992) to examine the behaviors of adult visitors to exhibitions at the Institute of Contemporary Art, Boston, in a study chosen here for meta-analysis. Her model was based on extensive prior empirical research and was applied in this study as a complement to demographic and attitudinal surveys of these particular visitors.

Housen is explicit about the progressive and cumulative nature of artwork interpretation skill-building in the development of viewers. In her model of aesthetic development, Stage I *Accountative* is primarily reactive. Viewers’ artwork interpretations emerge from random observations of concrete aspects of the artwork and from personal experiences and associations. In Stage II *Constructive* interpretation, viewers try to build a framework for their understanding, actively comparing the artworks to what the viewer knows of the visual and functional world, hence their interest in artwork realism to use in making these comparisons. Stage III *Classifying* involves a more considered approach to art that recognizes the usefulness of exploring and searching for the information that surrounds the artwork, in order to better understand it. Stages IV *Interpretive* and V *Creative reconstructive* are

essentially synthetic, where the viewer employs all the earlier response types (personal, comparative, and informational) into a satisfying understanding of the artwork. In these latter stages, viewers understand that the interpretation of art is open-ended, and they become aware of their own interpretations in comparison to others' interpretations. (See Housen, p. 43.)

In their descriptions of art museum behaviors, these researchers provide relatively little speculation on what types of information resources are appropriate for these stages of viewing and interpretation or matched to any of these skills in general. These researchers did not create explicit models involving the types of information specified in the research question of this dissertation, that is, visual, contextual, and interpretive. So the connections among levels of viewer experience and art expertise, information behaviors, and appropriate types of information by level must be inferred from their models in conjunction with the empirical evidence they provide about differences in visitor experience levels. These connections will be made in the construction of the conceptual framework of artwork interpretation and information use in section 9.6 below.

We will first revisit Panofsky's model of artwork interpretation in order to compare the researcher models, derived from evidence in the field, with his theoretical model which underlies LIS-based artwork subject analysis and indexing.

9.4 Panofsky and Artwork Interpretation

One goal of the meta-analysis of these researcher models and the empirical results on which they are based is to compare them to the model of artwork interpretation which currently underlies the accepted practice of art object and image subject indexing for information systems, most notably in the Getty *Categories for the Description of Works of Art* (CDWA). This indexing model was adapted by LIS theorists from the iconographic theory of art historian Erwin Panofsky. One goal here is to see if Panofsky's original model of artwork interpretation corresponds to the

observed process of describing, analyzing, and interpreting art, especially among non-art-specialists, as reported in museum visitor studies.

Panofsky's analytic approach to artwork interpretation and its adaptation in the CDWA are detailed in Chapter 3, section 3.2.3, above. To summarize briefly here, Panofsky's goal is to outline the process and method of iconography, "that brand of the history of art which concerns itself with the subject matter or meaning of works of art, as opposed to their form" (Panofsky, 1955, p. 26). He distinguishes three levels of both the subject matter of artworks and the corresponding levels of activities and information employed by viewers to determine these subjects (see Tables 9.2, 9.3, and 9.4 for the elements of each of his levels; Panofsky's exact terms are hereafter indicated in italics).

Panofsky lays out the *objects of interpretation* (that is, the information to be "read" or constructed by the viewer, rather than inherent in the artwork), the *act of interpretation* (the progressive application of description, analysis, and interpretation to construct the meaning of artworks), and the *equipment for interpretation*, that is, the types of knowledge required for interpretation at each stage (everyday knowledge, knowledge of literary and historical sources for artwork themes, and a broader knowledge of the cultural use of symbols).

As adapted by LIS researchers Karen Markey (1983, 1986) and Sara Shatford Layne (Shatford, 1986) to provide a theoretical underpinning for the subject indexing of images, Panofsky's model of interpretation has gained wide acceptance as a method to analyze all kinds of images beyond artwork images. Its incorporation into the CDWA guidelines for subject analysis of artworks brings it "home" to its original application to art, and thus it is appropriate to explore here whether actual artwork viewers (as opposed to indexers) proceed in the process of analysis as he describes.

It is important to point out that Panofsky does not frame his model as a description of the actual activities of art viewers, however. He frames it as a theoretical progression. Nor does Panofsky explicitly refer to levels of art expertise or viewer characteristics in his process of artwork interpretation. He refers to art

historians specifically only in the skilled synthesis processes and broad knowledge required to decipher and interpret unfamiliar works at his highest level of interpretation, Level III. Panofsky's model is object-centered, not viewer-centered, though he does frame his system according to what the viewer has to know and use to progress in interpretation.

Panofsky's model specifies only the general types of information that are needed at each stage of artwork interpretation (his *Equipment for interpretation*). However, in providing *corrective principles* for interpretation at each of his levels, Panofsky does introduce specific types of information which must be used to make sure interpretation is "correct" for that level. (These principles are not accounted for in the tables here for the sake of simplicity.) For Level I the principle specifies knowledge of the *history of style* as necessary to make a correct interpretation. For Level II the principle specifies knowledge of the *history of forms* as necessary. For Level III the principle specifies knowledge of the *history of tradition* as necessary. Each of these will be explained further in their respective levels below.

The types of information cited in this dissertation's research question—visual, contextual, and interpretive—loosely parallel Panofsky's general types of information at each of his levels. Requirements for more specific types of supplied information necessary to interpret artworks at various points can be inferred from the evidence of behaviors and information preferences revealed by the empirical research on visitors. The premise of the current study is that if the behaviors described by the museum researchers bear out Panofsky's necessary order of description, analysis, and interpretation, particularly in the development of art viewing from "inexperienced" to "experienced," then the predominant types of information associated with these empirically-described behaviors can further illuminate and extend Panofsky's model. In section 9.6 below, the conceptual framework of artwork interpretation and information use will explicitly link behaviors and needed information types.

9.5 Correspondence Between Art Museum Visitor Researcher Models and Panofsky's Model

Table 9.1 below displays the correspondence of the models and stages of behaviors reported by four art museum researchers to the three levels of Panofsky's model of behavior in artwork interpretation, that is, his successive steps of *Pre-iconographic description*, *Iconographical analysis*, and *Iconological interpretation*.

Thus, these researchers collectively group behaviors, derived from their empirical research, in ways that support Panofsky's progressive model. Panofsky's *Pre-iconographical description* matches the activities described by these researchers of describing, listing, enumerating, and naming objects and their parts, but in a relatively unorganized and self-centered fashion, with a focus on concretely observed characteristics of the objects and the use of personal reactions and associations. Panofsky's *Iconographical analysis* matches the activities described by these researchers of classifying and contextualizing artworks by comparing them to remembered (or nearby) art objects along dimensions such as styles, dates, and original and historical settings and functions. Panofsky's *Iconological interpretation* matches the activities described by these researchers of judging, evaluating, explaining, and synthesizing many strands of visual, personal, comparative, and contextual information in order to create personally understandable and satisfying interpretations of artworks.

There is no indication in the explanations of theoretical backgrounds put forth by these visitor study researchers for their study design or conclusions that they might have drawn on Panofsky's theory themselves. These researchers either use or explore the applicability of several theories of interpretation, for example, the literacy model of viewers "reading" artworks like texts (Eversmann) and constructivist models of interpretation, particularly collaborative and conversation-based (Abu-Shumays, Stainton). Other studies reference, but do not explore, learning and perception theories, for example, the Mihaly Csikszentmihalyi's work on the aesthetic experience (Getty, pp. 57-61, 123-131) and Howard Gardner's art education work at Project Zero,

Harvard University (Cleveland, p. xii). No study here cites Panofsky or, interestingly, any other theory based strictly in art history or criticism.

Table 9.1 Processes of art interpretation: Comparison of selected art museum visitor study models of information behaviors and Panofsky's levels of artwork interpretation

	Panofsky: <i>Pre-iconographical description</i>	Panofsky: <i>Iconographical analysis</i>	Panofsky: <i>Iconological interpretation</i>
Eversmann	<i>Description</i>	<i>Classification Association</i>	<i>Evaluation</i>
Leinhardt	<i>Description</i>	<i>Analysis Narrative identification</i>	<i>Weaving</i>
Abu-Shumays	<i>Listing</i> (subcategory of Object-Based Activity Model <i>Identify</i>)	<i>Analyzing</i> (subcategories of Object-Based Activity Model <i>Identify</i>)	<i>Explaining</i> (subcategory of Object-Based Activity Model <i>Interpret</i>)
Housen	Stage I: <i>Accountative</i> Stage II: <i>Constructive</i>	Stage III: <i>Classifying</i>	Stage IV: <i>Interpretive</i> Stage V: <i>Creative reconstructive</i>

9.6 Conceptual Framework of Artwork Interpretation and Information Use

The conceptual framework presented here is structured around three levels or stages of artwork interpretation and information use: Description, Analysis and Identification, and Integration. The three levels of this framework are laid out in Tables 9.2, 9.3, and 9.4, respectively. In each table, the columns are arranged and defined as follows:

Column 1. Information constructed by viewers: what viewers' construct as subject interpretations and meanings of artworks based on their current levels of knowledge and experience of art.

Column 2. Information behaviors: viewers' strategies to gather, process, and communicate information about artworks.

Column 3. Information needed by viewers: to construct subject interpretation and meaning.

Column 4. Types of information: used by viewers to construct subject interpretation and meaning.

For convenience, the definitions for the three types of information referred to in this study's research question are repeated here from Chapter 5: Data Analysis and Coding, section 5.2.1:

Visual information: perceptual characteristics of the art objects themselves, for example, characteristics of forms and depicted subject matter, and perceptual characteristics of the visual display and physical layouts of art object collections in the galleries. Further examples of these perceptual characteristics include colors, shapes, compositional elements, elements of style and creation techniques, objects or scenes in or on art objects, and degrees of visual abstraction.

Contextual information: historical, cultural, and biographical information associated with art objects, that is, explanatory or "factual" information about artworks that is exterior to the objects themselves, such as creator names, creation dates, etc. These are information concepts that situate objects in time, space, and human culture, including the biography of the creator(s).

Interpretive information: meanings associated with art objects by both the museum and the visitor, that is, analytical and narrative interpretation of and affective reactions to artworks, expressed in texts or spoken words. These information concepts include symbolism and emotional and expressive or communicative elements.

9.6.1 Level I: Description

See Table 9.2 at the end of this section.

1. Information constructed by viewers

- Evidence from art museum visitor studies: expressed as descriptions of generic elements (depicted people, places, things, events, emotions), stories the viewers tell, snap judgments they make, simple explanations of artwork functions and media/creation processes.
- Corresponds to Panofsky's *primary or natural subject matter*

2. Information behaviors

- Evidence from art museum visitor studies: specific behaviors of analyzing visual forms (looking), remembering, associating, reacting with emotions, storytelling, narrating, judging, comparing.
- Corresponds to Panofsky's *pre-iconographical description*

3. Information needed by viewers

- Evidence from art museum visitor studies: depicted forms in the artwork itself; personal memories, knowledge, associations, emotions, and values; comparisons to a personally known "reality."
- Corresponds to Panofsky's *practical experience*

4. Types of information

- Visual; interpretive; contextual only toward the transition to Level II Analysis and Identification

Level I Description matches researcher models

Eversmann: *Description*

Leinhardt: *Description*

Abu-Shumay: *Listing*

Housen: Stage I *Accountative* and Stage II *Constructive*

Explanation of Panofsky's terms

Primary or natural subject matter is that which is apprehended by identifying visual forms of *objects* from the perceptual world represented in artworks, for

example, humans, animals, plants, and manmade objects, as well as their relationships and interactions (*events*), and the simple *expressional* qualities that represent moods or feelings expressed by the depicted participants or the whole scene. He calls all of these elements artistic *motifs*.

Pre-iconographical description is simple description of what one sees in an artwork.

Practical experience means familiarity with *objects* and *events* from everyday life.

Evidence from art museum visitor studies

The empirical evidence provided by art museum visitor studies analyzed here describes infrequent visitors as beginning with a “reactive stance” (McDermott-Lewis, pp. 11-12) which marks the start of the process of artwork interpretation. Starting with weak art-viewing skills and not knowing exactly what to look for, viewers zero in on obvious and concrete features of artworks, notably their subject matter of depicted stories, characters, events, and locations, those parts of the artworks that are most accessible based on everyday visual experience. Inexperienced viewers prefer realistic works, that is, with easily recognizable and describable forms, over more abstract works. Their first impulse is to describe and list the elements of what they see.

When they express anything about the formal qualities of artworks, they begin by noting the colors. But because they lack a large vocabulary of art terms and concepts and have an undeveloped sense of critical analysis, they have trouble discussing other formal features such as compositions and qualities of space and light except in simple terms. When they do comment on the visual aspects of artworks, they express admiration for detailed, intricate, or painstaking workmanship as one of the most important marks of quality.

Because they lack a broader knowledge of art, inexperienced viewers rely less on their own emotions, memories, associations, and values in assessing works, compared to more experienced viewers. They use “gut reactions” and often give artworks personal and idiosyncratic interpretations. They attempt to make meaning from the works by imagining stories about the depicted elements and by imagining

themselves in the world of the artwork. They are suspicious of applying what they understand of more analytical skills, to them a colder, more intellectual approach associated with experts and which seems to them to interfere with emotional responses.

Interpretation for inexperienced viewers comes in the form of quick judgments about artworks, based on their personal reactions, for example, to the colors or how good or bad a work makes them feel, rather than based in critical analysis using supplied contextual information. They find it hard to explain their judgments very deeply, however, because they lack an analytical vocabulary. They are interested in what makes a “masterpiece” in the judgment of experts (and want these marked as highlights of museum collections). But they do not want the judgments of experts interfering with their own reactions and enjoyment.

From these naïve encounters with artworks viewers quickly begin to seek out information that makes sense to them. For many inexperienced viewers this means requesting brief synopses of artwork subjects and functions. For works of decorative art or the arts of less familiar ethnic or historic (especially ancient) cultures, viewers notice and seek to define the practical functions and everyday or ceremonial use of the objects.

Inexperienced viewers seek to gain art vocabulary which they admit they lack. They practice text echo by reading out object labels (when viewing with others, which is their preferred mode) and prefer a warm and descriptive writing style and accessible terminology in museum information sources. Viewers begin to pick up and use vocabulary from labels and museum tours. They become interested in simple comparison and look-for activities that museum materials suggest they try and thus start to move into more serious comparisons among actual objects and their properties and away from their previous comparisons to things they simply remembered or imagined. They express appreciation for groupings of objects, as in period rooms, to help them begin to make these comparisons and to help them start to put objects into contexts. They express a desire for more information on creation techniques and

processes and for more information on artwork styles, both perhaps in their adjustment to more abstract and stylized works, away from their initial preference for more realistic works.

The Description phase culminates with a growing awareness of other comparisons to be made beyond their own experiences. Thus viewers begin to refer to contextual information provided by the museum in the form of subject synopses and information on media and techniques and the original functions of objects.

Types of information used by viewers

The types of information used by viewers to construct subject interpretation and meaning at the Description level are initially visual (from the visual forms they see in the artworks). Viewers themselves produce interpretive information in the form of quick judgments based primarily on their own emotional reactions and what they like or dislike about a work. After initial reactions, viewers begin to call for contextual information on artwork functions and media or creation processes.

Panofsky's corrective principle

Panofsky's corrective principle to be applied to interpretation at the Level I Description stage (corresponding to his *Pre-iconographical description*) is a knowledge of the *history of style*. He describes this as "insight into the manner in which, under varying historical conditions, objects and events were expressed by forms" (Panofsky, 1955, p. 41). By this he means how depicted objects and events in artworks are pictured in artistic styles which may range from realistic to abstract, depending on the era and the location. His instruction to be familiar with styles is to ensure "correct" identifications of depicted elements which may vary stylistically depending on the era and location of the artwork's creation. Inexperienced viewers value realism in the style of artworks to give them recognizable "anchors" to which they attach meaning (relating to their personally known "reality"). As their knowledge of the history and variety of visual styles grows in this first level, their range of

comfort expands and leads them into Level II, where they actively seek out and study different visual styles and effects.

Information resources appropriate for Level I Description

Basic identification information and brief explanations of artwork stories, subjects, and significance meet inexperienced viewers' desire for initial orientation. Prose overviews parallel their own narrative, storytelling responses. They give viewers frameworks to extend and deepen (or challenge) their initial interpretations. Identifying unfamiliar depicted things or the functions of unfamiliar objects like ceremonial artworks is also needed. Simple definitions of unfamiliar art historical terms begin to supply the descriptive vocabulary that viewers at this level lack.

Interestingly, Panofsky himself suggests that at this level of interpretation one must consult outside sources of information: "It is, of course, possible that in a given case the range of our personal experience is not wide enough, for instance when we find ourselves confronted with the representation of an obsolete or unfamiliar tool, or with the representation of a plant or animal unknown to us. In such cases we have to widen the range of our practical experience by consulting a book or an expert, but we do not leave the sphere of practical experience as such" (Panofsky, 1955, p. 33).

To these should then be added information on media and creation processes, artwork functions, and basic style and formal concepts (one envisions a tutorial on "realism" and "abstraction" in representation styles). This is the time to introduce basic visual comparisons for viewers to make on their own with nearby artworks or reproductions of other artworks, as their preference for directive object labels—rather than information-heavy labels—suggests.

Table 9.2. Conceptual framework of artwork interpretation and information use -- Level I Description

Information constructed by viewers: what viewers construct as subject interpretations and meanings of artworks	Information behaviors: viewers' strategies to gather, process, and communicate about artworks	Information needed by viewers to construct subject interpretations and meanings of artworks	Types of information used by viewers to construct subject interpretations and meanings
Generic elements (people, things, places, events)	Analyzing visual forms (looking), listing, describing	Visual forms (in the artwork)	Visual
	Remembering, associating	Personal memories, knowledge, and associations; emotions; values	Interpretive
	Emotional reactions	Personal memories, knowledge, and associations; emotions; values	Interpretive
Stories or narratives	Storytelling, narrating	Personal memories, knowledge, and associations; emotions; values	Interpretive
Judgments based on what is "liked" or "not liked"	Judging	Personal memories, knowledge, and associations; emotions; values	Interpretive
Functions of artworks	Analyzing visual forms (looking), comparing	Comparisons to personally known "reality"	Visual-Contextual
Media or creation processes	Analyzing visual forms (looking), comparing	Comparisons to personally known "reality"	Visual-Contextual
<i>Corresponds to Panofsky/Level I Object of interpretation: Primary or natural subject matter</i>	<i>Corresponds to Panofsky/Level I Act of interpretation: Pre-iconographical description</i>	<i>Corresponds to Panofsky/Level I Equipment for interpretation: Practical experience</i>	

9.6.2 Level II: Analysis and Identification

See Table 9.3 at the end of this section.

1. Information constructed by viewers

- Evidence from art museum visitor studies: expressed as specific and/or named elements (depicted people, places, things, events)
- Corresponds to Panofsky's *secondary or conventional subject matter*

2. Information behaviors

- Evidence from art museum visitor studies: specific behaviors of identifying and naming, analyzing visual forms (looking)
- Corresponds to Panofsky's *iconographical analysis*

3. Information needed by viewers

- Evidence from art museum visitor studies: historical information (including stories from history, literature, and myth), artist information, and information relating to other people associated with the artwork
- Corresponds to Panofsky's *knowledge of literary sources*

4. Types of information

- Contextual, visual, interpretive (for artist intentions)

Level II Description matches researcher models

Eversmann : *Classification, Association*

Leinhardt: *Analysis, Narrative identification*

Abu-Shumays: *Analyzing, Synthesizing*

Housen: *Stage III Classifying*

Explanation of Panofsky's terms

Secondary or conventional subject matter is that which constitutes “the world of images, stories, and allegories” and those “customs and cultural traditions peculiar to a certain civilization” (Panofsky, 1955, pp. 4, 40).

Iconographical analysis is the process of analysis of depicted elements and the identification of specific or named stories and themes.

Knowledge of literary sources is defined as a familiarity with these specific *themes* and *concepts* in a variety of sources within a culture, be they religious or secular, literary, historical, or popular, written or oral.

Evidence from art museum visitor studies

Only the Cleveland study in this selection of art museum visitor studies breaks out empirical evidence concerning visitor opinions and behaviors by a “middle” range of Occasional visitors, between the Infrequent and Frequent visitors (but not in all of their separate studies; see Cleveland, pp. 9-11). Since Occasional visitors are defined for these researchers as visitors attending the museum from two to 12 times a year and as relatively experienced in art viewing, it is difficult to distinguish them from Frequent visitors. However, the Cleveland study does find that even within this group there is variation. For example, less knowledgeable Occasional visitors refer more often to emotional effects and subject matter, while more knowledgeable Occasional visitors mention artworks by title and artist name (Cleveland, p. 10). That is, the shift from initial art-viewing patterns in the Level I Description (emotional reactions and interest in basic subject matter) to a more practiced pattern showing familiarity with specific works and artists in Level II Analysis and Identification is evident even here. The Cleveland study also characterizes Occasional visitors as more interested in exploring museum information on their own and beginning to ask their own questions, that is, they are less dependent on museum-supplied activities and basic information and more independent and selective consumers of museum information (Cleveland, pp. 10-11), likewise an indication of transition.

Level II Analysis and Identification represents a transition to using outside information to supplement what viewers gather at a more concrete and personal level in Level I Description. Analysis and Identification are aided by the supply of contextual information at a new level of depth and precision. Towards the end of Level I Description viewers begin to suppress their own initial and very personal reactions in favor of increased comparisons to outside information and a new

realization that this information helps them “place” artworks in time and location and within the larger body of an artist’s or group’s body of works.

The designation of Level II as Analysis *and* Identification signifies a combination of activities in which artworks are more carefully analyzed for visual elements which might indicate depictions of specific identifiable and named stories, episodes from stories, individuals, places, events, etc. Thus it involves visual analysis, identification, and assigning conventional names. These three activities—and indeed the levels at which they are carried out—inevitably overlap. What might be “ordinary” and “everyday” objects or themes in one culture (identified visually and simply described at Level I) might be considered specialized and conventionally named objects or themes in another culture (identified from contextual information and named at Level II). For example, *vedute ideate* are idealized landscapes in 17th and 18th-century European art. The term is purely descriptive in the original Italian (a Level I idea), but has become a “thematic” type name in art history terminology (a Level II name). (Layne also points out that the differences between “generic” and “specific” are not always clear and are better represented by a continuum rather than a dichotomy (Layne, 2002, p. 2). This engenders further discussion of what is meant by “naming,” which we will not address here.)

Corresponding to this Analysis and Identification level, Housen terms the middle stage of her parallel aesthetic development model as the Classifying stage (Housen, p. 43). In order to classify objects, viewers need to identify and name specific artwork elements, whether in depicted stories or implied in the contextual stories of non-pictorial works such as decorative art. Fresh information is sought on the circumstances of an artwork’s creation time and place and on explanations of the artwork’s style within this framework. Artist information, including explanations of how this particular work fits into the larger oeuvre of its creator or output of its culture, and the skills and techniques used to produce it, become important to viewers. This level ends with increasing curiosity about how others have related to particular

artworks, for example, the taste and motives of their original owners or the critical evaluations of museum curators.

Panofsky's representation of the information needed by viewers at this stage seems curiously limited to contemporary readers in its restriction to "knowledge of literary sources." He meant "literary" in a very broad sense of stories and accounts of events and literary or mythological characters or historical figures to be found in text sources. In the conceptual framework of this study, information sources are expanded to include texts which relate a broader range of contextual information surrounding artworks and their creators in addition to the sources of stories the artworks might tell. As described in Chapter 7, section 7.4.2, contextual art information includes a broad range of information relating to artworks' creators, media, functions, and valuation.

At this level the need for clarification of art terms and concepts becomes acute, both in identifying stylistic concepts and names and in mastering foreign terminology, place names, artist names, eras in time, and specific technique terms. Level I Description viewers show both a lack of awareness of and an inability to describe formal elements such as compositions and instead fall back on simpler conventional wording in descriptions. Level II Analysis and Identification requires vocabularies of more complexity and specificity to enable viewers to analyze and communicate better.

Types of information used

Thus, the predominant type of useful information at the Analysis and Identification level is contextual to the artworks, though viewers still employ much visual exploration in order to compare artist skills and techniques and historic or geographic styles. Indeed, there is now a more concentrated focus to *how* artists use formal and visual effects to communicate their messages in order for the viewers to "decode" the messages the artists intended. Level II viewers also begin to explore others' interpretive information, including a stronger recognition of and curiosity about artists' intentions, whether these are represented via artists' own words or the interpretations of experts. This foreshadows the stronger inclination to creating and

being responsible for one's own informed analytical interpretations in Level III Integration.

Level II Analysis and Identification is still object-centered in that viewers, as reported in the museum visitor studies, prefer information that is related to the artworks they are currently viewing. They are nevertheless building a bank of "classified" artwork knowledge (and mental images) at this level that they will draw on in the next level of interpretation. This is a transition level in which viewers develop a growing awareness of broader visual, cultural, historical, and artist biographical frameworks which they will use in the synthesis activity of Level III Integration.

Panofsky's corrective principle

Panofsky's corrective principle to be applied to interpretation at Level II Analysis and Identification (corresponding to his *Iconographical analysis*) is a knowledge of the *history of types*. He describes this as "insight into the manner in which, under varying historical conditions, specific *themes* and *concepts* were expressed by *objects* and *events*" (Panofsky, 1955, p. 41). By this he means how ideas are embodied or envisioned in conventional ways by specific artists or groups in specific times and places. As viewers explore more extensive contexts of artworks as they do in Level II, they encounter and then remember patterns and conventions of specific visual types in given cultures to which they can later compare newly encountered works.

Information resources appropriate for Level II Analysis and Identification

The expansion of interest in contextual information at this level should lead viewers into querying other sources of information beyond just reading the museum object labels in their efforts to identify, name, and classify artwork elements and attributes. Also, an expansion of interest in comparing artworks with other artworks implies searching for comparable works, whether in the museum itself or in other print

or online resources. Since viewers are now comparing styles, artists, and artworks, the expectation is that they will start to search for comparative information and images using the concepts and vocabularies they are learning, including biographical, stylistic, chronological, and geographic concepts and terms.

Among the art museum visitor researchers in this selected group of studies, Housen is the only researcher to conclude on what types of information might be appropriate to the particular group of visitors she studied. Since she found that the visitors to the Institute of Contemporary Art were largely transitioning from her Stage II *Constructive* to Stage IV *Interpretive* (thus at about Level II here), she suggested that the museum provide initial overviews, in the form of exhibition orientation materials, to visitors of each exhibit in the context of modern art as a whole. Thus, Housen also suggests that contextual information is key to enabling the transition from simpler to more integrative interpretations.

Table 9.3 Conceptual framework of artwork interpretation and information use – Level II Analysis and Identification

Information constructed by viewers: what viewers construct as subject interpretations and meanings of artworks	Information behaviors: viewers' strategies to gather, process, and communicate about artworks	Information needed by viewers to construct subject interpretations and meanings of artworks	Types of information used by viewers to construct subject interpretations and meanings
Specific (named) elements (people, things, places, events)	Identifying, naming	Historical information	Primarily contextual
	Identifying, naming	Time or era	Contextual
	Identifying, naming	Place or location	Contextual
	Identifying, naming	Visual or historic style	Visual-Contextual
	Identifying, naming	Artist information	Primarily contextual
	Identifying, naming	Biographical	Contextual
	Identifying, naming	Relations to artist oeuvre	Contextual
	Identifying, naming	Skills or techniques	Visual-Contextual
	Identifying, naming	Artist intentions in artwork	Contextual-Interpretive
	Identifying, naming	Information relating to other people associated with artwork (original collectors, former owners, original users, museum curators)	Contextual
Formal or visual elements	Analyzing visual forms (looking)	Formal elements (colors, shapes, textures, composition, etc.) and depicted elements in the artwork	Visual
<i>Corresponds to Panofsky Level II</i> <i>Object of interpretation:</i> <i>Secondary or conventional subject matter</i>	<i>Corresponds to Panofsky Level II</i> <i>Act of interpretation:</i> <i>Iconographical analysis</i>	<i>Corresponds to Panofsky Level II</i> <i>Equipment for interpretation:</i> <i>Knowledge of literary sources</i>	

9.6.3 Level III: Integration

See Table 9.4 at the end of this section.

1. Information constructed by viewers

- Evidence from art museum visitor studies: expressed as interpretations of symbols and meanings
- Corresponds to Panofsky's *intrinsic meaning or content*

2. Information behaviors

- Evidence from art museum visitor studies: specific behaviors of analyzing visual forms (looking), identifying, and interpreting
- Corresponds to Panofsky's *iconological interpretation*

3. Information needed by viewers

- Evidence from art museum visitor studies: interpretations, perspectives, and opinions of others
- Corresponds to Panofsky's *synthetic intuition*

4. Types of information

- Visual, contextual, and interpretive

Level III Integration matches researcher models

Eversmann: *Evaluation*

Leinhardt: *Weaving*

Abu-Shumays: *Explaining*

Housen: Stage IV *Interpretive* and Stage V *Creative reconstructive*

Explanation of Panofsky's terms

Intrinsic meaning or content is a deeper level of meaning articulated through a synthesis of the knowledge gained from the first two levels with a broader understanding of humans' use of symbolical values in general.

Iconological interpretation is the process of synthesis.

Synthetic intuition is defined as “familiarity with the essential tendencies of the human mind, conditioned by personal psychology and ‘Weltanschauung’ [a culturally shared world view in a given time and place]” (Panofsky, 1955, p. 41).

Evidence from art museum visitor studies

The behaviors and needs of experienced art viewers revealed in the empirical evidence from these visitor studies illustrate many aspects of the highest level of interpretation of artworks. Even though we assume that most of the museum visitors who were studied here are not specialists in art, they mimic professional art critics and historians in the development of their skills. They do this through frequent museum visits which provide them with a memory bank of artworks and art information and through a willingness to pursue their questions using additional information resources in museum, public, and presumably personal libraries and online sources.

Experienced viewers have practiced meaning-making extensively and know that it requires the integration of all types of information: visual, contextual, and interpretive. Hence, the name and overall character of this level is Integration. While viewers still engage emotionally with artworks—often deeply—they recognize the necessary balance between emotional and purely aesthetic reactions and the interplay of these with rational analysis and the use of contextual information. They recognize that their judgments and those of other viewers depend on diverse criteria and that likes and dislikes can vary among viewers and even from time to time in themselves. They can explain their own judgments in more precise and sophisticated words than inexperienced viewers, and their judgments are more nuanced and less linked to personal reactions and preferences.

They have the skills, confidence, and curiosity to approach unfamiliar art with an open mind. They can appreciate the significance of or evident artistic skill in artworks they do not like. In fact, they welcome novelty, the unexpected, puzzles, and

new discoveries in ways which might make them uncomfortable, unlike inexperienced viewers who seek more accessible and enjoyable artworks.

Because they have acquired a sufficient terminology of art appreciation, they verbalize naturally and even in shorthand language about visual elements such as shapes and textures, how artists employ formal techniques and handle the media, and stylistic differences. They do not necessarily equate great artistic skill with intricate craftsmanship alone. While they still desire explanations of unfamiliar terms in museum materials, they prefer more straightforward and direct information in object labels, for example. They do not need or desire the engaging warmth of more descriptive language in labels that inexperienced viewers find helpful. They exhibit less label-prompted talk than do inexperienced viewers; they take what they find and create their own talk.

Experienced viewers make heavy use of visual comparison to nearby works or their bank of remembered works. They create their own paths of interest and their own “tasks” as challenges to themselves to derive further and different meanings from artworks. They tend to move around and interact physically with artworks and are more concerned with unfettered visual access to artworks in the galleries than are inexperienced visitors.

They appreciate deeper contextual information, for example, supplementary information provided in gallery brochures. They value placing artworks in their historical and cultural contexts and wonder about why subjects or themes were prevalent in certain eras and locations.

Not only do experienced viewers place artworks in cultural and historical contexts, they consider whole exhibits as contexts, expressing awareness of thematic layouts and organization. They have the ability to compare this exhibit or museum to other exhibits and museums they have visited. Thus, they express an even wider knowledge of the art world as a whole and of the various possible frameworks and interpretations that artworks can be given.

Types of information used

It is this ability of experienced viewers to see artworks on multiple levels and from different perspectives (Cleveland, p. 13) that defines their “synthetic intuition,” as Panofsky describes their skill in creating complex interpretations. While viewers at this level integrate a mix of information types in their interpretation, they require most of all information on others’ interpretations, perspectives, and opinions of the human cultural use of symbols and their meanings expressed as visual art forms, against which to compare their own.

Panofsky’s corrective principle

Panofsky’s corrective principle to be applied to interpretation at Level III Integration (corresponding to his *Iconological interpretation*) is a knowledge of the *history of cultural symptoms or symbols*, that is, a broader knowledge of how symbolic representations are used in human cultures in general. In speaking of art historians—thus representing the highest application of this kind of inquiry—Panofsky says that in order to explore the “intrinsic” meanings of artworks exhaustively, one must examine many “documents bearing witness to the political, poetical, religious, philosophical, and social tendencies of the personality, period, or country under investigation” (Panofsky, 1955, p. 39).

Information resources appropriate for Level III Integration

Since viewers at this level synthesize visual, contextual, and the interpretive information of others into their own interpretations, they require a broad range of information resources. At this point many sources of contextual information become useful to construct meanings. Panofsky himself says that it is impossible for a single source to capture all the relevant information for an artwork: “When we wish to get hold of those basic principles which underlie the choice and presentation of motifs, as well as the production and interpretation of images, stories, and allegories, and which

give meaning even to the formal arrangements and technical procedures employed, we cannot hope to find an individual text which would fit those basic principles as John 13:21 ff fits the iconography of the Last Supper” (Panofsky, 1955, p. 38).

Essential for non-specialists is access to a selection of the varying critical responses of others, especially professionals and experts. We would also expect the heavy use of reference sources, for example, symbol dictionaries, and text sources on deeper interpretations of symbols and symbol systems within human culture and history.

Experienced non-specialists create their own comparisons and tasks to follow as part of the enjoyment and challenge of viewing art. This parallels what curatorial and academic art historians do, of course, since it forms the basis of their personal, but informed, ability to discern useful and interesting paths and connections among artworks. Given the new vehicles for assembling and annotating their own collections in online mode, experienced non-specialist viewers should be able to represent and describe their own paths and comparisons in ways and with terminologies that approach what art specialists might use. Appropriate tools for this might include dedicated image collection and documentation software and more specialized classification systems and vocabulary resources.

Table 9.4. Conceptual framework of artwork interpretation and information use – Level III Integration

Information constructed by viewers: what viewers construct as subject interpretations and meanings of artworks	Information behaviors: viewers' strategies to gather, process, and communicate about artworks	Information needed by viewers to construct subject interpretations and meanings of artworks	Types of information used by viewers to construct subject interpretations and meanings
Interpretation of visual symbols in artworks	Analyzing visual forms (looking), identifying, interpreting	Interpretations, perspectives, and opinions of others	Visual, contextual, interpretive
Interpretation of broader meanings in artworks	Analyzing visual forms (looking), identifying, interpreting	Interpretations, perspectives, and opinions of others	Visual, contextual, interpretive
<i>Corresponds to Panofsky Level III</i> <i>Object of interpretation:</i> <i>Intrinsic meaning or content</i>	<i>Corresponds to Panofsky Level III</i> <i>Act of interpretation:</i> <i>Iconological interpretation</i>	<i>Corresponds to Panofsky Level III</i> <i>Equipment for interpretation:</i> <i>Own psychology and history of cultural symbols/forms</i>	

9.7 Conclusions on the Conceptual Framework

This chapter ties together the results of the meta-analysis of the selected art museum visitor studies: the empirical evidence they provide of art viewer information behaviors and use, and the resulting conceptual models of behaviors created by these researchers. Both of these are compared to Panofsky's model of artwork interpretation which underlies current standard image indexing theory and guidelines. The comparisons fill out the conceptual framework created here that includes:

- information constructed by viewers (observations, judgments, stories, subject interpretations)
- information behaviors used by viewers (physical, emotional, cognitive)
- specific information needed by viewers (personal, contextual, interpretive)
- general information types used by viewers (visual, contextual, interpretive)

The three basic types of information specified in this study's research question—visual, contextual, and interpretive—are used at all stages of viewer interactions with artworks, but the proportions, emphasis, and depth of their use change over time. Viewers use all three in ways appropriate to their knowledge levels. For example, snap judgment is a primitive form of interpretation based on visual information and spontaneous emotional reactions and on “internal” rather than “external” contextual information. As comparative skills grow and viewers seek to place artworks in time, location, and culture, more attention is paid to outside contextual information, including visual comparisons to other artworks. Viewers become more aware of a variety of contexts and the variety of interpretations of others. In the end viewers consciously recognize the necessity of integrating all three types of information.

These levels of Description, Analysis and Identification, and Integration suggest general types of information tools and resources appropriate to non-specialists. “Conversation” and visual comparison tools aid Level I Description and Level II Analysis and Identification. Resources increasingly sought at Levels II and III for contextual information need to be of an appropriate depth and complexity for non-

specialists, and particular attention needs to be paid to defining and explaining art, historical, and foreign vocabularies terms.

This chapter uses the empirical findings and researcher models from the meta-analysis of these visitor studies to fill out and make more concrete art object interpretation theory. What the conceptual framework contributes to this theory is a confirmation that Panofsky's model corresponds to actual viewer behavior and experiences. As important, the development of the conceptual framework aids the identification and categorization of the specific details of empirically recorded viewer information behaviors and use that illuminate and deepen the original Panofskian model. In the development of the framework, information types and resources appropriate for viewers to achieve increasingly complex art interpretation and meaning-making at each of these levels were inferred from the empirical data describing the differences among visitor experience and expertise. These inferences can both inform, at a general level, knowledge organization choices in art information systems and suggest paths of further research, to be discussed in Chapter 10.

Chapter 10: Implications of the Meta-Analysis of Art Museum Visitor Studies and Conclusion

10.1 Introduction

A variety of implications emerge from in this study: for meta-analysis and art museum visitor studies as a research focus, for art museum information systems and resources design, and for further research.

The first set of implications have to do with the research approach taken in this study, a meta-analysis of visitor studies in physical art museums. This focus and research method present a unique view of art viewers and information seekers. The overall usefulness and limitations of this focus and research method are discussed in section 10.2.

The most important set of implications have to do with the research and design of art museum information systems. The purpose of the meta-analysis in the current study is to explore the information behaviors and use of non-specialist art viewers in order to contribute to the improvement of these systems for general audiences. One goal of the research on in-house museum visitors is to provide concepts and models of information use that can then be compared to those being newly generated by the growing body of research on virtual art museum visitors and users of online art images and information, as well as information and images provided in the galleries in electronic access devices. Integrated information systems in art museums increasingly serve both in-house and online audiences, as described in Chapter 2. Though the focus of research in this meta-analysis is on in-house museum visitors and their use of information in “low-tech” information texts, such as object labels, and in physical and visual orientation cues such as gallery layouts, the implications of the findings of this research apply to the development of systems increasingly expected to support physical and virtual site-crossing information access. The implications discussed in sections 10.4 (on supporting information behaviors) and 10.5 (on providing

intellectual organization) thus apply to this mixed-site art information organization and retrieval environment.

10.2 Usefulness and Limitations of Art Museum Visitor Studies and Their Meta-Analysis

We begin with an assessment of the usefulness and limitations of art museum visitor studies as the units of analysis and qualitative meta-analysis as a research method for achieving the goals of this dissertation and answering the dissertation's research question.

In spite of the variety of the original study sizes, methods, analytical approaches, and exhibition focus of the visitor studies selected for this meta-analysis, the studies' focus and results suggest that there is a baseline commonality of the terms and concepts that art museum researchers recognize and look for in visitor behaviors and attitudes. These concepts provide consistent themes for the identification and coding of information-related concepts, for example, themes of emotional and intellectual responses to artworks and social information gathering. All the studies used here are concerned with visitor learning and with visitors' visual and physical, emotional, cognitive, and social ways of understanding and interpreting artworks for themselves. These studies stress the commonly accepted constructivist approach to museum learning and the role of the viewer, so they examine how visitors engage in meaning-making using information sources at hand including their own background knowledge.

The level of observational and interview granularity of these studies provides a description of a range of visitor behaviors and a wealth of self-reports and quotes from study participants. However, these particular studies are not detailed perceptual, psychological, or cognitive behavior studies of individuals reacting to individual works of art (although the conversation studies come closest to this level of intimacy; see especially Abu-Shumays and Stainton). Rather, their focus is on the viewers'

expressed and observed behaviors and needs in the galleries that are then meta-analyzed and re-examined here as information behaviors and needs.

While the studies do give an overall sense of what visitors think about art museum information, these studies do not ask the direct question of visitors: “what information do you want about these artworks?” These are not question or query studies, like the museum question studies reviewed in Chapter 3, section 3.3.3. Instead, they are open-ended observations of reactions and conversations in the galleries or interviews which report on the use of provided information sources such as object labels. In other words, visitors were observed using and invited to comment on the types of information before them or else what they expected to encounter from past museum experiences. So visitor comments here are largely bounded by existing information forms with which they may be somewhat familiar. We have little idea of what other kinds of information visitors might welcome but might not think of, for example, personal reflections on artworks by the curators (as was suggested by Krulick and Ritchie, 1990). Possibilities for further research in this area are discussed below.

At the start of this research it was not expected that the granularity of these visitor studies was fine enough with respect to exact visitor vocabularies in discussing artworks to (a) gather verbatim terms, for example, for specific “subjects” that visitors use to describe artworks might find useful or to (b) construct a list of art historical or educational terms that visitors find difficult. It was expected, however, that the visitor studies would document the desire for certain broad categories of information (artwork subjects, historical context, artist information, etc.), and this proved to be the case, as the array of desired information described in Chapter 8 attests. These categories of information reinforce the choice of the types of information provided for in cataloging and indexing schemas. However, more research is needed on what specific information non-specialist art information users want to see captured in these categories, as discussed in section 10.5.

With regard to museum terminology, the studies point out strongly that visitors do have trouble with traditional art historical terminology and inconsistency of definitions and use in museum descriptions. That in itself is cautionary for designers of museum systems that include terminologies for description and access. We will return to this idea below in section 10.5.2.

10.2.1 Sampling Bias and Participation Bias

Visitor study as a research approach presents its own issues of validity and bias. Among this selection of studies, Stainton is especially strong on identifying the possible biases in gallery-based data collection (Stainton, pp. 213-215). In particular, the cautions about sampling bias presented by these researchers need to be mentioned.

Of major concern is the issue of self-selection of study participants who are primarily solicited at random from those who cross the museums' thresholds, though some participants were solicited from known individuals and groups in selected studies here (in particular, Abu-Shumays' two docents, Leinhardt's diarists, and Stainton's invited participants). More specialized art exhibits or collections may draw more experienced crowds. The implication is that these visitors will be on the whole more experienced art museum goers and art enthusiasts. For example, visitors to the Sackler Gallery Chinese ceramics exhibition were very experienced in their previous exposure to Asian art (50% had previously visited the Smithsonian Asian museums, 70% had viewed Asian art in another museum in the previous year; see *Smithsonian-Chinese*, p. 10). These visitors would thus tend to report more sophisticated knowledge of and experiences with these and other artworks. Conversely, general appeal exhibits or permanent collections may draw a broader spectrum of visitors. The selection of art museum studies in this meta-study countered tendencies toward either too specialized or too general audiences by including studies of a great variety of visitors to both temporary exhibitions and broader permanent collections in a total of 26 art museums.

The issue of comparing non-visitors to participating visitors is always a problem for museum studies. Among the studies selected here, only the Getty study sought non-visitors' participation in the museum focus groups. The Getty report unfortunately does not explain how either visitors or non-visitors were solicited, though possibly in different ways by the eleven participating museums. None of the selected studies in the meta-analysis here attempted to diversify their samples by seeking different visitor types by time of the week, season, type of exhibit, and type of museum event (as suggested by Duhaime, pp. 16-17). With the exception of the Smithsonian exhibitions and some of the Cleveland studies, the studies did not break out visitors by geographic origin. The Getty researchers found that tourists, who are an important segment of visitors to many large, urban museums, constitute a different type of visitor and are hard to study (Getty, p. 52).

Museum visitor studies also can also be open to participation biases. Visitors selected for a study know they are being observed or know their opinions are being solicited through interviews. Lockett, who reports on the visitor studies at the Royal Ontario Museum, calls this "cued testing," which has the potential for distorting the visitor responses (ROM, pp. 33-34). The Cleveland study's researchers note the possibility of "courtesy bias," that is, visitors offering agreeable comments so as not to offend or presume to criticize museum expertise (Cleveland, p. 81).

10.2.2 Trustworthiness

Meta-analysis itself has some inherent limitations in that the meta-analyst is dependent on the picture of the original study conditions and participants and the conclusions presented by the original researchers. Possible biases occasioned by sampling and data collection methods in the original studies are a condition that cannot be controlled in a meta-analysis, but to which the meta-analyst needs to be alert. Qualitative meta-analysis is by definition unobtrusive, nonreactive, and engenders no observer effect on either the original study participants or the researchers of the primary studies. However, the potential for interpretive and framing biases

exists on the multiple levels of inquiry embedded in this analytic method (Paterson et al., 2001, pp. 52, 68-69). Research rigor and trustworthiness need to be addressed on three levels.

The first level is that of the original study participants, in this instance the art museum visitors studied and reported on in visitor studies. Are the activities or responses of the original study participants, as well as the contexts of their experiences, observed and reported accurately and completely in the selected visitor studies? Meta-analysts are dependent of what the primary researchers report (Paterson et al., 2001, p. 15). Controls for advancing trustworthiness at this first level here included a purposeful selection of visitor studies which provide ample amounts of participant and observation description, including direct quotes from participants, in order that it could be judged whether or not the participants' experiences were plausibly portrayed in the primary studies.

The second level is that of the art museum visitor study researchers. Do their studies describe completely and transparently their research objectives, sampling or inclusion criteria, research design, data collection and analysis, and conclusions supported by the data? Meta-analysts are dependent on the primary investigators' research and communication skills and experience (Paterson et al., 2001, pp. 15-16). Controls for advancing trustworthiness at the second level here included purposeful selection of visitor studies which demonstrate, according to the quality, topicality, and publication criteria set forth in Chapter 4, a high quality of research design and execution, adequate and appropriate samples, and a demonstrated consonance among research objectives, findings, and conclusions. Published studies, which are the focus of this dissertation, are likely to be more rigorously designed, executed, and explained for peer review.

The third level is that of the meta-analyst. Is the purposeful selection, description, analysis, and synthesis of these studies by the meta-analyst clearly explained and as unbiased as possible? Controls for advancing the trustworthiness of the third level of inquiry include consciously and openly seeking a variety of

properties and dimensions of conceptual categories in multiple rounds of coding, including and discussing apparently confounding evidence (negative findings), and citing ample examples from the original studies to support assertions (Berg, 1995, pp. 192-193; Strauss and Corbin, 1998, p. 288). The control used in this dissertation for this level was served in part by the description of coding and analysis procedures in Chapter 5. These controls were supplemented by the constant comparison of visitor quotes to the conclusions drawn by the original researchers and a careful avoidance of re-interpreting visitor quotes out of their apparent original context. One example of negative findings needing further examination here was the evidence of visitor “distrust” of museum information, in apparent contrast to the otherwise strong visitor regard for the authority of museum information.

10.3 General Principles of Art Museum Visitor Information Use Emerging from the Meta-Analysis

An important set of implications derived from the meta-analysis of empirical evidence and researcher models in this study can be framed as general principles of non-specialist artwork viewing and use of art museum information. These principles help us refine our definition of art museums as information contexts, fine art as an information domain (here from a non-specialist perspective), and art museum visitors as information users and seekers. These are principles that need to be taken into consideration for the design of art museum information systems (both in-house and online) and for art information and images systems for non-specialists in general.

(1) Viewers construct meanings. Art viewers construct meanings for themselves from artworks, and museums provide the building blocks for this: the original objects, their visual display settings and juxtapositions, artwork factual and contextual information, and skill-building experiences such as suggested comparison activities. The aim of the current study has been to explore how all of these elements might affect information provision in ways non-specialists can use in personally meaningful and flexible ways in their relatively brief encounters with art.

(2) Viewers build art-viewing and museum-going information skills. Viewers build art-viewing and museum-going skills cumulatively. These sets of skills are connected, but they are not the same thing, though both are types of information skills. This study has looked at the dimensions of “expertise” and skill-building in order to gauge differing levels of need for and facility with the variety of information resources visitors encounter in art museums.

(3) The artwork itself is the primary experience. The physicality of objects draws viewers’ attention before any textual information and, indeed, sometimes “overrides” the impact of the textual information. The physical type of artwork is important in determining what kinds of information viewers want to see first. The cultural origins and functions of different types of artworks are important as well and often create a need for explanations of historical, cultural, and foreign language terms and concepts.

(4) Art viewing and interpretation are social. Especially for inexperienced viewers, social exchanges in visitor groups support significant information generation and shared meaning-making.

(5) Viewers are ambivalent about art museum information. Both inexperienced and experienced visitors to art museums demonstrate over and over their basic belief in the usefulness and authority of museum information. Nevertheless, they are often ambivalent about its role in their own visits. There is a dichotomy in visitor attitudes toward information helping and information interfering in art-viewing experiences in museums.

Art museum information helps when it: (a) is “just enough” and pertains to the artwork in front of the visitor; (b) is appropriate to the type of art object (for example, a painting vs. a ceremonial tea set); (c) helps in skill-building for encounters with other artworks (for example, when directive object labels suggest specific comparisons to make among several artworks on display); and (d) acknowledges and encourages personal visual, emotional, and intellectual “takes” on the artworks.

Art museum information interferes when it: (a) is too much (that is, leads to information overload); (b) is overbearing or too directive (for example, in suggesting complicated comparisons); (c) contains incomprehensible terms or is too specialized; and (d) is at odds with personal and emotional relationships with artworks by discouraging, minimizing, or ignoring these associations.

These principles indicate broad themes for future research. For example, how do viewers construct meaning when supplied with different types of museum information, perhaps tailored to different levels of beginning art knowledge? How do viewers construct meanings and decipher museum-supplied art information in social groups, particularly in virtual environments? How can personal, emotional, and intellectual reactions to artworks and the information gathering they engender be better supported in art information systems? More specific suggestions for further research in these areas are discussed in sections 10.4 and 10.5.

10.4 Implications for Systems: Supporting Information Behaviors of Artwork Interpretation and Information Use

The foregoing principles and the empirical evidence from the field studies of art museum visitors suggest several broad areas to which art museum information systems design should pay attention. Some general suggestions for systems design, useful resources, and further research are discussed below.

The focus of the following sections (10.4.1 through 10.4.6) is on what the meta-analysis of art museum visitor studies suggests for how systems can support art viewer information behaviors and what further research is needed on this. Systems should support the general behaviors of description, analysis and identification, and integration of the three levels of artwork interpretation and information use laid out in this dissertation's conceptual framework (see Chapter 9). More targeted research could be done to answer how systems can support the behaviors specified for the different levels of the framework, that is, analyzing visual forms, listing, describing,

remembering, associating, emotional reactions, storytelling, narrating, judging, comparing, identifying, naming, and interpreting (see Tables 9.2, 9.3, and 9.4).

In the online environment, conceptual framework Level I behaviors of analyzing visual forms, listing, describing, remembering, associating, emotional reactions, storytelling, narrating, judging, and comparing (see Table 9.2) should be supported in ways that invite online visitors to express themselves in ways that parallel their expression in the galleries. These behaviors are best served with quality artwork images (to support analyzing visual forms and comparing) and personal collection-building tools and conversation tools to share initial and personal reactions (to support listing, describing, remembering, associating, emotional reactions, storytelling, narrating, and judging). More research is needed on these essential personal behaviors at Level I which engage viewers initially with artworks and which trigger a hunger for further contextual information on artworks. For example, what kinds of associations do viewers describe in reaction to particular artworks, and how could their verbal descriptions of these be analyzed for potential user-supplied indexing and terms?

At Levels II and III, additional tools are needed that support the information behaviors of identifying, naming, and interpreting (see Tables 9.3 and 9.4). These are the tools that provide contextual materials in organized and searchable forms from which to identify historical, artist biographical, thematic, and interpretive information related to the artworks. This contextual information helps viewers explore beyond their initial personal reactions at Level I to expanded interpretation at Levels II and III. Needed research is indicated at these more advanced levels which addresses the vocabulary difficulties that non-specialists often express and which may serve to block to progress in exploring more complex art information, particularly in retrieving information from systems with this vocabulary. Research could answer more precisely what concepts and vocabularies non-specialists have the most difficulty with.

With tools that supply contextual information, we move into the implications of the dissertation's meta-analysis for knowledge organization in art information systems, in particular cataloging and indexing tools and vocabularies. Issues of the

organization of specific information content pertaining to artworks—at the level of cataloging and indexing—are discussed in section 10.5 below.

10.4.1 Intellectual Organization and Orientation in the Museum Spatial Environment

At the in-house collections and gallery level, the most desired intellectual orientation information is contained in maps of the physical spaces and overviews of the logical or thematic progression of artworks to guide visitors. Such graphic and textual information can be reused in museum information systems in a variety of ways: linked to individual object records and embedded in handheld devices, gallery computer kiosks, websites, and print guides. Electronic versions mean they can and should be updated more readily and can be for staff planning use as well as visitor use. Much more research needs to be done on how viewers would navigate real or virtual spaces with these coordinated resources.

Of interest here might be gallery-based studies of actual visitor circulation patterns, for example, those which look closely at visitor direction-choosing, backtracking, and interactions with signage (see, for example, Bourdeau and Chebat, 2001). These could provide further details of how visitors navigate among physical artworks which could be then compared to how online visitors navigate among “virtual” artworks.

10.4.2 Searching and Browsing Behaviors Among the Artworks

Harder to read from museum visitor study data is evidence for the substantive differences between searching and browsing in the physical navigation among artworks and in the alternation between looking and reading gallery text information. If by browsing we mean wandering in the galleries for the purpose of casually encountering artworks and if by searching we mean looking for specific artworks or details within artworks, it is safe to say that visitors use a combination of these behaviors. Browsing in museum settings is employed for discovery and conducted for its intrinsic rewards, that is, for its own sake. Gary Marchionini defines discovery (vs.

searching) in the context of cultural heritage materials as “an effort to explore some promising space for underspecified or unknown objects; the information seeker has in mind general characteristics or properties that outline an information space in which perceptual and cognitive powers are leveraged to examine candidate objects” (Marchionini, 1996, p. 35). This captures the open-ended quality of much museum browsing among “candidate” objects which attract the viewers’ attention.

The gallery-based experience (now extended to online exhibitions) is centered around encountering and browsing through displayed objects and the available information in relation to objects at hand. Visitors can do known-item searching in museums as well, for example, visitors to the Louvre Museum looking for the Mona Lisa. However, the information they need is extraneous to that object and is object access-related: on which floor, corridor, or wall is it located? And at which viewing times? Of course, visitors may arrive at the Mona Lisa and read the object label, brochure, or handheld guidebook device and gain further information about this artwork. So information gathering in such an experience is a mixture of searching, retrieval, browsing, and encountering, some of which is physical object location and some of which is gathering information about the artwork itself. Information systems need to support this array of behaviors. Further research could tell us more about the most typical patterns and combinations that non-specialist artwork and art information seekers employ in these mixes of behaviors.

This type of exploration begs to be compared to other concepts and models of casual information gathering such as information encountering, the opportunistic and accidental acquisition of information (see Erdelez, 2005), and research on information gathering in leisure time activities (see Hartel, 2005). From these we could draw further distinctions between casual art information browsing and work- or task-related art information gathering, as for school assignments or scholarly research, including known-item searching. As more art museums and other art information resources on the Web provide ever more images to viewers at all levels of expertise, research could

be done to better understand how viewers search for, sift through, prioritize, and select artwork images and information to fit their tasks and needs.

10.4.3 Text Information Display and Order

If in-house visitors typically read museum texts in short bursts alternating with viewing the artworks, the visitor studies analyzed here suggest it is important to put the most desired text information first, make it prominent, and write it in easily digestible bits with simple vocabularies. All of these points were underscored by the Cleveland Museum studies of visitor opinions on labels. Further research could tell us how these patterns of reading compare to the reading and browsing patterns of artwork viewers online. In the galleries, research projects could be designed where viewers could read object labels which highlight selected art terms that are then explained and given further illustrated examples in handheld devices that visitors carry with them. Online hyperlinks could provide similar explanations in the online environment.

The meta-analysis here suggests that visitors are most comfortable with object labels that follow a conventional format that they have come to expect—basic descriptive information plus contextual information paragraphs—and that the information they want is directly related to the art objects before them. However, more research needs to be done to see if conventional label formats transfer well to their electronic equivalents in an online environment and what other possible formats might supplement the in-house formulas.

It would be valuable to explore professional literature on label and wall text writing and research studies focused specifically on how readers process museum labels in terms of readability levels, sentence types and lengths, paragraph layouts, and design modes (see, for example, Blais, 1995; Serrell, 1996; and Hall, 1988) in order to understand better how these design choices affect reader use and comprehension and to then compare to online reading behaviors.

10.4.4 Visual and Physical Aspects of Artworks

The evidence for the strong role of visual examination in artwork information gathering in visitors' gallery-based experiences validates the effort to develop higher quality art reproduction images for electronic information systems. Non-art-specialists and experts alike remark on the shortcomings of reproductions, especially digital images, of artworks (see, for example, Ester, 1994, pp. 15-18; Gay et al., 1997, p. 325; and Taylor, 2003, pp. 109-114). Likewise, techniques in electronic image interfaces that mimic physical interactions with artworks, for example, zooming in on details and rotating and manipulating works in three dimensions, are strongly supported by the research on in-gallery viewing behaviors. Research could be done to explore more creative interactions like those sometimes constructed for in-house visitors to art museums. For example, onsite activities can involve playing with actual paints and other materials, manipulating lighting effects on objects (to note changes in shadows and colors), and engaging in visual perception "experiments" (see, for example, Phillips, 1988). These could all be adapted and even enhanced for online interactions.

10.4.5 Comparisons and Other Information-Gathering and Organizing Tasks

Visual comparison for information gathering

Information systems can strongly support much-used visual comparison and linking activities in art viewing in several ways. Comparative reproduction images, in print or electronic format, of related artworks or objects provide an artificial "proximity" for comparison objects. Evidence of the careful looking that in-house visitors employ suggests that reproduction images should supply enough detail and appropriate views to serve the comparisons as well. Research could tell us more about when and how both in-house and online viewers use visual comparison and how this behavior could be supported with the most appropriate visual views and details of objects. Any comparative images also require identification and links in information

systems and bring in issues of cataloging and indexing details vs. whole views of objects (see also section 10.5.5 below). Research could tell us more about how seekers of different views and details search (in particular, scan) among verbal lists and thumbnail images of these views and details.

Organizing personal collections of art images and information

Organization and annotation tools for personal collection-building are being developed by museum informatics designers, for example, the GettyGuide which allows visitors to mark favorites encountered in the museum and upload their images to personal spaces on the Getty Museum website in order to create thematic groupings of favorites for themselves (Hamma, 2004b, GettyGuide). Interestingly, to engage visitors in creating their own collections of images and comments is to engage them in knowledge organization tasks. Idiosyncratic personal themes such as how eyes are rendered across a group of artworks would likely not be captured in museum documentation in any case (in the case of eyes, they would be considered normal constituent parts of faces and not noted separately). Creating personal thematic and visual links across artworks is not unlike what art historians and specialists do, of course. From a systems point of view, the task is providing space and a framework to create these links.

From a research point of view, much more investigation is needed among the growing personal collections and accounts of artworks that viewers are posting to public spaces on art museum websites. This intriguing body of material could help us better understand what viewers choose to “collect,” how they categorize their choices, and what terms they use to describe them. It could also tell us more about the appeal of these descriptions to other viewers and how often user-supplied terminology is used by others for searching and browsing. This source of research material would supply rich information that could inform knowledge organization—in the form of subject and object descriptive schemas and vocabularies—in ways that could supplement traditional organizational approaches in art information systems.

10.4.6 Social Art Information Gathering and Construction

The meta-analysis of art museum visitor studies reveals the important role of interactive social information-gathering and construction behaviors. We have seen how visitors to museums are willing to share their “conversations” and engage in discussions with strangers—including the unseen curatorial staff—traditionally through in-house means such as comment books and share-your-reaction cards and increasingly through online means such as chats. Visiting art museums in pairs and groups is clearly favored by most inexperienced visitors. In systems applications, the role of conversation tools (for example, online collaborative art image annotation) is clearly indicated for their use, since viewers at this level respond with personal stories, emotions, and interpretations which they often like to share with others.

The social aspects of confronting an artwork together with companions is just beginning to be addressed in the online information systems world. Much more research is needed on how conversation technologies, for example, online chats, blogs, and collaborative indexing, can encourage viewers to talk about art and engage with others about art.

Pertinent here might be investigating museum research studies which focus on the roles and influences of human guides in museums. There is a considerable body of research on visitor interactions with guides and docents in museums (in general) which deserves attention from an information perspective (see, for example, Wendling, 1991). Given a human guide to query, what do visitors ask about? What techniques do guides use to further visitor explorations and engagement? (See, for example, Grinder and McCoy, 1985.) A clearer understanding of these questions and pedagogical techniques could help information system designers anticipate typical questions and construct useful responses.

10.5 Implications for Systems Knowledge Organization and Tools: Supporting Artwork Interpretation and Information Use

In this section we turn from the systems implications of the information behaviors discovered in the meta-analysis to the implications of the types of information used by artwork viewers for the knowledge organization and descriptive vocabularies in these systems. The conceptual framework developed in Chapter 9 indicates the general types of information appropriate for the three levels of the framework.

The conceptual framework allows us to identify the developmental stage in artwork interpretation where the knowledge organization of information systems becomes especially pertinent for serving non-specialist art information seekers. It is particularly at Level II Analysis and Identification where artwork contextual information is captured in both object cataloging and subject indexing in artwork description and retrieval systems, for example, specific named subjects of artworks and historical contextual information (see Table 9.3). In contrast, Level I of the conceptual framework indicates the initial dominance of personal information forms that system users might like to describe for themselves and others, as well as search for (memories, knowledge, and associations, emotions, and values; see Table 9.2). However, these are not currently captured in conventional artwork documentation systems. How these types of information might be researched and addressed in artwork indexing to supplement more traditional museum documentation is discussed in section 10.5.3 below. Similarly, at Level III of the conceptual framework viewers connect with more complex narrative expressions of artwork symbolism and interpretations which are rarely made accessible by any cataloging, indexing, or keywording of the prose documents that contain this type of information.

In the following two sections, the evidence from the meta-analysis of art museum visitors on viewer preferences for types of artwork information is compared to standard artwork descriptive schema and vocabulary tools.

10.5.1 Artwork Documentation and the Conceptual Framework

Art object documentation in the CDWA and its relation to categories of the conceptual framework

The standard schema for artwork documentation for art museum information systems in the Getty's *Categories for the Description of Works of Art* (CDWA), although its adoption for cataloging and indexing guidance is by no means universal, given the early state of development of much art museum documentation practice (as noted in Chapter 2, section 2.5). CDWA's 14 broad categories and numerous subcategories of art object description elements serve both physical object description and artwork subject description.

Core fields and subfields of the CDWA that capture object attributes are: *Object/Work Type, Title or Name, Measurements Description, Materials and Techniques Description, Creator (Description, Identity, Role), Creation Date, Current Repository (Geographic Location, Numbers), and Classification Term* (used for local repository organization). As we saw in Chapter 2, current art museum information systems largely confine themselves to object description.

The meta-analysis of art museum visitor preferences for object information shows that specific artwork information is important to museum visitors, especially to answer the factual "what is it?" question and questions about materials, creation techniques, and circumstances of creation, for example, creation date and place. This is information highlighted in the preferences expressed by art museum visitors, particularly in reaction to the contents of object labels (see Chapter 8, section 8.3.2). These types of primarily factual and explanatory contextual information about artworks are eagerly sought by viewers at Level II of the conceptual framework for artwork interpretation and information use (see Table 9.3 "Information needed by viewers"). In the conceptual framework, Level II information seekers desire historical information, artist information, and information about others associated with the artworks such as their original owners.

Art subject documentation in the CDWA and its relation to categories of the conceptual framework

The core field of the CDWA that captures artwork subject matter is *Subject* and its three subfields of *Description*, *Identification*, and *Interpretation*. These three subfields are drawn directly from Panofsky's model of three levels of artwork subject analysis. The CDWA casts Panofsky's subject matter descriptions as image attribute categories, that is, Panofsky's *primary or natural subject matter* as generic subjects (CDWA's *Subject – Description*), his *secondary or conventional subject matter* as named subjects (CDWA's *Subject – Identification*), and his *intrinsic meaning or content* as interpretive subjects (CDWA's *Subject – Interpretation*). In addition, the CDWA provides a very brief schema for subject authority records (with *Subject Name* and *Related Subjects* subfields).

Panofsky's model of subject interpretation thus serves as the theoretical underpinning of subject analysis for art image indexing practice, as standardized in the CDWA. It provides a pragmatic, intuitive approach for artwork subject indexers (whatever their expertise, which may not be at an expert level for every type of art) that instructs them to analyze these subjects in a general process of sorting out generic, named, and interpretive elements of artworks into three open-ended categories. The guidelines for the schema provide extensive examples for each of these categories and suggest existing descriptive vocabularies to use, but they are not prescriptive as to inclusion, granularity, or exhaustivity of subjects to enter.

It is in the exploration of contextual information at Level II of this dissertation's conceptual framework that named depicted subjects, for example, named stories, characters, and themes, emerge. The CDWA would capture these in the *Subject – Identification* field. Level II also involves more careful looking and recognition of the role of visual styles and artist intentions in the telling of those stories in given times, places, cultures, and artists' lives. There are a number of CDWA fields which capture elements of contextual information useful at Level II. For example, the CDWA provides for style descriptions in its *Styles / Periods /*

Groups / Movements field and for original object discovery in contextual information fields such as *Archaeological Context* and *Historical Location*. Thus, Level II involves the identification of and the CDWA provides fields for material object description, stylistic categorization, and named subjects.

Non-specialist art viewers and levels of interpretation and information use

In the first and only experiment to test the applicability of the Panofskian model to the practice of artwork subject analysis and indexing, Karen Markey used non-art-specialist “indexers” to contribute terms for descriptive Level I pictorial elements in artworks, which were then clustered computationally and the clusters subsequently translated by art experts into Panofsky’s Level II conventional subject themes (Markey, 1983, 1986). This seems to have led to the assumption that non-specialist art image *searchers* would need to begin searching in databases with simple information elements at Panofsky’s Level I, that is, recognizable depicted elements that they know from everyday experience. Part of the purpose of the meta-analysis in this dissertation was to examine that assumption by looking at what empirical studies tell us about how novice viewers begin their artwork analyses and interpretation.

We now have evidence from the meta-analysis that these levels do figure into the non-specialist experience, at least in response to the artworks before in-house artwork viewers. The studies provide evidence that inexperienced viewers do indeed remark on depicted elements first, react with emotions, and do not consider exterior contextual information very extensively at first. However, viewers quickly request synopses of “basic” information about artworks in order to move ahead, including subjects, themes, contextual information on the object at hand, some basic interpretive information, and explanations of the significance of the work. Basic information for inexperienced viewers is more complex than just listings of depicted generic elements. It includes all three types of information—visual, contextual, and interpretive. As the empirical evidence shows, viewers employ all these types as an armature of information to orient themselves, but in a shifting balance as they gain

more experience with art and move through the levels of interpretation. Their development reflects this evolution in interpretation skills and the need for more complex information than just listings of depicted elements.

Research is needed to explore the more specific types of information—in particular, subjects, themes, and basic contextual and interpretive information—that non-specialist users employ to progress from Level I to more advanced artwork understanding. Level II artwork interpretation and information use suggests that one research focus should be on making contextual information presentation and searching more effective for viewers. Level II is pivotal for viewers to begin gathering “outside” contextual information in order to place artworks in time and geography and the overall artistic output of individual artists and cultural groups. This level and Level III are the most information-intensive in terms of seeking out comparative visual images and textual information. Research should address the optimal elements and levels of descriptive vocabulary that both engage browsers initially and encourage them to seek further information using the concepts and vocabularies they are actively learning.

Experienced non-specialist viewers at Level III of interpretation should be able to use sophisticated and detailed resources like full exhibition catalogues in which essays provide critical analyses and interpretations of artworks. Few art information systems provide keyword access or indexing to interpretive text essays at this level, however, though integrated museum systems as repositories of multiple kinds of texts hint at this possibility. Several experimental academic projects have used computational linguistics tools to extract descriptive terms from art historical texts, including exhibition catalogues (see Blitz, 2005; Jörgensen, 2003, pp. 256, 268; and Light, 1995). Indexing resources such as these—whether manually or automatically—could supplement the indexing in individual artwork records and connect concepts and object references across many different kinds of museum texts.

More research could tell us if experienced non-specialists at Level III make use of more detailed museum object records, particularly if these include good and detailed images and the critical commentaries of curators and other experts. Do more

experienced viewers also make heavier use of links to related works elsewhere outside the museum? If so, would they use more “professional” resources such as bibliographies and specialized indexes (for example, *The Getty Provenance Index Databases*)? Research might also tell us if they are the most likely group to consult art museum libraries for both narrower interests and broadening cultural interests. All of these resources would require a greater familiarity with a variety of search tools such as art vocabularies, one essential ingredient in developing skills in art interpretation and information use. Research could also tell us more specific ways in which viewers pick up art vocabulary from printed sources like object labels and museum catalogues and from tour leaders and audio sources.

10.5.2 Non-Specialists and Vocabularies and Subject Schemas for Art Information Systems

Vocabularies of artwork description are a fundamental component to be addressed in systems design and research. As demonstrated in the meta-analysis, art vocabulary terms are a great stumbling block for many non-specialist art viewers, as the empirical data from art museum visitors attests. This research clearly indicates there is a need to develop tools for organizing and explaining unfamiliar vocabularies for non-specialists. Visitor reactions to vocabulary use in museum materials have implications for consistent term and concept use across museum information systems (even though it is hard to achieve curatorial agreement sometimes, as shown by museum systems research; see, for example, Gilcrest, 2003, p. 17).

Research is needed to tell us if there are more appropriate vocabulary tools and organizational schemas for non-specialists than those that have been developed for art specialists. As was pointed out in Chapter 3, most subject indexing of art images—in the rare cases where it exists—is at Level II, that is, by the named subjects and episodes from stories that artworks tell. However, the few usable art subject classification schemes and vocabularies for these conventional narratives, characters, symbols, and abstract themes in art are tools for scholarly experts. ICONCLASS, for

example, contains classical literary, historical, and mythological themes in Western art, but not always phrased in familiar terminology. For example, the Biblical story of the Last Supper from the Christian New Testament is listed as “the episode of the Last Supper” (notation 73D2). The stories represented are often expressed in a narrative order for expert iconographic analysis and not translated into their more familiar title formats. For example, a sub-theme of the Last Supper is “Judas goes out to the chief priests, betrays Christ and receives the reward” (notation 73D26), often simply known as the “Betrayal of Christ” (not listed here). Themes may be expressed in an additive order, for example, “aggressive relationships, enmity, animosity” (notation 33B). Used for description and indexing in art information systems, these phrases would probably mystify non-specialist searchers and browsers. This suggests that we need more research on how non-specialist might navigate these specialized systems and if their organization and vocabularies are appropriate and useful for non-specialist needs.

More useful models for non-specialist subject resources exist in the form of print art reference materials, in particular, handbooks of art themes, classified motif indexes, and picture dictionaries of art symbols and forms (see, for example, Roberts, 1998, and Hall, 1994). These link abstract ideas to their visualizations and where they have been used in art. They capture shared cultural meanings that link specific Level I generic pictorial elements to Level II stories and ultimately to broader Level III interpretive background information. An example of this kind of resource is the handbook *Oriental Art: A Handbook of Styles and Forms* from a series of similar books from the publisher Rizzoli (Auboyer, 1980). In it, for example, the various mudra, or symbolic postures and hand gestures of classical East Asian sculptural figures, are illustrated for reference, named, and explained. Materials like these could provide useful models for less technical and more user-friendly resources for non-specialists, particularly if adapted into thesaurus or relational arrangements for systems and supplemented with comparative visual examples. Interesting test systems could be designed for non-specialist exploration of themes around a given exhibition or even a single object.

ICONCLASS and other thesauri of artwork subjects, for example, the *Thesaurus iconographique* (Garnier, 1984) and *The Index of Christian Art* at Princeton, do not of course list all possible depicted beings, objects, places, or events, generic or named. The *Getty Art and Architecture Thesaurus* (AAT), the Library of Congress *Thesaurus of Graphic Materials* (TGM), and other material object vocabularies can provide terms for viewer questions about “what is it?” and “what’s its function?” and “what’s it made of?” and perhaps “how was it made?” However, these vocabularies can answer questions about what is depicted and about “what is going on?” in depicted scenes only very generally, for example, with terms like *Accidents, Holidays, Journeys, and Parties* from the AAT’s *Events* hierarchy. We still have much research to do on how specific non-specialist artwork seekers become in their searches and on their end uses for generic depicted elements in artworks. This research could tell us if art image searchers in particular have need for a general pictorial thesaurus of basic visual elements, as proposed by Jörgensen and others for general image users (see Jörgensen, 2003, pp. 269-270; 2004b).

The vocabularies discussed here provide terms and explanations primarily for depicted motifs and pictorial elements, whether generic or named. Terms for emotions and moods evoked by artworks are rarely included in these “subject” reference works and vocabularies. The possibility of indexing artworks with more abstract concepts such as these is addressed in the next section.

10.5.3 Other Kinds of Art Information to Be Indexed

The following two areas of artwork description for access, visual styles and emotions, are among the most difficult aspects of artworks to describe with words and for which to create descriptive vocabularies. They are—not surprisingly—closely related, since the visual styles in which artworks are rendered invoke strong emotional and associational reactions among viewers of all types. They are also fundamental to the non-specialist experience of artwork viewing and meaning-making, but are difficult to describe with controlled vocabularies for retrieval in information systems.

Indexing artwork visual styles

The empirical evidence from the art museum visitor studies indicates that the visual artistic style of artworks is an important determinant of response and understanding by art viewers especially in their initial stages of learning, with early preference for “realism” among inexperienced viewers. Not having the vocabulary to describe visual appearances and forms beyond simple elements such as color, viewers need to develop descriptive language for formal elements in styles and a familiarity and comfort with a variety of styles. This growing knowledge about artwork styles enables viewers to progress from Level I into Level II of artwork interpretation and information use (indeed, Panofsky states that a knowledge of the “history of style” is the appropriate corrective principle in this transition, to aid in the correct “interpretation” of artwork subjects from generic to named).

The CDWA does provide a heterogeneous field for *Styles/Periods/Groups/Movements*, and the AAT has extensive lists of terms for each of these ways of describing artworks visual styles. AAT also contains terms for more general artistic techniques such as perspective effects which are fundamental to stylistic differences. These terms are difficult to apply in indexing, however, unless the indexer is very sure of their relevance and a visual style or device is very clear in the artwork. There is no question that this takes expertise and, at times, terms are applied in personal and perhaps arbitrary ways. But there is also no question that non-specialist viewers desire this information and instruction in how to identify and describe visual styles with vocabulary they understand and, preferably, with illustrated comparative examples.

Possible research directions might explore viewers’ reactions to artwork visual styles by examining the words for associated moods or emotions. Further exploration is needed of the work that has been done in this area by researchers in experimental aesthetics and perceptual psychology, as Jørgensen (2003, pp. 63-65) and Taylor (2001, pp. 59-60) point out.

Indexing emotions and associations

Museums cannot control emotional, associational, creative, and narrative responses to artworks—even as they encourage them—but museum information systems can provide mechanisms for viewers to record, collect, and share them with others. Traditional in-gallery approaches such as share-your-reaction cards and comment books provide some of these opportunities. As discussed above, current technologies provide visitors with a variety of new means to share impressions, such as online chats, blogs, and collaborative annotation. Worts believes that recorded reactions from visitors are useful to share, so that “other visitors may find greater comfort in entering the realm of personal meaning-making in a more conscious way” (Worts, p. 175). Such personal paths may be appealing to other visitors, because they may be seen as being at their level of interest and as composed by fellow non-specialists rather than by curators or educators.

The systematic indexing specifically of emotions and moods of individual art objects for information systems has always appeared too subjective to accomplish and, indeed, seems to cross some sort of line into over-interpretation of image “aboutness.” Indexing emotions and moods, as with most abstract concepts, in artworks raises many questions about validity, universality, stereotyping, and over-simplification, not to mention specific terminology. However, viewers do often respond with similar emotions to artworks, as Taylor’s study participants demonstrated when they picked emotions terms from a prepared list in response to artworks in a museum (Taylor, 2001, pp. 139-149). There exist no vocabularies for indexing emotions and moods except for those developed in perceptual psychology research, for example, the vocabulary employed experimentally by Taylor (pp. 190-191).

Given the central role that these responses play in the viewer experience, more research on access to artworks by emotion or mood keywords in a controlled way is indicated. Basic research could be conducted by generating, collecting, and clustering keywords of this sort from viewers (online and in-house), already part of new efforts

toward collaborative indexing in museums (see Bearman and Trant, 2005). Research is needed to answer questions about (a) whether viewers would even seek to retrieve or group artworks by the emotions they evoke, (b) what art viewers motivations for seeking artworks by this dimension might be, and (c) how much searchers might differ in their descriptions of emotions and moods and thus how fine the distinctions in vocabulary need to be.

Another model worth investigating is the indexing of mood in fiction works for general searchers in libraries (see Beghtol, 1994, and Pejtersen and Austin, 1983-1984).

10.5.4 Who Indexes and Annotates Artworks for Information Systems

As noted in Chapter 3, extensive artwork cataloging and indexing are rare in art museum information systems even as there are growing expectations for more detailed art object and subject information among visitors. The practice of artwork subject indexing in art museums is still very limited, partly because of museum staff resources and partly because of a reluctance to embark on such indexing with limited guidelines on analyzing and describing artworks, in particular their subjects, for retrieval systems (White, 2002). The situation also results from a lack of knowledge about how useful subject indexing is to system users, whether museum staff or museum visitors.

However, several new approaches to generating indexing terms are being explored. Research on terms and concepts collected from both knowledgeable museum staff and from non-specialist art viewers themselves could tell us a good deal more about how artwork subject indexing might be expanded to include multiple viewpoints besides the traditional curatorial perspective in artwork description.

Viewer-generated terminology

A growing number of art museums are responding to the need for expanded subject access to artworks by soliciting non-specialist art image keywording online.

This is a by-product of increased museum use of conversation technologies, in particular, collaborative indexing and annotation technologies, to encourage online visitors to talk about art and engage with others about art. Development of these interactive technologies for viewer-contributed annotations and indexing is just beginning (see, for example, Bearman and Trant, 2005).

We have little idea of how interesting or useful user-supplied keywording is to general art viewers and searchers or its relation to “authoritative” museum vocabularies and information. However, research analysis of user-generated keywording and commentary on artworks could give us a sense of what is important for viewers to note and share and could be useful in augmenting standard object descriptive categories and vocabularies in description and retrieval systems. In what ways do viewers construct their own categories and what terms do they use? These commentaries are also of interest to see what the patterns of attraction are among available artworks which viewers volunteer to annotate (for example, viewers may favor certain types of art and ignore others, thus creating patchy subject coverage in viewer-supplied terms in a given system).

Another way to explore visitor terminology—if not that actually generated by the viewers themselves—is to research patterns of the use of hyperlinked art term definitions in the rare art museum websites that provide this feature (see for example, the website of the Rijksmuseum, Amsterdam). Studying the patterns of use of definitions in these experimental glossaries might indicate which particular terms and concepts are the most difficult and most frequently queried and thus aid in the selection of terms for and structuring of glossaries in museum systems.

Curator and educator indexing

Research on encouraging educators or curators to index artworks in their own ways or with their own themes is a possible route to creating artwork groupings and pathways through galleries or exhibitions for non-specialists. Indexing or free-text keywording based on personal reactions could be contributed by museum curators or

educators, who could then explain their choices as teaching opportunities. For example, visitors responded with great interest to the personal selection notes of the Denver Art Museum's decorative arts curator when these were added to a brochure for a special exhibit of chairs (Kruclick and Ritchie, pp. 55-60). For each chair the curator listed both professional criteria (craftsmanship, design elements, historical significance) and warmly personal and emotional reasons for choosing to display these particular chairs. While his commentary was in prose format, it too could be indexed and made accessible for searching along with other museum texts. For example, a passage from the brochure on a fancy 19th-century side chair reads:

The chair is quite feminine (it was a feminine era). It lived in the parlor, where it got perched on, if it was sat on at all. The workmanship is exquisite—the carving is excellent and the inlay complex. It's a bit on the decadent side, with its exaggerated and curvaceous form. It's got a wasp waist, like a lady in one of those tight corsets. And the copper, brass, and mother-of-pearl inlay resembles jewelry of the period (Kruclick and Ritchie, 1990, p. 59).

The passage contains descriptive terms about the materials (copper, brass, mother-of-pearl) and techniques (carving, inlay), social and historical context (parlor, lady), and also stylistic, visual, and expressive terms like “feminine,” “decadent,” and “curvaceous.” All of these terms are of interest and possible retrieval use for non-specialists and specialists alike. The meta-analysis of art museum visitor studies showed that inexperienced viewers in particular like rich and descriptive language in museum resources. Research on texts such as this could help pinpoint useful nontraditional descriptive vocabularies and concepts of interest to non-specialists.

Another path worth investigating is indexing the educator-devised comparisons and suggested learning activities themselves when they appear in museum resources, for example, indexing the topics, pedagogical goals, and target audiences of all the comparisons made and suggested in a museum's object labels, wall texts, and brochures. This type of indexing would be for internal museum staff use, but could be illuminating if set up in a way for visitors to explore parallel comparisons across

different types of artworks. Test systems could be constructed for visitor exploration, and research could tell us more about the kinds of comparisons viewers find useful and intriguing.

The essential point is that professionals within the museums—educators and curators—have much to contribute to the description and indexing of artworks for non-specialists, since they learn the typical vocabularies and concepts of novice art viewers over the course of working with many visitors. With more research, this experience could be tapped to create glossaries and definitions of art, historical, and foreign language terms and concepts in a layman’s language that could augment standard specialist vocabulary resources used in museum systems such as the AAT.

10.5.5 Object-Level and Collection-Level Art Object Documentation

We turn now from consideration of what concepts, themes, and art object aspects to index for artwork description and retrieval to the issues of what information materials themselves in art museum systems to index.

Different kinds of artwork contextual information raise issues of object-level and collections-level museum records and their cataloging and indexing. When art objects are put into larger (and varying) narratives and groupings, as in temporary thematic exhibitions or period rooms that draw together a variety of objects, their information is partly molded around these themes. The challenge is to incorporate these types of information into permanent records for objects. The reciprocal challenge is how to link individual object records to multiple narratives and exhibition records.

These issues bring up fundamental questions about how “encyclopedic” a museum system should be in linking objects in thematic or other ways (both internal to the museum and externally), for example, to reference materials such as glossaries of art terms, timelines, and maps. This further relates to the organization of museum information systems as information repositories that are increasingly expected to

create both object record access and “exhibitions-on-demand” (Nordbotten, 2002). Supplemental materials can be repurposed in museum information systems, as in the essays on themes in art (for example, “humanism in Renaissance art,” developed by the Cleveland Museum for its gallery brochures; see Cleveland, pp. 44). In sum, the impact on art museum information systems of capturing these materials means more parts to fit in and a recasting of information systems as knowledge bases. Cataloging and indexing are then not limited to the art objects and their records only. This implies the indexing and markup of texts where artwork contextual information, terminology explanations, and interpretive opinions are embedded.

Much further research is needed to explore how systems users (both museum staff and visitors) create and/or follow thematic or other kinds of links through materials as varied as single object records, artwork images and their details, contextual essays, glossaries of art terms, and related graphic materials such as photographs. At a systems level, much more research is needed on how to create logical links among these increasingly digitized information objects.

10.6 General Suggestions for Further Research

Sections 10.4 and 10.5 discuss the need for and offer both general and specific suggestions for further research on: (a) viewer navigation and browsing behaviors among artworks applicable to both in-house and “virtual” museum environments; (b) online organization and annotation tools for personal art information collection-building; (c) the development of descriptive vocabularies for art themes, visual styles, and emotions appropriate to non-specialists, for example, through new efforts toward collaborative viewer keywording in museum systems; (d) the exploration of existing reference materials models for less technical and more user-friendly resources for non-specialists; and (e) art object and collection-level indexing issues engendered by recasting museum information systems as knowledge bases containing a new variety of artwork documentation materials intended for use in both in-house and online use.

The following are more general reflections on research directions that the further study of non-specialist art museum visitors and art information seekers might take.

10.6.1 Further Research in the Retrieval Environment

One overall aim of further research in art information retrieval systems must be to explore when, where, and why non-specialist art viewers and museum-goers actively seek—rather than passively receive or encounter—art information. In particular, research is needed on how and where viewers pursue their questions beyond available gallery-based information and any one museum visit. Visitor studies show us how briefly many viewers pass through the galleries and provide evidence of the kinds of information that on-site viewers want relating to the objects at hand. But we have little idea of their use of follow-up information. As the Cleveland visitor study points out, we know little of how visitors use the take-home brochures, for example (Cleveland, pp. 39, 86). We know that visitors use museum websites to plan visits and to follow up on visits, but much more research attention needs to be focused on artwork-related questions that visitors pose online in relation to the objects they have seen or plan to see (see, for example, Thomas and Carey, 2005). With the promise of expanded online object records and resources, we simply do not know whether or how viewers might use readily available databases of artwork information like subjects, abstract themes, and visual motifs, with searching structures, explanations, and perhaps comparative images. Would general viewers make use of classification schemas, visual thesauri, motif and theme indexes, and timelines and maps?

As with the indexing of emotions and moods in art, the possibility of art subject indexing begs the question of whether visitors would ever use subject descriptions to actively search for topics of interest either in the galleries or in online exhibitions or databases. From the art museum visitor studies, we learn that in-house visitors like to have subjects identified and that they have a broad notion of what “subjects” are. From studies of online art database users, we know that online visitors

express an interest in having subject access to artworks (Frost et al., 2000, pp. 295-299), but we know little about what specifically they are interested in or how they might search on subjects. We still have much to learn about when, how, and why visitors ever follow a train of specific depicted elements, stories, or “meanings” in information systems.

We do not know what information inexperienced non-specialists could use, but are unable to articulate a need for, let alone formulate a query for, given their lack of vocabulary and knowledge about art concepts. Visitor studies suggest that many of the information needs that inexperienced viewers exhibit are related to their inability to verbalize about artworks. Thus, further research on what kinds of vocabularies non-specialist viewers begin with and what vocabularies they need to learn (or be supplied with) dominate research needs concerning information retrieval. Such knowledge could inform the deliberate inclusion of concepts and term definitions in systems by anticipating what non-specialists need.

It should be noted again that there are few fully described databases of art objects or images in existence, serving either in-house or online art museum visitors. This lack of a large corpus of artwork documentation continues to be the biggest obstacle to studying non-specialist use of art information systems. Thus, continuing research among in-house art museum visitors and in-house information users remains a viable way to study non-specialists.

10.6.2 Further LIS Field Research Among Non-Specialist Art Viewers and Museum Educators

Two possible gallery-based research approaches could be employed to carry forward field research from an LIS perspective:

(a) Studying the gallery-based experiences of art museum educators who work with many novice viewers in the contexts of different kinds of art and art exhibitions could provide specific examples of the questions, terms, and concepts with which inexperienced art viewers begin. These educators have much to contribute on the

beginning knowledge frames of these viewers and also what pedagogical tools work well with adult viewers to answer their questions and encourage further exploration.

(b) Studying art museum docents as they progress through their training from relative novices to relative subject specialists would provide a longitudinal picture of building art-viewing and information-using skills. Art museum docents have similar motives as other non-specialists in engaging with artworks (enjoyment, self-fulfillment). Indeed, docents are seen as “ideal museum visitors” (Abu-Shumays, p. 47; see also Getty, p. 50). Studying their learning progression could tell us a good deal about how non-specialist art enthusiasts learn and use information.

10.7 Summary and Conclusion

Summary

New digital and Web technologies have created dramatic changes in art museum information systems which have in turn invited an expanding diversity of non-specialist art information seekers. Research is needed to support the organization of and access to basic art information content, and the vocabularies which frame this content, for the use of general audiences, whether they are using gallery-based or online information resources. The purpose of this dissertation is to explore the information needs and behaviors of non-specialist art viewers in order to contribute to the improvement of these information systems.

The dissertation focuses on what qualitative research studies of in-house art museum visitors tell us about art viewer needs and behaviors. The research question asks: what do art museum visitor studies tell us about the types of information—visual, contextual, interpretive—that adult art museum visitors seek and use as they interact with artworks in museum settings?

Qualitative meta-analysis is used to examine the empirical findings of a purposeful selection of these studies of adult visitors to physical art museums in order to better understand: (a) the beliefs and assumptions about art information that visitors

bring to art museums, (b) how visitors process information in the galleries among the artworks using physical, emotional, cognitive, and socially shared interactions, and (c) how visitors use museum-supplied information. These three themes form the backbone of the data coding scheme developed for the analysis of these studies. The empirical findings and meta-analysis of each of these themes are discussed in separate chapters.

A general conceptual framework of artwork interpretation and information use is constructed from this meta-analysis of empirical evidence and from a cross-case comparison of interpretive behavior models created by the authors of these studies, the art museum visitor researchers. The conceptual framework presents a model of non-specialist art viewer interpretive development and art information use from inexperience to relative expertise. It outlines the types of information—visual, contextual, and interpretive—that art viewers use in combination with their information-gathering behaviors of artwork description, analysis and identification, and integration. This framework then serves as a basis for exploring the implications of the findings from the meta-analysis for the design of art museum information systems and resources for non-specialists.

The three levels of the conceptual framework suggest ways that art information systems can serve the characteristic behaviors that these visitor studies report from the observations of and interviews with museum visitors. These behaviors include:

- analyzing visual artwork forms
- listing and describing depicted elements in artworks
- remembering and associating personal knowledge with what is seen in artworks
- emotional reactions to artworks
- storytelling and narrating personal memories invoked by artworks
- judging artworks from initial impressions
- comparing different artworks and/or their visual details
- identifying and naming depicted stories, characters, and symbols in artworks
- interpreting artworks with personal and shared cultural meanings

Appropriate tools to serve these behaviors include graphic and textual organizers (maps and descriptive text overviews) to guide artwork browsing, tools used online or in the galleries to record and share personal reactions to artworks, and high quality images and a variety of details and views in online systems to simulate gallery-based physical interactions with and visual comparisons among artworks.

The conceptual framework also describes the types of information—visual, contextual, and interpretive—that art viewers use as they progress through artwork interpretation. Inexperienced art viewers rely on visual information from the artworks and compare this to their own experiences and memories at first. With increasing experience, viewers begin to explore contextual information resources on artwork subjects and stories, as well as the eras, geography, artist or creator group, and cultural contexts of artworks. Experienced viewers make greater use of the interpretive information of others in more advanced and integrated critical evaluation of artworks. Knowledge organization of museum information systems should provide access to contextual and interpretive information with clearly structured and defined art terminology. Systems should experiment with expanding access to artworks attributes that are difficult to describe verbally, such as visual styles and emotions and moods, which the empirical evidence from the visitor studies shows are of great interest to non-specialist art viewers.

Finally, the findings of the meta-analysis and the conceptual framework suggest areas and mechanisms for further research into the needs of non-specialist art information users and seekers in museum information systems that increasingly intermix and link a variety of textual and graphic art object, contextual, and interpretive information resources.

Conclusion

Non-specialists are a growing group of art information consumers of both in-house museum experiences and online art images and information (strong art museum attendance and rapidly expanding website usage attests to both of these). Thus,

studying the information needs and behaviors of non-specialists is worthwhile in its own right. But it also provides a way to look at “earlier” stages of art image and information behaviors and use on a continuum of subject expertise. We in LIS already know something about the art information and image needs and behaviors of art experts, particularly academic art historians. Studying art novices is instrumental in understanding a much broader range of needs and behaviors of art information seekers.

Studying actual art museum visitors lets us look directly at non-specialist art-viewing and information-gathering behaviors and non-specialist use of museum-supplied information content and formats. Studying visitors to physical museums has the advantage of examining the art museum environment—both physically and intellectually organized—as an information context. The in-house art viewer experience represents direct encounters with artworks, in effect, the “ideal” encounters intended by the artwork creators, as opposed to encounters with artworks through reproduction images (by definition degraded from the original). If the purpose of art museum websites is to reproduce, at least in part, the encounter with the original object and perhaps the experience of museum visiting, then art museum visitor studies provide a good source of empirical evidence about actual visitors’ and viewers’ behaviors and needs in that original environment.

Indications are that audience crossovers between in-house visitors and online museum website visitors are growing. In addition, art museum information systems increasingly allow museums to repurpose information resources in site-crossing systems environments. While art museum visitor studies tend to focus on the use of “low tech” information resources in the galleries, such as object labels, brochures, comment books, and signage, these same texts and tools can now be and often are reused online (Taylor, 2003, p. 117).

Similar sorts of personal and casual art viewing and text use patterns may cross these different environments, but we have had until now little basis for comparison. This study of the empirical findings of in-house visitor information use patterns

supplies part of this knowledge. What is needed now is to explore both environments in parallel ways, and this study provides some building blocks of research themes for this comparison.

In the overall framework of LIS research, this dissertation departs from much LIS-based research on visual information and its primary focus on image attributes for retrieval rather than the end use or users of images or the objects they reproduce. The current study is instead a user-centered study in its endeavor to describe art viewing, interpretation, and information use as one context of visual information use. User-in-context research in LIS is broadened by the focus of this study on in-house museum visitors viewing original objects in physical spaces and using information resources at hand in order to gather information. The research choice of examining existing empirical research on in-house museum visitors with a meta-analytic approach is also a departure from field research on actual museum visitors. It allows exploration of a rich but under-analyzed body of knowledge about information-related behaviors and preferences of non-specialist art viewers. Art museum visitor studies have not been studied with a meta-analytic approach before nor have they even been critically reviewed very often in museum studies research (exceptions are Dufresne-Tassé and Lefebvre, 1994; Pitman, 1996; and Serrell, 1998). Analyzing and synthesizing what has gone before in this dissertation's meta-analysis builds on research and concepts generated in the museum community. This approach is potentially compelling for one audience for this research, that is, art museum staff.

It can be argued that in-house art museum visitor study is the only way to study non-specialist art information users and seekers in depth at present since there are few publicly available art museum collection databases or websites with extensive descriptive and retrieval information linked to extensive images for research use. Studying information needs and uses of non-specialist online museum visitors requires a well-documented and illustrated corpus of accessible object databases. In their current absence, physical art museums readily provide large bodies of artworks with

accompanying information on display and opportunities to study non-specialists directly.

This study of the information interests, behaviors, and needs of non-specialist art museum visitors leads to the conclusion that museum information systems should be envisioned as (a) structures for browsing and searching, as (b) as vehicles and repositories for art viewer responses, but also as (c) resources for orientation and learning. There are still many gaps in our understanding of how non-specialist art viewers use information to understand and interpret artworks, particularly in the processes of seeking information when they have little vocabulary to describe what they want or frame what they need. For this reason it is important for information systems to provide and organize ideas, themes, and vocabularies for inexperienced information seekers. Information systems serve as mechanisms for the retrieval of information about objects at hand, objects remembered, or unknown objects. They also serve as reference and orientation guides to the organization of an unfamiliar subject area for non-specialists.

Because art museums are primarily educational institutions in their current missions, they create information that contextualizes and links art objects. Museums organize, classify, show relationships among, and interpret artworks, creations increasingly documented in multimedia formats and using information from multiple sources including museum staff and the visitors themselves. Museums must present that information in forms and formats of great richness, but also clarity, for users of differing levels of expertise. The conceptual framework of artwork interpretation and information use proposed in this dissertation identifies the primary interpretive behaviors that systems need to support: the description, analysis and identification, and integration of artwork information. The framework also identifies the types of information that systems need to organize and supply to viewers and searchers. The challenge for information systems is to facilitate the match between the levels of art knowledge and information-gathering skills with which viewers arrive and the types and depth of museum information that are appropriate to those levels.

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Note: the references below are listed by citation format used in the meta-analysis text.

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Appendix AMuseum Visitor Study Bibliographies and Research ReviewsI. Bibliographies

Canadian Heritage/Patrimoine canadien. *Bibliography of audience studies literature*. Available from <http://www.pch.gc.ca>

Cassandra, L. (Ed.) (1998). *Bibliography of interpretive resources*. Fort Collins, CO: National Association for Interpretation.

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Screven, C. G. (Ed.) (1999). *Visitor studies bibliography and abstracts* (4th ed.). Chicago, IL: Screven and Associates.

Smithsonian Institution. *Museum studies bibliographies*. In SIRIS (Smithsonian Institution Research Information System). Available from <http://sirismm.si.edu/siris/siris-museum-studies.htm>

II. Research reviews

Dufresne-Tassé, C., and Lefebvre, A. (1994). The museum in adult education – a psychological study of visitor reactions. *International Review of Education*, 40(6), 469-484.

Hooper-Greenhill, E., and Moussouri, T. (2001). *Researching learning in museums and galleries 1990-1999: A bibliographic review*. University of Leicester Museum Series. Research Centre for Museums and Galleries. Available from <http://www.le.ac.uk/museumstudies/rcmg/researchinglearning.pdf>

Pitman, B. (1996). Taking a closer look: Evaluation in art museums. In D. Boughton, E. W. Eisner, and J. Ligoet (Eds.), *Evaluating and assessing the visual Arts in education: International perspectives* (pp. 249-266). New York: Teachers College, Columbia University.

Serrell, B. (1998). *Paying attention: Visitors and museum exhibitions*. Washington, D.C.: American Association of Museums.

Appendix B

Art Museum Visitor Study Analysis Form (Blank)

Study:

Study title

Citation format:

How cited in the text

Researcher(s):

e.g., academic, museum staff (which role?), professional evaluators

Where published:

e.g., professional journals (what type?), anthologies, textbooks

Purpose:

e.g., evaluation of one exhibition, permanent display(s), one type of museum visitor, one aspect of visiting

Type of research:

e.g., basic (exploratory, descriptive, explanatory) or evaluative (front end, formative, summative)

Museums studied:

e.g., names, types

Types(s) of art used or studied:

Participants (or unobtrusively observed subjects) and their demographics:

e.g., visitors studied (individuals, groups)

Sampling and selection:

e.g., random (e.g., every 5th visitor), purposeful selection

Theoretical background:

e.g., cognitive, constructivist, art theory (whose?)

Research design, methods, and techniques:

e.g., qualitative, quantitative, survey, observation, interviews

Analytical approaches:

e.g., grounded theory, content analysis, discourse or conversation analysis

Results and conclusions:

e.g., researcher descriptions of results and conclusions, e.g., on categories of visitor behaviors or motivations

Application(s) and impact of findings:

e.g., did this inform actual practice locally or more broadly? Is this a basic, much-cited study? Part of a larger program of research?

Art Museum Visitor Study Analysis FormStudy:

Abu-Shumays, M., and Leinhardt, G. (2002). Two docents in three museums: Central and peripheral participation. In G. Leinhardt, K. Crowley, and K. Knutson (Eds.), *Learning conversations in museums* (pp. 45-80). Mahwah, NJ: Lawrence Erlbaum.

Citation format: Abu-Shumays

Researcher(s):

Academics (Museum Learning Community, University of Pittsburgh).

Where published:

Anthology of studies done by the Museum Learning Community, University of Pittsburgh.

Purpose:

To explore and describe the museum viewing behaviors and interests of docents visiting different types of museums and exhibits. Explores the premise that docents' training has provided them a "critical stance," skills of identification, discussion, and meaning-making, and the ability to engage with and learn more or differently even from objects with which they may not be familiar, i.e., in contrast with general, untrained visitors.

Type of research:

Basic; exploratory.

Museums studied:

Carnegie Museum of Natural History (CMNH), Senator John Heinz Pittsburgh Regional History Center, and the Carnegie Museum of Art (CMA) (the results from the latter two museums analyzed here)

Types(s) of art used or studied:

Glass art objects (along with artifacts from the glass-making process) in Heinz History Center (*Glass: Shattering Notions* exhibition, 1998).

African art (masks, jewelry, stools, neckrests, musical instruments, funerary figures in wood, brass, ivory, and cloth) in CMA (*Soul of Africa* exhibition, 1999).

Participants (or unobtrusively observed subjects) and their demographics:

Two docents; women, both “over 75,” both have college degrees in chemistry; long-time docents at CMNH.

Sampling and selection:

Purposeful selection (case study of two docents visiting together and interacting).

Theoretical background:

Role of docent as community “informant” (cites informant literature). Conversational elaboration (listing, analyzing, synthesizing, explaining; cites other studies on conversation, including those in this anthology). Basically constructivist, though does not cite specific traditions or theorists.

Research design, methods, and techniques:

Observation and recording of conversations in galleries of three museums with participant observer along (one of the researchers) to prompt and clarify their gallery comments and second researcher following behind to take notes on their comments and routes, which were recorded on maps of the exhibitions. Glass exhibit tour was video-taped. Pre- and post-interviews (audio-taped). Interview questions to elicit talk about the exhibitions.

Analytical approaches:

Content analysis of recorded conversation.

Analyzed conversational segments—sections of the transcripts about one topic, corresponding to exhibit components where docents stopped. Coded for conversational structure and content elements.

Results and conclusions:

When visiting unfamiliar museums, docents move back and forth between docent roles and visitor roles (p. 47). As experienced museum goers, docents use their general tools of analyzing and synthesizing to engage with objects in less familiar settings (p. 70). Docent relationship with exhibited materials across the three museums varied according to their perceived roles in each museum, their interest in the offered material, and their knowledge of the material. Trained as natural history museum docents, when they engaged with artworks they had high interest in them as material objects, but much less interest in the objects as art, as they lacked background in African art and knowledge of the exhibit itself. The docents jointly constructed explanations of artwork materials and designs, used visual appearance of the objects, label and accompanying photographic information, memories, and each other as information resources. The researchers conclude that general visitors need to develop identities as and skills of museum-goers (as have the docents). This includes learning “active interpretive behavior” which needs to be coupled with content knowledge.

From the study of these docents, the researchers construct an Object-Based Activity Model of the components of visitor conversation which are hierarchical and cumulative: listing, analyzing, synthesizing, and explaining.

Application(s) and impact of findings:

No mention as influencing Carnegie Museums practice or being incorporated into any other guidelines.

Part of series of Museum Learning Community studies on museum conversations.

Art Museum Visitor Study Analysis Form

Study:

Mann, C. G. (Ed.). (1993). *The visitor's voice: Visitor studies in the Renaissance-Baroque galleries of the Cleveland Museum of Art 1990-1993*. Cleveland, OH: The Cleveland Museum of Art.

Citation format: Cleveland

Researchers:

Professional museum program evaluators, academics, and museum staff.

Where published:

Book-length report.

Purpose:

A series of studies for front-end and summative evaluation of the Renaissance and Baroque art galleries, their physical layouts, and their information resources, such as object labels, wall texts, signage, and brochures, to prepare for the redesign and reinstallation of the artworks; conducted prior to and following the reinstallation (1986-1992).

Type of research:

Front-end and summative evaluation.

Museums studied:

The Cleveland Museum of Art

Types(s) of art used or studied:

Renaissance and Baroque European painting, sculpture, and decorative arts

Participants (or unobtrusively observed subjects) and their demographics:

Total number of participants varied by individual research study. The set of in-depth interviews of 1990 included 30 frequent visitors, 6 occasional visitors, and 7 infrequent visitors. Various questionnaire responses numbered in the hundreds.

Used museum-visiting frequency as categories of visitors: infrequent (one or two visits a year), occasional (2-12 visits a year), and frequent (12 or more visits a year). Collected demographic characteristics with questionnaire respondents (from a 1986 survey: 60% female; 40% male; mostly ages 35-54, with more than one fourth over 54; 56% college degrees; 80% preferred to come with family or friends).

Sampling and selection:

Varied by research study.

Theoretical background:

Consulted with Howard Gardner and researchers from Project Zero, an art education research center at Harvard University; influence of Gardner's educational philosophy of learning through a variety of modes.

Research design, methods, and techniques:

Interviews and questionnaires in response to labels, artwork placement, etc., in an experimental gallery (1990). In-depth interviews and focus groups (1988, 1992). Tracking study (1989) to observe visitor movement patterns.

Analytical approaches:

Quantitative analysis of questionnaire responses; content analysis of focus group and interview recordings, as well as experimental display comment books.

Results and conclusions:

This extensive set of studies used a variety of (a) experiments, interviews, and questionnaires concerning the design and interpretive content of museum texts and (b) observations of circulation and time-spent patterns in the galleries in order to research museum visitor behaviors and opinions on museum organization and information provision. Overall, they found that visitors want more information on the artworks, use object labels as primary information sources, value information that helps them to orient themselves, and have decided opinions on what types of information they want to see first and the styles of presentation.

Application(s) and impact of findings:

The museum based their reinstallation of these galleries on this series of studies. This included new floor plans, gallery numbering, and orientation videos, a redesign of object labels, and a “multi-tiered informational system” which coordinated larger wall texts, thematic object labels covering a group of artworks, individual object labels, and brochures on more specialized topics.

Art Museum Visitor Study Analysis FormStudy:

Duhaime, C. P., Joy, A., and Ross, C. A. (1989). *A picture speaks a thousand words: The consumption of contemporary art*. Montréal, QC: École des hautes études commerciales.

Citation format: Duhaime

Researcher(s):

Academics (École des Hautes Études Commerciales, Montréal, and Concordia University, Montréal) with consumer research and anthropology backgrounds.

Where published:

Research report published by the Groupe de recherche et de formation en gestion des arts, École des Hautes Études Commerciales, Montréal, and Concordia University, Montréal.

Purpose:

Exploratory study over time (one year) to describe the general experience, expectations, and opinions of art viewing and museum-going of adult visitors to a contemporary art museum.

Type of research:

Basic; exploratory and descriptive.

Museums studied:

Musée d'art contemporain (MACM), Montréal

Types(s) of art used or studied:

Contemporary artworks, including painting and sculpture

Participants (or unobtrusively observed subjects) and their demographics:

Observed (anonymous) visitors were not profiled for demographics or museum-going frequency, nor was the total number of observed visitors over one year's time given. Five interview participants ranged in age from mid-20s to early 40s, four had fine arts degrees of various sorts (one student), and all were frequent art museum goers.

Sampling and selection:

Observation of random visitors, but no sampling method described. Criteria or method of selection of the five interview participants not explained.

Theoretical background:

Has a generally constructivist point of view ("meaning does not reside in the object alone but is fashioned and created when individuals or groups interact with the object(s)" [p. 21]). No specific art or museum education theory referenced.

Research design, methods, and techniques:

Unobtrusive visitor observation over one year in the galleries and at special museum events, such as exhibition openings. In-depth interviews with five visitors.

Analytical approaches:

Content analysis of researcher observation notebook and observer journal records and interviews (some tape-recorded, others detailed in written notes) for emergent themes.

Results and conclusions:

The study describes typical viewer behavior in different museum spaces (exhibit galleries, the café and the reception areas, documentation centre) and in different types of events (gallery browsing, special exhibition openings, gallery lectures). The observations of gallery behavior detail physical interactions with artworks, social interactions, and different behaviors in different groupings including those with children.

The study cites a general typology of progressing toward meaning-making from artworks. It describes the art-viewing experience as a three-part process: the creation of meaning by the artist(s), the teaching of artwork viewing and meaning-interpretation skills by the museum, and the learning and application of these skills by visitors. Viewer experience is dependent on personal background, social class, and gender but also dependent on knowledge of and comfort with contemporary art.

Visitors “learn to see” by (a) bringing their past experiences with art and museums and their expectations (especially whether they had prior training in art or experience in museum-visiting as youths), (b) developing personal intimacy with artworks with their own emotional reactions and associations, (c) recognizing familiar visual and cultural elements in unfamiliar works, (d) taking pleasure in discovering different and interesting works, (e) experiencing the physical surroundings of the museum itself, and (f) at times questioning the interpretations of contemporary art made by the museum.

Application(s) and impact of findings:

The study suggested in general to the MACM that it adjust interpretive texts, programming, and promotional activities for different types of visitors who may have different levels of knowledge about contemporary art and different viewing behaviors (for example, close visual examination vs. more distant browsing).

Art Museum Visitor Study Analysis FormStudy:

Eversmann, P. K., Krill, R. T., Michael, E., Twiss-Garrity, B. A., and Beck, T. R. (1997). Material culture as text: Review and reform of the literacy model for interpretation. In A. S. Martin and J. R. Garrison (Eds.), *American material culture: The shape of the field* (pp. 135-167). Winterthur, DE: Henry Francis du Pont Winterthur Museum.

Citation format: Eversmann

Researchers:

Museum education staff

Where published:

Anthology of articles on material culture and museum learning.

Purpose:

To study visitors' ways of learning from museum objects and environments and to re-examine previous theories of "reading" museum objects in ways that mimic learning to read text.

Type of research:

Basic; exploratory.

Museums studied:

Henry Francis du Pont Winterthur Museum, Winterthur, DE (American decorative art).

Types(s) of art used or studied:

American decorative art (one 19th-century American side chair as the focus of the main part of the visitor study).

Participants (or unobtrusively observed subjects) and their demographics:

Two studies with totals of 39 adults entering the museum, 62 visitors exiting the introductory museum tour, and 70 visitors exiting the self-guided tour. Third study of 43 adults (in addition to 210 young people from preschool through high school; results from the study of young people not included in the meta-analysis here). Visitors were not broken out by any other demographic characteristics.

Sampling and selection:

Selection methods not described in detail, but approached visitors entering the museum, visitors leaving the guided introductory museum tour, and visitors exiting a self-guided introductory exhibition.

Theoretical background:

Museum and material object learning theory. Explores the relevance of literacy and reading metaphors in relation to “reading” cultural objects (cites extensive theoretical background on the use of these analogies in museum education)

Research design, methods, and techniques:

Open-ended interviews in which visitors asked about their reactions to one particular chair in the collection. Questions were varied slightly and deliberately from “what do you see when you look at this object?” to “when you look at this object, what are your thoughts?”

Analytical approaches:

Grounded theory development through content analysis of interview transcripts.

Results and conclusions:

The researchers construct a model of viewer response types to art and material objects with facets of description (observing identifiable characteristics), classification (placing the object in a group), association (connecting the object with other objects, people, events, etc.), and evaluation (judging an object). Viewer responses in the interviews to the specific chair varied somewhat according to the form of the open-ended question asked of them. The “what are your thoughts?” question was more effective in drawing out a broader range of viewer responses than just listing the visual characteristics of the object in response to the “what do you see?” question. However, all viewers bring the whole range of responses to art object viewing in varying proportions. The researchers also explore the learning effects of participating in

gallery tours, for example, in visitors' tendency to pick up new descriptive terms on tours. The researchers conclude with the general implications for museum and material object education.

Application(s) and impact of findings:

The researchers conclude that the findings support and help refine the general approach used in the Winterthur Museum's guided tour programs.

Art Museum Visitor Study Analysis FormStudy:

The Getty Center for Education in the Arts and The J. Paul Getty Museum (1991).
Insights: Museums, visitors, attitudes, expectations. A focus group experiment.
Los Angeles, CA: The Getty Center for Education in the Arts, The J. Paul Getty Museum.

Citation format: Getty

Researchers:

Professional museum evaluator and coordinator; local participating museum staff.

Where published:

Book-length report.

Purpose:

A series of studies in a consortium of large art museums to look at the experience of general art museum visitors—their motivations for visiting, their expectations of the visits, and the quality of their visits—and to compare these with the impressions and expectations that art museum staff have of their visitors. The results were presented to a colloquium of invited art museum directors, curators, and educators, some of whom presented their own interpretations of the results of these studies.

Type of research:

Basic; exploratory.

Museums studied:

11 U.S. art museums (Art Institute of Chicago, Brooklyn Museum, Cleveland Museum of Art, Dallas Museum of Art, Denver Art Museum, J. Paul Getty Museum, Museum of Fine Arts Boston, National Gallery of Art, Philadelphia Museum of Art, Seattle Art Museum, Toledo Museum of Art)

Types(s) of art used or studied:

Multiple types of artworks.

Participants (or unobtrusively observed subjects) and their demographics:

Total of 220 visitor participants and 115 museum staff participants. Criteria for the selection of non-visitors (annual family incomes of \$25,000 or more; at least high school diplomas); no criteria given for the selection of more frequent visitors. General selection criteria for half women and half men. Some museums required racial or ethnic diversity in their selection. No criteria given for inclusion in museum staff focus groups.

Sampling and selection:

Does not state how the focus group participants were selected by each of the 11 museums; apparently left the selection of “visitors” vs. “non-visitors” up to the participating museums.

Theoretical background:

Essay included by Mihaly Csikszentmihalyi on his interpretation of the aesthetic experience using his “flow” theory, but his influence is minimal on the interpretation of the results of these studies by the other colloquium commentators.

Research design, methods, and techniques:

Focus groups of museum staff at each participating museum to gather staff perspectives on their visitors and to design the gallery-based assignments to be given to visitor participants. Focus groups of 11-12 art museum visitors and non-visitors at each participating museum. Both types of visitors were asked to visit the museum, were given a gallery-based assignment, and asked to write diary entries prior to the focus groups.

Analytical approaches:

Visitor comments were grouped by categories and quoted verbatim. Essays by Getty colloquium participants used these results to construct their own interpretations. Some quotes were identified as being specifically by visitors or non-visitors.

Results and conclusions:

Major findings with extended visitor quotes and brief summaries are reported in sections of: staff expectations for visitor experiences, reasons for nonvisitation, the meaning of the museum visit experience to visitors, problems of orientation in the museum, the most useful museum information to visitors, issues of layout and organization, the effects of physical surroundings and display presentation, the

perception of the benefits of art museum-going, and visitor interactions with museum staff.

Application(s) and impact of findings:

Participating museums used the results of the larger study and their own focus groups in a variety of ways to improve their programming, including, for example, changes in information systems, new programming for certain types of visitors such as older adults, audience development, improvements in signage and wayfinding, and expanding the role of museum educators in creating museum interpretation resources.

This Getty study was part of a broader initiative in art education development supported by The Getty Center for Education in the Arts.

Art Museum Visitor Study Analysis FormStudy:

Housen, A. (1987). Three methods for understanding museum audiences. *Museum Studies Journal*, 2(4), 41-49.

Citation format: Housen

Researcher(s):

Academic (Massachusetts College of Art, Boston, at the time).

Where published:

Professional museum studies journal.

Purpose:

To show how developmental assessment tools (here her Aesthetic Development Stages) can reveal much about art museum visitors when combined with demographic and attitudinal studies of the same group. Here applied to a group of adult art museum visitors in assessing the impact of art exhibits and art educational programs and aids.

Type of research:

Basic; evaluative of visitor research methods.

Museums studied:

Institute of Contemporary Art (ICA), Boston.

Types(s) of art used or studied:

Painting, sculpture, photography, video, film, and performance art.

Participants (or unobtrusively observed subjects) and their demographics:

36 participants (35 answered questionnaire; 29 completed aesthetic interview; 28 completed both). "Small, but representative sample of the ICA's audience" (p. 42). Young adults, 77.1% of whom were 20-42 years old; 68.6% women; 68.6% either

artists or art students. 85.7% had college degrees, 88.6% had some art training. Frequent attendance: 97% attended more than three times per year.

Sampling and selection:

“Exit selection” technique: started interviewing, then waited five minutes before selecting next person exiting exhibit, yielding different interview rates depending on traffic (done during peak traffic hours of each day of the week).

Theoretical background:

Used her Aesthetic Development Stages model and scoring manual based on this (developed in her dissertation, “The eye of the beholder: measuring aesthetic development,” Ed.D., Harvard Graduate School of Education, 1983). The development model describes naïve art viewers as they perceive, reason about, and construct meaning from artworks.

Research design, methods, and techniques:

Open-ended aesthetic interview (participants asked to talk aloud about a reproduction of the “Bathers” by Picasso); recorded, transcribed, and coded by coders trained in her Aesthetic Development Scoring Manual. Followed by structured questionnaire. Content of questions not described here, but coded with the Scoring Manual.

Analytical approaches:

Content analysis of transcribed think-aloud open-ended responses to reproduction art image and to interview questions with gallery visitors.

Results and conclusions:

Housen found that her model of Aesthetic Development Stages when applied to adult art museum visitors explained the reasons for the viewing patterns of the typical audience at this museum of contemporary art: serious, well-educated viewers who nevertheless lack a critical framework for artwork interpretation which explains their relatively brief museum visits and their reliance on personal intuitions and memories for interpreting artworks rather than formal analysis. This audience, while appreciating information on these contemporary artists, does not yet make extensive use of structured museum resources and programming. Housen ends with suggestions for providing this developmental level of viewer with contextual overviews of and guidelines for viewing contemporary art (e.g., in orientation slide shows and resource center additions).

Application(s) and impact of findings:

Resulted in specific suggestions to the ICA to provide an exhibition orientation area, including resources of films and videos, slides, audiotapes, printed materials, and portfolios of current exhibitions, which could be visited before or after visiting the exhibitions. ICA added journals and books to its orientation area, expanded its outreach and curriculum programming for novice viewers, and used Housen's model to create evaluation procedures.

Housen's developmental model in general is influential in art education.

Art Museum Visitor Study Analysis FormStudy:

Leinhardt, G., Tittle, C., and Knutson, K. (2002). Talking to oneself: Diaries of museum visits. In G. Leinhardt, K. Crowley, and K. Knutson (Eds.), *Learning conversations in museums* (pp. 103-133). Mahwah, NJ: Lawrence Erlbaum.

Citation format: Leinhardt

Researchers:

Academics (Museum Learning Community, University of Pittsburgh; City University of New York).

Where published:

Anthology of studies done by the Museum Learning Community, University of Pittsburgh.

Purpose:

To use diaries written by museum visitors documenting their reactions to displayed pieces to analyze mental “conversations” that viewers have with themselves and the objects. To examine the processes and forms of this private documentation and the roles of personal identity and history and the museum environment itself in experiencing museum objects.

Type of research:

Basic; exploratory; case studies of diaries.

Museums studied:

8 museums included, 4 of which were art museums (unnamed).

Types(s) of art used or studied:

Various types of art in four different art museums (unnamed, but mentions of NW Coast Indian art, Tibetan art, Korean art, and quilts).

Participants (or unobtrusively observed subjects) and their demographics:

8 women, 7 men. 21-67 years of age; education from college student to PhD. Museum attendance (in general, not limited to art museums) ranged from an average of once a year to once weekly.

Sampling and selection:

Purposeful selection of regular museum goers from individuals known to the researchers.

Theoretical background:

Basically constructivist (cites specific theorists of conversation and dialogue).

Research design, methods, and techniques:

Diarists visited five museums (could include repeat visits), wrote diary entries of 3-5 pages immediately after their visits, and included pictures and other materials with their entries. Diarists made 40 visits (28 to art museums specifically) and were paid for participating.

Analytical approaches:

Coding (described in detail) and content analysis of the diaries; all entries read at least five times by the three researchers.

Results and conclusions:

Museum diarists provided rich descriptions of their experiences which described the purposes for their visits, environmental aspects of the museums which influenced their experiences, and the intellectual and emotional reactions to museum objects.

The researchers constructed a model of the cognitive tools used in artwork interaction and description in the visitors' diaries, composed of stages of object description, analysis, narrative identification, and weaving together personal reactions and supplied information. They also characterized the motivations for museum visiting in general into categories for desiring floating, focused, or challenging experiences. The researchers broke out these dimensions by age groups among the visitors and concluded that differences were accounted for by personal development and cumulative museum-going experience. Results were also broken out by museum type. Visitors to art museums (vs. history museums) were slightly more likely to visit with focused rather than general browsing ("floating") motives, found the museum

environment to be important in providing contexts for the objects, and were more likely to focus on analyzing individual pieces visually.

Application(s) and impact of findings:

No mention of influencing specific museum practice or being incorporated into any guidelines.

Part of series of Museum Learning Community studies on museum conversations.

Art Museum Visitor Study Analysis Form

Study:

Lockett, C. (1991). Ten years of exhibit evaluation at the Royal Ontario Museum (1980-1990). *ILVS Review: A Journal of Visitor Behavior*, 2(1), 19-47.

Citation format: ROM

Researchers:

Museum staff.

Where published:

Visitor studies behavior journal.

Purpose:

Reviews three types of visitor research (front-end, formative, and summative evaluations) represented in eight studies concerned with visitor reactions to layout designs, signage, and object labels conducted at the Royal Ontario Museum from 1980 to 1990.

Type of research:

Front-end, formative, and summative evaluation.

Museums studied:

Royal Ontario Museum, Toronto.

Types(s) of art used or studied:

Ancient Near Eastern; ancient Chinese (focus chosen here of three exhibitions of eight described).

Participants (or unobtrusively observed subjects) and their demographics:

No specifics of participant demographics given, although several of the studies asked visitors about their prior knowledge of the art objects. Numbers of participants varied by study: 150 respondents to a structured questionnaire and 205 visitors observed in

the galleries (Ancient Near East exhibit); interviews with 50 “viewing groups” (ancient Chinese exhibit).

Sampling and selection:

No details given.

Theoretical background:

None cited.

Research design, methods, and techniques:

Qualitative and quantitative; individual interviews, group interviews, observations, and structured questionnaires.

Analytical approaches:

Statistical analysis of some questionnaire responses; content analysis of open-ended questionnaire and interview questions.

Results and conclusions:

The variety of results from this group of studies shows that visitors desire contextual information about artworks and particularly like exhibits that group related works together, that they use “landmarks” in their own knowledge and visual memories of objects in other cultures to identify objects and styles, and that visitors’ interest in artworks is determined by both the topic or themes of an exhibition and by its display mode.

Application(s) and impact of findings:

The Royal Ontario Museum has used these studies to further develop evaluation procedures and to develop a balance between evaluation and basic research efforts.

Art Museum Visitor Study Analysis Form

Study:

McDermott-Lewis, M. (1990). *The Denver Art Museum Interpretive Project*.
Denver: Denver Art Museum. Available from
http://www.denverartmuseum.org/resources/resources_main.html

Citation format: McDermott-Lewis

Researchers:

Museum education staff.

Where published:

Book-length report.

Purpose:

To explore in an open-ended way the experiences of “novice” and “advanced amateur” art museum visitors, asking about their art backgrounds, expectations for and attitudes about art museums, and gallery experiences with the artworks. Their goals were to create from this a conceptual framework to guide label and gallery experiments in new interpretive approaches.

Type of research:

Basic; exploratory.

Museums studied:

Denver Art Museum.

Types(s) of art used or studied:

All types of art.

Participants (or unobtrusively observed subjects) and their demographics:

Broke visitors into two primary groups: novice visitors (self-defined as having a high interest in art, but a low to moderate knowledge about art) and advanced amateurs (no

self-definitions given). Of the novices 55% were female, 45% male, and 55% had college degrees. No comparable statistics given for advanced amateurs, but says that they showed a great range of expertise and rated themselves high in art knowledge.

Total of 16 participants in individual interviews and four group interviews (number of participants not given for these) in the novice group. 15 interviews with advanced amateurs.

Sampling and selection:

Drew names of novice participants from exhibition guest books, previous questionnaires, and screening forms filled out at the museum. Ten of the 15 advanced amateurs were nominated by museum staff.

Theoretical background:

No specific art or education theories employed or compared. However, they prepared with a literature review of learning styles, aesthetics, museum visiting patterns, and peak experiences. Their aim was to fill in gaps in art museum education theory by constructing their own conceptual framework.

Research design, methods, and techniques:

Interview guides with general topics for novices and advanced amateurs in Appendix.

Analytical approaches:

Explicit about using grounded theory; used content analysis of interview comments.

Results and conclusions:

Themes in their conceptual framework center around visitor expectations for museum visits and the characteristics of looking at artworks. Subthemes cover novices' and advanced amateurs' preferences for social and learning experiences, their "reactive" or critical stances toward artworks, their need for personal connections with artworks and with their creators, and their perceptions of their own art-viewing skills.

Application(s) and impact of findings:

The project encouraged Denver Art Museum educators and curators to design experiments to encourage visitors to look for specific elements in artworks and to practice skills of comparisons and color matching, for example, with displays and

interpretive devices in the galleries. Nine of these projects are described in separate sections here.

Art Museum Visitor Study Analysis Form

Study:

Smithsonian Institution, Office of Policy and Analysis (2004). *The return of the Buddha: Two studies of visitor responses to the exhibition*. Available from www.si.edu/opanda/Reports.htm

Citation format: Smithsonian-Buddha

Researchers:

Museum staff evaluators.

Where published:

Report on Smithsonian website.

Purpose:

Evaluation of visitor satisfaction with this particular exhibition to determine what features of the artworks themselves, what aspects of the display and supplied information, and what elements in visitors' own backgrounds with art influenced their levels of satisfaction.

Type of research:

Evaluative; summative.

Museums studied:

Arthur M. Sackler Gallery of Art, Smithsonian Institution, Washington, D.C. (Asian art).

Types(s) of art used or studied:

Ancient Chinese Buddhist sculpture.

Participants (or unobtrusively observed subjects) and their demographics:

32 visitors interviewed; 574 answered questionnaire. 52% on first visit to the museum; 48% repeat visitors. Interviewees 69% female, 31% male; 11-60 years of

age. High percentage of visitors from out of town (62%). Questionnaire respondents ages 12 and over, 46% attending with one other person, 26% alone, 24% with others in a group.

Sampling and selection:

“Convenience sample” of interviewees; “representative sample” of participants in written survey (details of sampling given).

Theoretical background:

None cited.

Research design, methods, and techniques:

Short, open-ended exit interviews, averaging about 11 minutes.

One-page structured questionnaire (in Appendix).

Analytical approaches:

Content analysis of interviews; descriptive statistical analysis of questionnaire responses.

Results and conclusions:

The interviews revealed visitors’ overall high regard for the museum and interest in the subject matter of this exhibition, strong interest in and emotional reactions to these sculptures, reactions to the striking display, critical use of information in the labels, and desire for even more contextual information on these figures and Chinese art and culture of this era. Their satisfaction stemmed from an equal balance of learning, object-related, and emotional experiences. Overall, they were satisfied with amount of information provided on the artworks, but 17% would have liked even more introductory material. A main finding was that there was high percentage of visitors overall very interested in Chinese art and culture and Buddhism, especially among more frequent museum-goers. From this the researchers concluded that repeat visitors were more likely to be more involved and interested in art overall.

Application(s) and impact of findings:

This study is part of an in-depth and ongoing program of exhibition evaluation by the Smithsonian Office of Policy and Analysis. No specific programming applications were cited as resulting from this study, but it formed the basis of comparison to the

study of an exhibition of Chinese art done in the same gallery a year later (see Smithsonian-Chinese).

Art Museum Visitor Study Analysis Form

Study:

Smithsonian Institution, Office of Policy and Analysis (2005). *Asia in America: Views of Chinese art from the Indianapolis Museum of Art. Two studies of visitor responses to the exhibition.* Available from www.si.edu/opanda/Reports.htm

Citation format: Smithsonian-Chinese

Researchers:

Museum staff evaluators.

Where published:

Report on Smithsonian website.

Purpose:

Evaluation of visitor satisfaction with this particular exhibition to determine how several new methods of display and structuring object label information, particularly encouraging visual comparisons of juxtaposed artworks, influenced visitor satisfaction. The study also explored what features of the artworks themselves and what elements in visitors' own backgrounds also influenced their satisfaction.

Type of research:

Evaluative; summative.

Museums studied:

Arthur M. Sackler Gallery of Art, Smithsonian Institution, Washington, D.C. (Asian art).

Types(s) of art used or studied:

Ancient Chinese art, mostly ceramic objects.

Participants (or unobtrusively observed subjects) and their demographics:

24 interviewees and 93 respondents to questionnaire. One half had visited the Smithsonian Asian art museums before, 70% viewed Asian art in an art museum at least once a year, 40% very interested in Chinese art, 21% with a specific interest in ceramics. Mean age of 40; 21% had bachelors degree, 64% had graduate or professional degrees.

Sampling and selection:

No mention of selection of interviewees. Questionnaire was a census survey of every visitor to the exhibition done on one day (5% declined to participate).

Theoretical background:

None cited.

Research design, methods, and techniques:

Open-ended exit interviews ranging from 5 to 75 minutes.

One-page structured questionnaire (in Appendix).

Analytical approaches:

Content analysis of interviews; descriptive statistical analysis of questionnaire responses.

Results and conclusions:

As with the Smithsonian Buddhist sculpture exhibit to which this exhibit was compared, researchers found a high correlation between interest in Asian art and culture and a favorable rating of this exhibition. Visitors were equally moved by the aesthetic aspects of the objects (65%) and by the knowledge they gained about the objects (57%). A number of interviewees remarked on this exhibition in comparison to other similar exhibitions of Asian art they had seen.

They found that the high-interest repeat visitors and visitors rating the exhibition highly were more likely to read object labels, and a large percentage found the information useful and the label language easy to understand. The visitors responded favorably to the object juxtapositions and found the comparison instructions on succinct object labels to be effective. Questions about the display variations indicated that how galleries are arranged, the physical setting apart of key objects, the ability to

walk around some objects and display cases, and the side-by-side juxtapositions were well-liked. Visitors expressing some dissatisfaction were primarily disappointed in the pieces themselves (differences too subtle) and sometimes in too little information. The researchers compared the results of the questionnaires from this exhibit and the previous Buddhist sculpture exhibit (see Smithsonian-Buddhist) and found slight differences.

Application(s) and impact of findings:

This study is part of an in-depth and ongoing program of exhibition evaluation by the Smithsonian Office of Policy and Analysis. No specific programming applications were cited as resulting from this study, but it formed part of a comparison to the study of an exhibition of Chinese Buddhist sculpture done in the same gallery a year earlier (see Smithsonian-Buddhist).

Art Museum Visitor Study Analysis FormStudy:

Stainton, C. (2002). Voices and images: Making connections between identity and art. In G. Leinhardt, K. Crowley, and K. Knutson (Eds.), *Learning conversations in museums* (pp. 213-257). Mahwah, NJ: Lawrence Erlbaum.

Citation format: Stainton

Researchers:

Academic (University of Pittsburgh).

Where published:

Anthology of studies done by the Museum Learning Community, University of Pittsburgh.

Purpose:

To take a sociocultural approach to examining museum learning by analyzing the focus and structure of conversations that museum visitors have before the artworks in the galleries. To explore how conversational elaboration helps viewers make meaning from both museum-supplied information and their own “entrance narratives” or background knowledge.

Type of research:

Basic; exploratory.

Museums studied:

Carnegie Museum of Art (CMA), Pittsburgh.

Types(s) of art used or studied:

African art (masks, jewelry, stools, neckrests, musical instruments, funerary figures in wood, brass, ivory, and cloth) in CMA (*Soul of Africa* exhibition, 1999).

Participants (or unobtrusively observed subjects) and their demographics:

26 participants. Made up of selected visitors (13 in 6 groups) visitors personally know to the researcher or colleagues as having high levels of experience with art, African culture, or museum attendance. On-site visitors (13 in 6 groups) were recruited at the exhibition, with initially unknown levels of previous experience.

Prior to the procedures, rated all participants with high, medium, and low ratings for their previous experience with art, with African culture, and with museums.

Sampling and selection:

13 participants invited to take part; 13 participants approached at the entrance to the exhibition.

Theoretical background:

Conversational elaboration and learning focus (cites and reviews a number of art education and museum education theories).

Research design, methods, and techniques:

Pre-tour interviews on museum visiting habits and their previous knowledge of art and African culture, followed by recording visitor group conversations in the galleries. Groups were followed by researchers who took notes on their movements and listened to the conversations on headphones. Average tour length 43 minutes. Followed by a post-interview.

Analytical approaches:

Content analysis of visitors' "look-aloud" commentaries and post-interviews.

Results and conclusions:

Stainton distinguishes categories of "museum talk" which are prompted by supplied curatorial information and which are supplied by the visitors themselves in reaction to the objects. Both types of talk were further analyzed into themes for aesthetic (visual aspects of the works) and anthropological (factual cultural information) focus. The results were then compared to levels of visitor experience with art, with African culture, and with museum-going in general. The balance of types of talk shifts from an emphasis on anthropological talk among low experience viewers to greater emphasis on aesthetic talk among high experience viewers, which the researcher believes indicates a lessening reliance on label information and a greater comfort in

one's own existing knowledge of cultural and geographical contexts and related stylistic variations among the artworks. In contrast, even though they admire the details and techniques of the objects, low experience viewers need the museum's information and guidance in deciphering and appreciated the objects.

Application(s) and impact of findings:

No mention as influencing Carnegie Museum of Art's practice or being incorporated into any guidelines.

Part of series of Museum Learning Community studies on museum conversations.

Art Museum Visitor Study Analysis FormStudy:

Worts, D. (1995). Extending the frame: Forging a new partnership with the public. In S. Pearce (Ed.), *Art in museums* (pp. 164-191). New Research in Museum Studies No. 5. London: Athlone.

Citation format: WortsResearcher(s):

Art museum educator.

Where published:

Anthology of art museum studies. Also based on Wort's series of AGO studies published in various visitor behavior and museum journals of the early 1990s (cited here).

Purpose:

To analyze the content (both written and drawn) of gallery-based "share-your-reaction" cards, in order to describe the creative responses that viewers express about artworks and exhibits when given the opportunity. And what those responses are composed of: visitors' own emotions, personal knowledge, memories, and associations.

Type of research:

Basic; evaluative of one exhibition space (a group of galleries).

Museums studied:

15 rooms of historical Canadian art at the Art Gallery of Ontario (AGO), Toronto.

Types(s) of art used or studied:

19th and early 20th century Canadian paintings representing the "Group of Seven" landscape painters; mostly realistic in visual style, i.e., not fully abstract.

Participants (or unobtrusively observed subjects) and their demographics:

Demographics of the participants include brief self-descriptions supplied by viewers on their share-your-reaction cards, but participants' cards were not selected on these characteristics.

Sampling and selection:

Purposeful selection among completed share-your-reaction cards to show variety of response types. Selection of 11 share-your-reaction cards drawn from 5,000 collected over several years. Also included 10 response cards from a reflective imaging exercise in response to one selected Canadian landscape painting (does not give total number of cards collected in this exercise).

Theoretical background:

None specified, but Worts mentions that the AGO engaged three consultants from environmental psychology, cognitive science, and depth psychology to help museum evaluation for improving the Canadian Historical Galleries (the implication is that Worts, too, takes a multidisciplinary approach to interactive museum learning).

Research design, methods, and techniques:

Qualitative analysis of the share-your-reaction cards.

Analytical approaches:

Content analysis of visitor texts and visual analysis of visitor drawings.

Results and conclusions:

Visitor interactions with and comments on artworks are very personal and reflective, sensitive, intense, and idiosyncratic. Many draw images in space provided for this, some based on the artworks, some based on own imagery inspired by the artworks; some place themselves in the images either literally or symbolically. Some write about their own memories of Canadian upbringings or lack of representation of their own ethnic groups in this particular group of paintings; some comment on the notion of art museums and their collecting and interpretation. In a reflective imaging exercise (guided imagery while listening to tape in front of 1919 landscape painting of wilderness), viewers entered into the painting and vividly imagined sights, sounds, and sensations of being there.

Worts argues that exhibition designers must provide means for visitors to create their own interpretations to complement those of the curatorial and educational messages of exhibits. He thinks the use of elicitation of personal responses like this could be very useful in getting visitors to experience modern art (here “20th-century”), which many viewers find frustrating and not well explained by museums.

He concludes with two general models of his own: a museum communication strategy and a conceptual model of the museum experience.

Application(s) and impact of findings:

Worts says this type of audience research has been applied to gallery redesign and the expansion of interpretive materials and strategies at the AGO, though no specific applications of this particular study are described here.

Appendix CCodebookI. Brief CodebookArt museum visitor types

Code label: *Inexperienced visitors*

Tag: INEXP

Code label: *Experienced visitors*

Tag: EXP

Thematic group 1: Visitor attitudes and assumptions about art museums, museum visiting, and museum information

Code label: *Visitors' background art information and museum-going skills*

Tag: BACK

Code label: *Visitors' belief in the usefulness and value of museum information*

Tag: USEFUL

Code label: *Information and "meaning"*

Tag: INFO/MEAN

Code label: *Learning about art and "experiencing" art*

Tag: LEARN

Code label: *Art museum awareness*

Tag: AWARE

Code label: *Social assumptions about art museums*

Tag: SOC/ASSUM

Thematic group 2: Visitor information gathering in the museum

Museum environment and display

Code label: *Museum design and atmosphere*
Tag: DESIGN

Code Label: *Exteriors and entrances*
Tag: EXT

Gallery and room-level features

Code label: *Museum settings for context support*
Tag: SETTING

Code label: *Display cases*
Tag: DISPLAY

Code label: *Period rooms*
Tag: PERIOD

Code label: *Lighting*
Tag: LIGHT

Code label: *Crowds*
Tag: CROWD

Gallery-level visitor responses

Code label: *Wayfinding*
Tag: WAYF

Code label: *Planning a visit and focusing*
Tag: PLAN

Object-level visitor responses

Code label: *Attraction and holding power of artworks*
Tag: ATTRAC

Code label: *Newness, surprise, and familiarity*
Tag: NEW

Physical information gathering from artworks

Code label: *Responses to visual and physical aspects of artworks*

Tag: VIS

Code label: *Time spent with artworks*

Tag: TIME

Emotional and creative responses and strategies

Code label: *Emotions*

Tag: EMOT

Code label: *Memory and associations*

Tag: MEM

Code label: *Creating and storytelling*

Tag: CREAT

Code label: *Judgments*

Tag: JUDG

Cognitive and intellectual responses and information-gathering strategies

Code label: *Comparison*

Tag: COMP

Code label: *Museum-prompted information-gathering tasks*

Tag: MTASK

Code label: *Self-imposed information-gathering tasks*

Tag: STASK

Social information gathering and construction

Code label: *Visiting in groups and visiting alone*

Tag: VISIT

Code label: *Other visitors not in group*

Tag: VISOTHER

Code label: *Museum staff*

Tag: STAFF

Code label: *Follow-up information*
 Tag: FOLLOW

Code label: *Conversation and communication metaphors*
 Tag: METAPH

Thematic group 3: *Visitor responses to the content of museum information*

By types of information

Code label: *Information overviews*
 Tag: INFOOVER

Code label: *Information on individual artworks*
 Tag: INFOART

Code label: *Information on artwork subjects*
 Tag: INFOSUBJ

Code label: *Information on artwork styles*
 Tag: INFOSTY

Code label: *Information on artwork functions*
 Tag: INFOFUN

Code label: *Information on artists*
 Tag: INFOARTIST

Code label: *Information on other peoples and cultures*
 Tag: INFOPEOP

Code label: *Information on artwork media and techniques*
 Tag: INFOMED

Code label: *Information on artwork valuation*
 Tag: INFOVALU

Code label: *Information on artwork provenance and collecting context*
 Tag: INFOPROV

Code label: *Types of art and art collections and their special documentation needs*

Tag: SPECNEED

By information sources

Code label: *Information in object labels*

Tag: INFOLAB

Code label: *Information in wall texts*

Tag: INFOWALL

Code label: *Information in brochures*

Tag: INFOBRO

Code label: *Information from human guides*

Tag: INFOGUIDE

Code label: *Information from other sources*

Tag: INFOOTHER

By information source formats

Code label: *Format of labels*

Tag: FORMLAB

Code label: *Format of wall texts*

Tag: FORMWALL

Code label: *Format of maps*

Tag: FORMMAP

Code label: *Format of brochures*

Tag: FORMBRO

By writing style and vocabulary

Code label: *Vocabulary of museum information*

Tag: VOCAB

Code label: *Writing style of museum information*

Tag: WRITING

Code label: *Visitors' distrust of museum information*
Tag: DISTRUST

II. Full Codebook

Art museum visitor types

Code label: *Inexperienced visitors*

Tag: INEXP

Definition: Infrequent and occasional visitors with low to moderate levels of art knowledge and museum-going experience.

Code label: *Experienced visitors*

Tag: EXP

Definition: Frequent visitors with moderate to high levels of art knowledge and museum-going experience.

Thematic group 1: *Visitor attitudes and assumptions about art museums, museum visiting, and museum information*

Thematic group definition: Visitors' need and desire for art museum information and their assumptions about the information-providing role of the museum. Visitors' level and quality of background knowledge and museum-going experience.

Code label: *Visitors' background art information and museum-going skills*

Tag: BACK

Definition: Visitors' art knowledge and museum-going experience. Visitors' preconceptions of the museum experience and being intimidated by art museums.

Code label: *Belief in the usefulness and value of art museum information*

Tag: USEFUL

Definition: Visitors' desire for art museum information and their belief that information enhances appreciation. But also including their statements about the interference of information in their enjoyment of art.

Code label: *Information and "meaning"*

Tag: INFO/MEAN

Definition: The differences between personal interpretation in encounters with art in relation to the "educational" information provided by the museum (relates to *Learning and experiencing*).

Code label: *Learning about art and "experiencing" art*

Tag: LEARN

Definition: The differences between the visitor learning process and more visual, emotional, and personal responses in museums (relates to *Information and meaning*).

Code label: *Art museum awareness*

Tag: AWARE

Definition: What visitors think the art museum (the one currently visited) has to offer and comparisons to what they have found in their previous experiences at this or other museums.

Code label: *Social assumptions about art museums*

Tag: SOC/ASSUM

Definition: Visitors' assumptions about who goes to art museums and how one should act in art museums.

Thematic group 2: Visitor information gathering in the museum

Thematic group definition: Visitors' physical, visual, emotional, intellectual, and social responses as information-gathering activities in the art museum-going experience.

Museum environment and display

Code label: *Museum design and atmosphere*

Tag: DESIGN

Definition: Visitors' responses to the physical design and decoration of the museum and the feelings evoked by the museum as a whole.

Code Label: *Exteriors and entrances*

Tag: EXT

Definition: Visitors' response to arriving at the museum and their feelings at entry, including reactions to the exterior architecture and entry spaces.

Gallery and room-level features

Code label: *Museum settings for context support*

Tag: SETTING

Definition: Visitors' awareness of the role of the museum settings in providing an intellectual and visual context for artworks.

Code label: *Display cases*

Tag: DISPLAY

Definition: Viewers' responses to viewing objects in display cases (relates to *Crowds*).

Code label: *Period rooms*

Tag: PERIOD

Definition: Visitors' responses to period rooms and vignette groupings of thematically or culturally related objects.

Code label: *Lighting*

Tag: LIGHT

Definition: Visitors' responses to the lighting of artworks and other elements such as labels.

Code label: *Crowds*

Tag: CROWD

Definition: Visitors' navigation through or around clusters or crowds of other visitors (relates to *Other visitors not in group* and *Display cases*).

Gallery-level visitor responses

Code label: *Wayfinding*

Tag: WAYF

Definition: How visitors move about in the art museum, including their orientation using its intellectual and physical organization and their reactions to signage, room numbering and differentiation, and other cues.

Code label: *Planning a visit and focusing*

Tag: PLAN

Definition: Visitors' mental strategies to get around the galleries, including pre-planning with museum resources when in the museum (i.e., not prior to arriving). Includes references to wandering vs. focused searching.

Object-level visitor responses

Code label: *Attraction and holding power of artworks*

Tag: ATTRAC

Definition: Visitors' initial attraction to artworks and what prompts visitors to stop, keep looking, and begin reading object labels (relates to VIS).

Code label: *Newness, surprise, and familiarity*

Tag: NEW

Definition: Visitors' surprise at artworks and their discovery of new things. Includes, conversely, remarks about the sameness of objects or their aspects (i.e., bringing boredom).

Physical information gathering from artworks

Code label: *Responses to visual and physical aspects of artworks*

Tag: VIS

Definition: Visitors' physical interactions with artworks (movements to see, physical reactions to). Includes references to visual elements in the artworks specifically mentioned by visitors (relates to ATTRAC).

Code label: *Time spent with artworks*

Tag: TIME

Definition: How much time visitors take and visitors' comments on taking time to view the artworks.

Emotional and creative responses and strategies

Code label: *Emotions*

Tag: EMOT

Definition: Visitors' emotions aroused in active interaction with artworks and reactions to the whole visit experience.

Code label: *Memory and associations*

Tag: MEM

Definition: Visitors' personal memories of experiences, people, and things in the past and associations with experiences, people, and things in the present, triggered by the artworks (relates to *Comparison*).

Code label: *Creating and storytelling*

Tag: CREAT

Definition: Visitors imagining the lives of and telling stories about others associated with the artworks (e.g., original users of the objects, artists), particularly in times and places past. Includes imagining themselves in the artwork's world (relates to *Information on others associated with artworks*).

Code label: *Judgments*

Tag: JUDG

Definition: How visitors value artworks, including primarily subjective reactions to how an artwork is “good” or “bad” and the reasons for their judgment. Not the same as “interpreting” the work, that is, talking about what the work means (see *Information and meaning*; relates to *Information on artwork valuation*).

Cognitive and intellectual responses and information-gathering strategies

Code label: *Comparison*

Tag: COMP

Definition: Visitors’ activity of comparing whole artworks or parts of artworks in the gallery. Involves careful and targeted looking at works before them or nearby. May include comparing features to well-remembered specific artworks (relates to *Memory and association*).

Code label: *Museum-prompted information-gathering tasks*

Tag: MTASK

Definition: Visitors’ use of directive labels or other instructions given by the museum as activities to look for specific things or to consider artworks from a particular point of view. Use in combination with *Comparison* if that is the museum-prompted task.

Code label: *Self-imposed information-gathering tasks*

Tag: STASK

Definition: Tasks or activities for examining or evaluating artworks that visitors invent and give to themselves. Use in combination with *Comparison* if that is the task they invent.

Social information gathering and construction

Code label: *Visiting in groups and visiting alone*

Tag: VISIT

Definition: Visitors’ preferences for visiting the art museum with others or visiting alone. Includes citing the advantages and disadvantages of either. Researchers’ takes on what happens when viewers respond to artworks together in the processes of information exchange and creation.

Code label: *Other visitors not in group*

Tag: VISOTHER

Definition: Visitors' interactions with other visitors (strangers) in the gallery, not including staff (relates to *Crowds*).

Code label: *Museum staff*

Tag: STAFF

Definition: Visitors' interactions with museum staff such as docents, guards, and information people (relates to *Information from human guides*).

Code label: *Follow-up information*

Tag: FOLLOW

Definition: Visitors' references to the use of either museum or outside information resources after visiting the museum.

Code label: *Conversation and communication metaphors*

Tag: METAPH

Definition: Visitors' (or researchers') references in a metaphorical way to "conversations" or communicating in some way with the artworks themselves or with others not present, such as the artists or past owners.

Thematic group 3: *Visitor responses to the content of museum information*

Thematic group definition: Visitor references to the content of different sources of information in the art museum.

By types of information

Code label: *Information overviews*

Tag: INFOOVER

Definition: Visitors' references to text overviews of the contents of whole galleries or exhibits.

Code label: *Information on individual artworks*

Tag: INFOART

Definition: Visitors' references to the basic elements of artwork information they need and/or what they want to know first.

Code label: *Information on artwork subjects*

Tag: INFOSUBJ

Definition: Visitors' references to the pictorial or abstract subjects of artworks.

Code label: *Information on artwork styles*

Tag: INFOSTY

Definition: Visitors' references to the visual styles of artworks.

Code label: *Information on artwork functions*

Tag: INFOFUN

Definition: Visitors' references to the original functions of artworks, e.g., ceremonial, religious, or commemorative.

Code label: *Information on artists*

Tag: INFOARTIST

Definition: Visitors' references to information about the artist(s).

Code label: *Information on other peoples and cultures*

Tag: INFOPEOP

Definition: Visitors' references to others associated with the artworks (not including the artists), including original users or owners, and to their interest in broader connections to other cultures and times (relates to *Creating and storytelling* and *Information on artwork provenance and collecting context*).

Code label: *Information on media and techniques*

Tag: INFOMED

Definition: Visitors' references to the media and creation techniques of artworks.

Code label: *Information on artwork valuation*

Tag: INFOVALU

Definition: Visitors' references to the value of artworks from the standpoint of renown or monetary value (relates to *Judgment*).

Code label: *Information on artwork provenance and collecting context*

Tag: INFOPROV

Definition: Visitors' references to the history of the object itself, including its presence in previous collections and how the museum acquired it (relates to *Information on others associated with artworks*).

Code label: *Types of art and art collections and their special information needs*

Tag: SPECNEED

Definition: Visitors' references to specific types of information presented or desired for specific types of art, including different object types (e.g., paintings vs. decorative art objects), art of unfamiliar or distant cultures, or art that simply might need more explanation, such as contemporary art.

By information sources

Code label: *Information in object labels*

Tag: INFOLAB

Definition: Visitors' references to the choice and order of information content of object labels (relates to *Format of labels*).

Code label: *Information in wall texts*

Tag: INFOWALL

Definition: Visitors' references to the choice and order of information content of wall texts (relates to *Format of wall texts*).

Code label: *Information in brochures*

Tag: INFOBRO

Definition: Visitors' references to the choice and order of information content of brochures and handouts of various sorts in the galleries, including take-away materials (related to *Format of brochures*).

Code label: *Information from human guides*

Tag: INFOGUIDE

Definition: Visitors' references to information content presented by docents or tour guides (relates to *Staff*).

Code label: *Information from other sources*

Tag: INFOOTHER

Definition: Visitors' references to the content of other sources of information in the museum, including films, slides, photos, and maps (relates to *Format of maps*).

By information source formats

Code label: *Format of labels*

Tag: FORMLAB

Definition: Visitors' responses to the sizes, placement, headings, and type sizes and styles in object labels (relates to *Information in object labels*).

Code label: *Format of wall texts*

Tag: FORMWALL

Definition: Visitors' responses to the sizes, placement, headings, and type sizes and styles in wall texts (relates to *Information in wall texts*).

Code label: *Format of maps*

Tag: FORMMAP

Definition: Visitors' responses to the size, placement, and legibility of cultural and geographic maps related to the artworks (relates to *Information from other sources*).

Code label: *Format of brochures*

Tag: FORMBRO

Definition: Visitors' responses to the sizes, headings, type styles, and availability and placement of brochures in the galleries (relates to *Information in brochures*).

By writing style and vocabulary

Code label: *Vocabulary of museum information*

Tag: VOCAB

Definition: Visitors' references to the vocabulary used in museum resources. Also includes the terms that visitors use or their feelings about their lack of vocabulary.

Code label: *Writing style of museum information*

Tag: WRITING

Definition: Visitors' references to the writing in museum sources including styles, length, and complexity.

Code label: *Distrust of museum information*

Tag: DISTRUST

Definition: Visitors' references to untrustworthy or inconsistent elements in art museum information.

VITA

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