

Striving to Persist: Museum Digital Exhibition and Digital Catalogue Production

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Although museum automation emerged in the mid-1960s, American and British art museums continue to have a difficult relationship with digital technology. Indeed, within the broader cultural heritage network, art museums have been particularly reluctant to disseminate their missions online. Particularly since the eighteenth century, art museums have remained beholden to certain perceptions of authority that are tied to the authentic object. Yet, as new technologies offer more efficient and cost-effective ways to store and disseminate information and promise greater accessibility, these museums have continued in their efforts to incorporate digital methods into their practices.

The following document considers the role of information organization in the creation of knowledge and value within and beyond the space of the art museum by interrogating two major scholarly products of the well-endowed, early 21st century Western art museum's ecosystem: online catalogues and online exhibitions. Given their contexts, the questions sustaining this research converge at the junction of three major areas: the new museology movement, exhibition culture, and museum computing. Public-facing, museum-based digital scholarship practices have emerged fairly recently (mostly from the mid-1990s onwards). The impact of these practices within the space of the art museum has not yet received a critical treatment, so the costs and benefits of this new mode of interpretation and production remain a mystery.

In this study, the author first defines physical exhibitions and catalogues to contextualize their digital counterparts, and building on this, examines two sites in depth using a case study

approach. Although *The Gallery of Lost Art* and *On Performativity* are inherently different in that one represents an online exhibition and the other an online catalogue, they shared overlapping lifespans and emerged in similar technological and museological landscapes. They also documented ephemeral artworks. The data collected throughout demonstrates the significance of socio-technical infrastructures and project management approaches, and how museums have struggled to adapt these practices to produce new information outputs. Museum computing seems to remain “disruptive” in 2019. Rather than revolutionizing through decentralization or democratization, computing seems to disrupt the mechanisms occurring behind the scenes in an art museum.

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1.0 Introduction

This dissertation investigates the history, development, and significance of online exhibitions and catalogues within American and British art museums, uncovering a narrative that has not yet received a comprehensive, critical treatment within the field of the information sciences, or elsewhere. Despite the abundance of institutions that employ online exhibitions and catalogues, there is a surprising paucity of critical scholarship relating to museum information systems and their evolving digital and exhibition cultures, more broadly.¹ The proceeding research explores and emphasizes the importance of socio-technical infrastructures and information formats as they are assembled and deployed within a specific institutional context, revealing important correlations between authenticity, longevity, and perceptions of success.

Art museums represent an ideal locus for this investigation, because of their unique reliance on idiosyncratic approaches to information organization and presentation. Unlike archives and libraries, systems of classification have not traditionally been on display within these types of institutions, so curators emerge as the sole interpreters of authority and value.² The advent of the World Wide Web, specifically, has significantly impacted how museums stored and disseminated information over the past two decades, uncovering the ways in which traditional conceptions of

¹ The definition of an “exhibition culture” is explored further in the following literature review. The term is used by Joe Kember, John Plunkett, and Jill Sullivan in their 2010 article, “What is an Exhibition Culture?” in *Early Popular Visual Culture*, 8, no. 4 (2010): 347-350. In this dissertation, the researcher uses “exhibition culture” to denote the work that is incorporated into and surrounds exhibition practice.

² Mike Crang, “On Display: The Poetics, Politics, and Interpretation of Exhibits,” in *Cultural Geography in Practice*, edited by Alison Blunt, Pyrs Gruffudd, Jon May, Miles Ogborn, and David Pinder (London: Routledge, 2003).

power are becoming increasingly problematic. The Internet poses a potential threat to the authoritative voice historically wielded by the art museum.

Alongside collections, exhibitions and their accompanying catalogues represent an important output of the complex museum ecosystem, and curation constitutes a highly-mediated approach to information organization. Although art museum exhibition programming is often viewed as distinct from, and separate to, the work of information management, this document demonstrates the utility of applying theories and practices from the field of information science to the task of understanding and explicating museum exhibitions and their related scholarship. The exhibition catalogues that document these displays embody a certain form of art historical scholarship that carries its own weight within a particular framework.³ The following research interrogates the socio-technical origins of select forms of digital scholarship within art museums in order to provide a foundation for closer evaluation and analysis of these projects. While online exhibitions and catalogues comprise the meat of this dissertation, physical exhibitions and catalogues will necessarily provide vital points of comparison, particularly within the discussion of the selected case studies. Exhibitions are mounted at a variety of distinct cultural institutions, including libraries and archives, but the following research relates most specifically to art museum environments as sites that are inherently interdisciplinary and yet wholly distinctive.

Although museums are, of necessity, engaging with different digital tools at higher rates, critical evaluations of such endeavors have been decidedly lacking. Indeed, the implications of using new technologies are not often adequately addressed in project proposals, planning

³ The scholarly authority of the exhibition catalogue is described further in the Definitional Introduction section of this chapter.

documents, visitor evaluations, or other institutional records within these types of organizations. Further, distinctions between and among different types of digital scholarship are seldom clearly articulated, and standards and best practices are therefore difficult to establish. Whereas physical exhibitions and catalogues often follow particular and familiar protocols, constrained by the parameters of the gallery space or the paper page, digital projects are hypothetically boundless. Museums have generally responded to the latter circumstance by creating bespoke websites that are often impossible to replicate or maintain at scale.

1.1 Significance of Study

This dissertation serves a number of functions, from the seemingly foundational to the rather complex. The following document strives to do some definitional work, while also identifying whether or not there are particular digital exhibition formats that are especially conducive to dissemination in an online environment. Historically, online exhibitions have garnered a fairly lukewarm reputation and managed to evade precise definition within the field of museums (and beyond) over the past twenty years. This research also aims to contribute to ongoing discussions of how and whether the online exhibition and catalogue, as they are presently envisioned, can be transformative or disruptive (or both) within the context of the museum. Workflow challenges and digital preservation and sustainability concerns emerge as the most significant barriers to the successful implementation of these types of projects. These projects also demonstrate a potential misalignment between user expectations and experiences. In the end, it would seem that digital exhibitions and catalogues in museums of fine art is often

inherently or unintentionally about preserving culture through a curatorial lens. The greatest challenge, then, may be for museums to accept online exhibitions and catalogues for what they are, and to admit that projects created in that environment require just as much care and maintenance as the gallery walls in their museum, and the art objects stored in their basement.

Museums accredited by the American Alliance of Museums (AAM) are expected to fulfill specific criteria, including core standards of “Public Trust and Accountability,” as outlined in the AAM’s “Characteristics of Excellence.” This standard necessitates that museums, as institutions, “strive to be inclusive and offer opportunities for diverse participation.”⁴ The International Council of Museums similarly operates according to a code of ethics which stipulates that museums “have an important duty to develop their educational role and attract wider audiences from the community, locality, or group they serve.”⁵ Although the Internet represents a potential venue for greater and more diverse participation, it has thus far mostly complicated matters for museums. Indeed, existing institutional infrastructures are often incompatible with the demands of digital projects. Despite this discordancy, the scholarly literature suggests that there is still a great emphasis on “the digital” at cultural heritage sites. For example, the terms “digital” and “digitization” are ubiquitous in recent volumes of *Collections: A Journal for Museum and Archives Professionals*, *Curator: The Museum Journal*, the *International Journal of the Inclusive Museum*, and *Museum & Society*.⁶

⁴ As stipulated on the organization’s website at <http://www.aam-us.org/resources/ethics-standards-and-best-practices/characteristics-of-excellence>, accessed on March 12, 2017.

⁵ “Code of Ethics,” International Council of Museums, <http://icom.museum/the-vision/code-of-ethics/>, last accessed on March 12, 2017.

⁶ The author conducted a search of each of these journals, mostly focusing on volumes published in 2017 and 2018, using Boolean operators to identify instances of “digi*” in the literature.

Throughout the data collection and analyses processes, the researcher gathered the necessary knowledge to provide recommendations and potential best practices for practitioners and scholars about the ways that online exhibitions and catalogues may or may not improve access and engagement within and beyond constituent communities and assist museums as they strive to evolve into or maintain their status as experiential, community hubs. However, the author also discovered the critical role of sustainability to the long-term success of these types of projects. Planning for long-term maintenance proved to be the Achilles' heel of digital project management, and the absence of digital preservation plans actually undermined the positive attributes of these forms of digital scholarship, even as they briefly expanded notions of museum communities.

1.2 Research Questions

This dissertation addresses two research questions:

Question 1.

Part 1: What constitutes the human and technical infrastructure of online exhibitions and online catalogues, two forms of digital scholarship in the art museum?

Part 2: How have art museums converged or diverged in their approaches to these types of digital scholarship?

Question 2. How have online exhibitions and catalogues, and the processes involved therein, transformed scholarly museum practices and perceptions of longevity? What parts of art museum

practice have been translated into the online environment and how and what are the implications of this?

1.3 Definitional Introduction

As this dissertation aims, in part, to describe and categorize different types of online exhibitions and catalogues in the art museum, this definitional introduction provides a necessary foundation for the proceeding content, including the literature review, environmental scan, and case study analyses. The researcher found that museums use the terms “digital” and “online” interchangeably to describe the exhibitions and catalogues that they mount online. Digital projects are not necessarily available online, so this usage is somewhat misleading. For the purposes of this research, the author looked at only public-facing online exhibitions and catalogues.

1.3.1 Digital Scholarship

In 2014, Clifford Lynch wrote that digital scholarship comprised “the entire body of changing scholarly practice.”⁷ Indeed, the term covers a wide range of scholarly production, as current publication methods often and inevitably incorporate digital technologies, whether in the writing and editing phases or the dissemination stage. Within the context of art museums, digital

⁷ Clifford Lynch, “The ‘Digital’ Scholarship,” *EDUCAUSE Review* 49, no. 3 (2014): 10.

scholarship is an umbrella term for online exhibitions, catalogues, and many other digital endeavors. This dissertation focuses on just two examples of digital applications within the museum that are scholarly in value.

1.3.2 The Exhibition

Within the context of art museums, especially, the physical exhibition is considered a type of performance, carefully choreographed and staged to respond to the human need for catharsis.⁸ This type of manipulation is perceived as an opportunity “to spatially play with different sequences of remembering and time,” or to generate impactful but ephemeral “temporary spectacles.”⁹ Early definitions of the word, “theatrūni,” include the concept of an exhibition, and initial cabinets of curiosity were perceived as “theatrum mundi,” or snapshots of the world.¹⁰ In the context of this dissertation, in particular, it is important to underscore the inherently ephemeral nature of traditional art exhibitions.

Eilean Hooper-Greenhill defines exhibitions as “displays based on aesthetic approaches to the laying out of knowledge.”¹¹ Stated more simply, exhibitions are careful expressions of information organization. They are comprised of an object or group of objects that has or have

⁸ Anastasia S. Varnalis-Weigle, “A Comparative Study of User Experience between Physical Objects and Their Digital Surrogates,” *Journal of Contemporary Archival Studies* 3, no. 3 (2016), <http://elischolar.library.yale.edu/jcas/vol3/iss1/3>.

⁹ Crang, “On Display”; Ramesh Srinivasan, Katherine M. Becvar, Robin Boast, and Jim Enote, “Diverse Knowledges and Contact Zones within the Digital Museum,” *Science, Technology, & Human Values* 35, no. 5 (2010): 741.

¹⁰ Eilean Hooper-Greenhill, *Museums and the Shaping of Knowledge* (New York; London: Routledge, 1992), 97; 80.

¹¹ Eilean Hooper-Greenhill, “Changing Values in the Art Museum: Rethinking Communication and Learning,” in *Museum Studies: An Anthology of Contexts*, Second Edition, edited by Bettina Messias Carbonell (Malden, MA: Blackwell Publishers, 2004), 518.

been selected, arranged, and presented according to a theme or narrative. The next chapter incorporates a more comprehensive history of art exhibitions, but this foundation will sufficiently inform the following definitions.

In their *Manual of Museum Exhibitions*, Gail Dexter Lord and Maria Piacente identify three phases of exhibition generation: development, design, and implementation.¹² The development phase incorporates an “exhibition brief” and “interpretive plan,” and the design phase involves both content coordination and the design itself. The online exhibition’s implementation phase perhaps diverges the most from a similar stage in the development of a physical show, as the latter comprises fabrication, installation, and an in-person opening or launch.

1.3.3 The Online Exhibition

According to Jennifer Mundy and Jane Burton, curators of the Tate’s *Gallery of Lost Art*, early online exhibitions were merely flat documentations of real-world, physical exhibitions that had been mounted in the museum.¹³ Although the fourth chapter of this dissertation attempts, in part, to dispel this theory, these early digital presentations were generally perceived as ineffectual and quick to become outdated. Such projects generally stemmed from museums’ Collections Management Systems (CMS), databases that were viewed as having “poor user

¹² Gail Dexter Lord and Maria Piacente, “Introduction: The Exhibition Planning,” in *Manual of Museum Exhibitions*, Second Edition, edited by Barry Lord and Maria Piacente (Rowman & Littlefield Publishers, 2014), 21.

¹³ Jennifer Mundy and Jane Burton, “Online Exhibitions,” in *Museums and the Web 2013*, edited by Nancy Proctor and Rich Cherry (Silver Springs, MD: Museums and the Web, 2013).

interfaces,” and that were “extremely difficult to learn to use.”¹⁴ As such, online exhibitions were not generally considered to be user-friendly. Therefore, they also did not pose a significant threat to the museum’s traditional knowledge transmission processes, as the physical experience was still considered the superior, authoritative referent.¹⁵

Maribel Hidalgo Urbaneja, PhD candidate at the University of Glasgow, is currently endeavoring to categorize different types of digital scholarship as part of her own dissertation research. In her recent contribution to *Museums and the Web 2018*, Urbaneja wrote:

online exhibitions are frequently understood as mere surrogates whose features are more associated with access and documentation of a distant and/or past physical event to the point of saying that there is “no online version of an exhibition” since the online exhibition is a record of the physical one.¹⁶

Urbaneja’s assessment echoes the widespread concerns of curators and other museum professionals. Namely, that online exhibitions are mere replicants of actual intellectual content.¹⁷ Further, are online exhibitions defined only by what they have attempted to imitate?

As early as 1998, Marc Tinkler and Michael Freedman cautioned that online exhibitions could and would only be relevant if they did more than function as digitized museum collections. Rather, they needed to “reveal the underlying relationships that transform a random collection of

¹⁴ Howard Besser, “Integrating Collections Management Information into Online Exhibits: The World Wide Web as a Facilitator for Linking Two Separate Processes,” in *Museums and the Web 1997: Proceedings*, edited by David Bearman and Jennifer Trant (Los Angeles, California: Archives & Museum Informatics, 1997).

¹⁵ Fiona Cameron, “Beyond the Cult of the Replicant: Museums and Historical Digital Objects—Traditional Concerns, New Discourses,” in *Theorizing Digital Cultural Heritage: A Critical Discourse*, edited by Fiona Cameron and Sarah Kenderdine (Cambridge, MA: MIT Press, 2007), 55.

¹⁶ Maribel Hidalgo Urbaneja, “Is this an Exhibition or a Publication? Defining Online Resources Types in Art Museums,” *Museums and the Web 2018*, <https://mw18.mwconf.org/paper/is-this-an-exhibition-or-a-publication-defining-online-resources-types-in-art-museums/>.

¹⁷ Cameron describes the “replicant” in “Beyond the Cult” (2007) as the reproduction of the material object, a thing that is traditionally considered inferior to the authoritative object in the art museum setting.

objects into a meaningful exhibition.”¹⁸ Indeed, online exhibitions were called upon to incorporate curatorial work, rather than play a supportive role as digitized documentation of physical exhibitions. Similarly, in the 2014 *Manual of Museum Exhibitions*, Ngaire Blankenberg provides a fairly straightforward definition of online exhibitions that emphasizes their intellectual credentials and potential for creating a heightened user-experience. “Virtual exhibitions are similar to physical exhibitions,” writes Blankenberg, “often capitalizing on the web’s capacity for a personalized experience in which the user directs [their] own journey...they are put together to convey a particular idea...and often feature original content.”¹⁹

However, not all definitions of digital exhibitions incorporate this interpretive component. The 2012 International Network for Digital Cultural Heritage e-Infrastructure (INDICATE) *Handbook on virtual exhibitions and virtual performances version 1.0* states that “a virtual exhibition is a hypermedia collection made up of digital items.”²⁰ This definition aligns closely to the one used within the context of digital curation. According to the Digital Curation Center’s Lifecycle model, online exhibitions are complex digital objects made up of “simple” digital objects, or “an opaque string of bits” with identifiers and metadata.²¹ The Lifecycle model accommodates discussion of context and structure, but fails to examine the content of its objects. In the case of digital scholarship in art museums, the conceptual underpinnings of a project are

¹⁸ Mark Tinkler and Michael Freedman, “Online Exhibitions: A Philosophy of Design and Technological Implementation,” in *Museums and the Web 1998*,
https://www.museumsandtheweb.com/mw98/papers/tinkler/tinkler_paper.html.

¹⁹ Ngaire Blankenberg, “Virtual Experiences,” in *Manual of Museum Exhibitions*, Second Edition, edited by Barry Lord and Maria Pieacente (Rowman & Littlefield Publishers, 2014), 192.

²⁰ Maria Teresa Natale, Sergi Fernández, and Mercè López, *Handbook on virtual exhibitions and virtual performances, version 1.0*, accessed July 11, 2018,
file:///Users/aislingquigley/Downloads/Handbook_on_Virtual_Exhibitions_and_Virtual_Performances.pdf.

²¹ “DCC Curation Lifecycle Model,” *Digital Curation Center*, accessed July 26, 2016,
<http://www.dcc.ac.uk/resources/curation-lifecycle-model>; Stephen Abrams, “The Role of Format in Digital Preservation,” *VINE* 34, no. 2 (2004), 49.

incredibly important, and the content or substance of the object is integral to the endeavor as a whole.

Online exhibitions manifest as websites, or what sociologist Susan Leigh Star would consider to be “boundary objects.” A website exists at the boundary of disciplines and formats: it is used across different fields and also can be interpreted variously as “a record, a computing resource, a sales platform, a corporate management tool, and a manifestation of contemporary culture.”²² An online exhibition is many things, and this dissertation does not attempt to harness all of these manifestations. As this dissertation research takes place at the juncture of information sciences and the humanities, it primarily focuses on exhibitions occurring within that space.

1.3.4 The Catalogue

In his session at the 2011 Museums and the Web Conference, Nik Honeysett suggested that catalogues are similar to exhibitions, but possess greater scholarly integrity. “Exhibition modules are discrete resources,” he writes, “reflecting not only a physical installation but also some degree of scholarship around it and may be in default of an exhibition catalogue.”²³ The Getty Foundation forefronts the superiority of the catalogue in relation to other types of publication, describing it as a scholarly publication with a “distinguished pedigree” that makes “available detailed information about the individual works in a museum’s collection, ensuring

²² Geoffrey Yeo, “Concepts of Record (2): Prototypes and Boundary Objects,” *The American Archivist* 71, no. 1 (Spring-Summer, 2008), 131.

²³ Nik Honeysett, “The Transition to Scholarly Catalogues,” in *Museums and the Web 2011: Proceedings*, edited by David Bearman and Jennifer Trant (Toronto: Archives & Museum Informatics, 2011).

the contents a place in art history.”²⁴ Sarah Hromack similarly emphasizes this perception of the traditional exhibition catalogue as “an object, an heirloom, a relic.” Indeed, she suggests that the catalogue, by definition, reinforces the importance of physical exhibitions:

...the museum produces both knowledge and value in the exhibition catalogue, reifying the object-based aesthetics that still govern the physical gallery space while affirming its own desire for cultural, academic, and historical gravitas.²⁵

Integral to these definitions of the catalogue is the promise of a persistent and tangible record of intellectual labor.

1.3.5 The Online Catalogue

Exhibition catalogues have historically represented the permanent documentation of an in-gallery show, but are experiencing an identity shift as they migrate online (with or without long-term preservation plans). Significant scholarly research occurs in the production of museum catalogues, and this process has been rapidly evolving over the past several years, partly in response to the unsustainable or unjustifiable costs of producing the traditional print catalogue. Getty’s Electronic Cataloguing Initiative (1997-2003) set the wheels in motion, funding projects that would improve documentation, and increase online access to museum collections.²⁶ However, prior to the Getty Foundation’s launch of the subsequent Online Scholarly Catalogue Initiative (OSCI) in 2009, there were still very few models of online catalogues in existence.

²⁴ J. Paul Getty Trust, “Museum Catalogues in the Digital Age: A Final Report on the Getty Foundation’s Online Scholarly Catalogue Initiative” (2017), <https://www.getty.edu/publications/osci-report/>.

²⁵ Sarah Hromack, “It’s Complicated: The Institution as Publisher,” *Walker*, August 7, 2015, <https://walkerart.org/magazine/its-complicated-institution-publisher>.

²⁶ Ann Schneider, “L.A. Art Online: Learning from the Getty’s Electronic Cataloguing Initiative” (2007), https://www.getty.edu/foundation/pdfs/la_art_online_report.pdf.

According to Robin Dowden, former director of New Media Initiatives at the Walker Art Center, models for such online publishing strategies in museums “didn’t really exist.”²⁷ In the case of OSCI, digital catalogues were presented as more than just literal translations of physical catalogues into the online realm.

1.4 Sites of Study

Two primary case sites inform the following exploration of online exhibition and catalogue production in art museums. Although the projects are inherently different in that one represented an online exhibition and the other is an online catalogue, they shared overlapping lifespans and emerged in similar technological and museological landscapes. The succeeding overview provides a starting point for understanding the cases by establishing some relevant information: an introduction to the individual projects, a basic framework of institutional approaches to digital media strategies, and a brief analysis of the museums’ respective web presences.

1.4.1 *The Gallery of Lost Art*

The first physical Tate site, Tate Gallery (now known as Tate Britain), opened in 1897 and existed as the sole Tate location until Tate Liverpool opened in 1988. Tate St. Ives, Cornwall

²⁷ Robin Dowden (former director of New Media Initiatives at the Walker) in discussion with the author, June 11, 2017.

was founded just five years later, in 1993, and Tate Modern opened to the public in 2000. In the midst of these latter gallery openings, the Tate website emerged, in 1998, as a vital repository of information related to the evolving physical spaces within the entire Tate network. As the second chapter of this dissertation will demonstrate, significant changes occurred within the field of museology over the course of the twentieth century, and the Tate was part of making these changes. The institution and its approach to online interaction have developed considerably in the intervening decades.

In the past twenty years, the Tate has demonstrated a clear commitment to incorporating digital media into its strategic planning, and the website at www.tate.org.uk remains a vital mechanism for cultural exchange. In a 2014 website survey conducted by the Tate, staff members reported that the overarching institutional website receives 1.5 million visits per month from 910,000 unique users (so almost 11 million per year).²⁸ To provide a comparison, an Annual Report published in September of 2017 states that the quartet of museums collectively received a record-breaking 8.4 million on-site visitors during the 2016-2017 season.²⁹ This success is attributed in part to the opening of a new building at Tate Modern (the Blavatnik Building) in 2016, the re-organization of collection displays, an increased focus on pedagogical content, and the “ramping up” of digital offerings. Although these offerings are, in part, tied to the Tate’s newest building, the institution continues its legacy of creating innovative, digital content.

²⁸ Elena Villaespesa, Sabine Doolin, John Stack, Morris Hargreaves McKintyre, “Tate Website Audience Segmentation” (2014), accessed June 1, 2017, <http://www.tate.org.uk/download/file/fid/46243>.

²⁹ Tate, “Tate publishes Annual Report 2016/17,” accessed August 13, 2018, <http://www.tate.org.uk/press/press-releases/tate-publishes-annual-report-201617>.

Indeed, the Tate quickly gained recognition for its online work, earning its first *Museums and the Web* award in 2004 in the category of “Best Research Site, Museum Search Engine, or On-line Database.”³⁰ In 2006, Tate Media (formerly the Department of Communications) was officially established under the leadership of Will Gompertz as, “a framework in which the talent and intellectual property within Tate can be harnessed to maximum effect to reach far beyond the gallery walls.”³¹ By 2009, according to Andrew Dewdney, David Dibosa, and Victoria Walsh, Tate Media had fully established itself within “a corporate model of online publishing.”³² It was “a dedicated team within Tate looking at digital technologies and content” and increasingly integrating social media platforms such as Facebook, Vimeo, Twitter, and Google.³³ Having established its technical and academic credentials, the Tate was among the institutions selected to participate in the 2009-2015 Online Scholarly Catalogue Initiative (OSCI), a project discussed in the following chapters.

The composition and functions of Tate Media have changed over the years, and are now absorbed under the umbrella of Tate Digital, a department that incorporates new digital strategies, assessment practices, and initiatives. These developments are consistent with the overall, stated mission of the Tate, an institution that strives “to increase the public’s enjoyment and understanding of British art from the sixteenth century to the present day and of international

³⁰ Museums and the Web, “Best of the Web: Museums and the Web 2004,” accessed August 8, 2018, https://www.museumsandtheweb.com/mw2004/best/final_research.html.

³¹ Tate, “Tate launches Tate Media and announces plans to transform Tate Online into a broadband arts channel with online partner, BT,” Press Release (July 10, 2006), <http://www.tate.org.uk/press/press-releases/tate-launches-tate-media-and-announces-plans-transform-tate-online-broadband>.

³² Andrew Dewdney, David Dibosa, and Victoria Walsh, *Post-Critical Museology: Theory and Practice in the Art Museum* (London; New York: Routledge, 2013), 184.

³³ Tate, “Tate launches Tate Media.”

modern and contemporary art.”³⁴ Still, integrating innovative practices is never an easy task, even if these practices seemingly align well with institutional priorities. Indeed, the Tate case study illustrates both the benefits *and* challenges of planning, producing, and sustaining digital projects.

The Gallery of Lost Art, the first site of study for this dissertation, represents an important milestone in the narrative of the Tate, as an institution, but also within the broader historiography of online exhibitions. Indeed, and in a variety of ways, *Lost Art* sought to establish a new paradigm for online exhibitions at art museums, and further secure the Tate’s reputation as an innovative organization invested in technology. *Lost Art* also sought to emphasize the connection between form and functionality by doing things that could not be done in the museum gallery space or within the pages of a book. The project team focused on engagement with digitized archival material, for example, to demonstrate the value of virtual spaces in describing and remembering lost artwork. After all, the exhibition featured artworks that, even if they still existed, would be difficult or impossible to assemble from their various parts of the world. Some of the site-specific or performative works could never have been translated into the gallery space, or were intended to remain ephemeral.³⁵ The ambitious website was mounted in July of 2012, and intentionally removed from the public domain a year after its initial launch. Although it is primarily associated with the Tate, the online exhibition represents the culmination of a multi-year collaborative effort with Channel 4, a British public-service television corporation, and ISO, a Glasgow-based creative design company.

³⁴ Tate, “About Tate,” accessed August 8, 2018, <http://www.tate.org.uk/about-us>.

³⁵ Angela Watercutter, “Virtual Gallery Shows Duchamp’s Urinal and *Everyone I Have Ever Slept With*,” *Wired*, October 4, 2012, <https://www.wired.com/2012/10/virtual-gallery-of-lost-art/>.

1.4.2 On Performativity

Since its inception, the Walker Art Center in Minneapolis, Minnesota, has embraced transdisciplinary, cross-institutional collaborations, while also aiming to communicate with an increasingly international audience.³⁶ Indeed, the institution has demonstrated a long-term commitment to innovation. Unsurprisingly, the Walker adopted the Internet early on, availing of this productive channel for generating content and captivating new visitors. As Susana Smith Bautista elaborates in *Museums and the Digital Age*, the Walker arrived relatively early to the “new media” table, introducing its New Media Initiatives (NMI) department in the 1990s. Under the leadership of Steve Dietz, NMI was committed, in part, to the establishment of a collection of “new media/digital/net art.”³⁷ As artists began to engage with the Internet, Dietz aimed “to treat net art like any other contemporary art in their [museum] collections.”³⁸ The organization’s website, <https://walkerart.org/>, emerged around the same time, and was first captured by the Internet Archive’s Wayback Machine in December of 1996 (two years ahead of the Tate’s website).³⁹

A year later, Gallery 9 (<http://gallery9.walkerart.org/>), a “site for project-driven exploration, through digital-based media, of all things ‘cyber,’” was published. An online

³⁶ Susana Smith Bautista, *Museums in the Digital Age: Changing Meanings of Place, Community, and Culture* (AltaMira Press, 2013).

³⁷ Bautista, *Museums in the Digital Age*, 72.

³⁸ Steve Dietz, interview by Garnet Hertz, Concept Lab, http://www.conceptlab.com/interviews/hertz_dietz_blackflash_19-3.pdf.

³⁹ Walker Art Center, December 1996, accessed August 12, 2018, from the Internet Archive, <http://web.archive.org/web/19961228065010/http://www.walkerart.org:80/>.

exhibition space devoted to born-digital artworks, the site essentially functioned as a database of artists working in the digital realm and their artworks.⁴⁰ Although Gallery 9 is no longer actively maintained or updated, and Dietz' position was eliminated in the wake of the 2001 economic downturn, the Walker had safely secured its place as a "leader in high-tech cultural initiatives."⁴¹ The Art Center continued to excel in the area of digital technology, and in 2011 a clean and journalistic version of the Walker website was unveiled. According to Bautista, the new site demonstrated "that the Walker continues to be a pioneer in the international field of museums, the arts, and digital technology."⁴² The site was revamped again in 2016.

The past three decades of change are consistent with the Walker's broader institutional philosophy of accommodating experimentation while emphasizing community engagement. The latter elements, in particular, are illustrated in the Art Center's current mission statement:

The Walker Art Center is a catalyst for the creative expression of artists and the active engagement of audiences. Focusing on the visual, performing, and media arts of our time, the Walker takes a global, multidisciplinary, and diverse approach to the creation, presentation, interpretation, collection, and preservation of art. Walker programs examine the questions that shape and inspire us as individuals, cultures, and communities.⁴³

The Walker's website attempts to replicate the ethos of the physical institutional space. In a sense, this case study represents a microcosm of the Art Center, as it incorporates every element of the institution's mission statement within the confines of its site pages.

Having emerged as an innovative museum with a commitment to digital projects, the Walker was invited to take part in the Getty Foundation's Online Scholarly Catalogue Initiative

⁴⁰ Walker, "Gallery 9," accessed June 11, 2018, <http://gallery9.walkerart.org/>.

⁴¹ Bautista, *Museums in the Digital Age*, 73; Pamela Jennings, "New Media Arts | New Funding Models," December 2000, accessed August 13, 2018, <https://www.issuelab.org/resources/10403/10403.pdf>.

⁴² Bautista, *Museums in the Digital Age*, 79.

⁴³ Walker, "Mission and History," accessed August 13, 2018, <https://walkerart.org/about/mission-history>.

(OSCI) in 2009, alongside seven other institutions (the Art Institute of Chicago, the Freer and Sackler Galleries, the Los Angeles County Museum of Art, the National Gallery of Art, the San Francisco Museum of Modern Art, and the Seattle Art Museum and the Tate). The primary creative output of the Walker's OSCI project was *On Performativity*, an online catalogue published in 2014. It is the first of the two volumes that currently comprise the *Living Collections Catalogue*, an initiative that continues at the Walker. The second volume, *Art Expanded, 1958-1978*, was published in conjunction with a physical exhibition of the same name that was on view in the Walker galleries between June 2014 and March 2015. *On Performativity* is unique because it is not tethered to an exhibition that was mounted in a physical gallery space at the host institution. The catalogue also endeavored to document events that are inherently ephemeral rather than physical objects from the museum's permanent collection. Such stand-alone catalogues are rare, primarily because staff generally receive minimal institutional support to initiate projects that are not exhibition-related, as such endeavors are not as appealing to public relations campaigns and similar revenue-generating efforts.⁴⁴

1.5 Conclusion

The structure of this dissertation reflects the iterative nature of the research. Chapter 2 features an extensive literature review that contextualizes and legitimizes the succeeding work, but also reveals gaps in the scholarship surrounding digital projects in museums. This work leads

⁴⁴ Eric Crosby (Richard Armstrong Curator, Carnegie Museum of Art) in discussion with the author, May 21, 2018.

into the third chapter, which describes the qualitative methods that the author used in collecting the data that informs the rest of this document. The environmental scan (Chapter 4) proved worthy of its own chapter, as it evolved from a foundational study to a comprehensive examination of the field, culminating in findings that informed the case study approach. Chapter 4 also serves as a bridge between the literature review and the chapters discussing the sites of study, as it connects theory to practice. Chapter 5 is dedicated to *The Gallery of Lost Art*, the first site of study. This project was launched and destroyed prior to the publication of the catalogue developed by the Walker Art Center, so sets the stage for the sixth chapter.

The sub-structure of both Chapter 5 and 6 were inspired, in part, by the author's work on the Visual Media Workshop's *Socio-Technical Sustainability Roadmap (STSR)*, a project funded by the National Endowment for the Humanities. The *STSR* offers a structured approach to assessing the sustainability goals of digital projects, beginning with "Section A: Project Survey," and concluding with the creation of digital sustainability plans. Within the modules that populate each section of the roadmap, participants are asked to consider the various elements of their digital projects, including project scope, longevity, and socio-technical infrastructure. The researcher adapted these elements as useful sections for this dissertation's case study review for several reasons. These components invite discussion of the intellectual goals of the digital projects, the project deliverables, perceptions of project permanence, and the human and technical frameworks operating at the two museums. The author also wanted to ensure that she could discuss the significance of the projects, so incorporated an impact section adapted, in part,

from Burdick et. al's rubric for evaluating digital humanities projects.⁴⁵ This rubric is discussed in greater depth in the third chapter.

Chapter 7 of the dissertation is comprised of a cross-case analysis and discussion that thoroughly analyzes the two case studies within this same framework. The discussion section reflects back upon the categories established in the literature review, responding to each of these in turn with the new knowledge gained through the data collection and analysis phases of this dissertation. The final chapter synthesizes the research, with a reflection on the methodology, and provides recommendations and potential directions for future research.

This dissertation illuminates the ways in which both *Lost Art* and *On Performativity* represent innovative forms of digital scholarship. It also demonstrates how the two projects required their respective institutions to confront the very real challenges that are posed by new types of information production and presentation. Both endeavors called into question previous assumptions about project planning and execution, and the very notion of something ever being “complete” or “finished.” Neither the Tate nor the Walker could or can truly say that their respective projects are done and dusted, so long as remnants continue to be maintained online. In the process of interrogating these inherent qualities of digital projects, the following chapters also attest to the seeming incompatibility between traditional organizational hierarchies and roles and new, collaborative modes of engagement. At its core, this dissertation represents a narrative about the ephemeral nature of digital projects and the impact of socio-technical infrastructures on exhibitions and computing in museums. These socio-technical factors directly contribute to

⁴⁵ Anne Burdick, Johanna Drucker, Peter Lunenfeld, Todd Presner, and Jeffrey Schnapp, *Digital_Humanities* (Cambridge, Massachusetts: The MIT Press, 2012).

digital preservation and sustainability plans, and also demonstrate the emergence of new and undefined roles for practitioners, scholars, and visitors within the space of the museum.

2.0 Review of the Literature

As the previous chapter outlined, this dissertation considers the role of information organization in the creation of knowledge and value within and beyond the space of the museum by explicitly interrogating two types of digital scholarship in these institutions: the online exhibition and catalogue. Given their contexts, the questions sustaining this research converge at the junction of three major areas: the new museology movement, exhibition culture (including the role and format of accompanying catalogues), and museum computing. The first and second of these research sectors features a vast, varied, and meandering scholarship that extends across disciplinary and institutional boundaries. Often appearing in tandem, the scholarly literature about museums, exhibitions, and exhibition catalogues has increased exponentially in the past four decades. Exhibitions and exhibition practices, more specifically, have undergone closer critical analysis since the early 2000s.⁴⁶ The third component of this dissertation, focusing on museum computing, is less expansive in scope but nonetheless complex in content, as both practitioners and theorists from divergent disciplinary backgrounds attempt to negotiate a common ground. In its brief history, computing, and particularly humanities computing, has significantly impacted the cultural heritage landscape, including museums. The online exhibition and catalogue are two, outward-facing components of museum computing.

The following literature review first historicizes the art museum, focusing on the socio-cultural foundations of these institutions. A treatment of museum computing proceeds from this

⁴⁶ Kember, et. al, “What is an exhibition culture?” 347.

narrative. The three previously-described research areas are then discussed within and among four themes:

1. authority and the authoritative voice
2. the “object document”
3. modes of interpretation
4. reconceptualizing value

Considering the range and extent of scholarship occurring within and at the boundary of these themes, the following survey represents only the literature that is most salient to the present research agenda: contextualizing and framing the online exhibition and catalogue as components of the museum’s information ecosystem.

Scholars often describe the exhibition as the primary vehicle for meaning making and *the* dominant medium of communication and information exchange within modern, contemporary art museums.⁴⁷ The catalogue is subsequently viewed as the authoritative record of these important, ephemeral events. Although their significance is undisputed, various and sometimes incongruent definitions and descriptions of museum exhibitions have appeared in a diverse range of scholarly work. In particular, the corpus of literature on museum exhibitions reveals considerable coverage, from disparate vantage points, within the fields of Museum Studies, Art History, Archives and Museum Informatics, Anthropology, and Sociology. Most often, definitions and histories of the museum exhibition appear in literature documenting the conception and evolution of the museum, as an institution. Thus, discussion of the history of the exhibition will emerge from the proceeding historiography of the museum.

⁴⁷ This idea will receive more comprehensive treatment later in this review, but is referenced in many publications, including the following books and articles: Sophia Krzys Acord, “Beyond the Head: The Practical Work of Curating Contemporary Art,” *Qual Social* 33 (2010): 447; Reesa Greenberg, Bruce W. Ferguson, and Sandy Nairne, *Thinking about Exhibitions* (New York: Routledge, 1996), 2; David Dean, *Museum Exhibition: Theory and Practice* (New York; London: Routledge, 2002), 3.

Digital scholarship in museums has evaded precise definition, in part because of a complicated array of factors that are perceived to exist at the meeting place of humanists and machines. Online exhibitions, for example, are fundamentally complex in that they interweave elements of content and structure, require sophisticated sustainability and digital preservation strategies, and incorporate a variety of socio-technical factors (including a network of creators and a list of technical specifications). Indeed, the introduction of digital media and methodologies has impacted the sphere of the museum in a multitude of ways, offering opportunities and posing new challenges. David Bearman, Deputy Director of the Office of Information Resources Management at the Smithsonian from 1981 to 1986 and Founding Partner of *Archives & Museum Informatics*, cautions against whole-heartedly embracing the web without considering other institutional factors that contribute to strategic planning.⁴⁸

Bearman and Jennifer Trant co-authored an essay in 1999 that alluded to the intricacy of copyright laws, relevancy, and sustainability in this era of significant technological and infrastructural change:

We can expect that museums as holders of unique information, as non-profits devoted to public education, and as fragile institutions in need of financial support, will be struggling for the proper balance to strike between free access to cultural heritage and the need to find self-sustaining mechanisms to re-present the objects in their custody in the virtual world.⁴⁹

This struggle remains relevant in the twenty-first century, and is borne out in the second case study of this dissertation, based at an institution that takes a non-traditional approach to the notion of “custody.” To further complicate matters, Bearman and Trant also suggest that there are three types

⁴⁸ Ross Parry, *Recoding the Museum: Digital Heritage and the Technologies of Change* (New York; London: Routledge, 2007).

⁴⁹ David Bearman and Jennifer Trant, “Interactivity Comes of Age: Museums and the World Wide Web,” *Museum International* 51, no. 4 (1999): 24.

of engagement that can occur between humans and digital environments. These include: interaction between “people and virtual objects, people and others visiting virtual spaces, and people and systems responding to their non-algorithmic curiosity.”⁵⁰ The latter type of interaction relates to the broad notion of humanity, and how systems must accommodate humanistic approaches to information.

In her 2013 publication, *Museums in the Digital Age: Changing Meanings of Place, Community, and Culture*, Bautista speaks to the holistic changes incurred by technological innovation. The mid-2010s hailed another “significant shift” in museology.⁵¹ This new era, it seems, is not marked simply by the introduction of a computer in an office or a mobile device in a gallery, but through the broader transformation that such technologies provoke. John Falk and Lynn Dierking also address the impact of “digital and online tools” in their 2013 update to *The Museum Experience* called *The New Museum Experience Revisited*. Their original publication, published in 1992, emerged towards the beginning of the new museum age, and the revised edition asserts the exponential growth of scholarship in the field. In particular, Falk and Dierking address the importance of technological innovations in the preceding two decades. Digital media, they state, “represent an increasingly important part of the museum experience, despite the fact that they were both relatively insignificant features in the world of museums when the first edition of this book was written.”⁵²

⁵⁰ Bearman and Trant, “Interactivity Comes of Age.”

⁵¹ Bautista, *Museums in the Digital Age*.

⁵² John Falk and Lynn Dierking, *The Museum Experience Revisited* (Walnut Creek, CA: Left Coast Press, Inc., 2013), 16.

2.1 Historicizing the Museum and its Scholarship

The history of museums is long, extending at least as far back as the third century BCE to the establishment of the Museion and the accompanying Library of Alexandria. Built by Ptolemy Soter, Beverly Butler describes Alexandria as the “point of origin of the West’s cultural identity,” and as a model of how “identity and memory-work can be managed, mediated, and manipulated.”⁵³ Indeed, although the physical manifestation of this cultural behemoth was destroyed in AD 415, the project (one that was tied to Alexander the Great’s mission to conquer the world) continues to have a “hold” on the “Western imagination.”⁵⁴ Sites espousing a similarly idealistic vision of intellectual and humanistic inquiry (and elitism) include the late seventeenth-century *Salon de Paris*. The Paris Salons, originally organized by the *Académie des Beaux-Arts*, were defined by passive consumption and appreciation of royally endorsed artworks. The 1699 Salon, held at the Louvre, even featured a royal throne and a portrait of Louis XIV, and was thus “suffused with reminders of monarchical power and patronage.”⁵⁵

A significant shift in priorities occurred within the space of the museum between the seventeenth and eighteenth century. Whereas museums of the previous century were preoccupied with presenting a complete series of works, even if this required the inclusion of replications, the 1700s foregrounded the importance of authenticity. This concept, or “the question of distinguishing the ‘true’ from the ‘false,’ the ‘real’ from the copy,” also led to the emergence of

⁵³ Beverly Butler, *Return to Alexandria: An Ethnography of Cultural Heritage Revivalism and Museum Memory* (Walnut Creek, California: Left Coast Press, 2007), 17.

⁵⁴ Butler, *Return to Alexandria*, 31; 87.

⁵⁵ Robert W. Berger, *Public Access to Art in Paris: A Documentary History from the Middle Ages to 1800* (University Park, PA: The Pennsylvania State University Press, 1999), 74.

new classifications of objects according to their physical qualities.⁵⁶ Exhibitions emerged as a significant way to organize these objects according to a narrative or logic. For example, an installation in the gallery at the Palazzo Doria-Pamphijl that opened in 1768 was apparently dictated by “affinities of style as well as genre.”⁵⁷ Additionally, overhead gallery lighting emphasized the individuality of art objects, demonstrating the uniqueness of each piece.⁵⁸

Towards the middle and end of the nineteenth century, several new museums were erected in Europe and the United States and the museum gradually began to diverge from its aristocratic origins, placing increasing importance on educational functions for a wider audience. Still, public exhibitions did not become “the major function and attraction of museums” until the latter half of the twentieth century.⁵⁹ Although they shed some of their exclusive tendencies, Anglo-Saxon art museums comfortably maintained their authoritative position well into the twentieth century, evading or avoiding significant scholarly scrutiny. Prior to the 1970s, according to Eilean Hooper-Greenhill, there was an apparent lack of academic literature or at least “any rigorous form of critical analysis” on the subject of the museum.⁶⁰ Since then, the history conveyed in and through the emerging literature has not proceeded neatly or linearly. The history is fractured, in part, because it has mostly been written by museum professionals who “do not see eye to eye” with one another or with those outside of their community.⁶¹ In addition,

⁵⁶ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 144.

⁵⁷ Carole Paul, *The First Modern Museums of Art: The Birth of an Institution in 18th- and Early-19th-Century Europe* (Los Angeles: J. Paul Getty Museum, 2012).

⁵⁸ Stefanie Heraeus, “Top Lighting from Paris in 1750. The Picture Gallery in Kassel and Its Significance for the Emergence of the Modern Museum of Art” in *The Museum is Open: Towards a Transnational History of Museums 1750-1940*, eds. Andrea Meyer and Bénédicte Savoy (Berlin: De Gruyter, 2013), 72.

⁵⁹ Lord and Piacente, “Introduction: The Exhibition Planning,” 28.

⁶⁰ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 3.

⁶¹ According to Starn, this was particularly the case for academic historians and art historians: Randolph Starn, “A Historian’s Brief Guide to New Museum Studies,” *The American Historical Review* 110, no. 1 (2005): 70.

Randolph Starn suggests that “newer museum studies” have been “resolutely historical yet ambivalent about history,” a tendency that interrupts any straightforward narrative.⁶²

Accordingly, relevant scholarly literature on museum exhibitions is similarly disjointed, and continues to evolve in interesting ways.

2.1.1 The New Museology

The new museology movement purportedly “had its ‘official’ origin” at the Ninth General Conference of the International Council of Museums (ICOM) in 1971 and at the “Santiago Round Table” in 1972. These conferences furthered the “ecomuseum” or “Integral Museum,” two types of institution with a commitment to transforming “a building into a territory”; “a collection into a local patrimony”; and “the public into a participatory community.”⁶³ Museologist and journalist, Kenneth Hudson, wrote *A Social History of Museums* in 1975, expounding on these ideas by critiquing the seemingly impervious museum establishment and its approaches to accessibility, in particular. Considered a seminal text by museologists and sociologists, alike, Hudson’s assessment of the museum effectively established the foundations for the new museology movement by stimulating discussion about the elitist and exclusive nature of the traditional museum. In *A Social History*, he chronicles the evolution of the museum, lingering briefly in the 1600s before asserting major changes that occurred in the following decade. Hudson sets the stage for his scholarship by first describing the museums of

⁶² Starn, “A Historian’s Brief Guide,” 70.

⁶³ Andreina Fuentes, “Action-Exhibition: Museums, Art, and Communities: Notes on the New Museology,” *The International Journal of the Inclusive Museum* 6, (2014): 21.

the seventeenth century, where only “distinguished travellers and foreign scholars” were permitted to see the European princely collections.⁶⁴ He proceeds to introduce the so-called “public” museums that emerged a century later, but explains how these remained accessible to only the privileged few.⁶⁵

The first English exhibition of contemporary art, apparently mounted in 1760, offered free admission (and a sixpence charge for the corresponding catalogue), but the Society of Arts was displeased with the “behavior” or even just the “presence” of poorer visitors to the galleries, so free admission was discontinued the following year.⁶⁶ According to Hudson’s work, published surveys of museum visitors did not appear until 1897, and even then, their findings seldom resulted in institutional changes. Through examination of the history of the museum, Hudson exposes the flaws in previous and predominantly indulgent treatments of these sacred institutions. At one point, he states, somewhat exasperatedly, that “museums have a remarkable power of making the uneducated feel inferior,” thereby pinpointing just one of the mechanisms by which patrons were impacted by the institutional hierarchy.⁶⁷ *A Social History of Museums* set up a new paradigm for museum scholarship and opened the door to interpretations that had not yet emerged in any prominent or cohesive way.

Next to Hudson, Edward P. Alexander’s 1979 publication, *Museums in Motion* is the other oft-cited museological text of that particular decade. As he persevered to seriously engage with definitions of the museum, Alexander proffered an alternative, supplementary approach to the one Hudson provided by attempting to encapsulate the different and sometimes fragmented

⁶⁴ Kenneth Hudson, *A Social History of Museums* (Atlantic Highlands, New Jersey: Humanities Press, 1975), 3.

⁶⁵ Hudson, *A Social History of Museums*, 6.

⁶⁶ Hudson, *A Social History of Museums*, 15.

⁶⁷ Hudson, *A Social History of Museums*, 14.

conceptions of the museum. Whereas Hudson painted a portrait of a stubbornly hierarchical museum, Alexander pastes together multiple, and more generous explanations of the institution as collection, conservation, research, exhibition, interpretation, cultural center, and social instrument.⁶⁸ By describing the museum according to these functions or activities, Alexander provides a more flexible, alternative reading of the stoic, intimidating museums of the past, and establishes a helpful framework on which succeeding scholars might build.

In the 1984 *Museums for a New Century* report, museums are described as the “cornerstones of a democratic society.”⁶⁹ Michael M. Ames’ article, “De-schooling the Museum,” originally published in 1985, provides further insight into this declaration. Ames reflects the themes covered at the Thirteenth General Conference of the International Council of Museums in 1983.⁷⁰ As the title of his article suggests, he is particularly concerned with removing or at least diminishing the obstacles that visitors face as they aspire to participate in the co-creation of knowledge in museums.⁷¹ Ames describes key components of the democratized museum in the following manifesto:

The relevance of museums in contemporary society, it is suggested, is likely to be determined by the degree to which they are democratized; that is to say, the extent to which there is increasing and more widespread participation in decision-making regarding administration, educational programming, and collection management in

⁶⁸ Edward P. Alexander, *Museums in Motion: An Introduction to the History and Functions of the Museum* (Nashville, Tennessee: AASLH Press, 1979).

⁶⁹ American Association of Museums, *Museums for a New Century: A Report of the Commission on Museums for a New Century* (Washington, DC: American Association of Museums, 1984), 17.

⁷⁰ Michael M. Ames’ article, “De-schooling the Museum: A Proposal to Increase Public Access to Museums and Their Resources,” was also re-published in the Special Issue: Key Ideas in Museums and Heritage (1949-2004) of *Museum International* 66, issue 1-4 (2014) 98-106.

⁷¹ Ames credits Ivan Illich’s 1971 publication, “De-Schooling of Society,” with introducing the concept of alternative educational methodologies such as the production of “educational *webs* which heighten the opportunity for each one to transform each moment of his living into one of learning, sharing, and caring” in Bruce Rusk’s *Alternatives on Education* (Toronto, General Publishing Company, 1971), 103-206.

museums, and increased opportunities for independent thought and action in cultural matters.⁷²

Although Ames proceeds to dedicate most of his article to describing the benefits of visible storage in specific Canadian museums of anthropology, his broader suggestions, and particularly the association between relevancy and democratization, reverberate throughout the succeeding scholarship.

Peter Vergo's anthology, *The New Museology*, was published in 1989. In it, Vergo and several other cultural historians foreground the importance of exhibitions, or methods of display, to the museum's survival. Early in the volume, Vergo establishes that, as spaces that place certain constructions upon history, "museums are not neutral territory."⁷³ Rather, they are institutions that deserve or indeed *require* critical examination. Vergo clearly diverges from comparisons made by previous scholars, including the philosopher and sociologist, Theodor Adorno, who claimed that "museums are like the family sepulchers of works of art. They testify to the neutralization of culture."⁷⁴

Quite conversely, Vergo builds upon the evaluations begun by Hudson, Alexander, and Ames, portraying the museum as an institution that must acknowledge its past and adjust accordingly in order to remain relevant. Considered controversial among museologists at the time, Vergo's anthology initiated an ongoing discussion about the museum's role in society. At *Museums and the Web* in 1997, Charles Rhyne emphasized the importance of fostering reciprocal relationships between museums and visitors. "The public," he states, "will no longer

⁷² Ames, "De-schooling the Museum," 98.

⁷³ Peter Vergo, *The New Museology* (London: Reaktion Books, 1989) 13.

⁷⁴ Theodor W. Adorno, "Valéry Proust Museums," in *Prisms: essays on Veblen, Huxley, Benjamin, Bach, Proust, Schoenberg, Spengler, Jazz, Kafka* (London: Neville Spearman, 1967), 175.

accept the role of passive receivers of information but will want to observe the research process and participate in the creation of new content.”⁷⁵ Vergo, in particular, underscores that objects obtain meaning through inclusion in a narrative that is “part of a thread of discourse” that ultimately contributes to an even “more complex web of meanings.”⁷⁶ On account of its title and approach, later scholars considered Vergo’s publication to mark the conception of the new museology movement.

Writing in 2005, Ruth B. Phillips marks another era of change, expressing clear concern about the disconnect between “academic and museological theory and practice” and actual museum planning.⁷⁷ Phillips also critiques the museum’s reliance on one, so-called “authoritative” interpretation of its physical objects, addressing the topic quite overtly in the title of a 2005 essay: “Re-placing Objects: Historical Practices for the Second Museum Age.”⁷⁸ Within the first sentence of her article, Phillips confidently hails the beginning of the twenty-first century as a second “museum age.”⁷⁹ She posits that this “second museum age” results from the scholarship of the 1980s and 1990s, a period shaped by the dual influences of “post-colonial and post-structuralist critiques in the academic community, and political pressures for decolonization outside it.” In order to address these distinct factions, Phillips considers the museum as two, separate entities: “first as a repository and then as a theatre.”⁸⁰

⁷⁵ Charles Rhyne, “Images as Evidence in Art History and Related Disciplines,” in *Museums and the Web 1997: Proceedings*, edited by David Bearman and Jennifer Trant (Los Angeles, California: Archives & Museum Informatics, 1997).

⁷⁶ Vergo, *The New Museology*, 46.

⁷⁷ Phillips, “Re-placing Objects,” 85.

⁷⁸ Phillips, “Re-placing Objects,” 83-110.

⁷⁹ Phillips, “Re-placing Objects,” 83.

⁸⁰ Phillips, “Re-placing Objects,” 89.

Scholarly literature of the latter 2000s continued to feature significant criticism of what Susan Hazan calls the “institutional, authoritative voice of the museum.”⁸¹ During this period, the new museology movement was characterized by an emphasis on participatory engagement, or a particular consideration of the role of museums within “the context of the social network that contains them.”⁸² For example, *The International Journal of the Inclusive Museum*, a publication dedicated to questioning how the institution of the museum can “become more inclusive,” was established in 2008.⁸³ That same year, the Brooklyn Museum launched *Click! A Crowd-Curated Exhibition* that relied on audience evaluations of photography submissions.⁸⁴ The decade concluded with the release of Nina Simon’s *The Participatory Museum*, “a practical guide to working with community members and visitors to make cultural institutions more dynamic, relevant, essential places.”⁸⁵

Diane Grams, an independent community ethnographer and faculty fellow at the Yale University Center for Cultural Sociology, also emphasizes civic engagement and participation in her 2008 publication, *Entering Cultural Communities: Diversity and Change in the Nonprofit Arts*. In this book, Grams defines the ideal community hub as one that incorporates both “transactional” and “relational” practices, and discussions about the new museology have, increasingly, hinged on the incorporation of these complementary processes.⁸⁶ Through these

⁸¹ Susan Hazan, “A Crisis of Authority: New Lamps for Old,” in *Theorizing Digital Cultural Heritage: A Critical Discourse*, edited by Fiona Cameron and Sarah Kenderdine (Cambridge, Massachusetts: MIT Press, 2007): 153.

⁸² Fuentes, “Action-Exhibition: Museums, Art, and Communities,” 22.

⁸³ “The International Journal of the Inclusive Museum,” accessed February 26, 2019, <https://onmuseums.com/journal>.

⁸⁴ “Click! A Crowd-Curated Exhibition,” Brooklyn Museum, accessed February 26, 2019, <https://www.brooklynmuseum.org/exhibitions/click>.

⁸⁵ “The Participatory Museum,” accessed February 26, 2019, <http://www.participatorymuseum.org/>.

⁸⁶ Diane Grams and Betty Farrell, *Entering Cultural Communities: Diversity and Change in the Nonprofit Arts* (New Brunswick, NJ, USA: Rutgers University Press, 2008).

methods, visitors are rewarded for input they give back both to the museum and to other museum-goers. Indeed, the expectation of interactivity and technology is irrefutably in place in the museum world, as L  ic Tallon and Kevin Walker reiterate in *Digital Technologies and the Museum Experience* (2008). Tallon and Walker describe the symbiosis between technology and museum engagement as follows: “by their nature, digital technologies offer visitors the opportunity to contribute, affect, and potentially subvert the meaning-making of museum enterprises.”⁸⁷ However, these community contributions seem to be the hardest to maintain because of their performative nature and reliance on certain technologies, two circumstances that will receive greater attention throughout this dissertation.

2.1.2 Museum Governance

The American Alliance of Museums (AAM) and the International Council of Museums (ICOM) are the two major governing bodies in charge of what Mark Walhimer calls “museum best practices.”⁸⁸ The AAM was founded in 1906 as the American Association of Museums, and still operates as an organization committed to accrediting museums and establishing standards (including the so-called “bible” of museum registration, *Museum Registration Methods*, the first edition of which was published in 1946).⁸⁹ Since its inception in 1946, ICOM has adhered to a core mission of fostering and maintaining “the global museum community,” although the

⁸⁷ L  ic Tallon and Kevin Walker, *Digital Technologies and the Mobile Experience: Handheld Guides and Other Media*, (Lanham, MD: AltaMira Press, 2008).

⁸⁸ Mark Walhimer and Inc. ebrary, *Museums 101* (Lanham: Rowman & Littlefield, 2015), 84.

⁸⁹ Carnegie Museum of Natural History, “1907 American Association of Museums Meeting Identifications,” <http://www.carnegiemnh.org/online/aam/history.html> accessed May 9, 2017; Walhimer, *Museums 101*, 135.

Council only truly began to acknowledge cultural institutions in developing countries (in Africa, Asia, and Latin America) beginning in the late 1970s.⁹⁰

Following the Civil Rights movement, national and international museum communities experienced an era of change (during the late 1970s and 80s). In 1980, for the first time in its history, significant developments began to occur at the AAM with regard to self-assessment.

The AAM published a report in the early 1980s that was driven by the following need:

Museums are devoted to investigating, recording and interpreting the world around us, yet ironically, there had [as of 1982] never been a serious, analytical look at the rich and complex community, its past and present, let alone its future.⁹¹

Between 1982 and 1984, the Commission of Museums for a New Century (CMNC), led by Craig C. Black, engaged thousands of professionals—museum experts, civic leaders, so-called futurists, and others—in open forums and colloquia about the role of museums now and into the future.⁹² *Museums for a New Century* incorporates the sixteen recommendations that resulted from these conversations, ultimately aiming to best prepare and guide museums “as they move into the 21st century.” The AAM posits that the final report is itself “a model of productive self-assessment,” and one that responds “aggressively” to the changes that will inevitably occur in the new century.⁹³

Divided into six categories (collections, education, leadership and professionalism, collaboration, public awareness, and financial stability), the AAM report addresses some of the

⁹⁰ International Council of Museums, “History,” <http://icom.museum/the-organisation/history/>, accessed May 9, 2017.

⁹¹ American Association of Museums, *Museums for a New Century*, 11.

⁹² Craig C. Black was the president of the American Association of Museums and director of the Natural History Museum of Los Angeles County at this time, and had also served as curator (1962-1970) and associate curator (1960-1962) of vertebrate fossils at the Carnegie Museum of Natural History. In 1985 he was nominated by Ronald Reagan to be a member of the National Science Board. See Ronald Reagan, “Nomination of Craig C. Black to be a Member of the National Science Board,” 1985.

⁹³ AAM, *Museums for a New Century*.

principal issues that recur throughout the literature of the 1980s. The report asserts that “the object is at the core of the museum idea,” while also acknowledging that actual visitor engagement with these objects has not been adequately assessed.⁹⁴ The AAM’s document presages the work of sociologists such as Dirk vom Lehn, Jon Hindmarsh, and Christian Heath (2001), proposing that “high priority must be given to basic research about the ways people learn in museums.” Further, the report strongly promotes collaboration across departments and institutions (including libraries and other cultural organizations) as a crucial mechanism for “making the best use of resources and generating the greatest impact.”⁹⁵ The 143-page product of the CMNC’s work promotes a museum that contributes “to the richness of the collective human experience” by helping visitors to “summon our natural capacities for empathy, for vicarious experience, [and] for intellectual growth.”⁹⁶

A year after the *Museums for a New Century* report was published, the AAM established the Museum Assessment Program (MAP), a schedule of three “assessment types” incorporating organization, collections stewardship, and community engagement. This program still exists in 2019, and is intended to benefit small and mid-sized cultural institutions, in particular.⁹⁷ Through the 1990s and 2000s, the AAM continued on this trajectory of self-assessment and institutional outreach. In 2009, the then AAM President Ford Bell oversaw the publication of the Association’s first strategic plan, a document entitled, “The Spark,” that sought to improve transparency, accountability, and credibility among museums and museum professionals. Three

⁹⁴ AAM, *Museums for a New Century*.

⁹⁵ AAM, *Museums for a New Century*, 6.

⁹⁶ AAM, *Museums for a New Century*, 17.

⁹⁷ American Alliance of Museums, “Museum Assessment Program,” <http://www.aam-us.org/resources/assessment-programs/MAP>, accessed March 7, 2019.

years later, the American Association of Museums officially changed its name to the American *Alliance* of Museums, altering its moniker to reflect a greater emphasis on unifying the members of the organization.⁹⁸

2.2 Computing in Museums

2.2.1 History and Developments

Although it is not incorporated into descriptions of the “new museology,” the introduction of computing into museums necessitated that these venerable institutions reconsider traditional approaches to information management. Indeed, museum computing revealed the vulnerabilities within existing museum infrastructures. As Walter Benjamin famously articulated in “The Work of Art in the Age of Mechanical Reproduction” (1936), the introduction of the photographic camera upset the very premise of the museum as a cultural institution grounded by physical objects. Benjamin predicted that such reproductive media would create a fissure in the museum hierarchy: “the distinction between author and public is about to lose its basic character.”⁹⁹

Peter Walsh attributes the rupture in museum studies, represented within the “new museology,” to the photographic camera. By reflecting upon the changes sustained because of

⁹⁸ AAM, “American Alliance of Museums is Now the American Alliance of Museums,” <http://www.aam-us.org/about-us/media-room/2012/the-association-is-now-the-alliance>, accessed May 9, 2017.

⁹⁹ Walter Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” in *Illuminations*, edited by Hannah Arendt (New York: Schocken Books, 1969), 12.

this revolutionary technological innovation, Walsh provokes comparison between photography and digital media. Walsh divides the history of the museum according to this invention; as pre- or post-photographic, and expounds upon the broad consequences of technological change.¹⁰⁰ In this context, Walsh considers photography to be a democratizing force that separates the intimidatingly aristocratic museums of the past from the (hypothetically, at least) more accessible, contemporary museum, modeled upon a “world’s fair approach.”¹⁰¹ In Walsh’s assessment, this technology could potentially enable museums to shed their elitist image, allowing individuals (and not just curators) to access, understand, interpret, and even evaluate art.

In 2014, Paul F. Marty described a “digital convergence” across libraries, archives, and museums in response to the availability of information in electronic format.¹⁰² However, he also described resultant tension among these individual entities to maintain “the traditional distinctions between their collecting institutions.” Although this struggle for differentiation is not a major focus of this dissertation, it is helpful to invoke the scholarship of Lisa F. Given and Lianne McTavish, in addition to Marty, who suggested that Libraries, Archives, and Museums (or LAMs) are ultimately united by their commitment to information access, preservation, provision, and authority.¹⁰³ While museums are at the forefront of the following discussion, the

¹⁰⁰ Peter Walsh, “Rise and Fall of the Post-Photographic Museum: Technology & the Transformation of Art,” in *Theorizing Digital Cultural Heritage: A Critical Discourse*, edited by Fiona Cameron and Sarah Kenderdine (Cambridge, Massachusetts: MIT Press, 2007) 23-24.

¹⁰¹ Walsh, “Rise and Fall of the Post-Photographic Museum,” 23.

¹⁰² Paul F. Marty, “Digital Convergence in the Information Profession in Cultural Heritage Organizations: Reconciling Internal and External Demands,” *Library Trends* 62, no. 3 (2014): 614.

¹⁰³ Lisa M. Given and Lianne McTavish, “What’s Old is New Again: The Reconvergence of Libraries, Archives, and Museums in the Digital Age,” *The Library Quarterly* 80, no. 1 (2010).

scholarship arrives from theorists and practitioners from various backgrounds and with disparate agendas with regard to chronicling the history of museum computing.

The first *Museums and the Web* conference took place in 1997, and represents an important hub of activity surrounding the topic of museums and the incorporation of digital tools. In his presentation at this conference, media theorist and historian, Charlie Gere, suggests that from the early twentieth century onwards, the “uneven reciprocity of communication in the media has been a cause of concern for commentators.” Leftists, and particularly theorists from the Frankfurt School, saw both the potential and the *need* for technology to be used in dialogic space, including cultural institutions. For example, Max Horkheimer and Theodor Adorno, members of the Frankfurt School, describe the “cultural industry” as an authoritative, “monolithic” entity that denies visitors or audiences any voice.¹⁰⁴ Parry, in his 2007 publication about the history of technological innovation in the space of the museum, suggests that the dawn of humanities computing occurred in the 1950s, and that museum automation was introduced roughly a decade later.¹⁰⁵

Museum computing emerged in the 1960s, close upon the heels of humanities computing, and immediately followed the development of a machine-readable catalogue (MARC) within the library sector.¹⁰⁶ Jack Heller, director of the Institute for Computer Research in the Humanities (ICRH) at New York University in 1963, is credited with planting the seeds for computing in museums, and drafting the proposal that would lead to the formation of the Museum Computer

¹⁰⁴ Charlie Gere, “Museums, Contact Zones, and the Internet,” in *Museum Interactive Multimedia 1997: Cultural Heritage Systems Design and Interfaces* (Pittsburgh: Archives & Museum Informatics, 1997), 61.

¹⁰⁵ Parry, *Recoding the Museum*, 2007.

¹⁰⁶ Parry, *Recoding the Museum*, 2007.

Network (MCN), in particular.¹⁰⁷ Heller aimed to position the museum as the “center of a humanities-oriented computer network, representing the most important organizations in the arts and humanities today.”¹⁰⁸ Partly in response to the expansion of collections that was occurring in the 1960s, the Information Systems Division was established at the Smithsonian in 1967, and the Museum Computer Network was founded in 1969.¹⁰⁹ The National Museum of Natural History Automatic Data Processing program started in 1970, and the momentum surrounding humanities computing persisted into the 1980s. By the mid-90s, the Institute of Museum and Library Services (IMLS), a formal government structure for funding and managing cultural access resources, had been established in the United States.¹¹⁰

In 1994, Costis Dallas defines museums as “massive repositories of complex, heterogeneous, and multi-faceted information on material culture.”¹¹¹ This is remarkable in that Dallas situates the museum ecosystem solidly within the domain of information sciences, foregrounding succeeding work on humanities computing in the museum. The organizing structures within museums, according to “hierarchical themes” is what Dallas suggests is “clearly an information management operation.” As distinct from libraries and archives, however, Dallas suggests that “information collected about museum objects does not decrease in value or utility with time.”¹¹² Jennifer Trant, co-editor of the journal *Archives & Museum Informatics*, claims that museum computing, at least at the beginning, was predominantly

¹⁰⁷ Richard B. Light, D. Andrew Roberts, and Jennifer D. Stewart, *Museum Documentation Systems* (London; Boston: Butterworths, 1986), 40.

¹⁰⁸ Parry, *Recoding the Museum*, 2007.

¹⁰⁹ Parry, *Recoding the Museum*, 24.

¹¹⁰ Robert S. Martin, “Intersecting Missions, Converging Practice,” *RBM: A Journal of Rare Books, Manuscripts and Cultural Heritage* 8, no. 1, 82.

¹¹¹ Costis Dallas, “A New Agenda for Museum Information Systems,” in *Problems and Potentials of Electronic Information in Archaeology seminar: pre-circulated papers*, (London: British Library, 1994) 251.

¹¹² Dallas, “A New Agenda,” 258.

comprised of museum inventory projects. She suggests that these projects “laid the groundwork for technology in museums by producing databases that summarized holdings and recorded their vital statistics.”¹¹³ Thus, museums incorporating technology for these purposes were poised for further innovations.

In 1997, digital tools were deemed appropriate for scientists, but were presumed to be less well suited to the work of humanists, as is reflected in the literature published that year. Robert Guralnick, also presenting at *Museums and the Web 1997*, spoke about the assumption that digital scholarship is best suited to the sciences: “the sciences potentially have the most to gain from electronic publication because data is often difficult to present in a static medium like journal publications.”¹¹⁴ At the same time, however, Stephen Alsford was proposing that “tomorrow’s ‘star’ content creators,” could arrive from different disciplines (even outside of the sciences) and would be defined by their knowledge of both technology *and* content. Such professionals would successfully combine “a range of computer skills, communication skills, and the ability to deal intelligently with subject domains they will cover in Web content.”¹¹⁵

Andrea Witcomb, presenting at the same conference in 1997, suggested that “technology is crucial in turning the museum from a repository to an information resource.” Invoking Marshall McLuhan’s 1967 treatise, *The Medium is the Message*, she reiterates that “technologies are understood as having cultural effects through their form as well as their content.”¹¹⁶

¹¹³ Jennifer Trant, “Curation Collections Knowledge: Museums on the Cyberinfrastructure,” in *Museum Informatics: People, Information, and Technology in Museums*, ed. Paul F. Marty and Katherine Burton Jones (New York: Routledge, 2007): 278.

¹¹⁴ Robert Guralnick, “Bridging the Gap between Research and Education: The Future of Network Technology in the Sciences and Science Museums,” in *Museums and the Web 1997: Proceedings*, edited by David Bearman and Jennifer Trant (Los Angeles, California: Archives & Museum Informatics, 1997), 2.

¹¹⁵ Stephen Alsford, “From Pilot to Program: Organizing Content Creation as a Web Site Grows,” in *Museums and the Web 1997: Proceedings*.

¹¹⁶ Witcomb, “The End of the Mausoleum,” 1997.

Witcomb, and others, call for a careful consideration of technology at the same time that the museum is undergoing a period of greater critical analysis both internally and externally. Since the beginning of the new museology movement, museums are expected to place greater consideration on the role of the participant, and the implications of implementing new technologies are certainly a part of this objective. The content, but also the way that participants will engage with that content, is of considerable importance for art museums. Overall, McLuhan's writing remains prescient in this discussion. In particular, the following statement encapsulates the importance of technological contexts: "any understandings of social and cultural change is impossible without a knowledge of the way media work as environments."¹¹⁷ The implications of McLuhan's work will be discussed further in the "Object Document" section of this literature review.

In her book published almost fifty years after McLuhan's seminal work, Bautista similarly suggests that digital methodologies must be understood within their contexts. While incorporating the legacy of the new museology, Bautista introduces digital methods as undeniable catalysts for change in the museum of the twenty-first century. As an art historian, museologist, and digital technologist, Bautista takes an interdisciplinary, cross-methodological approach to her examination of museums in the digital age. She suggests that there are four major and interlinked constructs at play in the museum of the digital age: place, community, culture, and technology.¹¹⁸

¹¹⁷ Marshall McLuhan and Quentin Fiore, *The Medium is the Massage: An Inventory of Effects* (Penguin Books, 1967) 26.

¹¹⁸ Bautista, *Museums in the Digital Age*, 7.

The following miniature case study demonstrates the pitfalls of implementing technology without pre-existing knowledge of context or the designated community. Quick Response (QR) codes present a clear example of how a lack of usability studies can prove disastrous to the overall implementation of a technical tool. Michelle Kelly Schultz published an article in 2013 that analyzed the usefulness of QR codes, specifically in the context of libraries and museums. Schultz found that implementing QR codes could be useful, but that user studies should precede and inform this type of development.¹¹⁹ A key issue surrounding QR codes originates with their creators, Denso Wave, Incorporated and their implementers. In 1994, at the time when the codes were developed, the designers made a basic presumption: that better technology will *always* better serve users, regardless of the actual needs and expectations of users.

So, essentially, QR codes presented themselves as the new, hip innovation that no one knew they needed. And, as it may have turned out, this lack of user analysis proved somewhat catastrophic. Admittedly, the various death knells sounded on behalf of QR codes may be premature, but the general consensus is that this new technology has not been disseminated or mediated in effective ways. Scott Stratten and Alison Kramer posit “QR codes are full of potential--when they work.”¹²⁰ However, they report that the codes often do *not* work, and therefore alienate users. Visitors may not own a smartphone, have the app required for reading QR codes, or may simply elect not to scan a QR code even if they have the required software and hardware.

¹¹⁹ Michelle Kelly Schultz, “A Case Study on the Appropriateness of Using Quick Response (QR) Codes in Libraries and Museums,” *Library & Information Science Research* 35, no. 3 (2013): 207-215.

¹²⁰ Scott Stratten and Alison Kramer, *QR Codes Kill Kittens: How to Alienate Customers, Dishearten Employees, and Drive Your Business into the Ground* (John Wiley & Sons, 2013).

The Internet and the World Wide Web have also influenced museums. Gere proposed that the Internet may be a potentially vital platform for decentralizing the stiflingly hierarchical and centralized museum. Perhaps somewhat idealistically, he refers to the Internet as “precisely the emancipatory reciprocal mass medium dreamt of by Hans Magnus Enzensberger,” and as an instrument with the capacity to push the museum in a progressively postmodern direction.¹²¹ In citing Enzensberger (1929-), a German writer, poet, and editor who experienced the Third Reich, Gere emphasizes the democratizing power of this new media. More broadly, and throughout the remainder of this dissertation, computing will continue to represent a type of disruptive technology in a traditionally conservative sector.

2.3 Authority and the Authoritative Voice

Anne Gilliland-Swetland refers to members of the cultural heritage network as belonging to a “metacommunity” of librarians, archivists, and museum professionals.¹²² Scholarship relating to this community, or the LAM network, indicates the increasing importance of hybridity and collaboration within and between these institutions at the turn of the twenty-first century. Guntram Geser and Andrea Mulrenin refer to members of the LAM network as “hybrid institutions that take care of both analogue as well as digital cultural resources.”¹²³ While Paul

¹²¹ Gere, “Museums, Contact Zones, and the Internet,” 62.

¹²² Anne Gilliland-Swetland, and the Council on Library and Information Resources, *Enduring Paradigm, New Opportunities: The Value of the Archival Perspective in the Digital Environment* (Washington, DC: Council on Library and Information Resources, 2000), 1.

¹²³ Guntram Geser and Andrea Mulrenin, *The DigiCULT Report: Technological Landscapes for Tomorrow's Cultural Economy—Unlocking the Value of Cultural Heritage* (Luxembourg: Office for Official Publications of the European Communities, 2002).

Marty suggests that LAMs are collectively dedicated to information access and authority, museums have perhaps been the most attached to the notions of institutional authority that they perceive to be undermined by new technologies.¹²⁴ R.S. Martin attributes the museum's outlier status to its narrow focus on collecting "objects and artifacts" rather than documents.¹²⁵

Indeed, a major source of tension resides in the way the museum has traditionally measured its value and how it remains relevant today. In 2005, art historian and curator, Ruth B. Phillips stated that "historical objects are witnesses," or "things that were *there, then*."¹²⁶ As such, the physical collection represents a vast accumulation of meaning and authority. To retain relevancy, however, Phillips argues "for the necessity of re-placing objects in new kinds of interpretive contexts." In particular, she refers to new ways of incorporating physical objects into programming efforts. "In their exhibits and public programs," Phillips suggests, museums "are finding ways to accommodate multiple narratives of history and culture based on different kinds of truth claims."¹²⁷ This process, however, has neither been quick nor easy for museums.

2.3.1 The Curator

In 1986, C. Velson Horie defined the museum curator according to a series of responsibilities, revealing a particular preoccupation with ethical behavior. The work of curators, he suggested, can be divided into:

¹²⁴ Paul Marty, "Digital Convergence in the Information Profession."

¹²⁵ Martin distinguishes LAMs according to the following logic: "libraries collect documents of various kinds (books, journals, maps, and the like), archives collect documents of a specific kind (records containing particular types of evidence), and museums collect objects and artifacts," in "Intersecting Missions," 81.

¹²⁶ Phillips, "Re-placing Objects," 108.

¹²⁷ Phillips, "Re-placing Objects," 109.

the duty owed to the objects and the museum containing them; the duty owed to the public from the persons in a position of influence and trust; and the contractual duty owed to the employing authority.¹²⁸

Although Horie's list portrays the curator as a steward, attending to the network of objects and individuals who comprise the museum community, this was an unusual interpretation. Within the past fifty to seventy years, curators have been perceived as powerful human beings sitting securely atop the art museum hierarchy. Curators in these contexts are considered to have control of how, when, and whether physical objects were included or displayed within the space of the museum.

As evidenced in the earlier discussion of the history of the museum, physical objects were viewed as the primary and key ingredients in the cultural stew that constituted the museum. Charles Saumarez Smith, a contributor to Vergo's previously-mentioned publication, *The New Museology*, discusses the importance of the physical object in a chapter entitled, "Museums, Artifacts, and Meanings." As Smith reiterates in this first section of Vergo's edited work, museums exist to facilitate the removal of artefacts from their "current context of ownership and use, from their circulation in the world of private property," and to insert them "into a new environment" which provides "them with a different meaning."¹²⁹ This practice is intended to increase access to objects and provide new opportunities for interpretation. Throughout, *The New Museology* suggests that this activity, incorporating the many and diverse components of the exhibition preparation process, is now considered equal to, or even *more* important, than any individual artwork or artefact.¹³⁰

¹²⁸ C.V. Horie, "Who is a Curator?" *International Journal of Museum Management* 5 (1986): 267.

¹²⁹ Charles Saumarez- Smith, "Museums, Artefacts, and Meanings," *The New Museology*, ed. Peter Vergo (London, Reaktion Books Ltd., 1989). 6.

¹³⁰ Vergo, *The New Museology*, 20.

The significance of the object is determined by the curator within the museum. In the 1990s, scholars critiqued a museum infrastructure that continued to validate the role of the supreme curator. Eilean Hooper-Greenhill, in her 1992 publication, describes the curator as “knowing subject with specialist expertise (who enables the knowing of others), and the subject emperor.”¹³¹ Equipped with such seemingly rarified knowledge, the curator is empowered to interpret documents according to their own specific interests.¹³² Hooper-Greenhill further describes curators and objects as being engaged in a co-dependent relationship of sorts:

decisions in museums and galleries about how to position material things in the context of others are determined by a number of factors including the existing divisions between objects, the particular curatorial practices of the specific institution, the physical condition of the material object, and the interests, enthusiasms, and expertise of the curator in question.¹³³

Horie similarly characterized the curator/object partnership in his scholarship of the late 1980s, describing a carefully choreographed dance in which the curator must remain attentive to the object with every step. “The proper curating of an object or collection,” Horie wrote, “involves the continuous application of a variety of different skills and opinions.”¹³⁴

Mike Crang demonstrates how subjective artefact categorization, imposed by the curator, further contributes to the authoritativeness of the museum professional and, by extension, the museum. Whereas libraries and archives provide clear indications of how their collections are organized, museum classification systems are not on display and are, in fact, even obscured. Crang describes the process of contextualization in similar terms, concluding that “authority and

¹³¹ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 168.

¹³² Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 84.

¹³³ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 6.

¹³⁴ Horie, “Who is a Curator?” 272.

classification” within the museum “tends to work by establishing an abstract system of authority and using that to create order and significance among the objects on display.”¹³⁵

In 1997, Andrea Witcomb still portrays a curator with incredible power: an individual capable of having a material effect. Such museum professionals, according to Witcomb, impact visitors on an emotional level by creating shared experiences and thereby invoking empathy, and, ultimately, generating and even *molding* memories.¹³⁶ Terry Hemmings, Colin Divall, and Gaby Porter, writing concurrently to Witcomb, suggest that the curator’s dominance arrives partly as a defense mechanism, as they “perceive a requirement to be responsive to competing views concerning the meaning and organization of knowledge.”¹³⁷ Towards the start of the twenty-first century, art critic David Sylvester suggested that “the most important people in the cultural world are not artists but curators,” as they are “the true brokers of art in the world.”¹³⁸ This is the case, according to Susan Pearce, because of the curator’s ability and duty to assess and discern suitable objects for inclusion within the art museum’s collection and/or exhibitions.¹³⁹ At the core of curation lies the act of selection, “the crucial idea” that “turns a part of the natural world into an object and a museum piece.”¹⁴⁰

Dallas, in both a 2007 and 2015 publication, elaborates upon Pearce’s essay, interweaving selection processes and engagement practices into his description of museum

¹³⁵ Crang, “On Display,” 2003.

¹³⁶ Emphasis added, from Witcomb, “The End of the Mausoleum.”

¹³⁷ Terry Hemmings, Colin Divall, and Gaby Porter, “Situated Knowledge and the Virtual Science and Industry Museum: Problems in the Social-Technical Interface,” in *Museums and the Web 1997: Proceedings*, ed. by David Bearman and Jennifer Trant (Los Angeles, California: Archives & Museum Informatics, 1997) 150.

¹³⁸ Acord, “Beyond the Head,” 447.

¹³⁹ In this regard, Pearce is referring most explicitly to museums of science, anthropology, or natural history, but her sentiment extends beyond these institutions, as well.

¹⁴⁰ Susan Pearce, “Museum Objects,” in *Interpreting Objects and Collections*, edited by Susan M. Pearce (New York: Routledge, 2003) 10.

curatorship. In his assessment, museum curatorship has always involved the “active intervention and knowledge enrichment of collections across the various stages of the museum object cycle.”¹⁴¹ Further, curators establish cultural meaning through “selection, arrangement, and interpretation,” as well as the “contestation of meaning through the encounter with source communities and exhibition publics.”¹⁴² Thus, curators stand at the crossroads of theory and praxis and are therefore also the arbiters of so-called authenticity. Curators are object-experts, and thereby have a duty to maintain and process “prior knowledge of objects and their contexts” in order to bridge “the realm of research with that of documentation and collections management.”¹⁴³ In summary, Dallas also paints a portrait of the curator as authoritative agent and object-steward with the unique ability to attract visitors.

Sociologist Tony Bennett analyzes the history of museums through a theoretical lens in *The Birth of the Museum* (1995), critiquing museum practices that attempt to impart a singular and predetermined meaning upon a visitor. Interweaving the ruminations of Michel Foucault, Jürgen Habermas, and Theodor Adorno throughout, Bennett’s historiography reflects on broad questions about politics and the public sphere, while also commenting on seemingly specific details about methods of display within history and art museums.¹⁴⁴ In evaluating the latter, Bennett alludes to the work of Sir William Henry Flower, Director of London’s Museum of

¹⁴¹ Costis Dallas, “Digital Curation Beyond the ‘Wild Frontier’: A Pragmatic Approach,” *Archival Science* (2015), doi: 10.1007/s10502-015-9252-6.

¹⁴² Dallas, “Digital Curation,” 2015.

¹⁴³ Costis Dallas, “An Agency-Oriented Approach to Digital Curation,” in *International Cultural Heritage Informatics Meeting (ICHIM07): Proceedings*, edited by David Bearman and Jennifer Trant (Toronto: Archives & Museum Informatics, 2007) <http://www.archimuse.com/ichim07/papers/dallas/dallas.html>.

¹⁴⁴ Bennett alludes to the content of Michel Foucault’s *Discipline and Punish: The Birth of the Prison* (New York: Vintage Books, 1979); Jürgen Habermas’ *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*, translated by Thomas Burger and Frederick Lawrence (Cambridge, MA: MIT Press, 1991); Adorno, *Prisms*, 1967.

Natural History in the late nineteenth century. Flower's writing, published during his tenure as director, exposes a tendency to treat the museum object as an illustration, "representative of other objects within the same class."¹⁴⁵ In analyzing Flower's approach, Bennett implies that such a system, reliant on a "sparsity" of objects, leaves "no room for ambiguity regarding...meaning," and forces the visitor into a type of "sequential locomotion."¹⁴⁶

Considered in the context of the art museum, such prescribed motion was coordinated by what Philip Fisher describes as the "technology of the series," or the method by which institutions positioned their artworks.¹⁴⁷ By forcing visitors to adhere to a particular and predetermined route, Bennett writes that the museum "converts rooms to paths, into spaces leading to and from somewhere."¹⁴⁸ He suggests that such narrow parameters of interpretation in the museum space obstruct personal meaning-making, or the types of engagement promoted by John Falk and Lynn Dierking and the scholars that preceded them in the new museology movement.¹⁴⁹ Ultimately, Bennett laments that museums have actually undermined, if not destroyed, the personhood of the visitor, writing:

...while the formation of the public museum forms part and parcel of the fashioning of a new discursive space in which 'Man' functions as the archactor and metanarrator of the story of his own development, we shall not adequately understand the functioning and organization of this space if we view it solely as fabricating a compensatory totality in the face of the ruins of the human subject.¹⁵⁰

Museum scholars continued to interrogate the impact of sequence and arrangement on the interpretation of museum artefacts into the latter 1990s. Debora J. Meijers, a specialist in the

¹⁴⁵ Tony Bennett, *The History of the Museum: History, Theory, Politics* (London; New York: Routledge, 1995), 42.

¹⁴⁶ Bennett, *The History of the Museum*, 43.

¹⁴⁷ According to Fisher, artworks were arranged in chronological order by artist, for the most part, although some museums took less linear approaches: Bennett, *The History of the Museum*, 44.

¹⁴⁸ Bennett, *The History of the Museum* 44.

¹⁴⁹ The work of Falk and Dierking is discussed further in the "Modes of Interpretation" section of this proposal.

¹⁵⁰ Bennett, *The History of the Museum*, 45.

history of the collecting, organizing, and presenting of art, posits the idea of the “ahistorical exhibition” in *Thinking about Exhibitions* (1996), providing an alternative to Fisher’s “technology of the series.” Purportedly emerging in the 1980s and 1990s, the ahistorical exhibition is one in which “traditional chronological arrangement” is abandoned, and works of art are arranged according to abstract logic systems, or the individual preferences of the curator.¹⁵¹ While this may seem like a potentially liberating innovation, few were entitled to implement this exhibition type. “Particularly in the world of modern and contemporary art,” writes Meijers, “museum directors and some freelance exhibition designers have sometimes acquired an unassailable, guru-like status.”¹⁵² Thus, the ahistorical exhibition did not embolden visitors to interpret museum objects to a greater degree than had previous models, as such displays had the potential to actually necessitate an increased reliance on a curator’s explication via exhibition didactics.

While Meijers specifically considered different modes of presentation within museum galleries, James Clifford addresses institutional imbalances at a more macroscopic level in his 1997 essay, “Museums as Contact Zones.” In an effort to navigate the convoluted connections among and between staff, visitors, and the broader cultural heritage community, Clifford suggests that museums be considered as “contact zones.”¹⁵³ Clifford acknowledges the authority wielded by the museum, stating that through its treatment as a contact zone, the museum’s “organizing structure as a *collection* becomes an ongoing historical, political, moral

¹⁵¹ Debora J. Meijers, “The Museum and the ‘Ahistorical’ Exhibition,” in *Thinking about Exhibitions* (New York: Routledge, 1996), 8.

¹⁵² Meijers, “The Museum and the ‘Ahistorical’ Exhibition,” 10.

¹⁵³ James Clifford, “Museums as Contact Zones,” in *Routes: Travel and Translation in the Late Twentieth Century* (Cambridge, MA: Harvard University Press, 1997), 192.

relationship—a power-charged set of exchanges, of push and pull.”¹⁵⁴ By asserting that the museum has power, and then articulating the ways in which this power is enacted, Clifford provides a basis for scrutinizing its authority. Further narrowing his argument, Clifford also describes the exhibition as a contact zone, and one that requires “a complex contact process with different scripts negotiated by impresarios, intermediaries, and actors.”¹⁵⁵ Beyond the physical arrangement of information in an exhibition, then, Clifford’s approach requires that museums attend to important social factors, such as developing and fostering relationships within and outside of the community of professionals that comprise the museum’s intellectual powerhouse.

In “Changing Values in the Art Museum,” published almost a decade later, Cooper-Greenhill describes the “private spaces” of the traditional museum as “the spaces for knowledge production, irrevocably separated from the public spaces” of the museum.¹⁵⁶ As a contrast to the symbolic and contextual interactionism championed by vom Lehn and his fellow sociologists, however, Hooper-Greenhill demonstrates the way that traditional museums denied or even discouraged engagement. She characterizes a modernist museum that was more closely modeled after a prison (perhaps the ultimate example of a controlled environment), than a community space. Echoing the sentiments of Kenneth Hudson in the 1970s, she describes the expanses of the art museum as “spaces of controlled behavior, guarded and surveyed by warders who could eject those who behaved in an unruly fashion.”¹⁵⁷

¹⁵⁴ Clifford, “Museums as Contact Zones,” 192.

¹⁵⁵ Clifford, “Museums as Contact Zones,” 198.

¹⁵⁶ Hooper-Greenhill, “Changing Values in the Art Museum,” 520.

¹⁵⁷ Hooper-Greenhill, “Changing Values in the Art Museum,” 520.a

2.3.2 The Unidirectional Model and the Internet

Charlie Gere suggests that Western museums have not, historically, featured or promoted democratizing spaces. Indeed, in his analysis of the history of the museum, Gere reiterates that publicly accessible museums, or museums *explicitly* intended for public consumption, have only really existed since the mid-eighteenth to the nineteenth century, burgeoning in the 1800s, in particular. Despite museums' public status, Gere emphasizes that accessibility remains a crucial concern. In his 1997 contribution to the conference, "Museum Interactive Multimedia,"¹⁵⁸ held the same year as Clifford's publication of "Museums as Contact Zones," Gere also refers to the museum as a "contact zone," or a "node in a network of interactive relations," while simultaneously critiquing the museum as a "one-to-many, unidirectional medium."¹⁵⁹

Lawrence Weschler, founder of the Museum of Jurassic Technology, describes this unidirectionality as the "reassuringly measured voice of unassailable institutional authority," promoted by museums at that time. Peter Walsh, in quoting Weschler, unveils the myth, created by the museum, in which the institution assumes an almost divine position in the lives of its patrons. In actuality, Walsh insinuates that the museum wields its authority in ways that are both intimidating and patronizing.¹⁶⁰ Walsh suggests that "electronic leveling," will dictate that the unassailable voice will fail to transfer successfully to the Web. Furthermore, museum websites should not replicate what is already in print. The major mistake that museums have made,

¹⁵⁸ An annual conference now produced by *Museums and the Web*, with content originally edited by David Bearman and Jennifer Trant, as explicated on this website: http://www.archimuse.com/publishing/ichim_97.html.

¹⁵⁹ Gere, "Museums, Contact Zones, and the Internet," 63.

¹⁶⁰ Peter Walsh, "The Web and the Unassailable Voice," *Archives and Museum Informatics* 11, no. 2 (1997).

according to Walsh, is that, “in their first forays into the World Wide Web, art museums have, in effect, tried to carry the unassailable voice into the new technology.”¹⁶¹

Although the museums of the early 2000s had moved further towards abandoning or at least slackening the strictures associated with the museum of the late nineteenth century, Hooper-Greenhill asserts that, despite this progression, museums are still “expected to be authoritative.”¹⁶² Furthermore, she suggests that much of this authority actually originates in the “transmission” model of communication advocated by the museum. Previously introduced by Gere as a “unidirectional transmission model,” Hooper-Greenhill describes this system as one that “understands communication as a linear process of information-transfer from an authoritative source to an uninformed receiver.” Dallas interprets this model as an “asymmetrical relationship between a motivated agent, or subject, and a non-motivated object of activity.”¹⁶³ The curator exerts power over the object to establish meaning, and the viewer passively accepts this interpretation. So long as this model remains dominant in the museum community, Hooper-Greenhill and previous scholars suggest that reciprocal knowledge transfer seems like a distant and unattainable goal.

Historian and museologist, Gaynor Kavanagh, suggests that both museum professionals *and* museum visitors contribute to the power dynamic experienced within exhibition spaces. Certain processes, such as those that are channeled via the linear knowledge transmission model, engender or enforce the schism that exists between curator and visitor, and these practices are neither easily forgotten nor replaced. According to Kavanagh, “both curators and the visitors

¹⁶¹ Walsh, “The Web and the Unassailable Voice.”

¹⁶² Hooper-Greenhill, “Changing Values in the Art Museum,” 518.

¹⁶³ Dallas, “An Agency-oriented Approach,” 2007.

make meanings; neither can put to one side who, when and why they are and neither can be or become a neutral, pure or homogenous unit.”¹⁶⁴ As such, Kavanagh describes the museum as a “form of negotiated reality” in which both curators and visitors willingly participate.¹⁶⁵ Further, since the mid-nineteenth century, curators have wielded power over objects through exhibition didactics. Alluding to Roland Barthes, Mark Nunes suggests that “text anchorage helps to control the ways in which an image should be interpreted.”¹⁶⁶

Although touted as a potential force for democratization, virtual museum spaces have not historically been considered successful.¹⁶⁷ Kevin Donovan identifies a major weakness in the online exhibitions of the latter 1990s, particularly in their attempt to perpetuate the authoritarianism of the physical museum space. As he describes the technological landscape of 1997, Donovan suggests that:

In format and substance, museum websites resemble object labels and didactic text panels. This approach reproduces the physical museum presentation method: object-centric, jargon-filled, and segregated into galleries and wings.¹⁶⁸

Alsford similarly contends that websites are perceived as the “electronic analogy to the real-world museum.”¹⁶⁹ According to Hemmings and Randall, this tendency is problematic in that “effective technology relies upon the degree to which it can be thoroughly embedded in its contexts of use,” rather than the context from which the content is generated.¹⁷⁰ If the online

¹⁶⁴ Gaynor Kavanagh, *Making Histories in Museums* (New York; London: Continuum, 2005), 2.

¹⁶⁵ Kavanagh, *Making Histories*, 6.

¹⁶⁶ Barthes, from Mark Nunes’ *Error: Glitch, Noise, and Jam in New Media Cultures* (New York: Continuum, 2011) 102.

¹⁶⁷ “Success” is admittedly a problematic term, and one that I intend to unpack in the data collection phase of my dissertation research. How success of online exhibitions is even measured remains somewhat mysterious.

¹⁶⁸ Kevin Donovan, “The Best of Intentions: Public Access, the Web, and the Evolution of Museum Automation,” in *Museums and the Web 1997: Proceedings*, ed. David Bearman and Jennifer Trant, (Los Angeles, California: Archives & Museum Informatics, 1997) 3.

¹⁶⁹ Alsford, “From Pilot to Program.”

¹⁷⁰ Hemmings et. al, “Situated Knowledge,” 51.

space preserves the least desirable aspects of the traditional museum, the entire endeavor seems pointless. However, this is not necessarily the case. Indeed, the online exhibitions and catalogues discussed throughout this dissertation represent the ways art museums have attempted to meaningfully engage in an online environment. In the Environmental Scan, several online exhibitions emerged as innovative and interesting sites that furthered the museum mission.

2.4 The “Object” Document

2.4.1 The Document

Donovan, in “The Best of Intentions: Public Access, the Web, and the Evolution of Museum Automation,” suggests that the Internet and the World Wide Web offer promising opportunities for museums to extend their reach beyond the physical space of the institution.

Echoing Witcomb, Donovan argues:

the traditional, object-centered view of the museum mission (and thus, the museum experience linked to this view) would work better on the Web if museums shifted focus from *object value* to *information value*.¹⁷¹

In this regard, Donovan posits that museums of the late twentieth century might actually better execute their missions in another physical space (such as the library) or online. In the absence of tangible objects, the experience is unavoidably more information-based. “Instead of leading with the object,” Donovan writes, museums should use online platforms to “lead with the story of the

¹⁷¹ Donovan, “The Best of Intentions,” 3.

culture.”¹⁷² Further, Donovan asserts that cultural heritage professionals are making a switch from collections management to content management, or adopting a more archival approach to their work.

Concurrent to Donovan’s presentation, information scientist Michael Buckland was renegotiating the definition of a document, and exposing the variety of ways in which documentation could be interpreted. Supporting the notion of information value, Buckland expanded the concept of the document to include not just anything textual or even “text-like,” but also “any expression of human thought.”¹⁷³ With particular reference to the present (and enduring) changes in “multimedia,” Buckland identifies an opportunity for reflection and reassessment. This media, he conjectures, “reminds us that not all phenomena of interest in information science are textual” and that “we,” as information scientists, “may need to deal with any phenomena that someone may wish to observe: events, processes, images, and objects.”¹⁷⁴ Documentation had already expanded to include three-dimensional objects, such as sculpture, and these and other museum objects were often included within definitions of “document” from 1928 forward.¹⁷⁵

Citing the influential work of Suzanne Briet, or “Madame Documentation,” Buckland discusses the importance of intentionality and contextual positioning in the interpretation of documents.¹⁷⁶ In *What is Documentation (Que’est-ce que c’est la documentation?)* (1951), Briet

¹⁷² Donovan, “The Best of Intentions,” 3.

¹⁷³ Michael Buckland, “What Is a ‘Document’?” *Journal of the American Society for Information Science* 48, no. 9 (1997): 804-805.

¹⁷⁴ Buckland, “What is a ‘Document,’” 804.

¹⁷⁵ Here, Buckland refers specifically to the work of Dupuy-Briet in 1933, although he suggests that this is just one of other examples.

¹⁷⁶ Michael Buckland, “Suzanne Briet, 1894-1989: Madame Documentation,” <http://people.ischool.berkeley.edu/~buckland/briet.html>, accessed May 15, 2017.

posits that “genuine *creation*” occurs “through the juxtaposition, selection, and comparison of documents.” She concludes this description of context by stating that “the content of documentation is, thus, inter-disciplinary.”¹⁷⁷ In his recapitulation of Briet’s work, Buckland writes that the situation is “reminiscent of discussions of how an image is made art by framing it as art.” So Briet’s abstract definition of a document, “evidence in support of fact,” is quite complex and perhaps biased towards the physicality of an object.¹⁷⁸ According to Buckland’s inference, Briet more accurately assigns documentary status to objects that fulfill a list of criteria: “materiality: physical objects and physical signs only,” possessed of “intentionality,” capable of being processed, and subjected to a “phenomenological position.” In his article, Buckland elucidates a number of other definitions of “document,” and particularly those that diverge from the 1937 International Institute of Cooperation’s definition, which is explicitly anchored in the physicality of an object. According to the IIC, a document is “any source of information, in *material form*, capable of being used for reference or study or as an authority.”¹⁷⁹ Similarly, within the art museum the physical object was deemed authoritative purely through its form, its material presence, in the space of the institution.¹⁸⁰ Considered at the macro level, this emphasis on materiality may also stem from what Ian Hodder describes as “entanglement,” or the codependent relationship that exists between humans and things.¹⁸¹

¹⁷⁷ Suzanne Briet, Ronald E. Day, Laurent Martinet, and Hermina G.B. Anghelescu, *What is Documentation? English Translation of the Classic French Text* (Lanham, MD: Scarecrow Press, 2006).

¹⁷⁸ Buckland, “What is a ‘Document’?” 806.

¹⁷⁹ Emphasis added. IIC 234, 1937.

¹⁸⁰ Andrea Witcomb, “The Materiality of Virtual Technologies: A New Approach to Thinking about the Impact of Multimedia in Museums,” in *Theorizing Digital Cultural Heritage: A Critical Discourse*, edited by Fiona Cameron and Sarah Kenderdine (Cambridge, Massachusetts: MIT Press, 2007), 35; Crang, “On Display,” 2003.

¹⁸¹ Ian Hodder, “The Entanglement of Humans and Things: A Long-Term view,” *New Literary History* 45, no. 1 (2014): 19-36.

2.4.2 The Physical Object

Vergo's *New Museology* arrived more than half a century after the publication of the essay, "The Work of Art in the Age of Mechanical Reproduction," yet Walter Benjamin's insights about 'objective reality' remained impactful.¹⁸² Benjamin's essay had much to say about the devaluing of art objects through photographic reproduction, and the author's opinions about physicality, authenticity, and ownership have resonated in scholarship that has emerged throughout the intervening years.¹⁸³ In 1997, Witcomb suggests that "real objects" helped curators to perpetuate the illusion of impartiality in the museum. Although they were clearly making subjective decisions, "by studying the fabric of objects, museum curators could classify them, and order them into taxonomies in what appeared to be an objective manner."¹⁸⁴ In this way, curators were also distinguishing the museum collection from the museum exhibition. Hooper-Greenhill had also previously enumerated the variety of factors that contribute to the decision-making processes undergirding museum exhibitions, and these were predicated on the validity of the physical object and the curator in question:

including the existing divisions between objects, the particular curatorial practices of the specific institution, the physical condition of the material object, and the interests, enthusiasms, and expertise of the curator in question.¹⁸⁵

The museum tends to associate authenticity with authority, and define the former in terms that only really apply to "real" or physical objects. As Jeff Rothenberg wrote in 2000, the term authenticity is difficult to define because it is supposed to do so much. It "is intended to include

¹⁸² Vergo, *The New Museology*, 131.

¹⁸³ Benjamin, "The Work of Art," 1969.

¹⁸⁴ Witcomb, "The End of the Mausoleum," 1997.

¹⁸⁵ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 6.

issues of integrity, completeness, correctness, validity, faithfulness to an original, meaningfulness, and suitability for an intended purpose.”¹⁸⁶ Alain Depocas, Jon Ippolito, and Caitlin Jones further dissect the term “integrity,” itself a complicated idea that is often posited in relationship to a physical object (for example, the “integrity of an artwork”).¹⁸⁷ Edward Corrado and Heather Sandy establish that provenance, or proof of the chain of custody of an object, is essential to ensuring its authenticity.¹⁸⁸ A central mechanism for ensuring authenticity over time has, at least within archives, resided in maintaining “logical and physical integrity...including security and authenticity.”¹⁸⁹ Within the context of the museum, Corrado and Sandy elaborate, provenance focuses on the art object itself in order to document and establish its authenticity.

Deborah Wythe, the current manager of the Brooklyn Museum’s Digital Collections and Services Department (formerly the “Digital Lab” and now “BKM TECH”) reemphasizes the museum’s stubborn attachment to the physical object in the new edition of *Museum Archives: An Introduction*, published in 2004. She writes: “museums exist because of objects...without them, their mission would be moot.”¹⁹⁰ Although some scholars had labored assiduously to revoke or at least revise this assumption, it still persisted among museum professionals, including archivists. Indeed, Walter Benjamin’s words echo throughout Fiona Cameron’s chapter of *Theorizing*

¹⁸⁶ Jeff Rothenberg, “Preserving Authentic Digital Information,” in *Authenticity in a Digital Information*, edited by Charles T. Cullen, Peter B. Hirtle, David Levy, Clifford A. Lynch, Jeff Rothenberg, (Washington, DC: Council on Library and Information Resources, 2000) 52.

¹⁸⁷ Alain Depocas, Jon Ippolito, and Caitlin Jones, eds. *Permanence Through Change: The Variable Media Approach* (New York and Montreal: Guggenheim Museum Publications and the Daniel Langlois Foundation for Art, Science, and Technology, 2003) 7.

¹⁸⁸ Edward M. Corrado, Heather Moulaison Sandy, and Inc ebrary, *Digital Preservation for Libraries, Archives, and Museums* (Lanham: Rowman & Littlefield, 2014) 121.

¹⁸⁹ David Giaretta, “DCC Approach to Digital Curation—DRAFT,” *DCC* (2014), accessed July 14, 2016, <http://www.dcc.ac.uk/sites/default/files/documents/DCCApproachtoDigitalCuration-20040827.pdf>.

¹⁹⁰ Deborah Wythe, *Museum Archives: An Introduction* 2nd edition, (Chicago: Society of American Archivists, 2004), 10.

Digital Cultural Heritage, as she describes the “original, material, and objective” qualities of the inherently authoritative physical object.¹⁹¹ In addition, Walsh acknowledges that the “real object” has a special psychological standing within the space of the museum. Cameron recapitulates that “real objects,” imbued with special meaning, are “deemed to have a historical actuality while acting as a visible sign of the past.”¹⁹² Emerging from this tangle of terms and definitions, Adam provides a distinction between authenticity and integrity that is applicable to physical objects:

If a physical archival object is described as having integrity, it is understood to be complete and unaltered. Integrity speaks to the object’s standing in relationship to its original form whereas authenticity speaks to whether or not the object is truly what it claims to be.¹⁹³

In recent years, increased importance has been placed on the documentation of intangible heritage and the ways this heritage has been omitted, misused or misappropriated in the past.¹⁹⁴ Indeed, UNESCO’s 2003 *Convention for the Safeguarding of Intangible Cultural Heritage* enforced the significance of “narratives, practices, representations, systems of knowledge, and broader socio-cultural contexts” in which a physical object may have been embedded.¹⁹⁵

¹⁹¹ Cameron, “Beyond the Cult,” 50.

¹⁹² Cameron, “Beyond the Cult,” 55.

¹⁹³ Sharon Adam, “Preserving Authenticity in the Digital Age,” *Library Hi Tech* 28, no. 4 (2010) 596.

¹⁹⁴ Rosemary J. Coombe and Melissa F. Baird, “The Limits of Heritage: Corporate Interests and Cultural Rights on Resource Frontiers,” in *A Companion to Heritage Studies* ed. William Logan, Mairead Nic Craith, and Ullrich Kockel (Wiley-Blackwell, 2015) 339.

¹⁹⁵ Yehuda Kalay, Thomas Kvan, Janice Affleck, eds., *New Heritage: New Media and Cultural Heritage* (New York: London, 2008) 15.

2.4.3 The Digital Object and Information

In 2004, Hedstrom proposed that collection development processes would ensure the authenticity of digital objects. “Collection development within an institutional context,” she submits, “also builds trust in resources, which is especially important for digital information that lacks clear indicators of quality, authoritativeness, and authenticity.”¹⁹⁶ As with physical objects, then, scholars have suggested that authenticity may be granted to digital information purely by “virtue of inclusion.”¹⁹⁷ The fact that this information is carefully selected ensures that it is endowed with value. Concurrent to Hedstrom, Crang offered a media and format-agnostic explanation of how “objects only acquire meaning, only communicate to an audience, through being taken up and mobilized in an interpretive framework.”¹⁹⁸ Kavanagh, in his 1996 edition of *Making Histories in Museums*, suggests that digital objects require just as much contextualization as physical objects. In order to obtain significance, these objects “not only have to be identified and set within categories of meaning, they have also to be positioned and understood within their social, political, and temporal contexts.”¹⁹⁹

Fiona Cameron alluded to the importance of perception and context to the success of “digital surrogates.” One of the message-bearing qualities of digital surrogates is that they are “inscribed with the characteristics of the original—part of the coding of the original form.”²⁰⁰

¹⁹⁶ Margaret Hedstrom and John Leslie King, *On the LAM: Library, Archive, and Museum Collections in the Creation and Maintenance of Knowledge Communities* (Paris: Organisation for Economic Co-operation and Development, 2003) <http://www.oecd.org/education/innovation-education/32126054.pdf>.

¹⁹⁷ Hemmings et. al, “Situated Knowledge,” 154.

¹⁹⁸ Crang, “On Display,” 2003.

¹⁹⁹ Kavanagh, *Making Histories*, 6.

²⁰⁰ Cameron, “Beyond the Cult,” 55.

The “value” of the digital heritage object “is derived directly from the viewer’s acceptance of the real object as authentic.”²⁰¹ The digital heritage object, in other words, is a “visible and intelligible mediation of the real object.”²⁰² Corrado and Sandy posit that digital objects can also be considered authoritative through the establishment of different types of provenance. They describe three emerging perspectives, including: agent-centered provenance, object-centered provenance, and process-centered provenance. Briefly, agent-centered provenance, as the name implies, focuses on the creation, or point of origin, of the digital file. Object-centered provenance, according to Corrado and Sandy, “might focus on linkages between two electronic files, especially if there is a whole/part relationship.” Finally, process-centered provenance concentrates on the procedures that resulted in the creation of the digital object.²⁰³

In 1992, Hooper-Greenhill stated that “knowledge is now well understood as the commodity that museums offer,” but it has taken over two decades for this notion to gain some acceptance and receive further examination within the scholarly literature.²⁰⁴ According to Hooper-Greenhill, mechanisms of meaning-making are being “continually defined and redefined,” and this is all the more reason for museums to regularly re-examine their practices.²⁰⁵ At the time of publication, she suggested that interaction with museum collections, “other than at the level of looking at fully completed and immaculately presented displays, is generally severely curtailed” and that “definitions of the meanings of the collections are restricted to the private sphere of the museum worker.”²⁰⁶ In her 2007 publication about what she calls “curation

²⁰¹ Cameron, “Beyond the Cult,” 57.

²⁰² Cameron, “Beyond the Cult,” 57.

²⁰³ Corrado and Sandy, *Digital Preservation*, 53.

²⁰⁴ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 2.

²⁰⁵ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 11.

²⁰⁶ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 7.

collections knowledge,” Trant reaffirms Hooper-Greenhill’s recommendation regarding regular reassessments. Writing about cyberinfrastructures, in particular, Trant suggests that inflexibility on the part of the museum could be catastrophic. She writes, “authenticity and quality may set museums apart in the information landscape, but static assertions of value stand in conflict with the emerging conversational metaphors of information use in the museum context.”²⁰⁷ However, Trant’s experience is not representative of the field as a whole.

Trant’s words again call to mind Walsh’s conceptualization of the post-photographic museum, a space that Fiona Cameron suggests will require an institutional adjustment to agents of change. “The culture of the modern museum,” she writes, “is one of strong classifications between originals and reproductions.”²⁰⁸ Channeling the work of George MacDonald, former director of the Canadian Museum of Civilization (1983-1998), Cameron reframes museums “primarily as places for the dissemination of information rather than a central repository of objects.” In a further effort to distance the modern museum from the elitist institutions of the past, Cameron shifts the focus away from material culture, advancing the notion that museums house the “intellectual capital” of our information society.²⁰⁹

The art museum’s attachment to material objects may also be attributable to a fear of the unknown. Pierre Lévy posits that the language surrounding digital objects reinforces this anxiety. “As it is currently used,” Lévy writes, “the word ‘virtual’ is often meant to signify the absence of existence, whereas ‘reality’ implies a material embodiment, a tangible presence.”²¹⁰ Material culture is understood according to what Susan Pearce calls “discrete lumps,” or material that can

²⁰⁷ Trant, “Curation Collections Knowledge,” 277.

²⁰⁸ Cameron, “Beyond the Cult,” 52.

²⁰⁹ Cameron, “Beyond the Cult,” 52.

²¹⁰ Pierre Lévy, *Becoming Virtual: Reality in the Digital Age* (New York: Plenum Trade, 1998) 23.

be encapsulated by the following nouns: “object,” “thing,” “specimen,” “artefact,” or “good.”²¹¹

Witcomb further explicates the division between the physical and digital realm, describing the “material world” as carrying “weight—aura, evidence, the passage of time, the signs of power through accumulation, authority, knowledge and privilege” whereas “multimedia” is defined by its superficiality and is “perceived as ‘the other’ of all of these—immediate, surface, temporary, modern, popular, democratic.”²¹² Witcomb even describes multimedia as potentially signifying the “death of the object” or the death of the *idea* of a “real ‘original,’ per se.”²¹³ Digital objects complicate previously-held assumptions about what constitutes “cultural knowledge.”²¹⁴

Quelling this trepidation somewhat, Pearce reiterates that exhibitions remain the vital and unifying force in museums: “objects (like everything else) are only meaningful in relation to each other.”²¹⁵

In order to address these anxieties about the status of the physical object, archaeologist and museum expert, Suzanne Keene, suggests that museums must adapt to broader developments in information technology. In the late 1990s, at the time Keene published *Digital Collections: Museums and the Information Age*, such changes in information technology required museum professionals to loosen their tight grasp on the traditional, physical object and to accept the ascension of “information.” The museum community, in particular, was asked to accept that “now we make collections of information, too.”²¹⁶ Keene acknowledges the effect that this may

²¹¹ Pearce, “Museum Objects,” 9 and 10.

²¹² Witcomb, “The Materiality of Virtual Technologies,” 35.

²¹³ Witcomb, “The Materiality of Virtual Technologies,” 35.

²¹⁴ Srinivasan et. al, “Diverse Knowledges and Contact Zones,” 736.

²¹⁵ Pearce, “Museum Objects,” 2.

²¹⁶ Suzanne Keene, *Digital Collections: Museums and the Information Age* (Oxford; Boston: Butterworth-Heinemann, 1998), 1.

have on museum curators, in particular, or those privileged museum professionals commonly considered to be the “gatekeepers to the significance of the object.”²¹⁷ Just as they were facing the prospect of forfeiting their coveted position in the museum hierarchy, curators were also confronted with the concept of the digital object, or these strange new objects differentiated from the traditional, unique physical artifact by the “notion of [their] components being reusable.”²¹⁸ The digital object subverted the work of curators who had previously been attached to what Andrea Witcomb describes as the “central importance of objects, to the material world, in constructing narratives of legitimacy.”²¹⁹

Stephen Abrams reiterates that a digital object is meaningless without interpretation in much the same way that physical objects, despite their perceived preciousness and authority, are meaningless until they are given provenance by the all-knowing curator.²²⁰ This may seem contradictory, given the importance of objects within the museum, but the curator emerges as the powerful arbiter of value within both contexts. Stripped of interpretation, according to Abrams, “the digital object is merely an opaque string of bits.” It must benefit from the “intermediation of some technical system that is capable of transforming those bits into an appropriate representation interpretable by the human perceptual and cognitive facilities.”²²¹ Abrams also deprecates “the centrality of the curation repository as *place*,” by suggesting that curation may occur outside of the physical space of the museum.²²²

²¹⁷ Keene, *Digital Collections*, 2.

²¹⁸ Keene, *Digital Collections*, 15.

²¹⁹ Witcomb, “The End of the Mausoleum,” 1997.

²²⁰ Srinivasan et al., “Diverse Knowledges,” 742: “the primacy of text over things in museums is often traced in scholarship to a particular historical moment—during the middle of the nineteenth century, when museum interpretive strategies began to privilege words over things in the exhibition.”

²²¹ Abrams, “The Role of Format,” 24.

²²² Stephen L. Abrams, “Preservation is Not a Place,” *The International Journal of Digital Curation* 1, no. 4 (2009) 9.

2.5 Reconceptualizing Value

2.5.1 Distributed Knowledge Creation

Corinne Jörgensen, whose article, “Unlocking the Museum: A Manifesto” emerged contemporaneous to Hooper-Greenhill and Kavanagh’s essays, provides some potential options for moving beyond the linear transmission model. Writing from the perspective of an information scientist, Jörgensen proposes a “reconceptualization of practice” within museums, archives, and libraries which “provides flexibility in the concept of the locus of authority” in these institutions.²²³ Although her three mechanisms for “unlocking” museum collections are never described in detail, Jörgensen begins a conversation about distributed knowledge creation that remains significant, nonetheless. She argues for the incorporation of certain mechanisms that she believes:

could not only offer hope for tangible solutions to these problems of description, but could facilitate the creation of *new* knowledge from these documents and empower communities who heretofore have been limited, for a variety of reasons, from participating in and contributing to intellectual understanding and the growth of knowledge.²²⁴

Jörgensen’s three recommended mechanisms include: distributed description and annotation of documents, distributed collection building, and distributed knowledge creation. However, these methods are not described in this brief article, and Jörgensen is even compelled to provide a precautionary footnote: “there are a host of implementation issues that would need

²²³ Corinne Jörgensen, “Unlocking the Museum: A Manifesto,” *Journal of the Association for Information Science & Technology* 55, no. 5 (2004): 462, <http://onlinelibrary.wiley.com/pitt.idm.oclc.org/doi/10.1002/asi.10396/full>.

²²⁴ Jörgensen, “Unlocking the Museum,” 462.

to be addressed in order for the three components to be fully realized.” Further, she acknowledges that this work may be contentious, and even anticipates rejection from professionals working in museums, libraries, and archives.²²⁵ Jørgensen is optimistic, but still views museums as institutions that are both venerable and obstinate—unwilling to accept change.

Echoing Peter Walsh’s skepticism about the unassailable voice transferring successfully to the digital realm, Susan Hazan suggests that digital information and virtual exhibitions, in particular, provide important opportunities to interrogate and even move beyond the institutional, authoritative voice.²²⁶ She writes that the virtual exhibition provides opportunities for users that are internal and external to the museum to examine the discourse “between the authorial institution and the collection.” Indeed, digital narratives disseminated online represent what Hazan calls “new opportunities to contextualize the museum experience.”²²⁷ The French philosopher and sociologist, Jean Baudrillard, viewed media “as an instrument for destabilizing the real and true,” and as a mechanism for reducing “all historical and political truth” to information.²²⁸

Nunes suggests that the sort of disruption guaranteed to occur with the introduction of new media is actually vitally important to uncovering the relationship between information and authority. Indeed, Nunes posits that error or errant communication is actually incredibly revelatory in terms of uncovering the “crisis of control” occurring among and in between information producers and consumers. Error “can also signal a potential for a strategy of

²²⁵ Jørgensen, “Unlocking the Museum,” 463.

²²⁶ Hazan, “A Crisis of Authority.”

²²⁷ Hazan, “A Crisis of Authority,” 134.

²²⁸ Cameron, “Beyond the Cult,” 50.

misdirection, one that invokes a logic of control to create an opening for variance, play, and unintended outcomes.” In other words, error provides “creative openings and lines of flight.”²²⁹

Ed Rodley further writes that, rather than fixate on notions of authority, museums should concern themselves with remaining relevant through these “creative openings” and:

Focus more on the creating and spreading [of] the “digital DNA of our shared cultural heritage and less on controlling access to those assets...survival lies in the widest, most promiscuous spread of the cultural seeds we steward and create.”²³⁰

In 2014, Victoria Walsh, Andrew Dewdney, and Emily Pringle published a report reflecting the work that occurred within the framework of “Modelling Cultural Value in New Media Cultures of Networked Participation.” This latter project represented a collaboration between the Royal College of Art, Tate Research, and the Center for Media and Culture Research at London South Bank University. Contributors found that museums had not evolved significantly beyond the stoic institutional stereotypes represented in previous scholarship, but they also remained cautiously enthusiastic about the future of digital projects in cultural institutions. Indeed, the collaborators (cultural practitioners, academics, policy-makers, and funders), describe the persistence of the unidirectional knowledge transmission model:

Museums predominantly understand and employ the digital as a tool and continue to adopt the analogue broadcast model of one-to-many transmission based on traditional models of institutional cultural authority and disciplinary expertise.²³¹

Further, although they acknowledge that museums are making efforts to engage with digital technologies, there remain “conflicting positions about how this value can be sustained in

²²⁹ Nunes, *Error*, 3-4.

²³⁰ Ed Rodley, “The Virtues of Promiscuity,” *CODE/WORDS: Technology and Theory in the Museum* (2014), <https://medium.com/code-words-technology-and-theory-in-the-museum/the-virtues-of-promiscuity-cb89342ca038#.4u6gwn2df>.

²³¹ Walsh, et. al, “Modelling Cultural Value,” 2014.

contemporary digital culture.” Like other scholars engaged with the new museology, Victoria Walsh and her colleagues uncovered further evidence that “accounts and concepts of cultural value are predominantly based upon representational systems and forms which have developed over the course of the European Enlightenment in relationship to analogue modes of reproduction.”²³²

2.5.2 Collaboration and Co-Curation

In her article, “What Matters: Seeing the Museum Differently,” Julia Harrison refers to the significance of collaboration in generating more inclusionary programming. Harrison submits that “the notion of collaboration has come to dominate the exhibition-making process as part of the institutional response” to the common critique of the one, authoritative voice of the museum (transferred via curator, museum director, etc.).²³³ In her examination of collaboration, Harrison presents two case studies within natural history and anthropology museums, thus focusing on the important issues of cultural representation and repatriation. However, Harrison also extracts findings that are of broader application to museums, in general. Most significantly, she suggests that museums should not only encourage collaboration, but that they should also expose the mechanisms by which collaboration occurs. “Rather than suppress the conversation of the collaborative process,” Harrison writes, “what first needs to be facilitated is the receptivity of the visitor to hear all that is being said to them.”²³⁴ In other words, the public should be primed to

²³² Walsh, et. al, “Modelling Cultural Value,” 4.

²³³ Julia Harrison, “What Matters: Seeing the Museum Differently,” *Museum Anthropology* 28, no. 2 (2005): 31.

²³⁴ Harrison, “What Matters,” 40.

receive and respond to the messages being conveyed to them by a plurality of voices. This, of course, requires cooperation from the constituents who have traditionally been most resistant to collaboration: museum professionals.

Boast writes that “dialogue and collaboration is the name of the game these days,” and that “the contact zone is now more or less synonymous” with “inclusionist, collaborative programs.”²³⁵ In his reflection upon the changes that have occurred since the dawn of the “new museology,” or the late 1970s, Boast identifies a set of assumptions about the “social and political nature of the processes by which knowledge is produced and reproduced in the museum.”²³⁶ These assumptions helpfully identify trends in the scholarship surrounding museums, and also set the stage for the literature that followed. Boast outlined four main assumptions that have guided Phillips’ previously mentioned “second museum age”:

1. Knowledge is fundamentally relative.
2. The procedures and practices by which an individual comes to know are inherently social.
3. Every sequence of knowledge-claims takes the form of a narrative or story by which the nature of objects may be understood, explained, or accounted for.
4. Knowledge is knowledge of (or about) objects; objects are things of (or about) which knowers know.²³⁷

In sum, Boast suggests that, by 2011, museum scholarship had begun to acknowledge the multiple perspectives that contribute to meaning-making in the museum. Further, the institution, generally, has asserted the vital role of engagement, and particularly the type of engagement solicited through exhibition narratives, in these processes of making meaning.

²³⁵ Robin Boast, “Neocolonial Collaboration: Museum as Contact Zone Revisited,” in *Museum Anthropology* 34, no. 1 (2011): 58.

²³⁶ Boast, “Neocolonial Collaboration,” 58.

²³⁷ Boast, “Neocolonial Collaboration,” 58.

2.5.3 Meaning-Making

Falk and Dierking's first edition of *The Museum Experience*, published in 1992, concentrates on the practices that contribute to the museum experience, foregrounding the shift in institutional priorities from scholarship and conservation towards education and public outreach:

Whereas a quarter of a century ago most museums would have listed 'education' as a distant third on their list of institutional priorities...these same museums would now be inclined to state that they are, first and foremost, centers for public learning- or, at the very least, equally concerned about education, research, and collections.²³⁸

Rather than expect that the museum visitor possesses or has obtained a particular status (educational and economical) prior to entering a museum, Falk and Dierking propose that visitors arrive from diverse backgrounds, and with differing expectations. Therefore, each individual has the potential to form unique interpretations and engage with different modes of “personal meaning-making.”²³⁹ As scientists concerned with both visitor participation in the museum and STEM (Science, Technology, Engineering, and Mathematics) learning in the community, Falk and Dierking devised “The Interactive Experience Model” to describe engagement within the museum. By focusing on a holistic approach comprised of personal, social, and physical contexts, these authors departed from the primarily institution-centric scholarship of previous historians and museologists.²⁴⁰ Further, they offered a particular strategy for analyzing the museum experience within a Venn diagram (see Figure 2.1).²⁴¹

²³⁸ John H. Falk and Lynn D. Dierking, *The Museum Experience* (Washington, DC: Whalesback Books, 1992), xiii.

²³⁹ Falk and Dierking, *The Museum Experience*, 27; 14.

²⁴⁰ Falk and Dierking, *The Museum Experience*, 7.

²⁴¹ Falk and Dierking, *The Museum Experience*, 5.

Brenda Laurel posits that computers encourage “direct manipulation” or direct engagement.²⁴² While the literature emerging since the late 1970s demonstrates the “shift from the object...to the experience of this object,”²⁴³ scholarship describing and analyzing the new emphasis on interactivity has only surfaced within the past fifteen years. Following from Heath, Martha Smith hypothesized that meaning-making occurs through social interactions or when visitors, consciously or unconsciously, “exchange information.”²⁴⁴ In 2007, Manovich described the evolution of the “experience economy” or the shift towards a designed experience of information devices that is comprised of goods and services and considers the idea that “form follows emotion.”²⁴⁵ Just as interfaces have responded to aesthetic changes, exhibition design within museums has shifted from an object-centered approach to experience-centered design.²⁴⁶

²⁴² Brenda Laurel, *Computers as Theatre* (Reading, Massachusetts: Addison Publishing Company, 1993), 8.

²⁴³ Maria Komarova, “Interactive Technologies on Art Museum Websites” (master’s thesis, Kansas State University, 2015),

<https://krex.k-state.edu/dspace/bitstream/handle/2097/18947/MariaKomarova2015.pdf?sequence=1>.

²⁴⁴ Martha K. Smith, “Art Information Use and Needs of Non-Specialists: Evidence in Art Museum Visitor Studies” (PhD thesis, University of Washington, 2006): 4-5, ProQuest (AAT 3230794).

²⁴⁵ Lev Manovich, “Interaction as an Aesthetic Event,” *receiver*, no. 17 (2006),

http://dm.ncl.ac.uk/courseblog/files/2011/03/Manovich_InteractionAsAestheticEvent.pdf.

²⁴⁶ Manovich describes how “invisible” or seemingly seamless interfaces dominated the early 2000s, whereas the experience of operating a device was emphasized in the latter 2000s through a three-dimensional or skeuomorphic design concept. The 2010s have been dominated by a flatter design aesthetic. Wendy Duff, et al., “The Changing Museum Environment in North America and the Impact of Technology on Museum Work,” in *Cultural Heritage On Line*, ed. Chiara Cirinnà and Maurizio Lunghi (Florence, Italy, 2009) 3.

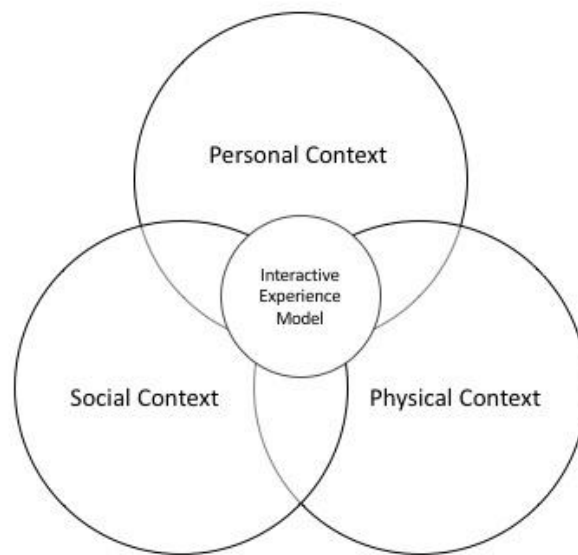


Figure 2.1 The Interactive Experience Model, adapted from Falk and Dierking

Ross cites Terry Cook when he attributes the need for adaptability and reciprocity to “the postmodernist tone,” a tone that is one of ironical doubt, “of trusting nothing at face value, of always looking behind the surface.”²⁴⁷ Falk and Dierking, whose revised edition of *The Museum Experience* appeared in 2013, suggest that the expectations of visitors has changed such that all museum professionals, “from directors and educators to exhibition designers and curators” should “be concerned about communicating with the public and supporting their personal meaning-making.”²⁴⁸ Increasingly, the scholarship concerned about meaning-making through the

²⁴⁷ Terry Cook quoted in Seamus Ross, “Digital Preservation, Archival Science, and Methodological Foundations for Digital Libraries,” *New Review of Information Networking* 17, no. 1 (2012): 54.

²⁴⁸ Falk and Dierking, *The Museum Experience Revisited*, 14.

exhibition experience has focused on individualization and the construction of what Smith calls personal knowledge structures.²⁴⁹

Hooper-Greenhill, in her 1992 publication, suggests, somewhat cryptically, that “representation” is, of necessity, a practice requiring self-reflection. Therefore, personal meaning-making is inextricable from the creation and consumption of modes of representation, because this “means to bring that which is present before one as something confronting oneself, and to force it back into this relation to oneself as the normative area.”²⁵⁰ In direct opposition of the despotic impulses of the curator or museum, Hooper-Greenhill suggests that the human brain prevails by prioritizing personal interpretation of experiences. “One feature of the art of memory,” she asserts “is that it empowers the unique vision of the individual to construct his/her own memory images.” Other references “will now be invisible.”²⁵¹ Whether this is entirely valid, Hooper-Greenhill predicted an institutional shift towards the individual that is emphasized in more recent scholarship.

In his explication of personal meaning-making, vom Lehn cites Malcolm Baker and Brenda Richardson, who enumerate the factors that contribute to any one individual’s experience of an exhibition. “How a visitor interacts with artworks and their settings,” they suggest, “is determined by personal needs, associations, biases, and fantasies rather than by institutional recommendations.”²⁵² Furthermore, regardless of how a curator designs a display and attempts to impose control over contextual details, Baker and Richardson posit that each individual visitor

²⁴⁹ Smith, “Art Information Use.”

²⁵⁰ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 81.

²⁵¹ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 84.

²⁵² Dirk vom Lehn, Christian Heath, and Jon Hindmarsh “Exhibiting Interaction, Exhibiting Interaction: Conduct and Collaboration in Museums and Galleries,” in *Symbolic Interaction* 24, no. 2 (2001): 189.

“assembles a context in which each exhibit is seen,” and any attempts to deny this reality are futile.²⁵³ In reference to user engagement, Marty furthers Laurel’s earlier claims by emphasizing the responsibilities of information providers:

It is no longer sufficient nor acceptable to design interfaces that reflect how we as information providers organize information; instead, our designs need to reflect our improved understanding of the ever-changing information needs of our users.²⁵⁴

As discussed previously, Falk and Dierking incorporated personal meaning-making in their “Interactive Experience Model,” published in 1992. In 2013, Falk and Dierking released a new iteration of this framework, now called a “Contextual Model of Learning” (see Figure 2.2).²⁵⁵ This model also encourages a focus on personal meaning-making, and consideration of how “meaning” changes depending on the background and interests of a person, or their “varying degrees of experience with the institution of the museum generally, as well as experience with, and knowledge of the specific museum being visited.”²⁵⁶ Falk and Dierking suggest that museums have perhaps dedicated too much energy to designing for “potential museum experiences” rather than an actual one.²⁵⁷

²⁵³ Dirk vom Lehn, et al., “Exhibiting Interaction,” 198.

²⁵⁴ Paul Marty, “Digital Convergence in the Information Profession,” 617.

²⁵⁵ Falk and Dierking, *The Museum Experience Revisited*, 26.

²⁵⁶ Falk and Dierking, *The Museum Experience Revisited*, 27.

²⁵⁷ Falk and Dierking, *The Museum Experience Revisited*, 30.

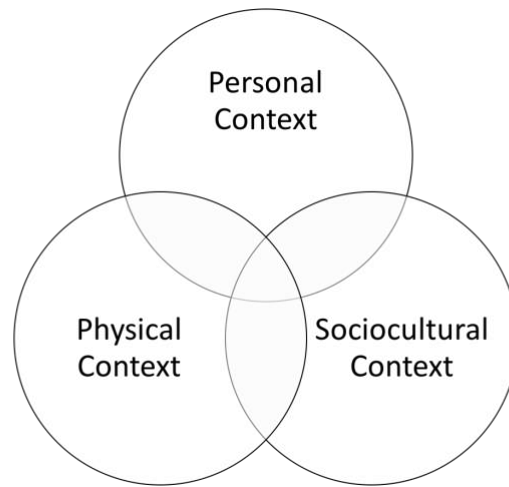


Figure 2.2 The Contextual Model of Learning, adapted from Falk and Dierking

Trant states that a lack of investment in personal meaning-making has resulted in a tension “between the knowledge that the museum creates, and knowledge that is created external to the institution, in an individually-or-socially-defined context.”²⁵⁸ Cameron suggests that the knowledge being generated externally is demonstrative of Manovich’s claim that we are now “post-media,” or that everything now relies entirely upon user behavior and data organization.²⁵⁹ This scholarship has culminated in what Marty identifies as a necessary attitudinal shift across cultural heritage information professionals from seeing a world where the library, archive, or museum must insert itself in the quotidian “life of the user” rather than relying on the user in the life of the institution.²⁶⁰ Digital objects and online exhibitions provide potential meaningful opportunities for this new approach.

²⁵⁸ Trant, “Curation Collections Knowledge,” 277.

²⁵⁹ Cameron, “Beyond the Cult.”

²⁶⁰ Marty, “Digital Convergence in the Information Profession,” 619.

2.6 Modes of Interpretation and Mediated Experiences

Jennifer Trant suggests that a shift towards reciprocal engagement, and away from the “unidirectional” transmission model, is no longer optional if the museum is to remain a vital and relevant member of the cultural heritage landscape. Writing in 1998, Trant describes museums as institutions faced “with an onslaught of interpretations of culture from an incredible number of resources,” and ones that are thereby “forced into an awareness that they are no longer the sole interpreters of their collections.”²⁶¹ Confronted with such a destabilizing reality, Trant identifies a need for museums to abandon the specialized language that formerly ensured (or at least created the illusion of) institutional authority. Trant demonstrates that museums of the late twentieth century were suffering from a particular ailment:

Museums find themselves unable to rely upon the semiotics of a century of museological symbols that have enabled them, in public buildings and spaces, to create the aura of authenticity and rarefication cultivated to communicate the uniqueness of each of its artifacts.²⁶²

The exhibition represents a clear opportunity for reciprocal engagement, but it has also traditionally been the curator’s stronghold (and thus, a kind of contested space). As established earlier in this literature review, the exhibition is a significant component of the museum, and can be viewed as a type of performance that is choreographed, directed, and narrated by the curator. Reesa Greenberg, Bruce W. Ferguson, and Sandy Nairne compare exhibitions to theatrical events in their 1996 publication, *Thinking About Exhibitions*. “Part spectacle, part socio-historical event, part structure device, exhibitions—especially exhibitions of contemporary art—

²⁶¹ Jennifer Trant, “When All You’ve Got is ‘The Real Thing’: Museums and Authenticity in the Networked World,” in *Archives & Museum Informatics* 12 (1998): 107.

²⁶² Trant, “When All You’ve Got,” 108.

establish and administer the cultural meanings of art.” In 2010, Sophia Acord reestablishes the importance of exhibitions, stating that “the crux of curatorial practice in contemporary art is the construction of artistic meaning through the exhibition.”²⁶³

2.6.1 The Performance

Brenda Laurel defines a spectacle as visual, auditory, and “all that is seen” in her 1991 publication, *Computers as Theatre*.²⁶⁴ Further, she describes a performance as having a plot, or a distinct beginning, middle and end. Although Laurel writes about performance specifically as it relates to computer interfaces, she provides other opportunities for comparison. Applying her definitions to the museum exhibition reveals how these modes of display are examples of interactive narrative production. Hooper-Greenhill reinforces the connection between exhibitions and theater in her 1992 publication, suggesting that initial cabinets of curiosity were in fact “theatrum mundi,” or spaces “constituted with the aim of representing a picture of the world.”²⁶⁵ Further, she reminds readers that, in 1951, Heidegger poetically stated “when the world is pictured, the world exists in a view,” much like a staged performance.²⁶⁶ Citing Richard Bernheimer, Hooper-Greenhill also recalls that “an alternative early definition of the word *theatrūni* defines it as a complete exhibition of a certain kind of specimen.”²⁶⁷

²⁶³ Acord, “Beyond the Head,” 447.

²⁶⁴ Laurel, *Computers as Theatre*, 50.

²⁶⁵ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 80.

²⁶⁶ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 10.

²⁶⁷ Richard Bernheimer, “Theatrum Mundi,” *The Art Bulletin* 38, no. 4 (December 1956) 230, as cited in Hooper-Greenhill, 97.

Referring to the omniscient curator, Srinivasan et al. further imply that the museum exhibition serves as a miniature laboratory for curators (the scientists in this scenario), to “continuously discuss, study, and reorder the world in miniature.”²⁶⁸ When objects leave this laboratory space as part of a traveling exhibition, for example, Srinivasan et al. posit that objects are required to “speak” for themselves about their place of origin. In this regard, the object “becomes a public spectacle, interpreted by diverse publics, each maintaining their own cultural imaginations.”²⁶⁹ The objects, considered in a Latourian sense as immutable mobiles, thereby serve as temporary spectacles within the museum space.²⁷⁰ In this regard, Acord contends that the scholarly literature has not yet delved deeply into the mechanisms by which curators go about creating these meanings, particularly in the physical processes involved in exhibition installation.²⁷¹

Picking up this thread in the scholarly discourse, Costis Dallas intimates the ways that the physical exhibition invites participation in a choreographed performance:

Visitors to a real gallery are both viewers of exhibits and others, and spectacle for other visitors; the gallery becomes a stage where visitors, through the means by which they demonstrate competence of using the exhibition space and through interaction with one another, construct themselves as museum-goers.²⁷²

Lev Manovich similarly describes interaction as a theatrical experience, and Bernie Hogan extrapolates even further, interpreting Shakespeare’s words for contemporary purposes: “the

²⁶⁸ Srinivasan et al., “Diverse Knowledges,” 736.

²⁶⁹ Srinivasan et al., “Diverse Knowledges,” 737.

²⁷⁰ In 1987, Bruno Latour wrote about “immutable mobiles” or “objects of knowledge subject to the shackles of fixed classifications and categories, and therefore, placed at an irremovable distance from how the object was originally culturally produced, and from the process of its creation as an immutable mobile” in Srinivasan et al., 737; 741.

²⁷¹ Acord, “Beyond the Head,” 447.

²⁷² Costis Dallas, “The Presence of Visitors in Virtual Museum Exhibitions,” a paper presented to the *Numérisation, lien social lectures colloquium* at the University of Crete, Rethymnon, 3-4 June 2004.

world, then, is not merely a stage but also a participatory exhibit.”²⁷³ Whereas the actor or visitor is performing in real-time, the object or artifact with which visitors engage is a result of past performances.²⁷⁴ Taken as whole, then, the exhibition is itself a performance but is also the result of previous performances.

As exhibitions begin to be mounted in the digital realm, Seamus Ross discusses the different ways in which the idea of “performance” is treated. In particular, Ross utilizes the term “acceptable variance” to describe the range of possible “functions and behaviors” that a digital object may express. “Every instantiation [of a digital object] is a ‘performance,’ and we therefore “need ways to assess the verisimilitude of each subsequent performance to the initial one.”²⁷⁵ Guillaume Boutard, Catherine Guastavino, and James Turner suggest that Ross’ recommendation for assessment of and through re-performance or re-presentation also constitutes a valuable digital preservation strategy, and one that appears in their 2015 framework on digital archives.²⁷⁶

Most recently, performance-driven exhibition scholarship has been preoccupied with the notion of user-driven scenarios. Hazan suggests that the online exhibition, often experienced through a screen, represents a reduction of real, physical exhibitions to “a diminutive performance” that is merely referential to the real object, which exists somewhere in the

²⁷³ Bernie Hogan, “The Presentation of Self in the Age of Social Media: Distinguishing Performances and Exhibitions Online,” *Bulletin of Science Technology Society*, 30, no. 6 (2010) 377-386.

²⁷⁴ Richard J. Cox notes that “the potential meaning of material culture and the importance and difficulty of its selection for preservation can be seen in how a museum seeks to use material culture remains...to interpret the past for the public,” in “The Documentation Strategy and Archival Appraisal Principles: A Different Perspective,” *Archivaria* 38, no. 27 (Fall 1994): 27.

²⁷⁵ Ross, “Digital Preservation,” 45.

²⁷⁶ Guillaume Boutard, Catherine Guastavino, and James Turner, “A Digital Archives Framework for the Preservation of Cultural Artifacts with Technological Components,” *International Journal of Digital Curation* 8 (2013): 42-65. doi: 10.2218/ijdc.v8i1.237.

Musesphere.²⁷⁷ As such, the intimate experience of the online exhibition provides users with a “tiny romance of their original selves on the screen.”²⁷⁸ Such an experience may be described as cathartic and is reinforced by what Anastasia Varnalis-Weigle describes as the triple effect of “emotional response, aesthetic pleasure, and meaning-making” in the value of user experiences with both physical objects and digital surrogates.²⁷⁹

2.6.2 The Context

With reference to the computer interface, Laurel provides a very specific description of context (and the implications of this contextualization), which, ironically, also serves as a helpful metaphor for the contextual clues inserted into the physical exhibition (that preceded it by many centuries). First, she emphasizes that the computer interface is neither a flat, static entity nor “simply the means whereby a person and a computer represent themselves to one another.” “Rather,” the interface “is a shared context for action in which both are agents.”²⁸⁰ Laurel provides a clear account of how context is rendered by a graphic designer:

in the world of interfaces, the graphic designer renders the objects (like zoom-boxes and pop-up menus) and represents both concrete and ephemeral aspects of context through the use of such elements as line, shadow, color, intensity, texture, and style. Such familiar metaphors as desktops and windows provide behavioral and contextual cues about the nature of the activity that they support.²⁸¹

²⁷⁷ Susan Hazan, *Performing the Museum in the Age of Digital Reproduction*, accessed August 20, 2016, <https://furnacejournal.files.wordpress.com/2015/09/hazan.pdf>.

²⁷⁸ Hazan, *Performing the Museum*.

²⁷⁹ Varnalis-Weigle, “A Comparative Study of User Experience,” 2016.

²⁸⁰ Laurel, *Computers as Theatre*, 4.

²⁸¹ Laurel, *Computers as Theatre*, 10.

While such contextual cues are also apparent in physical exhibitions, they are not necessarily as conspicuous nor as intentionally positioned. In 2004, Dallas attempted to crack open the hard exterior of the physical exhibition and reveal its intricate innards. He explains that the exhibition, both the real and the virtual, is comprised of a “textual rhetoric,” and that visitors must immerse themselves in this rhetoric in order to be fully present. The notion of presence within the museum space is complicated by the opinions of art historian and critic, Michael Fried. Fried’s ideology, dissected by Richard Reinhart and Jon Ippolito in *Re-collection: Art, New Media, and Social Memory*, exist on the premise that “great art should exhibit a quality he called ‘presentness’ and be ‘at all times wholly manifest.’”²⁸² Echoing Benjamin’s discussion of the “aura,” Fried reveals a clear attachment to the “real object.” “Presence,” on the other hand, is supposedly about “a kind of theatricality,” and “a sense of time in which the artwork is not manifest in an eternal moment but rather unfolds, bit by bit.”²⁸³

While Fried places fine art on a pedestal, removed from and impervious to the maneuverings of the curator or gallery-goer, Dallas continues to demonstrate the importance of contextualization throughout more than a decade of publications. Clearly exposing his training as both an archaeologist and information scientist, Dallas suggests that the “contextualization of cultural objects in museum exhibitions takes the form of building collocations of objects in contexts that ostensibly expose important or interesting aspects of their form, function, and meaning.”²⁸⁴ According to Dallas, this re-contextualization of cultural objects results in the

²⁸² Richard Rinehart and Jon Ippolito, *Re-collection: Art, New Media, and Social Memory* (Cambridge, Massachusetts: The MIT Press, 2014) 51.

²⁸³ Rinehart and Ippolito, *Re-collection*, 51.

²⁸⁴ Dallas, “The Presence of Visitors,” 4.

construction of a “mediated version,” a specific interpretation that is often the only version available and accessible to museum visitors.²⁸⁵

Context is also comprised of the social environment within which an exhibition is experienced. In 2001, vom Lehn, Heath, and Hindmarsh published a study entitled “Exhibition Interaction” that investigated the nature of social interactions in museums and galleries. This publication succeeded David Anderson’s 2000 publication in *Cultivate Interactive*, in which he identifies the twenty-first century transition away from object-centricity and towards a focus on user experiences. Anderson suggested that this “change of paradigm can be summarized as a switch from the object-focused institution to one that is more user-focused.”²⁸⁶ As researchers in sociology and management at King’s College, London, vom Lehn and his colleagues sought to address an apparent gap in the scholarly literature regarding “new forms of participation and experience.”²⁸⁷ Although museum scholarship, manifested in critiques of the traditional museum and its approaches to engagement and public access, demonstrated obvious unrest within the museum community from the 1990s onward (or the years following the publication of Vergo’s *New Museology*), vom Lehn claims that such analyses had not yet been supported by qualitative data. Indeed, vom Lehn and his associates suggest that museum professionals had, up to that point, undertaken “innovations” within their institutions without any particular “regard to the social sciences and with little attention to an understanding of social interaction or participation.”²⁸⁸

²⁸⁵ Dallas, “The Presence of Visitors,” 4.

²⁸⁶ David Anderson, “Networked Museums in the Learning Age,” *Cultivate Interactive* 2 (2000), <http://www.kultur-vermittlung.ch/zeit-fuer-vermittlung/download/materialpool/MFV0701.pdf>.

²⁸⁷ Dirk vom Lehn, et al., “Exhibiting Interaction,” 190.

²⁸⁸ Dirk vom Lehn, et al., “Exhibiting Interaction,” 210.

“Exhibition Interaction” seems to reveal an obvious omission in the literature, and one that vom Lehn et al. propose solving for the mutual benefit of the fields of museology and sociology.²⁸⁹ Through recordings and field observations, vom Lehn, Heath, and Hindmarsh’s study reveals the different ways in which museum visitors interact not only with objects and museum spaces, but with each other. Through such considerations of social *and* physical contexts, the researchers in this study saw opportunities for improving exhibition spaces as well as broader approaches to engagement within the museum. Their research demonstrated that museums and galleries are ideal spaces for such studies, as they offer findings that extend even beyond the examination of symbolic interactionism. According to this paper, museums and galleries “provide an opportunity to interweave contemporary interest in the social constitution of the object and material environment with the long-standing concern with social interaction.”²⁹⁰

Whereas modernist museums tended to adhere to binary divisions, advocating a separation “between those [spaces] that were private and those that were public,” vom Lehn, Heath, and Hindmarsh are proposing that the institution of the museum greater emphasize the importance of both the intellectual and physical engagement occurring in its public spaces. In a separate article, “Configuring Reception,” published in 2004, vom Lehn and Heath describe the experience of exhibits as occurring “in and through social interaction,” or “interaction between people.” Furthermore, they posit that meaning-making occurs when people, “in collaboration with others, reflexively constitute the sense and significance of objects and artifacts.”²⁹¹

²⁸⁹ Although, clearly, this cannot be done through one study, alone.

²⁹⁰ Dirk vom Lehn, et al., “Exhibiting Interaction,” 194.

²⁹¹ Christian Heath and Dirk vom Lehn, “Configuring Reception: (Dis-)Regarding the ‘Spectator’ in Museums and Galleries,” *Theory, Culture & Society*, 21, no. 6 (2004).

Still, curators have consistently wielded interpretive control of the physical, if not social, context of objects. In his 2007 publication relating to digital curation, Dallas reiterates the importance of the unveiling of form, function, and meaning that occurs via “contextualization processes related to creating exhibition storylines.” Specifically, he notes that “the content, structure, and visual-spatial rhetoric of an exhibition becomes an important vehicle of meaning production.”²⁹² These functions are, in fact, “inextricably linked with artefact categorization.”²⁹³ Further, Dallas categorizes exhibitions according to context: “contextual exhibition practice,” he posits, features a narrative or theme that is reliant upon the relationship between and among objects in their particular time and space. “Aesthetic exhibition practice,” perhaps resulting in the type of ahistorical exhibition defined by Meijers in 1996, *decontextualizes* objects to the point where they exist autonomously and without any clear relationship to other objects within their time and space. In his 2015 publication, “Digital Curation Beyond the ‘Wild Frontier,’” Dallas invokes Hooper-Greenhill in reflecting that “the process of contextualization as curation is nowhere more apparent than in the construction of museum displays conceived as spatializations of knowledge.”²⁹⁴

These communications are not always reciprocal, however. Torsten Nilsson, in focusing specifically on the idea of the interface of the museum, or the idea of the museum’s “total online presence,” reminds his colleagues that the World Wide Web is not an entirely egalitarian medium.²⁹⁵ In fact, all spaces are not created equal by the very fact that they are constructed by

²⁹² Heath and Dirk vom Lehn, “Configuring Reception,” 2004.

²⁹³ Costis Dallas, “An Agency-oriented Approach,” 2007.

²⁹⁴ Dallas, “Digital Curation,” 2015.

²⁹⁵ Torsten Nilsson, “The Interface of a Museum: Text, Context, and Hypertext in a Performance Setting,” in *Museums and the Web 1997: Proceedings*, edited by David Bearman and Jennifer Trant (Los Angeles, California: Archives & Museum Informatics, 1997) 146.

particular individuals and then consumed by others. In his discussion about online engagement, Nilsson offers a distinction between what he calls *structural* and *presentational* spaces. His description of these spaces provides a helpful framework through which to understand how the museum might be interpreted by online audiences. First, he defines “cyberspace” as “computerized international networks,” and then elaborates that: “This space can be as concrete as any building or geographic region, namely as a mental construct in the mind of the ‘reader.’”

He refers to this type of space as “structural.” Then, he adds:

But in any text or hypertext, there are also the images of physical space, created in the mind of the reader from the intentions of the author, whether it is by minute description or by poetic, metaphorical language.²⁹⁶

This latter space constitutes the *presentational* space. Through these descriptions, Nilsson attempts to encapsulate the array of intellectual decisions that are made in the creation and deployment of online exhibitions.

2.6.3 The Online Exhibition

In 2001, Terry Cook observed a shift in archival thinking from product to process, structure to function, and record to the recording context. He asserted that a collection of records may have many narratives and thus represent an accumulation of meaning.²⁹⁷ A decade later, Boast similarly focused on the significance of story-telling, enumerating the previously-cited assumptions about the relativity of knowledge, the inherently social nature of processes, and the

²⁹⁶ Nilsson, “The Interface of a Museum,” 150.

²⁹⁷ Terry Cook, “Archival Science and Postmodernism: New Formulations for Old Concepts,” *Archival Science* 1, no. 1 (2001).

narrative formed by sequences of knowledge.²⁹⁸ Within the context of a physical exhibition,

Margaret Hedstrom and John Leslie King emphasize the processes behind narrative creation:

narratives are the means by which artifacts are pulled into the foreground or pushed into the background in ways that create a story for the visitor that cannot emerge simply from the presence of the artifacts themselves.²⁹⁹

Leslie Bedford, in a 2014 publication devoted to the vital role of story-telling and imagination within museum exhibitions, suggests that the exhibition is itself a combination of narrative, imagination, and aesthetic experience.³⁰⁰

As Hemmings and Randall predicted previously, “ideas and narratives” become available when curators and others can move beyond the physical constraints of the museum.³⁰¹ This, of course, is not to say that all of the museum’s forays into the digital realm must incorporate a narrative. Dallas asserts that “digital representations of cultural objects” may be “arranged in diverse descriptive, narrative, or interpretive structures.” These “are an emerging example of a new form of communication between cultural institutions and their publics.”³⁰² The online exhibition, however, is not an egalitarian medium by default.

In 1991, Laurel indicated that interface concerns, and particularly the notion of reciprocal engagement, might be resolved through the establishment of a type of “common ground” that mimics the ways that common ground is established more organically in human-to-human encounters.³⁰³ Familiar elements and spatial cues help to construct common ground in the digital

²⁹⁸ Boast, “Neocolonial Collaboration.”

²⁹⁹ Hedstrom and King, *On the LAM*, 2003.

³⁰⁰ Leslie Bedford, *The Art of Museum Exhibitions: How Story and Imagination Create Aesthetic Experiences* (Walnut Creek, California: Left Coast Press, 2014).

³⁰¹ Hemmings et al., “Situated Knowledge,” 149.

³⁰² Dallas, “The Presence of Visitors,” 1.

³⁰³ Laurel, *Computers as Theatre*.

realm. In his reflection on some of the work that occurred during the 1990s, Manovich would later write that interfaces evolved, and that tools were aestheticized, in response to critical movements of this era.³⁰⁴ In other words, design began to reflect user preferences.

Howard Besser's essay, "Integrating Collections Management Information into Online Exhibitions," also published in 1997, describes another challenging aspect of digital exhibitions during this era of computing. In particular, Besser explains the sometimes-blurry distinction between Collection Management Systems (CMS) and online exhibitions. While the former "have historically handled very complex information but have had poor user interfaces and been difficult to learn to use," he suggests that the latter is, at least hypothetically, a different beast entirely. "Multimedia exhibitions," he posits, have been using graphics and "point-and-click" interfaces since the mid-1980s. Besser further states that "interactive multimedia exhibition packages are characterized by their good user interfaces," a sweeping claim that is perhaps unsubstantiated but nonetheless helpful in establishing a more accurate portrait of this particular moment. "Good user interfaces," in his estimation, seem to focus on providing a curated collection of material in a way that is accessible, while CMS' are about inventory control and comprehensiveness.³⁰⁵ In 2008, Neil Beagrie would further distinguish curation from collection management by suggesting that it incorporates "not only the preservation and maintenance of a collection or database but some degree of added value and knowledge."³⁰⁶

At the turn of the twenty-first century, relatively few scholars engaged with the topic of online exhibitions. Indeed, it was not until 2004 that Dallas attempted to categorize the "types"

³⁰⁴ Manovich, "Interaction as an Aesthetic Event."

³⁰⁵ Besser, "Integrating Collections Management Information," 1997.

³⁰⁶ Neil Beagrie, "Digital Curation for Science, Digital Libraries, and Individuals," *International Journal of Digital Curation* 1, no. 1 (2008) 4.

of exhibitions that had begun to emerge in the previous decade. These, he suggested, could be divided according to particular metaphors: “the navigation metaphor,” and “the book metaphor.”³⁰⁷ As the name suggests, the prior metaphor emphasizes engagement with different types of navigation types while the latter attempts to replicate the traditional structure of a book. The literature that has emerged since 2004 generally focuses more on the previous type of exhibition, or one that attempts and intends to engage visitors using particular interactive interfaces. Furthermore, scholars have emphasized the importance of personalization or individuation, or the process of escaping the strictures of the linear transmission model perpetuated through “the book metaphor.” This latter model has also been likened to the traditional museum catalog format.³⁰⁸ The fourth chapter demonstrates that the linear typology remains a popular online exhibition format.

Michael Day, in his contribution to the DigCCurr 2007 International Symposium on Digital Curation, suggests that online exhibitions “complement, augment, or enhance museum experience,” through personalization, interactivity, and richness of content.³⁰⁹ Also, according to Hazan, the online exhibition represents a tool for providing intellectual access to the museum, a concept of increasing importance within the new museology. Further, she suggests that “trust in the authenticity of the physical object” will hereby be “transposed into the digital object,” thus assuaging some of the fear perpetuated by object-centered curators and institutions.³¹⁰ Duff

³⁰⁷ Dallas, “The Presence of Visitors,” 2.

³⁰⁸ Mundy and Burton, “Online Exhibitions,” 2013.

³⁰⁹ Michael Day, “Report from the DigCCurr 2007 International Symposium on Digital Curation, Chapel Hill, NC, April 18-20, 2007,” *International Journal of Digital Curation* 2 (2007).

³¹⁰ Hazan, *Performing the Museum*.

suggests that, in this regard, museum websites should not be seen as secondary to the physical exhibition, but as actual “museum spaces” in and of themselves.³¹¹

Srinivasan et al. propose that the online exhibition may more successfully present the “exhibition as process,” rather than as product, or provide more transparency than is found in a physical exhibition. The online exhibition may more easily and effectively demonstrate the stages involved in exhibition-making. In the context of the in-gallery exhibition, Becvar critiques the “orderliness of presentation and smoothness of display in exhibitions” because it disguises “the uncertain and messy work of knowledge making that occurs behind the scenes.”³¹² Further, practitioners like Jennifer Mundy and Jane Barton present the online exhibition as something that moves beyond what they describe as flat documentations of real-world exhibitions.³¹³ Rather than suggest that an online exhibition is “just a database,” Mundy and Barton posit that the digital exhibition should be “an actual experience.” In order to retain their authoritativeness or validity, then, they advise that online exhibitions respond to the “visual qualities and scholarly authority of an in-gallery exhibition.”³¹⁴ Mundy, Head of Collection Research at the Tate, and Burton, Creative Director, Media Production at the Tate, were also members of the *Gallery of Lost Art* project team, one of the key case studies investigated in this dissertation.

Although their evaluations of the twenty-first century museum are not supported by qualitative or quantitative data, Falk and Dierking, in *The Museum Experience Revisited*, also suggest that online exhibitions might benefit from the lessons learned through physical manifestations of exhibits. They posit that “online visitors and program participants...are

³¹¹ Duff et. al, “The Changing Museum Environment,” 3.

³¹² Srinivasan et al., “Diverse Knowledges,” 742.

³¹³ Srinivasan et al., “Diverse Knowledges,” 744; Mundy and Burton, “Online Exhibitions.”

³¹⁴ Mundy and Barton, “Online Exhibitions.”

motivated by identity-related needs.” They believe that “it is likely that some of the same types of needs and motivations compel participation in online and museum programs that influence exhibition experiences.”³¹⁵ Falk and Dierking also enumerate opportunities for co-curation and *co-creation* in exhibitions, as well as cooperation and contextualization within the broader cultural heritage network.

Along these lines, Dallas wrote in 2007 that “the content, structure, and visual-spatial rhetoric of an exhibition becomes an important vehicle of meaning production,” and this transfers over to online exhibitions as well. Rather than focus on the physical exhibition space as the sole site of meaning-making, Dallas suggests that “purposeful interaction between subjects and objects takes place by means of *tool management*.” When meaning-making is interpreted thusly, the online exhibition platform itself may emerge as the effective tool for staging such interactive experiences. In fact, Dallas suggests that authenticity can be successfully preserved through digital curation.³¹⁶

In mounting online exhibitions, curators and a whole team of museum professionals struggle with the issues of digital preservation and obsolescence, butting against the notion that, according to Depocas, “humanity itself is gloriously physical.”³¹⁷ Indeed, Bruce Sterling described “digital decay” as a major problem for online exhibitions: “obsolescence is innovation in reverse,” and “bits have no archival medium.”³¹⁸ Further, as Thomas Mulready described, digital images face the challenge of capturing or standing in as a “representative image” of

³¹⁵ Falk and Dierking, *The Museum Experience Revisited*, 304.

³¹⁶ Dallas, “Digital Curation,” 2015.

³¹⁷ Depocas et al., *Permanence Through Change*, 13.

³¹⁸ Depocas et al., *Permanence Through Change*, 11.

something, whether it be performance art or an exhibition, etc.³¹⁹ Curators and museums must also contend with what Davis describes as the public's "distaste for a culture of mass production and planned obsolescence."³²⁰

2.7 Conclusion

This chapter underscores the ways that museums have changed over the past fifty years, while simultaneously revealing the ways that they have actually stayed the same. Although the new museology movement signaled an era of change in the museum sector, the authentic object continues to remain at the core of the modern, contemporary art museum idea. Museum computing has evolved from a back-end solution to collections management issues, to a user-facing avenue for engagement (through mobile applications, for example). However, as long as the mission of the museum is tethered to the unidirectional knowledge transmission model, these technological interventions will not result in a genuine dialogue or collaboration between the museum visitor and the curator. Indeed, and as the following case studies exemplify, museums continue to struggle to connect new modes of engagement and knowledge acquisition with pre-established notions of authority and authenticity, scholarly value, and credibility. Online exhibitions and catalogues continue to primarily rely on content experts occupying the top roles of the art museum hierarchy, and efforts to accommodate reciprocal engagement have been less successful than anticipated.

³¹⁹ Depocas et al., *Permanence Through Change*, 11.

³²⁰ Cameron, "Beyond the Cult," 50.

3.0 Methodology

John W. Creswell describes qualitative research as “an approach for exploring and understanding the meaning individuals or groups of individuals ascribe to a human or social problem.”³²¹ The following research methods were tailored to fill in some of the aforementioned gaps in the scholarly literature, and to provide a more comprehensive analysis of the current status of digital projects within the museum space. In the first phase of research, the author conducted an extensive environmental scan of previously published online exhibitions and catalogues. From this foundation, the case study approach emerged as the most practicable method for better examining phenomena discussed in the broader scan. By utilizing this methodology to examine projects from the Tate and the Walker Art Center, this dissertation incorporates real-world examples of how well-established institutions have conceptualized an online exhibition and an online catalogue, respectively, and how their approaches to these two types of publication are similar or divergent. Focusing on two museums, and interviewing staff about their individual practices, also serves the purpose of gaining a deeper knowledge of how digital projects are influenced by factors both within and external to the institution.

³²¹ John W. Creswell, “The Selection of a Research Approach,” in *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.), ed. John W. Creswell (Thousand Oaks, CA: Sage Publications, 2014), 4.

3.1 The Researcher's Role

The author of this dissertation is both a practitioner and scholar of online exhibitions. Most recently, she collaborated with Colleen O'Reilly, then doctoral candidate in the Department of History of Art and Architecture, on an online exhibition about the botanical dioramas in the Carnegie Museum of Natural History.³²² Prior to that, the researcher managed the online documentation of approximately thirty-five physical exhibitions in her role as Program Associate for the Andrew W. Mellon funded Visualizing the Liberal Arts (Viz) initiative at Carleton College. Additionally, the researcher studied the function and use of mobile applications in AAM-accredited museums of fine art during the second year of her graduate career. As such, she has first-hand experience in the creation and maintenance of digital exhibition projects and has also examined the effectiveness of digital interventions in museum spaces. Though she was careful not to allow any preconceived ideas to influence her scholarly research, she did find that her past experiences enabled her to interpret the data more effectively.

In pursuing this research, the author was positioned at the constructivist end of the spectrum. This philosophical worldview asserts that “individuals develop subjective meanings of their experiences—meanings directed toward certain objects or things.”³²³ With both the environmental scan and case study approaches, the author relied on the experiences of participants (her own, and those of individual project team members) to understand the social

³²² Colleen O'Reilly and Aisling Quigley, “Botany Hall: Dioramas in Context,” accessed February 2, 2019, www.botanyhall.com.

³²³ Creswell, *Research Design*, 189.

and technical frameworks in which the projects were built. These interviewees also communicated important details about the project outcomes, from very different vantage points.

3.2 The Environmental Scan

While the second chapter of this dissertation offers a historiography of museums, exhibitions, and museum computing through a literature review, this section explains the parameters necessary to consider what museums have actually *done* in the past three decades. Through a formal analysis of the data in Chapter 4, online exhibitions emerge as proactive and distinct intellectual creations produced by museum professionals. The digital catalogue provides an ideal counterpart to the exhibition, as the latter constitutes an inherently ephemeral format. Unfortunately, there were significantly fewer extant examples of digital catalogues, so the scan was less fruitful in that arena. Needless to say, the paucity of digital catalogues was a finding in and of itself, demonstrating the challenges inherent to this form of digital scholarship.

In order to clearly describe the present research agenda, it is useful to first allocate some parameters. As the preceding pages demonstrated, the relevant scholarly literature is predominantly Anglo-American, providing a limited knowledge base. For this reason, among others, the environmental scan also occurs within a Western context. As the two case studies examined in this dissertation are situated at accredited museums in London and Minneapolis, it is most beneficial to consider the accrediting bodies of England and the United States for the purposes of evaluation. Restricting data collection to accredited organizations not only enhances the feasibility of this research, but also establishes equivalencies and guarantees the existence of

certain standards and best practices. ICOM, the only global museum association currently in existence, is not an accrediting body. Although the organization, founded in 1946, offers crucial support and ethical guidance for museums worldwide, it does not presently publish a list of its member institutions or data that is of great relevance to this environmental scan.³²⁴ Therefore, there was not a list of internationally accredited museums on which to base this dissertation research.

Further, this environmental scan focuses on the United States and England because of the roles that each have played as geographic sites for the development and evolution of museum technology and computing. As discussed in the literature review, museum computing began in New York City and remains deeply rooted in North America. The Museum Computer Network (MCN), a 501(c)(3) not-for-profit organization incorporated in the State of New York, has never held a conference outside of the United States, Canada, or Mexico, and has been led by United States or London-based museum professionals for the past fifty years.³²⁵ The “Museums and the Web” conference has taken place annually in North America or Asia since 1997, ostensibly promoting inclusivity through global exchange, but primarily attracting participants from developed nations and the United States, in particular.³²⁶ In their 2012 handbook, *Museum Basics*, Timothy Ambrose and Crispin Paine suggest that museums in developing countries, and particularly smaller museums, may have to take additional steps before they integrate “information and communications technology” into their museums. Ambrose and Paine outline a

³²⁴ ICOM is a non-governmental organization with somewhere between 35,000 and 37,000 members. “ICOM,” <http://icom.museum/the-organisation/icom-in-brief/>, accessed February 7, 2018.

³²⁵ “Past Conferences,” MCN, accessed February 7, 2018, <http://mcn.edu/conferences/past-conferences/>.

³²⁶ However, fourteen of the twenty conferences, so 70%, have been held in North America, so the distribution of conferences has not been balanced. “Conferences,” Museums and the Web, accessed February 7, 2018, <https://www.museumsandtheweb.com/conferences/>.

“needs analysis study” as a “helpful preliminary step” towards making important decisions about museum technological infrastructures, suggesting that these institutions are engaging in more fundamental discussions about incorporating digital technology than their counterparts elsewhere.³²⁷

For the reasons outlined, this dissertation partly reinforces something previously articulated by Roopika Risam with regard to the digital humanities, more generally. Namely, that “the digital cultural record has largely ported over the hallmarks of colonialism from the cultural record.”³²⁸ Although the Internet may be seen as a democratizing medium, technology has also reified the colonial and postcolonial divide that persists in the museum world. Hopefully, scholars such as Risam will continue to emerge and advocate for a more intersectional digital cultural narrative that can be analyzed in future environmental scans about museum work. It is certainly the hope of the researcher that discussions about the digital realm become increasingly inclusive.

The following analysis encompasses museums that are fully accredited either by the non-profit organization, the American Alliance of Museums (AAM), or the government-funded Arts Council England. The London-based Museums Association (MA) is excluded from the scan because it does not offer merit-based accreditation, but instead offers membership through an established fee structure. Meanwhile, the museums accredited by the AAM and Arts Council have undergone rigorous review and are considered exemplars within and outside of the cultural heritage community. As was stated in the introduction, accredited museums in the United States

³²⁷ Tim Ambrose and Crispin Paine, *Museum Basics* (London: Taylor and Francis, 2012), 440.

³²⁸ Roopika Risam, “Colonial and Postcolonial Digital Humanities Roundtable,” accessed February 7, 2018, <http://roopikarisam.com/uncategorized/colonial-and-postcolonial-digital-humanities-roundtable/>.

meet specific criterion established by the AAM. Arts Council England, established by Royal Charter in 1946, integrates an accreditation scheme that fosters and supports “sustainable, focused, and trusted” museums. Accordingly, the Council expects accredited institutions to follow nationally-established guidelines.³²⁹

Secondly, this study is restricted to museums of art, although literature relating to other types of museums will inevitably inform components of the work. Museums of art are unique in their approach to curation, curatorship, authority, authenticity and aesthetics, as evidenced in the literature review. As Peter Walsh asserts, art museums, in particular, have suffered from a crisis of authority since the invention of the World Wide Web. In writing about the “Unassailable Voice,” Walsh claims that “the art museum accent can be particularly aloof and other kinds of museums speak with a cozier tone.”³³⁰ Positioned thusly, these types of institutions are an ideal test-bed for studying online exhibitions.

Furthermore, the exhibition and the associated exhibition catalogue play a particularly vital role in these types of organizations. Through the art exhibition, curators organize, interpret, and co-locate objects in a space. As Sophia Acord wrote in 2010, “the crux of curatorial practice in contemporary art is the construction of artistic meaning through the exhibition.”³³¹ As explicated in the definitional introduction, exhibition catalogues have historically represented the permanent record of an in-gallery show, and are also being migrated online. Significant scholarly research occurs in the production of museum catalogues, and this is an area that has been rapidly evolving over the past several years, partly in response to the unsustainable or unjustifiable costs

³²⁹ “Accreditation Scheme,” Arts Council England, accessed November 16, 2017, <http://www.artscouncil.org.uk/supporting-museums/accreditation-scheme-0>.

³³⁰ Walsh, “The Web and the Unassailable Voice,” 229.

³³¹ Acord, “Beyond the Head.”

of the traditional museum catalogue. Online catalogues provide a useful counterpoint to digital exhibitions for various reasons, particularly as digital exhibitions complicate the notion of the ephemeral museum exhibition. Examining the translation of the art exhibition onto an online space seems like a particularly productive endeavor, and thus an environmental scan of arts institutions is most beneficial for the purposes of parallel comparison.

Exhibition catalogues, as they are traditionally conceived, are probative records, or appendages to something else (i.e. the physical exhibition). In other words, they do not function as dispositive records which “put facts into existence,” but serve as “proof of the fact.”³³² Although this study is chiefly focused on stand-alone websites, the scan also discusses exhibition websites that share much in common with online catalogues: they document, accompany, or compliment in-gallery exhibitions. For example, the Museum of Early Southern Decorative Arts’ “Online Exhibitions” webpage explicitly states that their presentations are “online versions of exhibitions” that have been held at MESDA over the years.³³³ Conversely, text on the Massillon Museum of Ohio website indicates that the institution mounts virtual exhibits in order to allow greater access to items in the permanent collection that are not on display because of limited gallery space.³³⁴

Assessing the landscape of web productions within this narrow framework complements the literature review and helpfully foregrounds the case studies presented in the following section. The case study sites are inspired by, and include, digital representations of physical

³³² Luciana Duranti, “The Archival Bond,” *Archives and Museum Informatics* 11 (1997): 214.

³³³ “Online Exhibitions,” Museum of Early Southern Decorative Arts, accessed August 22, 2018, <http://mesda.org/collections/exhibits/>.

³³⁴ “Virtual Exhibits,” Massillon Museum, accessed January 1, 2018, <http://www.massillonmuseum.org/virtual-exhibits>.

objects, but exist separate to the museum space and cohere according to a specific narrative that is only apparent online.

3.2.1 Data Sources

The first, and seemingly straightforward, component of this environmental scan actually proved to be among the most challenging. Indeed, assembling a list of online exhibitions required a complicated and iterative approach to data collection. Research began with the Smithsonian Libraries' "Library and Archival Exhibitions on the Web," ostensibly the only directory of online exhibitions currently available to the public. Although this list provided a foundation for the ensuing research, it is neither exhaustive nor actively maintained. Some AAM or Arts Council-accredited institutions appear on the list, but many do not. The Smithsonian directory served to verify the existence of certain online exhibitions, but the institutional websites became the primary sites of study. Of necessity, only extant or archived sites are included in this study, as 404 error pages do not offer useful information on the format of now-extinct online exhibitions. While the content of this dissertation certainly relates to digital preservation, reconstituting dead websites through digital forensics is not of major relevance to the research at hand.

The following data sources contributed to the creation of a comprehensive list of the online exhibitions that persist on AAM and Arts Council-accredited art museum websites. The complete list is available in Appendix A.

“Library and Archival Exhibitions on the Web”

In 1998, the Smithsonian Institution Libraries assumed responsibility for “Library and Archival Exhibitions on the Web,” a directory of online exhibitions originally created in 1995 by Andrea Bean Hough and maintained at the University of Houston.³³⁵ As of November 20, 2017, over 7,200 exhibitions are listed in this Smithsonian guide. These exhibitions arrive from museums accredited by the AAM as well as numerous other institutions, including public and academic libraries and archives. According to S. Diane Shaw, Special Collections Cataloger at the Smithsonian Libraries and chief manager of the “Exhibitions on the Web” site, online exhibitions are not added in any systematic way due to time and resource limitations.³³⁶ Rather, exhibitions are added in an ad hoc manner, if and when librarians and other information professionals submit suggestions to the Smithsonian. As Shaw readily admits, the guide is not a “comprehensive, up-to-date resource,” and she did not offer further information about the criteria for selection. In the intervening years since its development, exhibitions on the list have disappeared or migrated elsewhere and new online exhibitions have been mounted. Still, the Smithsonian site remains helpful in raising awareness about these types of digital projects, more generally. Shaw reports that she still hears “from people who say they find the list very useful.”³³⁷

³³⁵ Smithsonian Libraries, “About this Site,” *Library and Archival Exhibitions on the Web*, accessed November 20, 2017, <http://www.sil.si.edu/SILPublications/Online-Exhibitions/about.htm>.

³³⁶ S. Diane Shaw, Special Collections Cataloger, Smithsonian Libraries, email to author, December 4, 2017.

³³⁷ By chance, Shaw expressed interest in receiving a comprehensive list of extant online exhibitions at museums, and thus I am sharing the data I’ve collected for this dissertation with the Smithsonian.

American Alliance of Museums

The American Alliance of Museums publishes a list of “Museums Committed to Excellence” on its website.³³⁸ All of the institutions incorporated in the database have taken the AAM Pledge of Excellence, and are further demarcated according to their accreditation status. The museums are divided among categories, representing progress within the AAM’s “Continuum of Excellence.” This environmental scan considers only the fully “Accredited Museums,” totaling about 1,050, or 25% of the almost 4,200 institutions contained in the list. These accredited museums appear at the apex of the Continuum, and engage in a “self-study and peer review” process every decade.³³⁹ The “Find a Member Museum” page provides a “Search by Type” function, and was helpful in identifying the institutions falling within the “Art Museum/Center/Sculpture Garden” category.³⁴⁰

Arts Council England

As with the AAM, Arts Council England maintains a list of nationally-accredited museums, including institutions that are located in the United Kingdom, Channel Islands, and the Isle of Man.³⁴¹ This list, available as a downloadable spreadsheet, was last updated in November 2017, and includes more than 1,700 institutions. Each of the museums is assigned an accreditation status ranging from “Provisional Accreditation (3 months)” to “Full Accreditation.” Fully accredited institutions retain their award for three years before reapplication. Provisionally

³³⁸ “Museums Committed to Excellence,” American Alliance of Museums, accessed December 4, 2017, <http://www.aam-us.org/resources/assessment-programs/accreditation/accredited-museums>.

³³⁹ “Accreditation,” American Alliance of Museums, accessed December 4, 2017, <http://www.aam-us.org/resources/assessment-programs/accreditation>.

³⁴⁰ “Find a Member Museum,” American Alliance of Museums, accessed December 4, 2017, <http://www.aam-us.org/about-museums/find-a-museum>.

³⁴¹ “List of Accredited Museums,” Arts Council England, accessed December 6, 2017, <http://www.artscouncil.org.uk/document/list-accredited-museums-uk-channel-islands-and-isle-man>.

accredited museums are not included in this study, as their provisional status indicates that “the applicant has failed to meet all the requirements that make up the standard.”³⁴² For the sake of consistency and logical cross-comparison, organizations situated outside of England are also omitted. The Arts Council site does not include an equivalent to the AAM’s “Search by Type” section, so classifying fine art institutions proved more challenging in this case.

John Malyon has operated *Artcyclopedia: The Fine Art Search Engine* since 1999, and the website remains a valuable database of artists and museums. Included in the 2012 edition of *Evolving Internet Reference Resources*, the website was considered “one of the best places to discover where works of art by particular artists are located around the world.”³⁴³ The site also publishes an “Art Museums Worldwide” page, linking to lists of institutions of fine art across seven regions.³⁴⁴ Although it does not possess the authority of Getty’s Thesauri, Malyon “at least established criteria and provides the researcher with knowledge of the expectations of the site.” With this in mind, the page listing “Art Museums in the UK” and the Arts Council database were consulted in tandem.³⁴⁵

Museum Websites

In addition to the Smithsonian guide, the AAM, and the Arts Council UK lists, this study considers public-facing museum websites. These are the primary platforms through which online content is conveyed and accessed, and thus confirm the presence of online exhibitions. This

³⁴² Arts Council England, *Accreditation Guidance: An Introduction*, June 2014, 20, accessed December 6, 2017, http://www.artscouncil.org.uk/sites/default/files/download-file/FINAL_201406_GuidanceIntroduction_PrintFriendly.pdf.

³⁴³ Roberto C. Ferrari, “Researching Art(ists) on the Internet,” *Evolving Internet Reference Resources*, edited by William Miller and Rita M. Pellen, (New York; London: Routledge 2012), 20.

³⁴⁴ “Art Museums Worldwide,” Artcyclopedia, accessed August 22, 2018, <http://www.artcyclopedia.com/museums.html>.

³⁴⁵ “Art Museums in the UK,” Artcyclopedia, accessed August 22, 2018, <http://www.artcyclopedia.com/museums/art-museums-in-the-uk.html>.

environmental scan also integrates exhibitions that are described as “virtual” and “digital” in addition to those that are called “online exhibitions,” or “online exhibits,” as these terms seem to be considered synonymous in the field. This may be the case, in part, because the distinctions among these terms have not been articulated or explored in depth within these contexts. Online exhibitions are nested under various subheadings, often appearing as a child page of the “Exhibition” page on museum websites, though they are sometimes displayed elsewhere. At the Art, Design, & Architecture Museum of the University of California, Santa Barbara, “Online Exhibitions” are accessed through the “Exhibitions” tab in the navigation bar.³⁴⁶ The Princeton University Art Museum (PUAM), meanwhile, displays its online exhibitions within the “Learn” section of its website, under the heading “Explore.”³⁴⁷ Yet another institution, the Museum of Fine Arts, Houston (MFAH), hosts “Archival Online Exhibitions” within the “Archives” section of their website.³⁴⁸ Less frequently, online exhibitions can only be found through specific Google or website searches, as they are not always explicitly included in the art museum’s current website navigation.³⁴⁹ As the Smithsonian list of online exhibitions demonstrated, findability is an issue for online exhibitions, especially if they are not tied to an institutional website.

³⁴⁶ “Exhibitions,” AD&A Museum, UC Santa Barbara, accessed December 10, 2017, <http://www.museum.ucsb.edu/exhibitions>.

³⁴⁷ “Online Exhibitions,” Princeton University Art Museum, accessed December 13, 2017, <http://artmuseum.princeton.edu/learn/explore/online-exhibitions/>.

³⁴⁸ “Archival Online Exhibitions,” Museum of Fine Arts, Houston, accessed January 8, 2018, <https://www.mfah.org/research/archives/archives-archival-exhibitions/>.

³⁴⁹ As was the case with the Philadelphia Museum of Art’s “Dali” exhibition website, accessed January 8, 2018, http://www.philamuseum.org/micro_sites/exhibitions/dali/index.html.

3.3 Case Study Approach

A case study approach is particularly well-suited to the present research goals because, as Pamela Baxter and Susan Jack have elucidated, this methodology supports “the deconstruction and the subsequent reconstruction of various phenomena.”³⁵⁰ In particular, the following research incorporates what Robert Yin designated as the descriptive case study approach, a method that underscores the importance of studying phenomena in its real-world context.³⁵¹ As the proceeding research incorporates two cases (each speaking to differences between physical and online procedures), the methodology is also bolstered by a cross-case analysis.

<i>The Gallery of Lost Art</i> , July 2012-2013, Tate Britain	Small-scale, in-gallery exhibition
<i>On Performativity</i> , 2014- , Walker Art Center	Print catalogue

As introduced previously, this dissertation explores two case studies: *The Gallery of Lost Art* at the Tate and *On Performativity* at the Walker Art Center. In their introduction to *Case Study Method*, Martyn Hammersley and Roger Gomm acknowledge that case studies integrate “a range of dimensions.”³⁵² This type of research, therefore, can sometimes seem limitless, with edges that are difficult to define or manage. To establish a meaningful framework, then, this type of research relies on the identification of a specific “number of cases” and a commitment to

³⁵⁰ Pamela Baxter and Susan Jack, “Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers,” *The Qualitative Report* 13, no. 4, December 2008, 544.

³⁵¹ Robert K. Yin, “Studying Phenomenon and Context Across Sites,” *Behavioral Scientist* 26, no 1 (1982): 96, <http://journals.sagepub.com/doi/abs/10.1177/000276482026001007>.

³⁵² Martin Hammersley and Roger Gomm, “Introduction,” in *Case Study Method: Key Issues, Key Texts*, eds. Roger Gomm, Martyn Hammersley, and Peter Foster (London: SAGE Publications, 2000), 2.

gathering “detailed information” for each of these instances. The two case studies considered herein represent projects that have already been mounted, so this investigation diverges from experimental research in that the case studies can be considered within their pre-established, “naturally occurring social situations.”³⁵³

In their 2008 article in *Political Research Quarterly*, Jason Seawright and John Gerring provide a “menu” of case selection techniques in case study research. Of the five methods that they articulate, this dissertation incorporates elements of the “diverse” and “extreme” methods.³⁵⁴ The present research incorporates a “diverse” approach by selecting institutions that represent a range of values.³⁵⁵ The two institutions reside on different continents and have different financial assets, human resources, and technological and physical infrastructures. According to Seawright and Gerring, an extreme value such as *On Performativity* is understood to be *unusual* because the online catalogue strove to document ephemeral artworks.³⁵⁶ *The Gallery of Lost Art*, is also unusual in that it is an online presentation that was intentionally removed after one year. It is rare to find digital projects that establish a clear expiration date from the start. Projects such as Jim Zwick’s “The Long Goodbye” sometimes die a fairly natural death, or they persist through decades of haphazard maintenance, but they do not often have a predetermined end-point.³⁵⁷

³⁵³ Hammersley and Gomm, “Introduction,” 2-3.

³⁵⁴ Jason Seawright and John Gerring, “Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options,” in *Political Research Quarterly* 61 (2008), 297, accessed from <http://journals.sagepub.com/doi/abs/10.1177/1065912907313077>.

³⁵⁵ Although these, by no means, represent the full range of values, as there are extant institutions of much greater diversity. Given the number of cultural institutions that may have been considered, this dissertation incorporates only three that vary in ways that are significant to this study.

³⁵⁶ Seawright and Gerring, “Case Selection Techniques,” 302.

³⁵⁷ Zwick’s project concluded with his own death; John A. Lynch, “[Lifespan of Digital Projects](http://www.cdih.ucla.edu/news-events/lifespan-of-digital-projects),” *UCLA Digital Humanities*, accessed June 21, 2017, <http://www.cdih.ucla.edu/news-events/lifespan-of-digital-projects>.

Beyond representing unusual cases, the following sites were selected because of their clear commitment to digital media. The Tate consortium first published a Tate Digital Strategy in 2013, and updated the document for 2016-2017. In the initial report, John Stack suggested that the digital strategy “aims to use digital platforms and channels to provide rich content for existing and new audiences for art, to create and nurture an engaged arts community, and to maximize the associated revenue opportunities.”³⁵⁸ A series of digitally-focused efforts emerged in the years following. In addition to mounting *The Gallery of Lost Art*, the Tate hosted eight sessions or workshops as part of a series called “Cultural Value and the Digital” between February and June 2014.³⁵⁹ The Tate is also home to the still-active Taylor Digital Studio, a “multi-use space for making and learning about art and digital technology.”³⁶⁰

The New Media Initiatives Department was established at the Walker Art Center in 1996, with a “twofold mission to investigate the informational and aesthetic possibilities that new digital technologies offered.”³⁶¹ This department is apparently staffed by four individuals, including a web developer, back-end developer, project manager, and director. The Walker has also developed a prominent web presence through its active blogging network, a complex web representing nine of the significant nodes in the institution (including Education & Public

³⁵⁸ The Digital Strategy was preceded by an “Online Strategy,” published in 2010. Stack, “Tate Digital Strategy 2013-15: Digital as a Dimension of Everything,” *Tate Papers* 19, (Spring 2013), accessed from <http://www.tate.org.uk/research/publications/tate-papers/19/tate-digital-strategy-2013-15-digital-as-a-dimension-of-everything>.

³⁵⁹ These sessions resulted in a report entitled “Modelling Cultural Value within New Media Cultures,” available at <http://www.tate.org.uk/download/file/fid/44287>.

³⁶⁰ “The Taylor Digital Studio,” *The Tate*, accessed from <http://www.tate.org.uk/visit/tate-britain/taylor-digital-studio>.

³⁶¹ “About the Program,” *Walker New Media Initiatives*, accessed January 1, 2017, <http://www.walkerart.org/new-media-initiatives/about-the-program-2>. This page is no longer accessible as of February 2, 2019.

Programs, Design, Performing Arts, New Media Initiatives, among others).³⁶² The current status of the New Media department is unclear.

Despite some underlying similarities, both of these case studies provide insight into unique museum ecosystems and characteristics. Through an analysis of project documentation, including interviews, reports, videos, and other records, this dissertation will provide a cohesive portrait of the infrastructures from which digital scholarship may emerge.³⁶³ Furthermore, this dissertation offers recommendations based on the observations made and conclusions derived from these sites.

3.3.1 Data Sources

The websites themselves represent the first point of entry into understanding the two cases, and these project sites are also surrounded by significant documentation (external reviews, articles, and interviews). These visual and textual data sources are further supplemented by semi-structured interviews with the project managers and technical engineers of the selected sites.

Exhibition and Catalogue Websites

As Robert K. Yin establishes in *Studying Phenomenon and Context Across Sites*, the guidelines for data collection “must be based on the data collectors’ adequate knowledge of the substance of the study.”³⁶⁴ Although *The Gallery of Lost Art* has been erased, substantial

³⁶² “Walker Blogs,” Walker Art Center, accessed January 1, 2017, <http://blogs.walkerart.org/>.

³⁶³ Cohesive, though not necessarily comprehensive, as the record is incomplete. Staff members have left these institutions or changed roles and components of the process cannot be recollected or recalled, as is the nature of time.

³⁶⁴ Yin, “Studying Phenomenon and Context Across Sites,” 96.

components of the project have been archived in assorted ways, providing some of the foundational knowledge about the online exhibition. An archived version of the site is available at its original location at <http://galleryoflostart.com/>, and traces of the project are captured on the project pages of the Tate site, and through the project's social media pages. Unexpectedly, the author was also granted access to an offline version of the original site that ISO still stewards, and this resource contributed substantially to the "Project Scope" section of Chapter IV. The *Lost Art* case not only provides information about an innovative online exhibition, but also demonstrates how a site can transition from an active to a dormant state.

In contrast to *Lost Art*, *On Performativity*, is still available at its original URL at <http://www.walkerart.org/collections/publications/performativity> so the extant site was used to establish key information about the project. In addition to the interview protocol described in this section, the researcher has incorporated a communication design perspective into the formal analysis of the traces of *Lost Art* and the *On Performativity* online catalogue. As outlined by Palmyre Pierroux and Synne Skjulstad, architectural theory can contribute to analyses such as the ones occurring in this dissertation. By looking at the "ways in which architectural narratives and representations are used to communicate identity to the public" on these museum websites, the researcher can expand the "Impact" section of the analysis, in particular.³⁶⁵ Incorporating this perspective requires close examination of the navigational structures of these online sites and other formal components of their interfaces, such as locations, sizes, and juxtapositions of images, text, and other media. These collectively create what Pierroux and Skjulstad call

³⁶⁵ Palmyre Pierroux and Synne Skjulstad, "Composing a Public Image Online: Art Museums and Narratives of Architecture in Web Mediation," *Computers and Composition* 28 (2011) 206.

“narratives of re-transformation,” or the story of a newly interpreted space.³⁶⁶ The author does not claim to be an expert in interaction design, so will supplement whatever she describes about the formal elements of the websites with relevant insights from surrounding project documentation and the data collected from interviewees.

External Documentation

Traces of the *Lost Art* project remain accessible on social media sites, including Facebook (<https://www.facebook.com/GalleryOfLostArt/>) and Twitter (<https://twitter.com/gallerylostart?lang=en>). Further evidence of the site’s impact has been gleaned from site reviews and walk-throughs that appeared in scholarly journals, art magazines, and major media outlets such as *The Guardian* and *The New York Times*. *On Performativity* was less well documented in the press, but has appeared in scholarly publications (books and periodicals) over the last few years. In addition, a staff member from the Walker Art Center shared an evaluative report with the researcher that was conducted by an external consulting group, Frankly, Webb + Green. This report provided invaluable information about the project’s reception via both qualitative and quantitative analyses.

Semi-Structured Interviews

Through the aforementioned research, the author collected a list of individuals who have appeared and reappeared in both the project documentation and associated publications and conference proceedings. The following individuals represent a diverse array of interview subjects who occupy a variety of professional positions at the selected institutions. The following experts participated in the study:

³⁶⁶ Pierroux and Skjulstad, “Composing a Public Image Online,” 208.

- Jennifer Mundy, Head of Collection Research, Tate
- Fiontán Moran, Assistant Curator, Tate
- Emmet Byrne, Design Director and Curator, Walker Art Center
- Robin Dowden, Former Director, Technology and New Media Initiatives, Walker Art Center
- Eric Crosby, Former Associate Curator, Walker Art Center

As the research progressed, the author also communicated with members of the ISO team, who emerged as vital players in the process.

- Damien Smith, Creative Partner, ISO Design
- Mark Breslin, Creative Director, ISO Design

The author adopted and significantly customized Burdick et. al's evaluative rubric for the purposes of this research.³⁶⁷ The rubric includes eight categories that explain and assess each project team's approach to site-planning, coordination, dissemination, and preservation.

Ultimately, these categories address the human, technical, and economic infrastructures of digital projects. The first part of the rubric provides space for introducing the project and describing its original context and structure, and each succeeding section builds upon this foundation. The last section of the rubric addresses questions related to the current status of the project and any associated sustainability plans (see Appendix B).

Although this rubric was initially used for the purpose of organizing and guiding the semi-structured interviews, this approach to shaping and organizing data proved unsuitable for the purposes of this project. Burdick et. al.'s rubric was overly focused on elements of greatest relevance within academia, and also demonstrated the degree to which the digital humanities (as defined by many scholars, at least) are couched within that context. Some of the questions adapted from the rubric still proved useful, such as "Were considerations about the project's

³⁶⁷ Burdick, Drucker, Lunenfeld, Presner, and Schnapp, *Digital_Humanities*.

persistence/preservation integrated into your project processes from early on?” However, interviewees seemed to gravitate towards certain elements of the projects, so, for the most part, knowledge was gathered in a more piecemeal fashion than expected. The project managers arriving with a curatorial background, for example, were far more interested in speaking to the conceptual challenges posed by the project than the technical ones.

Email Communications

For the Tate and ISO sites, in particular, communication occurred primarily over email. Due to the five-hour time difference, it was often more convenient to write emails asynchronously and ask follow-up questions, as needed. In the case of the semi-structured in-person and phone interviews, email provided an ideal way to follow-up on particular questions that arose as the researcher proceeded with her writing.

3.3.2 The Institutional Review Board

The Institutional Review Board (IRB) at the University of Pittsburgh characterized this project as an exempt non-human study. As the research is about two websites that culminated from a constellation of institutional processes, the IRB did not require written consent from the participants, although the researcher did ask for permission to record conversations for the purposes of accurate transcription. The documentation of correspondence with the IRB is included in Appendix C.

4.0 Environmental Scan

The environmental scan yielded a number of compelling and unexpected findings. Indeed, the data collected during this phase of the research process demonstrated clear digital trends amongst museums of fine art, and resulted in a heuristic typology of online exhibitions produced over the past thirty years. Although early online exhibitions are perceived as fairly timid and lackluster versions of their physical counterparts, the following exploration and timeline demonstrates that these initial forays into the World Wide Web were, in fact, employing non-linear, experimental formats from the very beginning. The environmental scan also begins to reveal the importance of digital preservation and sustainability concerns to the deployment of digital projects, as persistence emerges as a very real concern for online exhibitions and catalogues, alike. Additionally, the scan clarified the distinction between an online exhibition and an online collection, and revealed a scarcity of online catalogues, to date. The following pages contain the results of the scan and an analysis of these findings, starting at the macro level and then focusing on specific examples within the designated typologies.

Of the 1,050 accredited AAM museums analyzed in this survey, approximately 150 featured online exhibitions on their institutional websites.³⁶⁸ Forty-seven of these institutions are categorized as art museums by the AAM. As a point of comparison, only twenty-three AAM-accredited fine arts institutions had a mobile application initiative as of 2015. Over 1,300 institutions have achieved full accreditation through the Arts Council England scheme. Nearly

³⁶⁸ See Appendix A for the complete list of online exhibitions offered by the AAM and Arts Council museums surveyed. As stated previously, these are institutions that have achieved full accreditation.

sixty of these are recognized as institutions of fine art, and about 8% of the institutions in this cohort currently offer online exhibits.

4.1 Data Analysis

Scholarly references to online exhibitions began to appear during the Web's infancy, in the mid-1990s. However, early citations of the term "online exhibition" do not refer to web publications. Rather, these citations suggest that "online exhibition" referred to public product launches or conferences *about* the World Wide Web or databases, primarily within the field of library and information science.³⁶⁹ Due to this initial interpretation of the term "online exhibition," it was somewhat more challenging than expected to determine the origin story of online exhibitions, as they are conceived for the purposes of the present investigation.

Other challenges arose throughout the data collection process, including the enduring plague of URL rot. Indeed, two online exhibitions that were incorporated in the first data cull were no longer available by the time the second analysis occurred one month later. *The Azone Futures Market*, launched in 2015 and visible until January of 2018, is now "down for maintenance" and an exhibition from the Fitzwilliam Museum in Cambridge was temporarily unavailable.³⁷⁰ Other museums that used to host digital exhibits, including the Jewish Museum in

³⁶⁹For example, in-person "online exhibitions," are described in *Managing Information*, Volume 2, from Aslib, the Association for Information Management in 1995; "Online Information 93," *International Online Information Meeting*, 17 (1993); *Librarians' World: The Independent Journal of Librarians*, MCB University Press Limited (1992).

³⁷⁰"Azone Market," The Guggenheim, accessed August 22, 2018, <http://azone.guggenheim.org/sorry> and "Kunisada and Kabuki," The Fitzwilliam Museum, accessed August 22, 2018,

New York City and the San Francisco Museum of Modern Art (SFMoMA), no longer have any viable or accessible online exhibitions.³⁷¹ At one point, the SFMoMA featured several online exhibitions created with the Center for Distributed Learning's Pachyderm authoring tool.³⁷² None of these interactive components are available anymore, perhaps in large part because the SFMoMA rebooted their website in 2016 to coincide with the opening of their new museum.³⁷³ The new site does not incorporate the previously-produced online exhibitions. Additionally, the CDL's Pachyderm server was decommissioned on December 12, 2014.³⁷⁴ These online exhibitions may have disappeared through the passive process of benign neglect or the active interventions of reconfiguration or intentional removal. The reasons for their disappearance likely relate to the socio-technical infrastructures discussed in the following chapters.

4.1.1 Exhibition Typologies

In his 2002 publication, *Creating a Winning Online Exhibition: A Guide for Libraries, Archives, and Museums*, Martin R. Kalfatovic enumerates five different exhibition types: aesthetic, emotive, evocative, didactic, and entertaining.³⁷⁵ These categories describe exhibitions that are organized around beauty or are designed to trigger an emotional response, as well as

<http://www.fitzmuseum.cam.ac.uk/gallery/japan/gallery/KUN/kunisada/Intro/main.html> (the latter is now available again, three months later).

³⁷¹ Error page, The Jewish Museum, accessed August 22, 2018, http://thejewishmuseum.org/home/content/collection/online_exhibition/index.html.

³⁷² "File Not Found," SFMoMA, accessed August 22, 2018, https://www.sfmoma.org/pages/interactive_features/.

³⁷³ Keir Winesmith, "The New SFMOMA.org," October 2015, accessed August 22, 2018, <https://www.sfmoma.org/new-sfmomadotorg/>.

³⁷⁴ "CSU Pachyderm," Center for Distributed Learning, accessed August 22, 2018, http://www.cdl.edu/cdl_projects/pachy_home.

³⁷⁵ Martin R. Kalfatovic, *Creating a Winning Online Exhibition: A Guide for Libraries, Archives, and Museums* (Chicago and London: American Library Association, 2002). Kalfatovic is currently the Associate Director, Digital Programs & Initiatives and Program Director, The Biodiversity Heritage Library, the Smithsonian Libraries

those that are atmospheric, pedagogical, or enjoyable. These typologies echo classifications described by Deborah J. Meijers and Philip Fisher in relation to physical exhibitions. Meijers and Kalfatovic's "aesthetic" exhibition type is organized around the visual appeal of objects and is "ahistorical" in nature, as previously discussed in the literature review. Fisher's "technology of the series" applies to all other exhibition types that are more prescriptive in navigation. These categorizations, alongside those of Nagarajan Viralingam and Chennupaki K. Ramaiah, contribute to the following taxonomy.³⁷⁶ The author created sub-typologies (or sub-headings) that are considered under the major headings of either "Supplementary or Documentary" or "Stand-alone." "Supplementary or Documentary" exhibitions are considered first, as these types of digital projects emerged prior to stand-alone exhibitions. The exhibitions also simultaneously belong to one or several of Kalfatovic's categories.

Paola Antonelli, Senior Curator of Architecture & Design and Director of Research and Development at the Museum of Modern Art, has also described three online "exhibition" typologies: natives, mimics, and extracts. "Natives" are online exhibitions that are born-digital (both content and structure). "Mimics" are digital presentations that "accommodate, replicate, or emulate physical exhibitions," and "extracts" are stand-alone exhibitions whose content derives from the physical world (i.e. *Lost Art*).³⁷⁷ The following exhibitions primarily belong in the "mimics" category, although there are examples of "extracts" as well.

The author tailored the following typologies to address particular questions of relevance to this dissertation, but also in the hope that they may be useful beyond the needs of the present

³⁷⁶ Nagarajan Viralingam and Chennupati K. Ramaiah, "Comparative Study of HTML and Animated User Interfaces of an Online Exhibition," *DESIDOC Journal of Library and Information Technology* 28, no. 4 (July 2008): 43-54.

³⁷⁷ Zoë Ryan, *As Seen: Exhibitions that made Architecture and Design History*, Second Edition, (Chicago: The Art Institute of Chicago, 2017) 106.

research agenda. The typologies were formulated based on scholarly research, data collection, and analysis.

Types

- Supplementary or Documentary: exhibitions accompanying a physical exhibition, whether it be a permanent, temporary, or traveling show.
- Stand-alone: as the name implies, these exhibitions are self-enclosed presentations without a physical counterpart.

Sub-types

- Slideshow: exhibitions that seem to recreate the traditional art historical “slide lecture,” or the practice of marrying words and images in a linear presentation. This linearity is also in line with Fisher’s “series.”
- Linear Book: exhibition sites that imitate the scaffolding of a book, or purposefully resemble an “artifact made from another material.”³⁷⁸ As with Fisher’s “technology of the series,” this exhibition type encourages engagement along a predetermined route.
- Non-linear, hypertext-based: exhibitions that are multi-faceted, encouraging spontaneous and self-driven engagement with the site. Viralingam and Ramaiah describe how hypertext-based user interfaces “overcome the limitation of displaying text by structuring information into a network rather than presented in a linear mode.”³⁷⁹
- Non-linear, animated: exhibitions that are multi-faceted, encouraging spontaneous and self-driven engagement with the site, utilizing animated features, sometimes through the use of Adobe Flash player, for example.

In the following analysis, particular elements of online exhibitions are considered, including site navigation, the arrangement and types of media incorporated, and documentation related to site creation (see Table 4.1). All of these institutions are museums of fine art.

Wherever possible, clues related to the original launch date, intended purpose, and audience of

³⁷⁸ “Skeumorph,” Oxford English Dictionary, accessed January 7, 2018, <https://en.oxforddictionaries.com/definition/Skeuomorph>.

³⁷⁹ Viralingam and Ramaiah, “Comparative Study of HTML,” 45.

the websites have been extracted, as well. As stated in the introduction, this dissertation is chiefly concerned with stand-alone exhibitions, but other sites are also discussed as points of comparison within the typologies. The following list incorporates *all* extant online, stand-alone exhibitions, as well as a carefully-selected group of supplementary ones.³⁸⁰ This approach is intended to account for the content, context, and structure of the information objects. However, as a scan, it provides a comparatively superficial examination of each project. Particular institutions, such as the Museum of Photographic Arts, are home to several online exhibitions that follow an identical template and adhere to the same exhibition type. In cases such as these, only one representative example of the exhibitions is included in Table 4.1. Others, such as the Princeton University Art Museum, offer several exhibitions of different types, so more than one of their institutional exhibitions is included in this survey.

³⁸⁰ These were the extant online exhibitions as of January 2018.

Table 4.1 Sample of Online Exhibitions as of January 1, 2018

Institution	Exhibition	Exhibition Type(s)	Stand-alone (Y/N)	Date(s) Published
Alaska State Museums	<i>Ghost in the Graveyard: Jackie Manning Solo Exhibit</i>	slideshow aesthetic and evocative	N	2010
Cincinnati Art Museum	<i>Rembrandt: Master Printmaker</i>	slideshow didactic and aesthetic	Y	2017
De Young Museum	<i>Teotihuacan</i>	linear book didactic, aesthetic, and entertaining	N	2017
Florence Griswold Museum	<i>Dear Dear Husband: The Letters to Robert Griswold at Sea</i>	linear book didactic and aesthetic	Y	2015
Florence Griswold Museum	<i>The Exacting Eye of Walker Evans</i>	linear book didactic and aesthetic	N	originally 2011; migrated in 2015
Isabella Stewart Gardner	<i>Ornament & Illusion</i>	non-linear animated didactic and aesthetic	N	2005
J. Paul Getty Museum	<i>Form and Landscape</i>	linear book didactic and aesthetic	Y	2013
James A. Michener Museum	<i>Painterly Voice</i>	non-linear hypertext-based didactic and aesthetic	N	2011
Lyman Allyn Art Museum	<i>First Impressions: Master Drawings from the Lyman Allyn Collection</i>	slideshow aesthetic	N	2017
Mary and Leigh Block Museum of Art	<i>Pictures of Music</i>	non-linear animated didactic	Y	2001
Museum of Contemporary Photography	<i>UTOPIA: Customs Declaration Form</i>	slideshow aesthetic	Y	2014
Museum of Indian Arts & Culture	<i>Tourist Icons</i>	linear book didactic	N	2001
Museum of Modern Art	<i>Cézanne & Pissarro</i>	lecture slides didactic and aesthetic	N	2005
Museum of Photographic Arts	<i>The Photograph as Witness: Documents of Conflict</i>	slideshow aesthetic	N	2017
Philadelphia Museum of Art	<i>Dalí</i>	non-linear animated didactic and entertaining	N	2005

Princeton University Art Museum	<i>The Art of Structural Design: A Swiss Legacy</i>	non-linear hypertext-based didactic	N	2003
Princeton University Art Museum	<i>The Henry & Rose Pearlman Collection</i>	anomalous: collection	n/a	2014
Princeton University Art Museum	<i>Recapturing the Image</i>	linear book didactic	N	2002
Princeton University Art Museum	<i>The City Lost & Found</i>	non-linear animated didactic and entertaining	N	2015
Princeton University Art Museum	<i>Sorcerers of the Fifth Heaven</i>	linear book didactic	N	2007
Princeton University Art Museum	<i>Asian Art Collection</i>	anomalous: collection	N	2004
Princeton University Art Museum	<i>Music From the Land of the Jaguar</i>	non-linear animated didactic and evocative	N	2004
Smithsonian	<i>Ocean Planet</i>	non-linear hypertext-based didactic	N	1995
Snite Art Museum	<i>American Ruins</i>	non-linear animated didactic	Y	2013
Solomon R. Guggenheim Museum	<i>The Åzone Futures Market</i>	non-linear animated didactic, entertaining, and evocative	N	2015
The Morgan Library & Museum	<i>The Prayer Book of Claude de France</i>	slideshow didactic and aesthetic	N	2015
Yale University Art Gallery	<i>There's No Place Like Home: Student Rooms at Yale, 1870-1910</i>	non-linear animated didactic	Y	2009

Through defining, describing, and illustrating the previous typologies, the author aimed to identify trends in online exhibitions across the past twenty-five years. The following timeline demonstrates the scarcity of online exhibitions in the mid to late-1990s, and the abundance of such presentations in the 2010s (Figure 4.3).

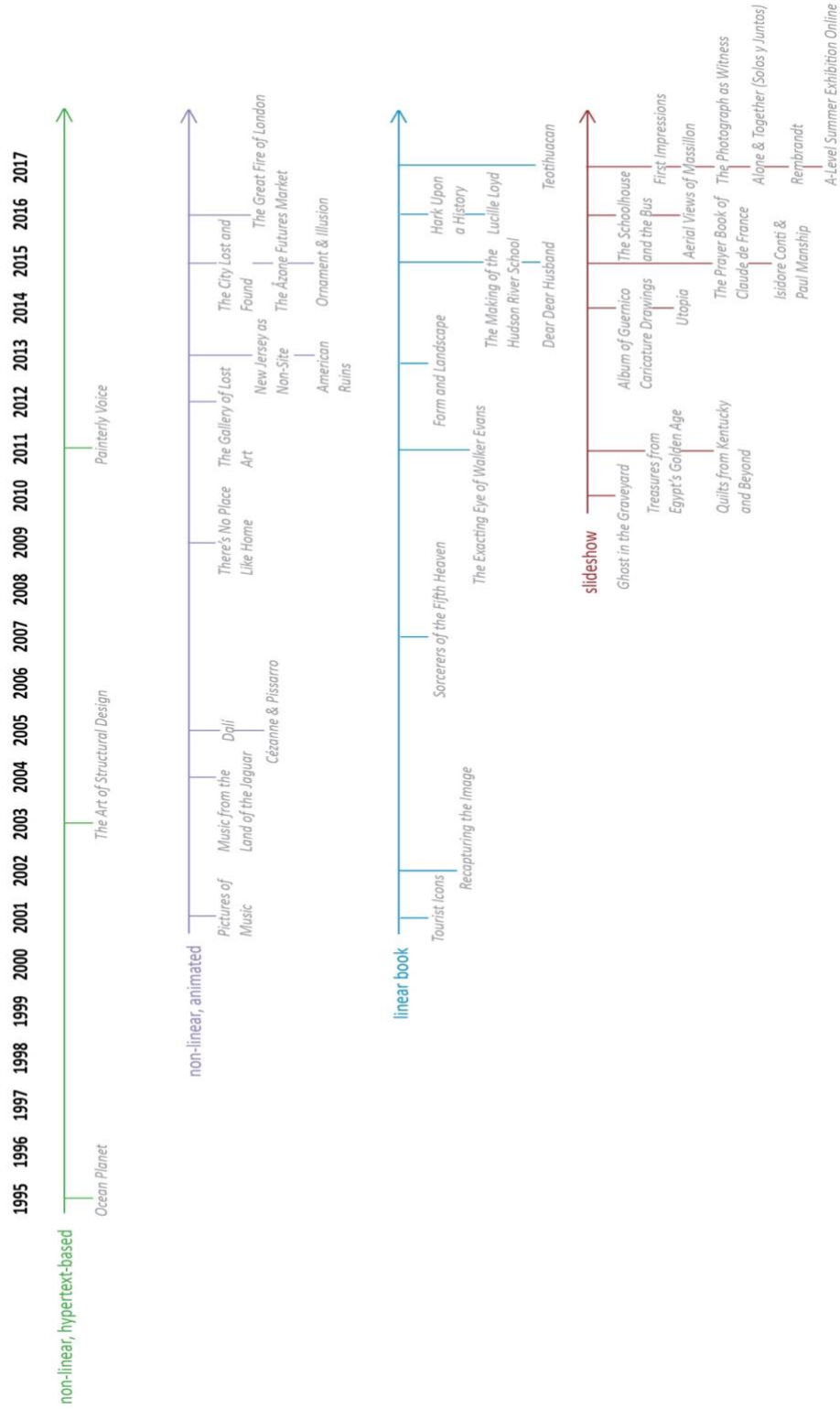


Figure 4.3 Timeline of Exhibitions

4.1.1.1 Supplementary Online Exhibitions

Slideshow

Some online exhibitions essentially reconstruct the traditional art historical “slide lecture.” Although the slide projector has been replaced by the computer screen, the following exhibitions recreate the triangular relationship that Robert S. Nelson identifies as comprising the speaker, audience, and image.³⁸¹ These are “conversational situations in which speaker and listener share a common space and time.” In fact, Nelson thinks of slide lectures as constituting “art historical performances.”³⁸² Perhaps because of their similarities to the established slide lecture, the online exhibitions within this category replicate other art historical practices, including visual or formal analysis, and interpretation through the comparison and contrast of artworks. Considering these origins, it is unsurprising that “slideshow” frequently belong within Kalfatovic’s aesthetic and didactic exhibition typologies. Of the twenty-nine supplementary or documentary exhibitions considered in this section, nine of them (or 31%) are slideshow presentations, appearing between 2010 and 2017.

Ghost in the Graveyard, an online exhibition published by the Alaska State Museums in 2010, is a straightforward example of a documentary slideshow. The site intersperses individual images of Jackie Manning’s paintings within a horizontal presentation of gallery views—photos of the paintings are arranged in a way that mimics how they were originally displayed on the

³⁸¹ Robert S. Nelson, “The Slide Lecture or the Work of Art “History” in the Age of Mechanical Reproduction,” *Critical Inquiry* 26, no. 3 (Spring 2000): 414-434,

<http://users.clas.ufl.edu/burt/filmphilology/nelsonslidelecturearthistory.pdf>.

³⁸² Nelson, “The Slide Lecture or the Work,” 417-418,

<http://users.clas.ufl.edu/burt/filmphilology/nelsonslidelecturearthistory.pdf>.

museum's walls.³⁸³ Beyond a two-sentence introductory statement, the site lacks interpretive didactics, providing just images and titles. The online documentation of the exhibit is therefore an aesthetic and evocative exploration of the digital representations of Manning's vivid paintings, and a rare example of an online exhibition that does not seem to serve a didactic purpose.

The Morgan Library & Museum presents a fairly literal interpretation of the "slide lecture" in its 2015 online exhibition of *The Prayer Book of Claude de France*. In addition to offering thumbnail images of the prayer book, the website provides a "virtual lecture," or timed slideshow narrated by Roger Wieck, a curator from the Morgan. Wieck's slideshow reinforces the aesthetic qualities of the Prayer Book: he focuses on the "intriguing images that occur in the manuscript."³⁸⁴ Overall, the exhibition reproduces an educational and visually-pleasing experience.

³⁸³ "Ghost in the Graveyard," Alaska State Museums, accessed August 22, 2018, http://museums.alaska.gov/online_exhibits/manning.html. Some of the functionality of this website has deteriorated since August 2018.

³⁸⁴ "The Prayer Book of Claude de France," Morgan Library & Museum, accessed August 22, 2018, <https://www.themorgan.org/collection/Prayer-Book-of-Claude-de-France>.

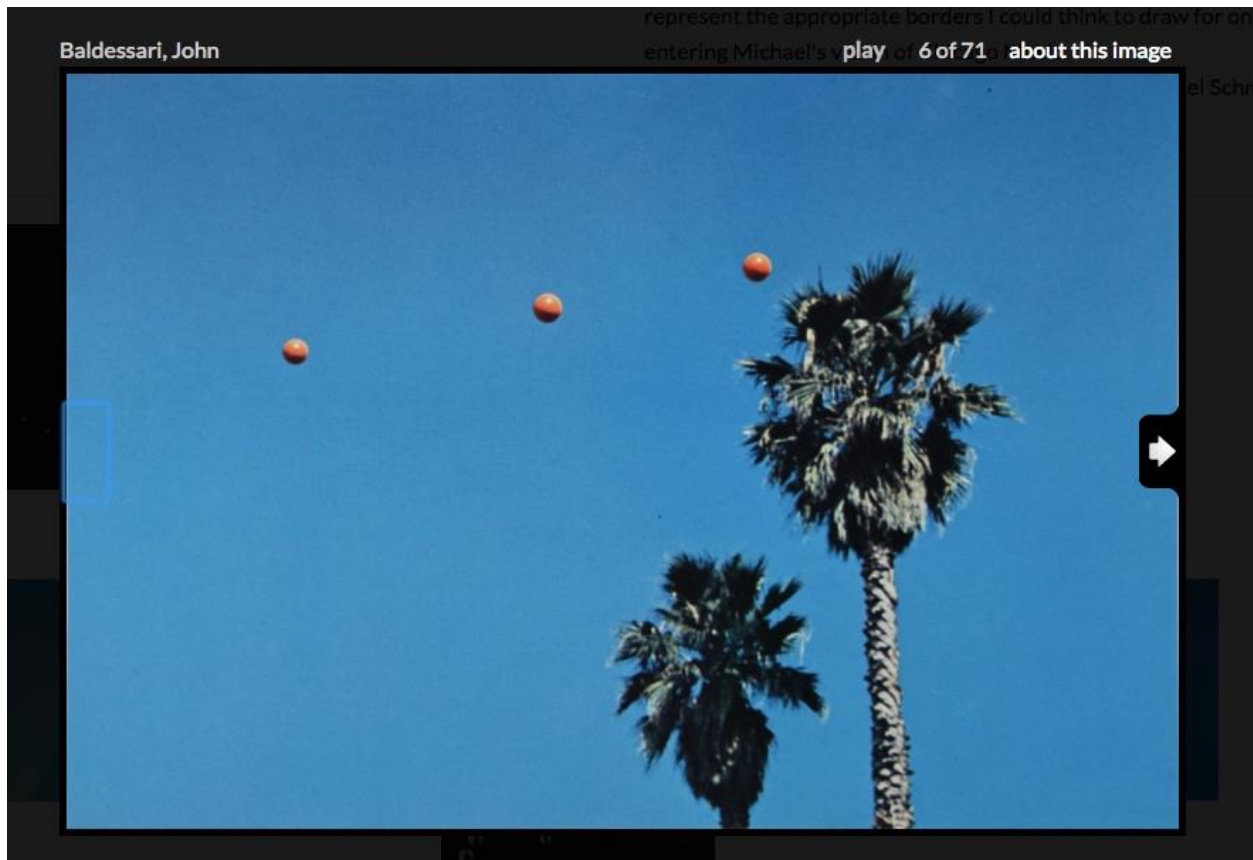


Figure 4.4 Sample page from *UTOPIA*, Courtesy of the Museum of Photographic Arts

The Museum of Photographic Arts' *UTOPIA: Customs Declaration Form*, published in 2014, primarily functions as a visual mediation.³⁸⁵ It can be experienced as an automated slideshow through the click of the “play” button, or manually with the click of the forward and backward arrows (see Figure 4.4). Indeed, the “slideshow” category is populated by more aesthetically-oriented exhibitions than any of the other typologies, whereas the exhibitions in the following section are more often didactic. This typology may be particularly well-suited for

³⁸⁵ Museum of Photographic Arts, “Utopia: Customs Declaration Form,” accessed January 31, 2019, <http://www.mocp.org/digital-exhibition.php?t=objects&type=group&gid=2407>.

aesthetic presentations because of its image-centricity and lesser emphasis on textual interpretation.

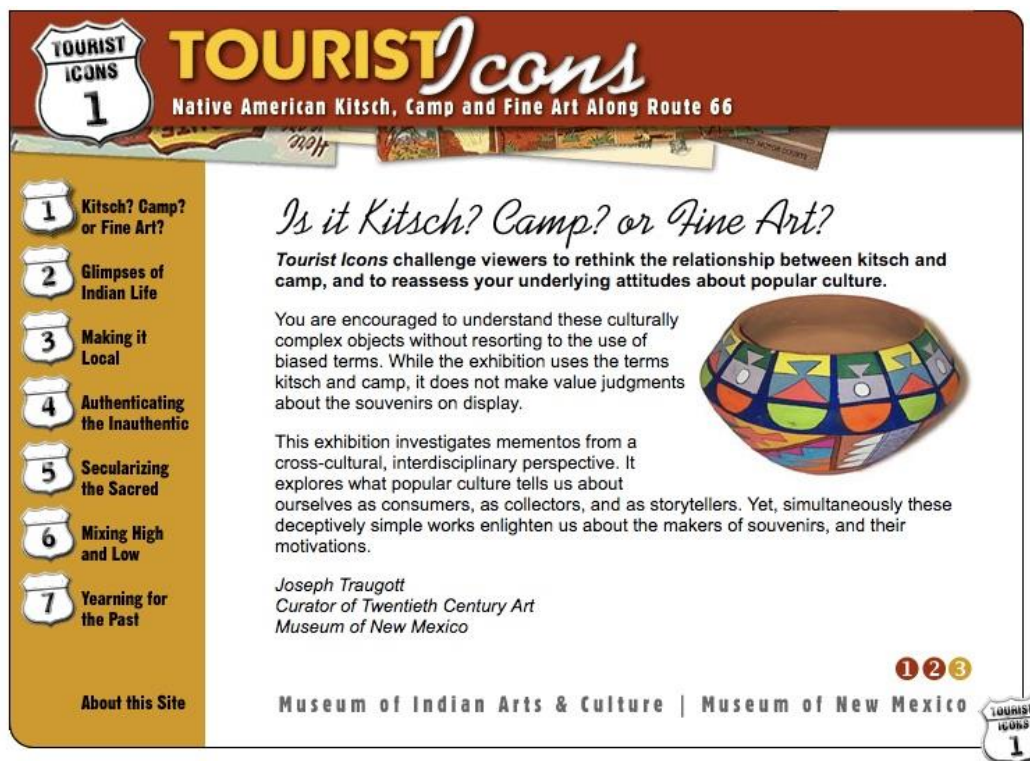
Linear Book

All of the exhibitions within this category serve a didactic function, although some of them are clearly concerned with creating a site that is also visually pleasing or entertaining. As the name suggests, this exhibition type contains some combination of familiar components: a vertical navigation bar indicating a clear path through the site content, a “next page” button, a glossary of terms, and even a table of contents. These interfaces induce visitors to engage with websites using their knowledge and experience of reading a physical book. In conducting their environmental scan for *The Gallery of Lost Art*, Jennifer Mundy and Jane Burton produced their own typologies of online exhibitions. Their notion of the “rich media catalogue” fits into the linear book typology presented here. According to them, this type of exhibition “foregrounds images of the artworks in a two-dimensional design scheme, akin to a printed catalogue, but it increasingly offers rich media assets to support the images.”³⁸⁶ The following examples reiterate this trend.

Eight (or 28% of the total) of the supplementary or documentary online exhibitions included on the timeline belong within this category. The Museum of Indian Arts & Culture produced one of the first examples of this type of exhibition in 2001: *Tourist Icons: Native American Kitsch, Camp and Fine Art Along Route 66*. Organized around seven themes, the website offers a vertical navigation menu in the sidebar with numbered signposts indicating the

³⁸⁶ Mundy and Burton, “Online Exhibitions,” 2013.

intended reading order. Users may access the content within these themes by “flipping” horizontally through the exhibition pages (see Figure 4.5). *Tourist Icons* is a simple, text-heavy website that serves a pedagogical function, challenging cultural biases by investigating “mementos from a cross-cultural, interdisciplinary perspective,” according to curator Joseph Traugott.³⁸⁷



Copyright © 2001 Museum of Indian Arts & Culture/Museum of New Mexico

Figure 4.5 Sample page from *Tourist Icons*

Princeton University Art Museum’s *Sorcerers of the Fifth Heaven: Nahua Art and Ritual of Ancient Southern Mexico* is a linear online exhibition with animated elements. Similar to *Tourist Icons*, each of the exhibition pages are numbered, indicating a prescribed route through

³⁸⁷ Museum of Indian Arts & Culture/Museum of New Mexico, “Tourist Icons,” accessed August 22, 2018, <http://indianartsandculture.org/exhibits/icons/kitsch3.html>.

the site. Forward and backward arrows replicate the motion of thumbing through book pages. Unlike *Tourist Icons*, however, the site incorporates interactive components, such as the rotatable representation of an effigy (360° rotation) on the third exhibition page.³⁸⁸ Another PUAM site, *Recapturing the Image*, incorporates an animated feature as well. Although they integrate animated elements, both of these sites are still very book-like and are overall informational, using digital images to illustrate points within the exhibition text rather than focusing on their aesthetic qualities.

Online exhibitions produced by the Florence Griswold Museum follow a general pattern: they are vertically-oriented essays that share much in common with the linear book type. They are actually more like a scroll than a book, but enforce the “technology of the series” in a similar way. *The Exacting Eye of Walker Evans*, originally published in 2011 but migrated to WordPress in 2015, exemplifies this format. Horizontal slideshows are peppered throughout the online exhibition “essay,” presenting image pairs for the purposes of visual analysis, as well as multiple object views.³⁸⁹ The “Timeline” page also requires vertical scrolling, and is purely text-based. Organized thusly, the *Walker Evans* site functions as an educational resource while also focusing on the aesthetic qualities of Evans’ work in the image comparisons and individual object labels. The Griswold’s *Dear Dear Husband*, a stand-alone exhibition, is almost identical to the *Evans* site, except with a focus on letters as the main objects of inquiry, rather than photographic images.³⁹⁰

³⁸⁸ Princeton University Art Museum, “Sorcerers of the Fifth Heaven,” accessed August 22, 2018, <http://artmuseum.princeton.edu/legacy-projects/Sorcerers/effigy.html>.

³⁸⁹ Florence Griswold Museum, “The Exacting Eye of Walker Evans,” accessed August 22, 2018, <http://florencegriswoldmuseum.org/exhibitions/online/the-exacting-eye-of-walker-evans/>.

³⁹⁰ Florence Griswold Museum, “Dear Dear Husband,” accessed August 22, 2018, <http://florencegriswoldmuseum.org/exhibitions/all-the-sea-knows/dear-dear-husband/>.

In 2017, the Fine Arts Museums of San Francisco (FAMSF) launched a series of digital stories to “prepare” museum-goers for their visits to the de Young and the Legion of Honor.³⁹¹ Although they are not explicitly termed “online exhibitions,” these publications serve a similar function: “to expand the experience for attendees beyond the reach of the physical exhibits themselves and to deepen visitors’ engagement with the art.”³⁹² And, as Dallas stated in 2007, the “contextualization processes” involved in exhibition-making are an essential part of creating the “storylines” that anchor these displays.³⁹³ Exhibitions, in other words, present narratives. The FAMSF digital stories were created using Drupal 8, and follow the linear book type. Site visitors can either scroll through the content vertically or select a section of the “book” from the menu at the top right of the webpage. As was the case with previously-discussed exhibitions, animated features appear throughout the journey of exploring this website. This content, embedded within the linear narrative, arrives in the form of videos, audio snippets, slideshows and expandable maps. This site, and the other digital stories produced by the FAMSF such as *Klimt & Rodin: An Artistic Encounter*, are educational and entertaining, but also provide lushly beautiful images of artwork and archaeological sites. Images fill the width of the site pages, and are given space to breathe, with textual interpretation placed at a respectful distance. Evidently, the site producers wanted to forefront aesthetics.³⁹⁴

³⁹¹ De Young Museum, “Teotihuacan: City of Water, City of Fire,” accessed August 22, 2018, <https://deyoung.famsf.org/exhibitions/teotihuacan-city-water-city-fire>.

³⁹² “Digital Stories with Drupal 8: FAMSF Case Study,” accessed August 22, 2018, <https://events.drupal.org/vienna2017/sessions/digital-stories-drupal-8-famf-case-study>.

³⁹³ Dallas, “An Agency-oriented Approach,” 2007.

³⁹⁴ Legion of Honor Museum, “Digital Stories: Klimt & Rodin: An Artistic Encounter,” accessed August 22, 2018, <https://digitalstories.famsf.org/klimt#start>.

Non-linear, Hypertext-based

According to a 1995 edition of *Cultural Resource Management*, the Smithsonian was among the first institutions to mount an “online exhibition,” or a presentation that was actually published to the Web.³⁹⁵ Judith Gradwohl, the curator of the exhibition, *Ocean Planet*, developed an online counterpart of an in-gallery, physical exhibition of the same name that was on view at the Smithsonian from April 1995 to April 1996.³⁹⁶ As evidenced in the timeline (Figure 4.3), these types of supplementary exhibitions have persisted throughout the intervening decades, and arrive in a variety of configurations. Some exhibitions are elaborate configurations of various elements, while others are downloadable PDF files. The web-based exhibition, *Ocean Planet*, is still available and imitates the layout of the physical instantiation. However, *Ocean Planet* is more than an imitation; it represents early imaginings of what an online exhibition could be, and seems inherently experimental. Of Kalfatovic’s categories, *Planet* seems to fall primarily within the didactic typology, but also functions as an archive for institutional memory. The website chronicles the process behind the online exhibition’s generation, providing insight from the curator as well as the source code for all of the *Ocean Planet* scripts. Including such materials indicates that the original site creators sought to educate users, as well as practitioners, through both the exhibition content and the structural information surrounding that content.

The site incorporates straightforward hypertext links, presented as a list, as well as a searchable database of images. A floor-map of the original exhibition appears at the top of the website’s homepage, with clickable room section titles encouraging visitors to participate in a

³⁹⁵ Marc Pachter, “The World, the Web, and the Smithsonian,” in *Cultural Resource Management* (1995): 11-13.

³⁹⁶ “Ocean Planet,” *NASA’s Goddard Space Flight Center*, accessed November 20, 2017, https://seawifs.gsfc.nasa.gov/OCEAN_PLANET/HTML/ocean_planet_overview.html.

virtual tour that roughly resembles the original in-gallery presentation (see Figure 4.6). Two fish icons indicate the entry and exit points to the exhibition via a predetermined route, replicating Fisher's "technology of the series." The first "room," entitled "Immersion," features the introductory title label for the exhibition, reiterating a certain approach to the show.³⁹⁷ Still, the layout permits non-linear engagement, and multiple other ways through which to access site content.

The publication team seemed to anticipate the potential deterioration of the site, suggesting that they considered it to be a kind of time capsule that would be subjected to benign neglect. Indeed, in the "Resources" section of the website, the prominent header states:

NOTE: These links were originally created during the active life of the Exhibition and many of the external links are no longer valid. However, they are preserved here as a record of the resources that were available for the first time in a single place in a time before Internet search engines were available.³⁹⁸

³⁹⁷ "Ocean Planet," *NASA's Goddard Space Flight Center*, accessed November 20, 2017, https://seawifs.gsfc.nasa.gov/OCEAN_PLANET/HTML/ocean_planet_immersion.html.

³⁹⁸ "Resource Room," *Ocean Planet Smithsonian*, accessed November 20, 2017, https://seawifs.gsfc.nasa.gov/OCEAN_PLANET/HTML/ocean_planet_resource_room.html.

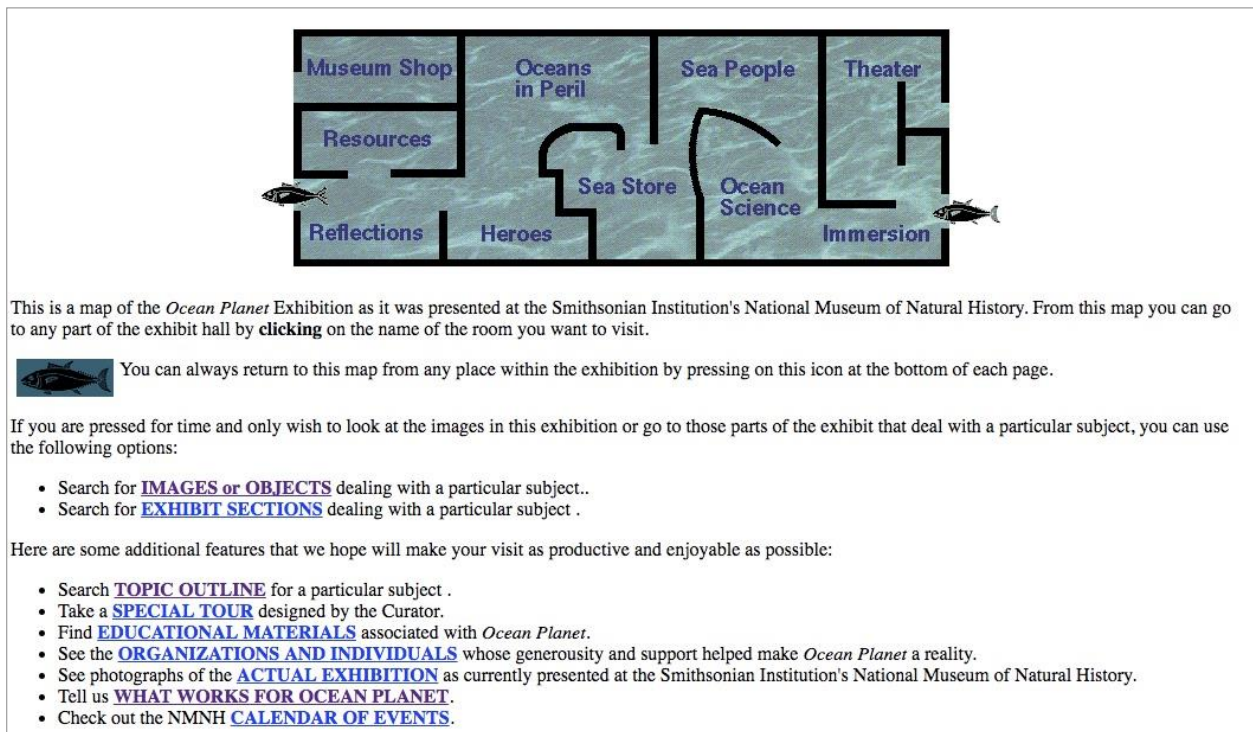


Figure 4.6 The Homepage of *Ocean Planets*, Courtesy of NASA

The Princeton University Art Museum offers another early example of this exhibition type. Although David P. Billington compiled a physical book of the same name, the online exhibition of *The Art of Structural Design: A Swiss Legacy* is not a strictly linear site.³⁹⁹ The website offers a main navigation bar, sidebar features, sub-menus, and hypertext links that can lead users in a variety of directions and to different pop-up texts. The website originally accompanied an exhibition mounted at the PUAM in 2002, and was an interdisciplinary, cross-departmental project, as evidenced on the extensive “Acknowledgements” page. As with *Ocean Planet*, this site seems to be primarily didactic, providing not only a history of Swiss structural

³⁹⁹ “The Art of Structural Design,” *Princeton University Art Museum*, accessed November 20, 2017, <http://artmuseum.princeton.edu/legacy-projects/SwissLegacy/main.html>.

design, but also interviews and photo albums about the individuals who produced models in “The Structures Lab.”⁴⁰⁰

The Painterly Voice, an online exhibition mounted by the James A. Michener Art Museum in 2011, also represents a non-linear hypertext site. In the “About this Site” section of the homepage, visitors are explicitly encouraged to determine their own path of engagement: “you can create your own path through the exhibit.”⁴⁰¹ There are two main access points to exhibition content: a drop-down menu at the top of the page, and large orange arrows that begin at the bottom of the first page (see Figure 4.7).

⁴⁰⁰ “The Structures Lab,” *Princeton University Art Museum*, accessed November 20, 2017, http://artmuseum.princeton.edu/legacy-projects/SwissLegacy/lab_6.html.

⁴⁰¹ “The Painterly Voice,” *James A. Michener Art Museum*, accessed November 20, 2017, <https://www.michenerartmuseum.org/catalogue/painterly-voice/index.php?id=3>.

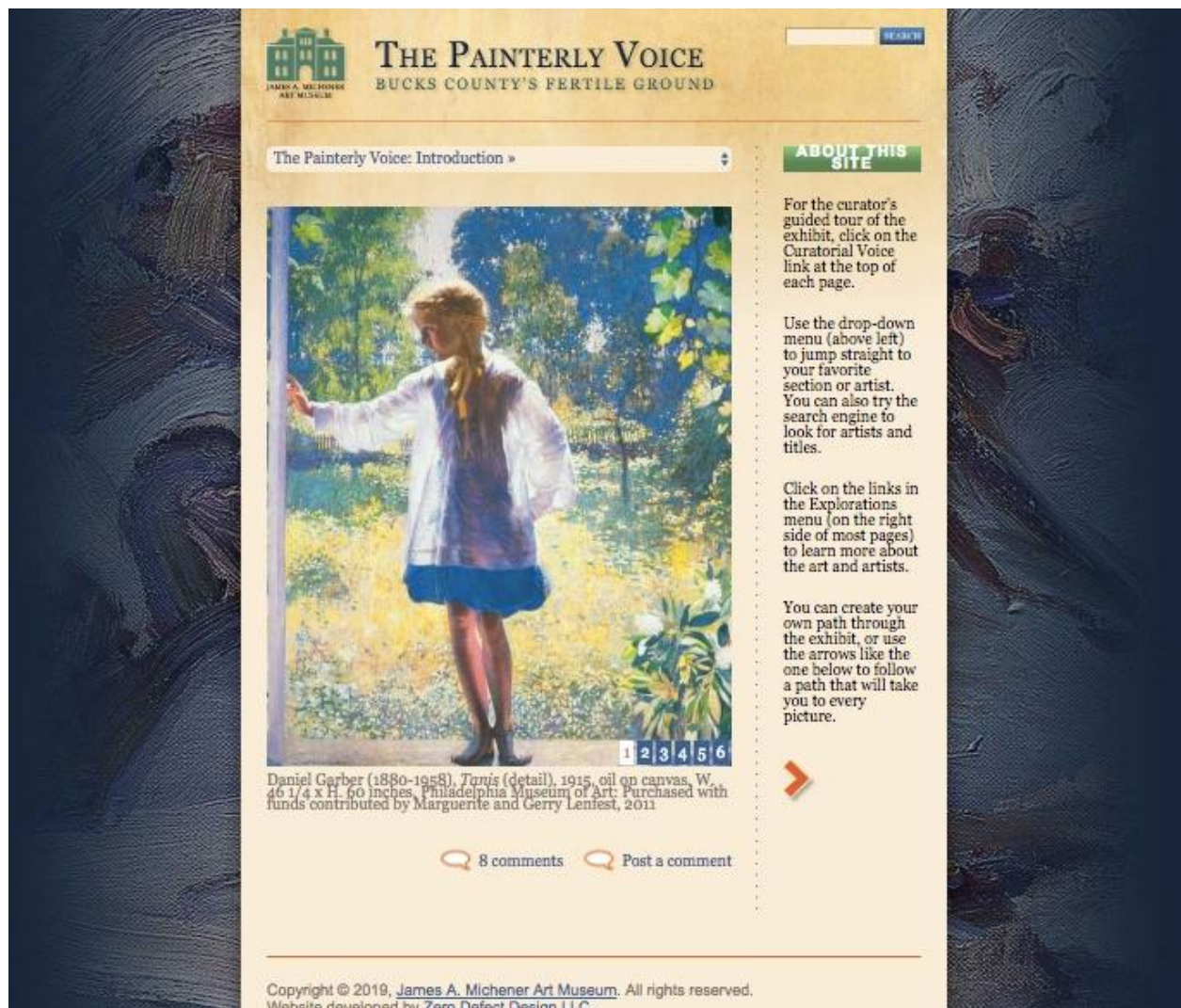


Figure 4.7 *The Painterly Voice*, Courtesy of the James A. Michener Art Museum

Beyond these navigational cues, the visitor is offered the option of expanding the “Curatorial Voice” section through the click of a button. This section, appearing directly above the relevant object image, offers interpretive material from the curator of the exhibition. The sidebar of each object page features a variety of additional materials or “Explorations,” including PDF downloads and links to external sites. However, some of these supplementary materials are no longer accessible or retrievable. Although some of the content is no longer available, the

presence of these links to additional resources, alongside the curatorial content, demonstrates the educational emphasis of this website. The site also dedicates several pages to stand-alone images, inviting users to appreciate and contemplate the visual aesthetics of the work included in the exhibition.

Non-linear, animated

The Princeton University Art Museum's innovative online exhibition, *Music from the Land of the Jaguar*, first appeared in 2004.⁴⁰² Although the exhibition incorporates digital surrogates of museum objects, the site foregrounds aural engagement with the music generated by the ancient instruments depicted in the images. Indeed, the two main menu items are: "About" and "Listen." The site utilizes Flash to allow visitors to sample the music generated by each instrument featured on the "Listen" page. Beyond the written introduction, the site does not offer further interpretive, textual material. Each image of the ancient instruments features associated metadata, but the primary thrust of the site is towards the music. Thus, this site seems both didactic and evocative.

In 2005, the Philadelphia Museum of Art published *Dalí*, a website offering resources and logistical information pertinent to the physical exhibition of the same name, as well as an "Explore the Exhibition" section with "Interactive Curator Tours" that used JavaScript. Sadly, the "Curator Tours" no longer function correctly, so the webpages are mere skeletons of their former selves; images do not load and the audio player remains silent.⁴⁰³ However, the "Interactive Study for *The Endless Enigma*," an image-manipulation tool run through Adobe

⁴⁰² "Music from the Land of the Jaguar," *Princeton Art Museum*, accessed November 21, 2017, <http://artmuseum.princeton.edu/legacy-projects/Jaguar/jaguar.html>.

⁴⁰³ "Interactive Curator Tours," *The Philadelphia Museum of Art*, accessed November 21, 2017, http://www.philamuseum.org/micro_sites/exhibitions/dali/explore/index.html.

Flash Player, still functions. The self-enclosed tool permits users to view outlines and original sketches of the six, intermingled subjects that comprise Dalí's *Endless Enigma*. As this is now the only operative aspect of the online exhibition, the site seems to emphasize experimentation and play, providing an educational and entertaining experience.

The Museum of Modern Art presented the online exhibition site *Cézanne & Pissarro: Selected Works from the Exhibition* in 2005, alongside the material, in-gallery exhibit. Similar to the two previous examples of non-linear, animated exhibitions, *Cézanne & Pissarro* utilizes Adobe Flash Player. The website offers a series of paired Cézanne & Pissarro paintings, situated side-by-side for cross-comparison, but also provides a color-coded timeline of pairings organized according to theme and technique. Clicking on the boxes in the timeline reveals the two paintings of relevance to the theme or technique selected from the menu at the bottom of the page (see Figure 4.7).⁴⁰⁴

⁴⁰⁴ "Cezanne & Pissarro," *Museum of Modern Art*, accessed November 21, 2017, <https://www.moma.org/interactives/exhibitions/2005/cezannepissarro/base.html>.

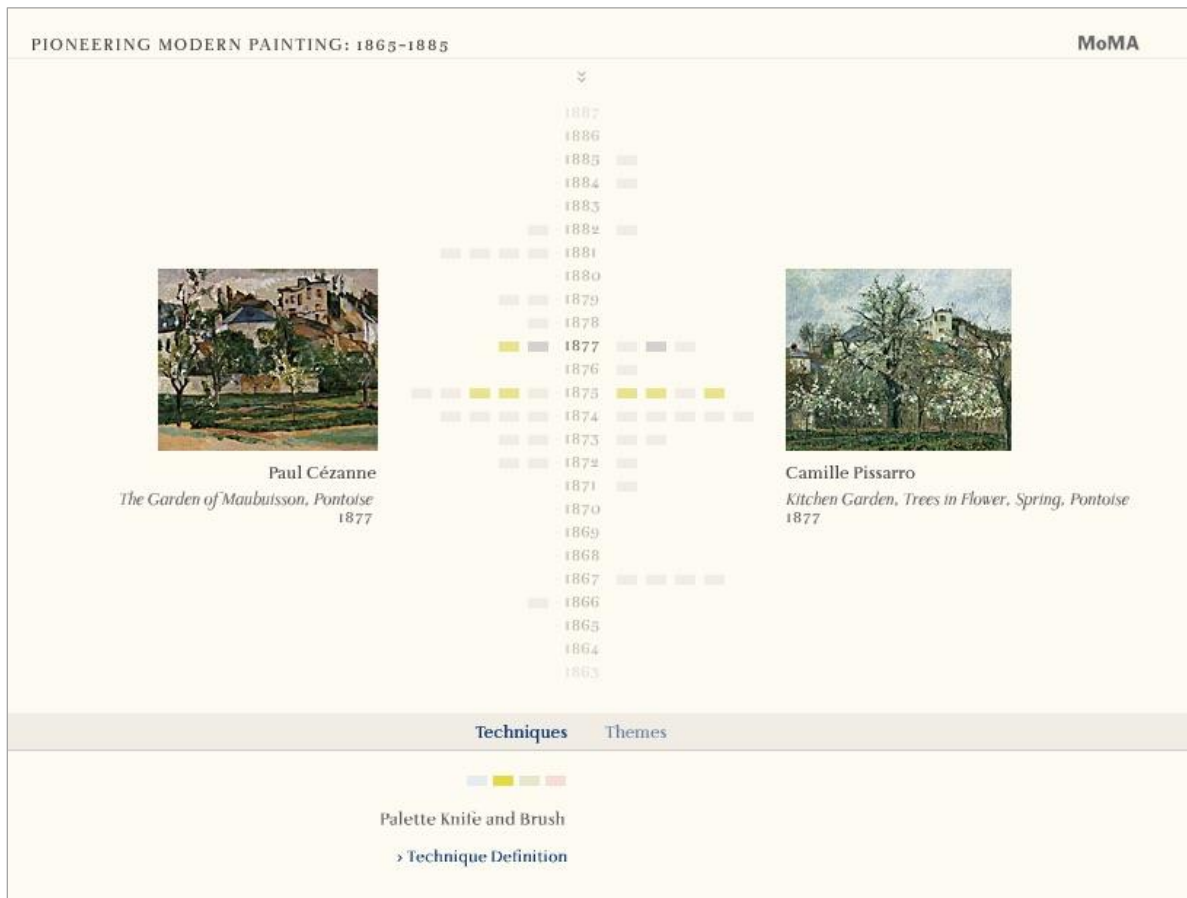


Figure 4.8 Page of *Cézanne & Pissarro*, Courtesy of the Museum of Modern Art

With its emphasis on the visual or formal analyses of Cézanne and Pissarro’s styles, MoMA’s exhibition aligns with Kalfatovic’s aesthetic type. The site is also evidently didactic, as it provides multiple nodes of engagement with text and images that are accompanied by useful metadata and definitions (as can also be seen in Figure 4.8, under the “Palette Knife and Brush” label).

PUAM mounted *The City Lost and Found: Capturing New York, Chicago, and Los Angeles, 1960-1980* in 2015, publishing an online “microsite” to accompany the show. This website is unique in its emphasis on geographic location and site-specific work. Although the site is not advertised as a mobile application, it encourages site visitors to explore “some of

the locations that appear in the photographs contained within the exhibition.”⁴⁰⁵ The main mechanism for accessing images and object labels is via pins on the urban environment maps of New York, Chicago, and Los Angeles.⁴⁰⁶ Through encouraging visitors to engage online and in-person with the site’s content, the microsite’s creators have generated an educational and entertaining sitting or walking tour.

In their website’s “online exhibition” section, the Solomon R. Guggenheim offers a distinctive example of the non-linear, animated type of publication. The sole project within this section is a web-simulation of the stock market to complement *Åzone Terminal*, a physical installation that was mounted during the last two months of 2015.⁴⁰⁷ This exhibition, the first and only online exhibition that the Guggenheim has mounted to date, was initially tethered to the tangible *Terminal* site, but now stands on its own as a new type of performance piece and innovative exhibition. As mentioned previously, the site is currently unavailable, but the following data was gathered before the website went down “for maintenance.” The online interactive, entitled “Åzone Futures Market,” emphasizes “making, connecting, interpreting, and collaborating.”⁴⁰⁸ Indeed, site visitors are invited to participate in the investment process from initial sign-up (each user is given an allowance of 10,000 cåin—the fictional currency of the Åzone Market) and provided with investment options. Further financial reward is earned by linking relevant web articles about the various market objects. Thus, participants and investors

⁴⁰⁵ “The City Lost & Found,” *Princeton Art Museum*, accessed November 20, 2017, <http://artmuseum.princeton.edu/city-lost-and-found>.

⁴⁰⁶ “New York,” *Princeton Art Museum*, accessed November 20, 2017, <http://artmuseum.princeton.edu/new-york>.

⁴⁰⁷ “Åzone Market,” accessed November 20, 2017, <http://azone.guggenheim.org/>. No longer available.

⁴⁰⁸ Accessed November 20, 2017 but no longer available: https://mitpress.mit.edu/sites/default/files/titles/content/9780262018470_Open_Access_Edition.pdf

were encouraged to contribute to and explicitly advise curators as the site evolved. Furthermore, artists, architects, and theorists were expected to “intervene periodically.”⁴⁰⁹

The online exhibition was spearheaded by Troy Conrad Therrien, currently Curator of Architecture and Digital Initiatives at the Guggenheim, and an individual with an interdisciplinary background in computer engineering and commerce, architecture design, history, and theory. For the purposes of the online exhibition at the Guggenheim, Therrien and his team partnered with a visual research company, Folder (www.studiofolder.it), and Are.na (www.are.na), a knowledge-building and sharing platform. In the spirit of openness, the typeface specifically developed for the Åzone website is also available on GitHub. As the site was presented up until early 2018, it was a type of game (for enjoyment), a simulation (for evoking the atmosphere of market trading), and a learning tool (didactic). However, and perhaps because the project was created in collaboration with external partners and incorporated ambitious technical features, the site has clearly encountered preservation and sustainability problems, and is currently dormant.

There are, of course, other incredible examples of non-linear, animated exhibitions. *Ornament & Illusion*, a project of the Isabella Stewart Gardner Museum, provides a plethora of engaging features, inviting visitors to act as detectives and art history students.⁴¹⁰ In general, this typology seems best suited to providing immersive, educational experiences.

⁴⁰⁹ “Guggenheim Launches First Online Exhibition, Åzone Futures Market,” December 31, 2015, accessed August 22, 2018, <https://www.guggenheim.org/press-release/guggenheim-launches-first-online-exhibition-azone-futures-market>.

⁴¹⁰ “Ornament & Illusion,” *The Gardner Museum*, accessed December 7, 2017, <http://crivelli.gardnermuseum.org/>.

4.1.1.2 Stand-alone Online Exhibitions

Free-standing online exhibitions do not have an in-gallery equivalent, traveling or otherwise. They operate entirely independently of a physical exhibition space. As with supplementary or documentary exhibitions, these types of stand-alone presentations manifest in varying ways. Five out of the twelve stand-alone websites fit within the “slideshow” typology, two are linear book types, and five are non-linear animated exhibitions.

Slideshow

The very premise of digital exhibitions at the Museum of Contemporary Photography (MoCP) sets them apart from online exhibits found at other institutions. Digital exhibitions at MoCP are created to *respond to* physical exhibitions, rather than to supplement or document them, and are also site-specific, for a period of time. That is, they appear on monitors in proximity to a gallery show for the duration of the exhibition. The description for such presentations is as follows:

Digital exhibitions showcase photographs from the MoCP permanent collection that have been selected by artists, curators, educators, and students often in response to the current exhibition on view. These exhibitions are displayed for a period of time in the MoCP’s Cornerstone gallery...and on the MoCP’s website...⁴¹¹

Online exhibitions at the MoCP seek to respond to a need for more curricular engagement and greater accessibility within and beyond the museum. In 2011, the artist Jan Tichy collaborated with graduate students from Columbia College Chicago, the School of the Art Institute of Chicago, the University of Illinois at Chicago, and the University of Chicago to improve the visibility and availability of the MoCP collection. Previously characterized by its

⁴¹¹ “Digital Exhibitions,” *Museum of Contemporary Photography*, accessed December 8, 2017, <http://www.mocp.org/digital-exhibitions>.

“elusiveness,” the collection benefited from Tichy’s intervention, or the facilitation of “a democratic, open-ended investigation.”⁴¹² Since Tichy planted the seed for such projects, twelve online exhibitions have been mounted on the MoCP’s website. Most of these exhibitions are slideshows, featuring images of objects plucked from the collection and organized in a particular sequence.⁴¹³ Another, simply called “#AiWeiwei,” features two Vimeo clips and nothing more.⁴¹⁴ Although both of these types of online presentations are featured under the “Digital Exhibitions” section of the website, they seem to differ significantly and represent two diverging ways of responding to the gallery exhibitions they originally appeared adjacent to. Still, these projects share in common their emphasis on the visual series (slideshow) and are like mini performance pieces themselves.

The Cincinnati Art Museum (CAM) also produces online exhibitions belonging within the slideshow typology. Four of the Museum’s “digital exhibitions” contain special notes clarifying that “this exhibition is online only, not on display at the Cincinnati Art Museum.”⁴¹⁵ Unlike the previously-examined online exhibits, visitors to the Museum’s online exhibits are also explicitly invited to view the exhibition on a mobile device. This might explain why the exhibition template, such as that of *Rembrandt: Master Printmaker*, does not fit into the browser window on Google Chrome, Safari, or Firefox, but functions optimally when viewed on a smart

⁴¹² “1979:1-2012:21: Jan Tichy Works with the MoCP Collection,” *MoCP*, accessed November 30, 2017, <http://www.mocp.org/exhibitions/2012/10/jan-tichy.php>.

⁴¹³ See, for example, “UTOPIA: Customs Declaration Form,” curated by Tim Kinsella, <http://www.mocp.org/digital-exhibition.php?t=objects&type=group&gid=2407>.

⁴¹⁴ #AiWeiwei, *MoCP*, accessed December 10, 2017, <http://www.mocp.org/digital-exhibition.php?t=objects&type=group&gid=2861>.

⁴¹⁵ No longer accessible; <http://www.cincinnatiartmuseum.org/art/exhibitions/exhibition-archive/2017-exhibitions/world-war-i/>.

phone via the Google Arts and Culture App. Viewed in the App, *Rembrandt*, and other online exhibitions at CAM, are both educational and aesthetically pleasing (see Figures 4.9 and 4.10).



Figure 4.9 Desktop View of *Rembrandt*, Courtesy of the Cincinnati Art Museum

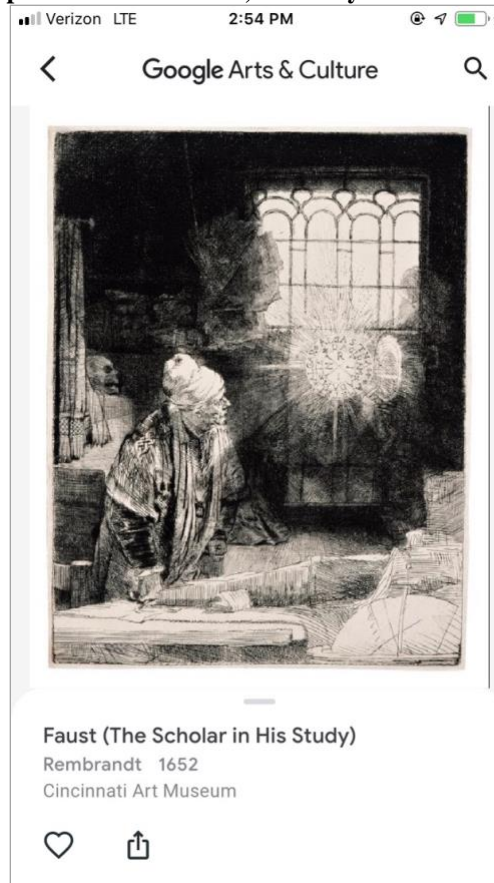


Figure 4.10 Mobile View of *Rembrandt*, Courtesy of Google Arts & Culture

Linear Book

The J. Paul Getty Museum launched an unusual online exhibition in 2013 that reacted to and documented events that had occurred in real-time. Indeed, the digital photographic exhibition responded to *Pacific Standard Time: Modern Architecture in L.A.*, an entire suite of public events supported by the Getty Foundation between 2011 and 2013.⁴¹⁶ In the words of the project co-directors, William Deverell and Greg Hise, the Pacific Standard Time exhibition, “Form and Landscape,” “benefits from and builds on” the “considerable momentum” generated by the in-person happenings.⁴¹⁷ Using the Southern California Edison archive as source material, Deverell and Hise invited a variety of individuals to curate miniature online exhibitions to be included within the framework of the larger project.⁴¹⁸ These exhibitions, ranging thematically from “Domesticity” to “Light” to “Flora,” are formatted as visual essays. Although there is an image bank at the mast of each exhibition page inviting visitors to click through a slideshow, the introductory text and further interpretive material can only be viewed by scrolling vertically through the exhibition page.⁴¹⁹ Even though the method of content generation differs greatly from that of the documentary or supplementary exhibitions, the website shares much in common with the linear book type described previously. The resulting exhibitions serve to educate and inspire through image and text.

⁴¹⁶ “Pacific Standard Time Presents: Modern Architecture in LA,” *The Getty Foundation*, accessed January 24, 2018, http://www.getty.edu/foundation/initiatives/past/pstp/modarch_fact_sheet.html.

⁴¹⁷ “About the Project,” *PTSP-Edison*, accessed January 24, 2018, <http://pstp-edison.com/about.html>.

⁴¹⁸ “Exhibitions,” *PTSP-Edison*, accessed January 24, 2018, <http://pstp-edison.com/exhibitions.html>.

⁴¹⁹ *Consumption*, for example: <http://pstp-edison.com/avila.html>.

Non-linear, Animated

The Mary and Leigh Block Museum of Art is home to one of the earliest examples of a stand-alone exhibition, and it falls within the non-linear, animated category. *Pictures of Music* was launched in 2001, and presents an animated introduction created with Adobe Flash Player, as well as a dynamic timeline and score pages that utilize the MrSID (Multi-resolution Seamless Image Database). Although the site combines some linear elements, other modes of interaction are interspersed throughout the publication. The exhibition website also offers a useful “Help” page describing optimal viewing options based on configuration, plugins, and display settings.⁴²⁰ These details not only provide information for users, but also offer constructive details about the context in which the website was originally made. This site is primarily didactic.

The Yale University Art Gallery’s *There’s No Place Like Home: Student Rooms at Yale, 1870-1910*, is similar to *Pictures of Music* in its inclusion of moving parts (also courtesy of Flash), and its educational mission. Organized by then-PhD candidate Dana E. Byrd in 2009, the exhibition cleverly interweaves archival photos of American decorative arts objects to educate visitors about the rich history of Yale and contribute to the collective memory of current students and alumni.⁴²¹

American Ruins, a production of the Snite Museum of Art, also falls into the non-linear category. Launched in 2013, the site was created by students at the University of Notre Dame with assistance from curators at the Snite. Developed as a Google Site, the exhibition features four themes, arranged linearly, as well as other avenues of entry. Individual object pages may be

⁴²⁰ “Introduction: Interpreting Graphical Scores,” *Block Museum*, accessed January 25, 2018, <http://www.blockmuseum.northwestern.edu/picturesofmusic/index2.html>.

⁴²¹ “There’s No Place Like Home,” *Yale Art Gallery*, accessed December 30, 2017, <http://media.artgallery.yale.edu/yalerooms/index.html>.

accessed through the “Student Contributors” tab, for example. The site is unique in its emphasis on curricular engagement: two of the menu items relate to the fact that the online exhibition was created for and by a particular set of students as part of an American Studies course. The site even includes a clear editorial trail, entitled “Recent Site Activity,” that is akin to the Talk section of a Wikipedia page. The page documents the participation of students in the development and evolution of the website, and also demonstrates how these types of projects may be used for pedagogical purposes.⁴²² Tate Britain’s *The Gallery of Lost Art* also fits into this typology, and will receive a comprehensive treatment in the following chapter.

4.1.2 Collections

There are, of course, digital projects that do not fit neatly within the preceding typologies. The PUAM, for example, lists its “Asian Art Collection” and “The Henry and Rose Pearlman Collection” in the online exhibition section of the institutional website. However, as the names imply, these websites are digital *collections*, more closely adhering to Kalfatovic’s definition of an online collection than of an online exhibition. Launched in 2004 and 2014, respectively, the “Asian Art” and “Pearlman” websites house everything related to the corresponding collections, offering context and history as well as digital surrogates of collection objects, accompanied by metadata. In the case of “Asian Art,” the objects are organized by nation and dynasties, but

⁴²² “Recent Site Activity,” *American Ruins*, accessed January 5, 2018, <https://sites.google.com/site/americanruinsnd/system/app/pages/recentChanges>.

without further interpretive interventions.⁴²³ Do these sites qualify as online exhibitions or did PUAM simply want to list all of its online resources in one place? These collection sites are certainly rich resources for scholars, and demonstrate a significant investment of time and energy on the part of the site creators. Still, they seem distinctly collection-oriented, and lacking a narrative or a curatorial voice.

4.1.3 Online Exhibition Catalogues

Honeysett described both the challenges and potential of publishing digital catalogues in 2011.⁴²⁴ His article describes an interesting environmental scan of ten museums (nine in the United States and one in Great Britain) that received significant funding from the Getty Foundation (\$250,000, at a minimum) starting in 2009 as part of the Online Scholarly Catalogue Initiative (OSCI).⁴²⁵ These institutions, by accepting the Getty funding, committed to experimenting with the online scholarly catalogue format, and its potential to provide a new and potentially more intimate and interactive approach to the processes of research, publication, and re-publication; a more dynamic environment through enabling linkages within the catalogue to external and internal resources and higher quality images (unencumbered from the constraints of printing and the associated budgetary challenges). Of these, two museums formerly housed, and one institution currently hosts, an online exhibition.

⁴²³ “Asian Art Collection,” *Princeton University Art Museum*, accessed January 5, 2018, <http://etcweb.princeton.edu/asianart/index.jsp>; “The Henry and Rose Pearlman Collection,” *Princeton University Art Museum*, accessed January 5, 2018, <http://artmuseum.princeton.edu/collections/pearlman>.

⁴²⁴ Honeysett, “The Transition to Scholarly Catalogues,” 2011.

⁴²⁵ “Browse the OSCI Catalogues,” *The Getty Foundation*, accessed January 10, 2018, http://www.getty.edu/foundation/initiatives/past/osci/osci_browse_catalogues.html.

The Art Institute of Chicago (AIC) has produced two exquisite exhibition catalogues, in particular, including “Monet Paintings and Drawings at the Art Institute of Chicago” and “Renoir Paintings and Drawings at the Art Institute of Chicago.” In investigating options for the AIC catalogues, Sam Quigley and Elizabeth Neely considered a continuum of options, from the most book-like option (see “most linear” in Figure 4.12) to the least book-like and most disjointed option (see “most parsed” in Figure 4.12).⁴²⁶ In an effort to assuage the anxieties of the art historical community, AIC opted for an approach somewhere between the linear and parsed options that would replicate aspects of the book structure while also taking advantage of hyperlinking among nodes. This approach is similar to the non-linear, hypertext typology described in the previous section of the environmental scan.

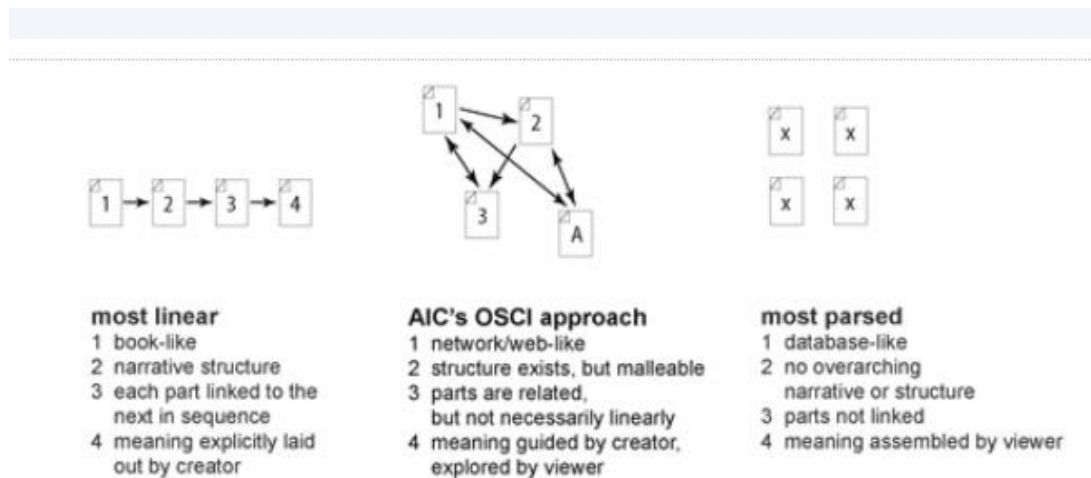


Figure 4.11 The Quigley-Neely Continuum of Options, Courtesy of Muesums and the Web

These catalogues move beyond analog publications in that they can link to actual records in the Museum’s catalog, and are rich with further metadata and expandable images. The

⁴²⁶ Sam Quigley & Elizabeth Neely, “Integration of Print and Digital Publishing Workflows at the Art Institute of Chicago,” *Museums and the Web 2011*, accessed March 1, 2018, https://www.museumsandtheweb.com/mw2011/papers/integration_of_print_and_digital_publishing_wo.html.

catalogue also has a built-in glossary for looking up unfamiliar words on the spot. The Art Institute features a very different kind of online catalogue, or exhibition documentation, of the exhibition “Magritte: The Mystery of the Ordinary, 1926-1938,” which employs audio and images to convey its story. These are two very different types of “catalogue.” But, the institution that has deviated furthest from the analog catalogue is the Walker Art Center, who’s “Living Collections Catalogues” is remarkably innovative. Even its “Contents” page is full of links, videos, images, and digestible chunks of text. The *On Performativity* catalogue, the first volume of the “Living Collections Catalogues,” will receive a much more comprehensive treatment in the fifth chapter of this dissertation.

Analyzing the catalogues published by the ten OSCI-funded institutions revealed a number of other interesting findings that are relevant to the proceeding discussion of the Tate and Walker case studies. Several of the institutions focused on a specific collection or collections for their pioneering work on online catalogues. Rather than attempt to find a solution for thoroughly documenting physical exhibitions hosted by an institution, the museums elected to narrow their focus to one or two areas of their institutional collections (at this stage, at least). Concentrating on a particular subset of the collection likely resulted in a more manageable project from the outset. Additionally, working with institutional collections and objects owned and controlled by the museum itself likely mitigated copyright issues that are pervasive in digital imaging projects. Furthermore, by working with collection material rather than material on loan from other institutions, the museums could avail of a wealth of pre-existing knowledge about their collection (its themes, artists, works). Curators and other museum staff, already familiar with the artists and artworks in their collection, could likely more efficiently generate a catalogue of this content.

As was previously mentioned, the Art Institute of Chicago generated online catalogues on Monet and Renoir from its own collection of nineteenth-century European paintings. Similarly, the Los Angeles County Museum of Art (LACMA) focused on sixty objects from its Southeast Asian Collection. The trend continued among the OSCI cohort, as institutions generated catalogues about the following: the seventeenth-century Dutch painting collection at the National Gallery of Art; the Robert Rauschenberg collection at the SFMoMA; the Chinese painting collection at the Seattle Art Museum; the collection of Katsushika Hokusai at the Freer Gallery; the collection of British Post-Impressionist artists (the Camden Town Group) at the Tate Modern; the performative arts collection of the Walker Art Center; and the European painting collection at the J. Paul Getty Museum.⁴²⁷ The Walker's focus on ephemeral art set the Art Center apart from its peers, and partly explains its selection as a case study site.

4.2 Conclusion

Although the preceding scan offers only a superficial analysis of several sites, it provides context for the deeper examination that occurs within the following case studies. The process of conducting the environmental scan allowed exhibition typologies to emerge, and also revealed some overarching trends among the different manifestations of digital exhibitions and catalogues. Of the forty-one online exhibitions considered for the timeline, fourteen belong to the “slideshow” type, twelve are non-linear, animated sites, ten are linear book presentations, and

⁴²⁷ The Walker's eventual goal is to produce catalogues for the entire collection, in installments.

three are non-linear hypertext sites. In addition, two of the supplementary or documentary websites that were listed on online exhibition pages are actually more accurately classified as online collections. Thus, the slideshow seems to remain the most popular site type, perhaps because of its relationship to the traditional art historical lecture, its emphasis on aesthetics, and its feasibility. Additionally, the scan demonstrated that, although museums shared similar typologies, they seemed to employ a vast array of different digital tools. No particular platforms or standards emerged as most popular.

The general trajectory towards more technologically sophisticated or innovative sites is consistent with Paula Antonelli's claim that curators' ambitions have followed new media trends, and "exhibitions grew from records into wonderlands where curators could publish new, expanded narratives about the same subjects and themes features in the galleries, hiring specialist web designers for the purpose."⁴²⁸ The OSCI grant demonstrates a clear commitment to supporting more "expanded narratives" in the context of online catalogues, as well. Still, online exhibition catalogues remain as rare as stand-alone online exhibitions. The following two chapters will demonstrate potential reasons why this may be the case, enumerating the complexities of digital project management infrastructures.

⁴²⁸ Ryan, *As Seen*, 106.

5.0 *The Gallery of Lost Art*

The Gallery of Lost Art is a ghost museum, a place of shadows and traces. It could only ever exist virtually.⁴²⁹

The Gallery of Lost Art is not only a unique project, but also one that remains widely regarded as a successful endeavor, particularly within technology and design communities. The exhibition received critical attention in both mainstream media and among specialist audiences, and is referenced in several recent publications.⁴³⁰ Further, the website attracted awards, a significant online audience, media coverage, and several scholarly citations. As a stand-alone online exhibition, the *Lost Art* provides an unusual breadth and depth of information about digital scholarship. The unique project is distinguished by its limited lifespan, incorporation of complex ephemeral content, and collaborative approach. This chapter describes *Lost Art* from its conception through to its expiration, and beyond, in four sections: Project Scope, Longevity, Socio-Technical Infrastructure, and Impact. *On Performativity* will receive a similar treatment in Chapter 6.

Although the exhibition was most prominently associated with the Tate, *Lost Art* was only made possible through the contributions of the Scottish design company, ISO, and Channel 4 (C4). These external organizations were instrumental to the production and successful

⁴²⁹ Jane Burton, “*The Gallery of Lost Art*,” July 1, 2013, in *e-flux*, <https://www.e-flux.com/announcements/33876/the-gallery-of-lost-art/>.

⁴³⁰ Including Lord and Piacente’s *Manual of Museum Exhibitions* (2014); Dezeuze’s *Almost Nothing: Observations on Precarious Practices in Contemporary Art* (2016); Ryan’s *As Seen: Exhibitions That Made Architecture and Design History* (2017).

deployment of the final product. Each of the project partners offered a rich knowledge base, and their organizational philosophies guaranteed that the venture was embraced within the three institutional contexts. The project's built-in preservation plans complicated notions of scholarly authority that are traditionally tied to project persistence and permanence. For the latter reason, among others, the project remains a rarity.

5.1 Introduction

In the wake of the passing of the Museums and Galleries Act in 1992, the Tate and other museums in the United Kingdom had apparently:

dramatically re-imagined their roles and re-oriented their work towards a more dynamic, partnership-based and outward-looking model of cultural and audience engagement.

In 2005, the government-funded organization, the AHRC (Arts and Humanities Research Council) was created to support a range of research activities, including investigations into “the design and effectiveness of digital content,” for example.⁴³¹ In 2006, the AHRC invited ten national museums to directly apply for research funding in 2006, on account of “the sustained quality and impact of” their research.⁴³² The Tate was among these institutions, and initially engaged with the ‘Diasporas, Migrations, and Identities (DMI),’ program. A major goal of the program at Tate Britain was to facilitate interdisciplinary collaboration among project team members. However, the project ultimately “reproduced the very conditions of difference and

⁴³¹ Arts & Humanities Research Council, “About us,” accessed August 8, 2018, <https://ahrc.ukri.org/about/>.

⁴³² Katarzyna Murawska-Muthesius and Piotr Piotrowski, *From Museum Critique to the Critical Museum* (Burlington, VT; Farnham, Surrey: Ashgate, 2015) 201.

marginalisation that they were seeking to redress.”⁴³³ This project, called Tate Encounters, concluded in 2010, shortly before *Lost Art* emerged, and demonstrated the complexity and necessity of employing “new models of knowledge exchange and collaborative transdisciplinary practice.”⁴³⁴

The seeds for *Lost Art* were planted in 2010, and C4 was a crucial partner from the project’s conception. In describing the online exhibition’s origins, Damien Smith, creative partner at ISO Design, reported that the project stemmed from conversations between Stuart Cosgrove, of C4, and Will Gompertz, then at Tate. In the early 2010s, in particular, C4 was “investing in innovative projects online that disrupted traditional models for content” and the relationship with Tate was perceived as mutually beneficial, partly because the Museum was seeking funds for new and experimental ventures.⁴³⁵ C4’s mission statement demonstrates the organization’s dedication to unorthodox productions, and the Tate represented an ideal partner, possessing the skills and expertise necessary to deploy an unusual narrative-based media project that was, at least hypothetically, still imbued with scholarly authority:

Channel 4 is a publicly-owned and commercially-funded UK public service broadcaster, with a statutory remit to deliver high-quality, innovative, alternative content that challenges the status quo.⁴³⁶

From the beginning, *Lost Art* was designed to push the parameters that might usually surround these two different types of institutions, although both Tate and C4 arrived with pre-established credentials and a penchant for planning unorthodox projects. This was the Tate’s first effort to

⁴³³Murawska-Muthesius and Piotrowski, *From Museum Critique to the Critical Museum*, 210.

⁴³⁴Murawska-Muthesius and Piotrowski, *From Museum Critique to the Critical Museum*, 214.

⁴³⁵ Damien Smith, Founder and Creative Partner, Email to author, April 26, 2018.

⁴³⁶ Channel 4, “What is Channel 4?” accessed August 8, 2018, <http://www.channel4.com/corporate/about-4/who-we-are/what-is-channel-4>.

create an online exhibition, and although both institutions operated on vastly different internal communication networks, they were willing and well-suited collaborators.

In order to fulfill the desired design requirements, however, the two entities had to search for a third partner. ISO, having previously collaborated with C4 on a number of projects, was invited to develop and present ideas in line with the Tate/C4 proposal.⁴³⁷ ISO has an impressive portfolio, including projects produced for BBC One, Mercedes-Benz, the Imperial War Museum, and a variety of other clients, and also operates under a philosophy that is similar to both C4 and Tate:

In all our work we aim to produce engaging narrative experiences that explore new or innovative applications of technology, with high quality visual content and we look for partners and clients who enjoy working in an open collaborative environment.⁴³⁸

Two other design groups also contributed briefs to the Tate, but were not selected.

Interestingly, Smith reports that these other proposals “were either based around 3D CGI [Computer-Generated Imagery] reconstructions of artworks and gallery spaces, or were trying to sell novelties such as using apps to digitally recreate art in other spaces.” ISO, on the other hand, is known for its creation and documentation of physical installations.⁴³⁹ Evidently, the Tate wanted to create an online exhibition that was anchored by a realistic representation of space, replete with familiar objects and signposts for engagement. ISO provided the most compelling solution to the Museum’s design problems, and one that could retain the signature Tate style.

⁴³⁷ Highlights from the ISO portfolio are featured on the company’s website, accessed August 13, 2018, <http://isodesign.co.uk/projects>.

⁴³⁸ ISO, “ISO Profile,” accessed August 8, 2018, <http://isodesign.co.uk/profile>.

⁴³⁹ Smith, Email to author, April 26.

5.2 Project Scope

5.2.1 Intellectual Goals

The Gallery of Lost Art was unusual for a variety of reasons. Firstly, the online exhibition stood entirely on its own; it was not associated with a physical gallery show, and was intended to inhabit and take advantage of all the affordances of the digital space. According to Smith, Tate and C4 were curious about how the exhibition “would perform as a globally-accessible 24/7 show” that was accessible without charge.⁴⁴⁰ Lacking traditional physical or temporal limitations, the online exhibition was accessible at any time or place (barring technical obstacles, of course). Mounting the exhibition online was beneficial to visitors in other ways. During its lifetime, *Lost Art* allowed users to enjoy their virtual surroundings, according to one viewer, “unhampered by crowds or security guards.” Desi Gonzalez also appreciated that the space could be “visited repeatedly at no cost.”⁴⁴¹ These testimonials are indicative of the factors that impede some individuals in the context of the physical museum space.

The Tate received an AHRC grant, and C4 provided additional financial support. Without the usual constraints imposed by an internally-sourced museum budget, the *Lost Art* team strove to simultaneously expand the definition of an online exhibition and provide a practical solution to the prominent sustainability problems that surround digital projects. A collaborative, cross-institutional, interdisciplinary, and multi-year project, *Lost Art* sought to move beyond the “flat, web-based educational online exhibitions that were and still are very much the norm for

⁴⁴⁰ Smith, Email to author, April 26.

⁴⁴¹ Desi Gonzalez, “Tate Gallery: The Gallery of Lost Art,” *The Brooklyn Rail* (June 2013): 33.

museums.”⁴⁴² Although this aim was articulated in 2013, it remains relevant today, as museums continue to struggle with the presentation of scholarly content that is both usable and engaging online. To move beyond the static, seemingly unimaginative exhibitions emerging from other institutions, the *Lost Art* team aimed to create an academically rigorous *and* dynamic exhibition that would succeed in conveying a particular story. As Mundy stated in an email to the researcher, “narratives were important to me, as was the possibility of telling a coherent story.”⁴⁴³ The result would be experiential and logical, to a certain degree, even as it played with somewhat abstract configurations of knowledge. This vision was somewhat contradictory, and posed challenges to ISO, in particular. In recalling these early days of the project, Mark Breslin, co-founder of ISO and one of the nine *Lost Art* project team members, stated that:

The brief was quite undefined. They wanted something more exploratory and didn’t want a traditional way of navigating content. They wanted it to become an experience so it was about trying to translate a physical space onto an online website.⁴⁴⁴

From the start, the project team wanted to create an exhibition that took advantage of its online platform while still emulating “key aspects of in-gallery exhibitions.”⁴⁴⁵ Built upon the subject of loss, the exhibition sought not only to redefine online exhibitions, but to conceptually reconstruct lost artworks through surrounding documentation (or “collected fragments”) gathered from archives and libraries. Fiontan Moran, Assistant Curator at Tate Britain, noted that the administrative processes occurring behind the scenes of *The Gallery of Lost Art* were quite similar to those that are followed for physical exhibitions. However, the project staff were

⁴⁴² Mundy and Burton, “Online Exhibitions.”

⁴⁴³ Jennifer Mundy, Head of Art Historical Research, Tate, Email to author, June 12, 2018.

⁴⁴⁴ Emily Gosling, “Gallery of Lost Art website reveals the stories of missing artworks,” *Design Week*, July 2, 2012, <https://www.designweek.co.uk/issues/may-2012/gallery-of-lost-art-website-reveals-the-stories-of-missing-artworks/>.

⁴⁴⁵ Mundy and Burton, “Online Exhibitions.”

writing loan requests to “feature archival documents (photographs, sale records, letters) online” rather than to borrow artworks.⁴⁴⁶ Moran also spoke about the particular importance of interpretive texts in this online exhibition, as they had to do more of the heavy-lifting of connecting the different archival “remnants” together. Rather than use archival documentation to inform the label text that accompanied the artwork on display, the exhibition’s creators also inverted expectations by requiring visitors to generate their own meaning through exploration of the archival records themselves.

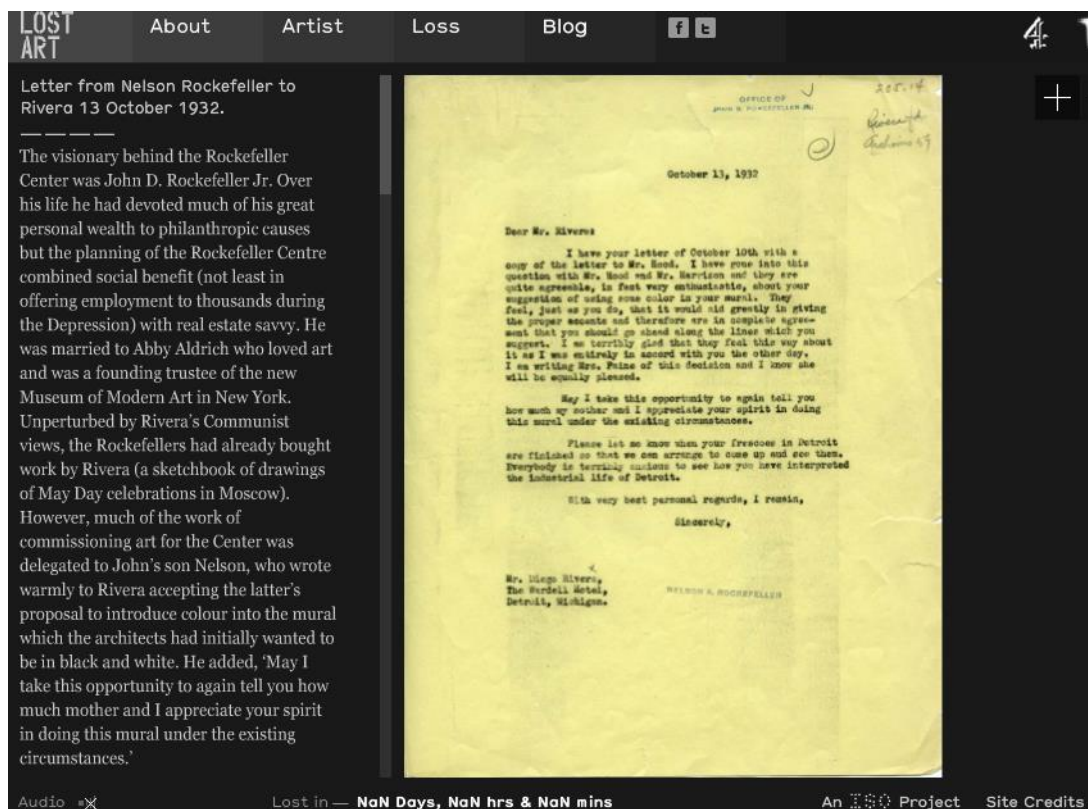


Figure 5.12 Screenshot of *The Gallery of Lost Art*, Courtesy of Mark Breslin

⁴⁴⁶ Fiontan Moran, Assistant Curator at Tate Britain, Email to author, April 17, 2018.

The exhibition sections included scholarly essays, but these were placed adjacent to the visually-appealing, digitized materials, such as a reproduction of a letter or a photograph. Mundy explained the intentionality behind this arrangement, stating:

This was somewhat against the grain of the ethos of digital, and an easy compromise was reached: the visitor could choose what element to pick, but it was clear that they could also start at the beginning on the left of each table, and move right, which would deliver the story in chronological order.

Structured in this manner, visitors could either experiment with their approach or fall back on more familiar and comfortable linear modes of engagement. The end result was intended to provide an enjoyable, thought-provoking journey in a space that “suggested an artistically aware use of visual metaphor.”⁴⁴⁷ To establish the latter effect, the project was solidly grounded by the aesthetics of the Tate, and reflected the curators’ vision for the space. It also, however, reinforced conventional approaches to curatorship and the unassailable voice of institutional authority.

The intellectual and conceptual goals of the project also relied on the project’s ephemerality. Indeed, *Lost Art* remains a rare example of a digital project with an expiration date. From the beginning, the project team embraced “the possibility of [the website] being both valuable and short-lived.”⁴⁴⁸ This liberal approach responds to Trant’s concern about the “static assertions of value” that persist in the museum field with regards to information use. Although scholarly authority is traditionally allied with persistent access, the team felt that the online exhibition could possess equivalent worth to an in-gallery exhibition, another transient form of

⁴⁴⁷ Mundy and Burton, “Online Exhibitions.”

⁴⁴⁸ Mundy and Burton, “Online Exhibitions.”

information organization. Contributors to *Lost Art* hoped to demonstrate that engagement with new media formats does not need to come at the cost of quality or “authenticity.”

In terms of digital preservation, the team’s method aligns with the “bloom-and-fade” approach: the website was released to the public with significant fanfare that was sustained for the duration of its active life (twelve months). After this, the project entered retirement.⁴⁴⁹ As planned, the site managers removed the website from public view exactly one year after its launch in July of 2012. However, a book based on the online exhibition, *Lost Art: Missing Artworks of the Twentieth Century* was published in 2013, reinforcing the parallels between this online exhibition and its physical counterparts. Just as physical exhibitions are usually temporary and therefore rely on exhibition catalogues to establish the permanent record of an event, *The Gallery of Lost Art* can now be revisited only through the sturdy pages of the physical *Lost Art* book or the scaffolding that remains of the archived website. Unlike the archived website, the book project was not incorporated into the original project scope for *The Gallery of Lost Art* team, and was produced by one individual in the wake of the website’s demise. Indeed, Jennifer Mundy is listed as the sole author of *Lost Art*, the hardback book that endeavors to represent the text from the virtual exhibition alongside seventy color illustrations. The book seems to act as a loophole, allowing the exhibition to persist, in a very altered form, even though it is no longer available online.

⁴⁴⁹ Visual Media Workshop at the University of Pittsburgh, *The Socio-Technical Sustainability Roadmap*, accessed July 23, 2018, <http://sustainingdh.net>.

5.2.2 The Deliverable

At first sweep, the *Gallery of Lost Art* seems to fit quite neatly into the non-linear, animated exhibition typology described in the environmental scan of this dissertation. The website incorporates visual and auditory cues to invite interaction and engage the visitor. In 2013, Mundy and Burton described *Lost Art* as an “immersive” exhibition aiming to “capture the emotional and sensory impact of viewing art in a museum.” In contrast to other online exhibitions and collection databases, *Lost Art*’s team wanted to facilitate “an actual experience.”⁴⁵⁰ They created this latter “experience” by employing a range of tools and methods.

Built in Adobe Systems’ Flash, *The Gallery of Lost Art* website at <http://galleryoflostart.com>, was first published on the 2nd of July, 2012.⁴⁵¹ Breslin described the online exhibition as a “browser-based site with a designated URL.”⁴⁵² In other words, it was not nested as a sub-page of the Tate’s main site, but existed separate to the institution. As it was hosted independently, the website demonstrated no particular allegiance to the Tate (after all, the site was a collaborative endeavor), and was afforded a degree of freedom that might not have been unavailable if it was embedded in the Tate website. However, the site had to compensate for its autonomy by providing clear indicators of its authoritativeness. Just as project credentials usually appear in the front matter of a physical book, the *Lost Art* team inserted the Tate, ISO,

⁴⁵⁰ Mundy and Burton, “Online Exhibitions,” 2013.

⁴⁵¹ Mark Breslin shared an offline version of the exhibition with the researcher so that she could evaluate the exhibition, to the greatest degree possible, within the context in which it was initially produced and published. The site is stored with Amazon Web Services, and Breslin shared the hyperlink to what he called a “sneaky offline/online version” of the website in an email with the researcher.

⁴⁵² Mark Breslin, co-founder of ISO, Email to the author, April 18, 2018.

and Channel 4 logos in the website’s page banner and, under “Additional funding,” the Arts & Humanities Research Council name and logo.

In a lengthy reflection of her own experience with *Lost Art*, H  l  ne Herniou wrote about how the information presented at the top of the page reassured her “quant au caract  re institutionnel du site” (“as to the institutional nature of the site”).⁴⁵³ These signs of authority and authenticity reassured users as to the credibility of the website’s content. Site credits were also embedded within the original *Lost Art* website, not only on the “About” page, but also attached to each subsection of the exhibition. For example, Otto Freundlich’s *Large Head (The New Man)* is documented and described through various digitized photographs, so the “Credits” for this artwork include image sources as well as the names of the individuals responsible for the research and writing of the accompanying essay.



Figure 5.13 Original Homepage of *The Gallery of Lost Art*, Courtesy of Mark Breslin

⁴⁵³ Hélène Herniou, “Gallery of Lost Art: La Tate dédie un memorial virtuel aux oeuvres perdues,” July 13, 2012, <https://cliophile.wordpress.com/2012/07/13/gallery-of-lost-art-la-tate-dedie-un-memorial-virtuel-aux-oeuvres-perdues/>.

As captured in Figure 5.13, the original exhibition homepage was dominated by a pixelated, rotating video sequence that was both disorienting and intriguing, evoking the experience of watching security camera footage. The giant block letters switched between: “Lost Art New Work Released Each Week,” and “Lost Art Recompiling and Exploring Works of Art.” Both of these statements are reminiscent of newspaper headlines, and flashed with a similar urgency. Upon clicking on the yellow “Enter” sign in the lower-left corner of the screen, the visitor entered the relative calm of the exhibition’s warehouse-like interior. The light reflecting off the cement floor gave the impression that the exhibition viewer was in a dark room, and the soundtrack added to the eeriness of the space (Figure 5.15).

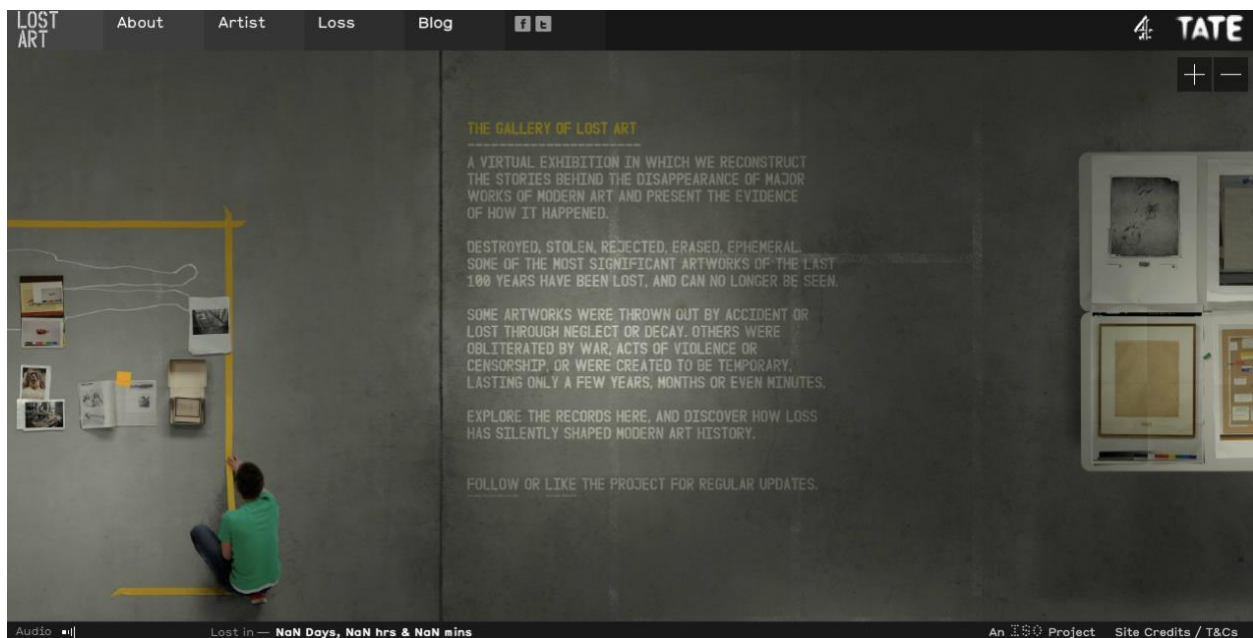


Figure 5.14 The Warehouse Space of *The Gallery of Lost Art* Experience, Courtesy of Mark Breslin

ISO commissioned Annie Needham and Nick Lindner to create what Smith calls “a spatial soundtrack.”⁴⁵⁴ The sound producers achieved the surround-sound effect by geo-locating eight (or so) tracks to the exhibition’s themes. This soundscape contributed to the feel of an “ever-expanding exhibition space” that, according to Smith, endeavored to imitate the navigability of Google Maps or Charles and Ray Eames’ 1977 short film, “Powers of Ten.”⁴⁵⁵ Using the cursor, the visitor could explore the full extent of the room, clicking and dragging to navigate to the four corners of the space. The sound would change, accordingly. Writing from the perspective of the ISO team, Breslin stated that:

When we developed the UI for *Lost Art*, we essentially harnessed the conventions of Google Maps (exploring and finding). This provides a method [that] the user understands; we’ve replaced the geography with a rendition of a physical space.”⁴⁵⁶

Assuming that visitors would have some familiarity with Google Maps, ISO supported a particular approach to engagement that would come fairly organically, at least within the context of 2012-2013. Site users could zoom out and look at the entire configuration of tables before selecting one for inspection.

Tables in the warehouse clustered around the exhibition themes: “Unrealized,” “Rejected,” “Stolen,” “Discarded,” “Missing,” “Destroyed,” “Erased,” “Transient,” and “Attacked.” Mundy suggested that the overall arrangement followed a “quasi-logical approach” according to “degree of catastrophe,” although she admitted that this logic is more apparent in

⁴⁵⁴ Damien Smith, Partner at ISO, Email to the author, April 26, 2018.

⁴⁵⁵ In the 1977 film, the viewer zooms out by ten times at 10 second intervals, as can be seen at “Thinking in Powers of Ten,” *Eames Official Site*, accessed February 13, 2019, <http://www.eamesoffice.com/education/powers-of-ten-2/>.

⁴⁵⁶ Breslin, Email to the author, May 25, 2018.

the *Lost Art* book.⁴⁵⁷ Indeed, the researcher did not glean this information from her own exploration of the website, and extant site reviews also did not seem to pick up on these “degrees” either. It is perhaps unsurprising that this linear line of reasoning was expressed more successfully in book form.

Still, the curators and designers of *Lost Art* did not entirely dispel the logic of linear motion. They removed some of the traditional markers of institutional authority (physical walls dictating pathways through a space, for example), but encouraged engagement through a “chronological narrative...arranged in a linear manner from the left to right (Western convention).” Faced with the website’s main page, visitors could elect to explore the space by placing their cursor on a particular table, or could use the drop-down menu in the top navigation banner. As Figure 5.16 demonstrates, users could also use arrows to navigate upwards, downwards, and from side-to-side. This experience is more akin to using a highly visually-appealing slideshow than freely exploring a space.

⁴⁵⁷ Mundy, Email to the author, June 12, 2018.

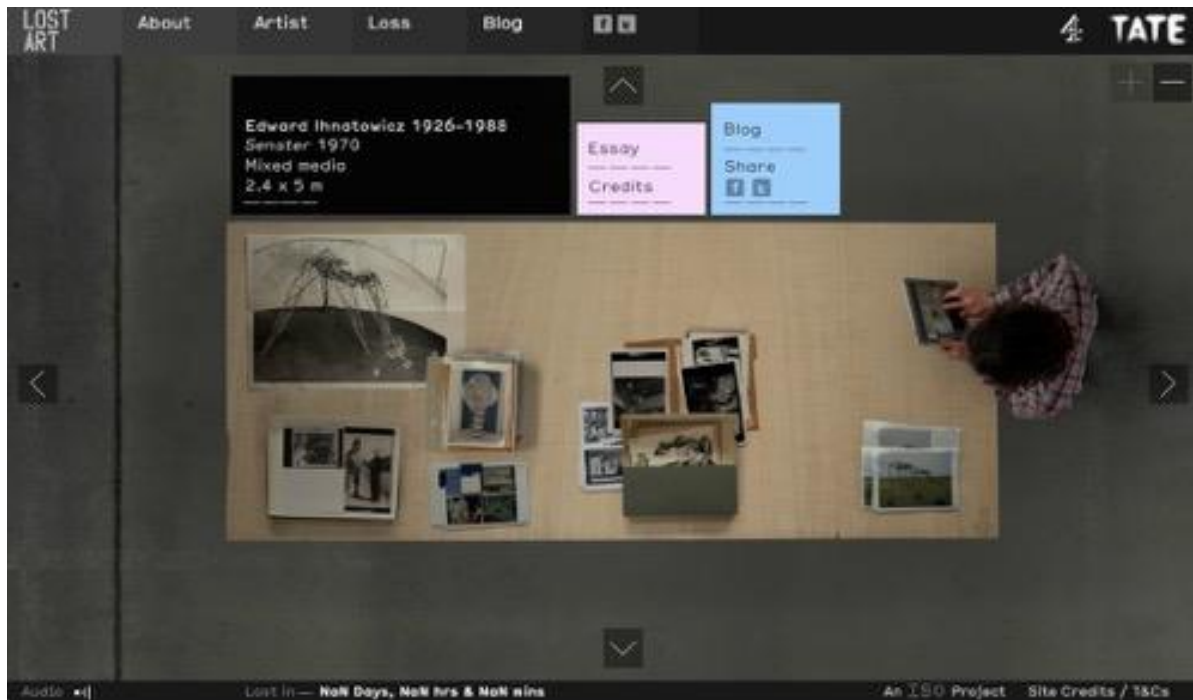


Figure 5.15 View of Edward Ihnatowicz' Table in the Exhibition, Courtesy of Mark Breslin

The site creators approached every aspect of curation and design with a significant degree of intentionality. They took advantage of the flexibility of their online platform, experimenting with options that are unattainable in the context of in-gallery exhibitions. For example, the site managers added new “objects” into the online space on a weekly basis throughout the first six months of the exhibition. Hence the “Lost Art New Work Released Each Week,” banner from the homepage. The project launched with only half the number of tables that would ultimately fill the exhibition space. According to Breslin, this regular dose of new content was intended to “drive repeat visits to the site (and engagement with the blog).”⁴⁵⁸ Mundy and Burton stated that the added material created the “illusion of change and movement.”⁴⁵⁹ New “ideas and narratives

⁴⁵⁸ Mundy, Email to the author, June 12, 2018.

⁴⁵⁹ Mundy and Burton, “Online Exhibitions,” 2013.

become available” when resources are taken out of context and reshuffled in various ways. In turn, these expanding and evolving digital narratives provided novel opportunities to “contextualize the museum experience.”⁴⁶⁰

Again, while users may have felt as though they were navigating the space according to their own preferences, they were actually forced to adhere to fairly strict parameters. Indeed, the digital exhibition provided a mediated experience by offering a performance that could only occur within an acceptable range of variance. As the website lacked any external links, visitors were encouraged to remain within the space of the exhibition (except to share something on Facebook or Twitter). Even the blog was self-referential, and curated by members of the exhibition team. The configuration of the interface represented one form of maintaining control of the user experience. Although the curators and designers aspired to move beyond the uni-directional transmission model through the interface and accompanying features of *Lost Art*, remnants of long-established museum practice clearly remained intact. In the physical gallery space, participatory elements of art exhibitions have also often seemed to exist on the periphery of the curatorially-driven content.

Smith suggests that the curators were anxious to open up a “two-way dialogue with the audiences” via the blog section of the website and external social media postings. Through the blog, visitors had unprecedented access to brainstorming and research processes that ordinarily occur “behind the scenes” or beyond the walls of an in-gallery show.⁴⁶¹ The blog ran as a kind of real-time news source. In reality, the blog functioned as a one-way stream of information, so

⁴⁶⁰ Hazan, “A Crisis of Authority,” 134.

⁴⁶¹ Smith, Email to author, April 26, 2018.

allowed greater access without permitting responses. The Tate also encouraged interaction with *The Gallery of Lost Art* through posts on their own website's article channel, although this resource was also dominated by curator's voices. On the website's last day, for example, Jennifer Mundy and Jane Burton posted "Lost Art...Going, going, gone," an entry that described the project and encouraged a final visit.⁴⁶² Still, the exhibition featured fairly traditional essays authored by the curators, and these were also available for PDF download ("Save text only pdf"). User engagement was welcomed, but only existed external to the online exhibition itself, on the blog or various social media platforms. In this way, the exhibition preserved the authoritative voice of the museum and didn't really succeed in breaking down the uni-directional transmission model.

Although the online format offered the researchers new opportunities for display and interactive exchange, it was still somewhat dictated by methodologies developed for traditional, physical exhibitions. Mundy and Burton wanted to produce an exhibition "with the visual qualities and scholarly authority of an in-gallery exhibition at Tate." They incorporated what they called "Tate house style" into the website, emulating the look and feel of physical galleries or the "warehouse proportions and concrete floor" reminiscent of "contemporary art settings" such as the Tate Modern.⁴⁶³ In order to achieve this quality, Breslin reports that the designers considered the online exhibition space "or forensic collection" as analogous to a physical gallery space, grouping objects thematically and organizing "pieces of evidence" on tables. Mundy and Burton also reported that the exhibition's layout was inspired, in part, by Lars von Trier's

⁴⁶² Jane Burton and Jennifer Mundy, "Lost Art...Going, going, gone," *Tate*, July 1, 2013, <http://www.tate.org.uk/context-comment/articles/lost-art-going-going-gone>.

⁴⁶³ Tate Modern is located in Bankside Power Station, hence the warehouse appearance and atmosphere of the galleries.

Dogville (2003), a live action film featuring a similar birds-eye-view of chalk-outlined spaces. The configuration of the interface established the exhibition context, supporting Wendy Duff's claim that online sites can "serve as museum spaces," employing visual cues to invoke the scaffolding of a museum exhibition.⁴⁶⁴ As the literature review elucidated, Duff promotes online exhibition sites that encourage investigation beyond the surface, again moving beyond flat representations.

To further realize this hybrid space, Breslin writes that the curators and designers found ways to suggest "the physical nature of the artworks" in certain instances. With Rachel Whiteread's *House* (1993), for example, the outline of the artwork is evoked through a chalk tracing, and Vladimir Tatlin's Tower was accompanied by a scale model complete with a shadow cast on the concrete-like floor. In the preface to the book inspired by the *Lost Art* exhibition, Jennifer Mundy writes about the positioning of these larger works on the floor. The warehouse tables were too small to accommodate "the scale of the missing work" in a realistic manner.⁴⁶⁵ This decision served to further emphasize the verisimilitude of the online representation (see Figure 5.17 and 5.18).

⁴⁶⁴ Duff et. al, "The Changing Museum Environment," 3.

⁴⁶⁵ Jennifer Mundy, *Lost Art: Missing Artworks of the Twentieth Century* (London; Tate Publishing, 2013), 9.



Figure 5.16 Screenshot of Rachel Whiteread's *House*, Courtesy of Mark Breslin



Figure 5.17 Screenshot of Vladimir Tatlin's *Tower*, Courtesy of Mark Breslin

5.3 Longevity

In the first section of the Visual Media Workshop's *Socio-Technical Sustainability Roadmap (STSR)*, site visitors are asked to consider: "How long do you want your project to

last?”⁴⁶⁶ The roadmap then takes project managers through the various phases of preservation planning. This first module of the roadmap, or Module A2, requires project team members to articulate their sustainability goals. These goals may not be consistent across a given project’s social network, and may, in fact, diverge considerably. Yet, the question of longevity is essential for any long-term preservation plan, and was present at the early conversations surrounding the *Lost Art* project.

Unlike print publications sitting on a bookshelf, digital projects can be updated and changed over time, and require ongoing maintenance, including financial support, to guarantee the type of accessibility that is taken for granted with a book that will remain stable on a shelf into the foreseeable future (unless it is actively removed or destroyed). *Lost Art* is unusual in that, even at its inception, the website was stamped with an expiration date. At their design pitch, ISO actually proposed that destroying the online exhibition was an integral part of their site plan. Considering that the project cohered around the idea of “lost” art, the ISO team felt it was “in the spirit of the project” to remove the site one year after its launch.⁴⁶⁷ In addition, intentionally removing the site served a practical function.

Indeed, the project team was acutely aware of the financial and socio-technical challenges of digital preservation and long-term maintenance. As Damien Smith suggests, sites are rarely intended to be supported indefinitely. He added: “that’s one of the reasons we proposed the ‘death’ of *Lost Art* originally – we’d rather it burnt brightly in its optimized state than slowly decayed and failed.”⁴⁶⁸ As was mentioned previously, the dynamic elements of *Lost*

⁴⁶⁶ VMW, *Socio-Technical Sustainability Roadmap*, <http://sustainingdh.net>.

⁴⁶⁷ Smith, Email to author, April 26, 2018.

⁴⁶⁸ Smith, Email to author, May 11, 2018.

Art were built using Adobe Flash, a software platform that is highly susceptible to environmental changes. However, ISO could enjoy the affordances of Flash without worrying about its long-term viability, as the project was intended to be short-lived from the start. Rather than face the possibility, or inevitability, of the project inelegantly deteriorating into something that barely resembled its original form, ISO, Tate, and C4 agreed to take control of the site's disappearance. In addition to facing technical concerns, Mundy and Burton pointed out that "without an ongoing budget, we would have been unable to sustain the copyright fees for the many images we used."⁴⁶⁹

In terms of the aforementioned *STSR*, *Lost Art* qualifies as a retired project that was proactively removed from "its previous point of access" or original URL. In fact, *Lost Art* is included as the only case study in "Section 1" of this part of the *STSR*, under the heading of "projects expected to be in active creation or ongoing maintenance phases for fewer than 3 years from today."⁴⁷⁰ This is admittedly attributable, in part, to the fact that the author of this dissertation also co-wrote this section of the roadmap. Still, intentionally retired projects remain incredibly rare.

If visitors arrive to the current *Gallery of Lost Art* page with any doubt as to its status, they need only read the banner text now dominating the homepage: "THE GALLERY OF LOST ART HAS BEEN ERASED" (see Figure 5.19) to confirm that the site is no longer available in its initial manifestation (or, at all).⁴⁷¹

⁴⁶⁹ Mundy and Burton, "Online Exhibitions," 2013.

⁴⁷⁰ VMW, "Module A2: How long do you want your project to last?" accessed August 8, 2018, <https://sites.haa.pitt.edu/sustainabilityroadmap/a2-longevity/>.

⁴⁷¹ Between February 8, 2011 and November 21, 2018, <http://galleryoflostart.com/> was crawled by the Internet Archive Wayback Machine 127 times. However, the captures taken during the active lifetime of the project feature only the "About" text from the online exhibition.



Figure 5.18 Homepage of *The Gallery of Lost Art* Archive Site, Courtesy of Mark Breslin

After July 1, 2013, the Tate replaced the active version of *The Gallery of Lost Art* with an archive of the exhibition. The archive is comprised of a brief project description of the exhibition and sixteen screenshots of the active site, as seen within the framework of an unidentified browser window (Figure 5.20). Ten of the scholarly essays from the show are also available for PDF download, as well as links to eleven of the streaming Vimeo videos that were commissioned for the online exhibition. All of these content samples are provided without context, however, so stand as individual packages of information rather than linked components of a unified exhibition. The *Lost Art* team also selected ten samples of the types of press releases

or public responses that were garnered during the active lifetime of the project. Of these links, however, four have broken in the last five years, so only 60% remain valid.⁴⁷²

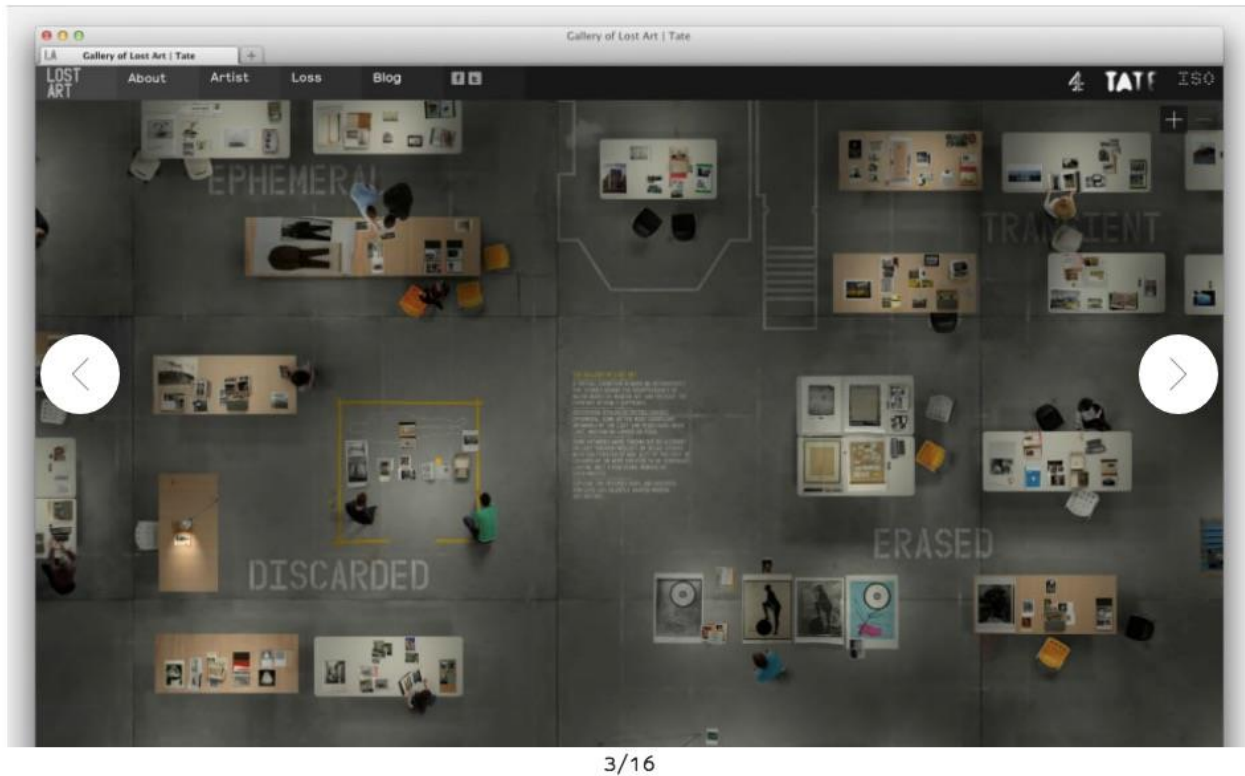


Figure 5.19 Screenshot Slideshow on the Archived *Lost Art* Site, Courtesy of Mark Breslin

In addition to providing a list of project credits at the base of the page, the *Lost Art* archived website serves to direct visitors towards its social media outlets. Indeed, social media played a significant role in the community-building efforts surrounding the exhibition, and these activities were documented during the site's active phase. Members of *The Gallery of Lost Art* team used Storify to gather mentions of the exhibition on Twitter and Facebook, as well as the RSS feeds of blogs and news sites. Between July 2012 and 2013, 152 relevant articles and posts

⁴⁷² C4, ISO, and Tate, “*The Gallery of Lost Art*,” accessed August 13, 2018, <http://galleryoflostart.com/>.

were published.⁴⁷³ Coincidentally, Storify was shut down on May 16, 2018, so content that was aggregated on the platform disappeared after that date. The “Storify End-of-Life” page recommended that customers export content and linked assets in HTML prior to their destruction.⁴⁷⁴ Such changes to third-party content will likely continue to pose challenges to the guardians of *Lost Art*’s archive page, and it is unclear whether they will continue to migrate content accordingly.

5.4 Socio-Technical Infrastructure

As Anne Collins Goodyear reported in a 2016 review of the Online Scholarly Catalogue Initiative, “the important interconnection” of a team of scholars “becomes even more obvious in the digital era.”⁴⁷⁵ Goodyear’s statement rings true for *Lost Art*, a project that was inter-institutional from the beginning. In the case of this project, the three organizational collaborators arrived with expertise related to certain aspects of the project, and then had to learn how to communicate with one another. Tate conducted significant research and curated much of the show, while ISO adopted chief responsibility for design. C4, meanwhile, provided significant

⁴⁷³ The website is no longer accessible, but was accessed by the author prior to the deletion of the Storify content. <https://storify.com/GalleryLostArt/gallery-of-lost-art-mentions>.

⁴⁷⁴ “Storify End-of-Life,” accessed August 13, 2018, <https://storify.com/faq-eol>; This change occurred during the active data-collecting phase of this dissertation, so the researcher sent an anxious follow-up email to the ISO team about the status of their Storify content. Smith noted that ISO managed to export all of *Lost Art*’s Storify archive through Wakelet, a similar link-aggregating website, so the link to “Selected Responses” on the *Lost Art* site now redirects to the Wakelet page.

⁴⁷⁵ caa.reviews, “*The Getty Online Scholarly Catalogue Initiative (OSCI)*,” October 6, 2016, <http://www.caareviews.org/reviews/2880>.

production support. ISO established the technical origins of the site, in close conversation with C4 and Tate.

The project incorporated hybrid processes that combined analogue and digital approaches to particular problems. For example, the design of *Lost Art* was first visualized through a physical staging of the warehouse set. ISO designers started with a studio shoot that approximated the warehouse/gallery environment that they then recreated online. The set included tables, folders, and additional ephemera, as well as human actors discovering the space. According to Smith, the ISO team were “keen to explore a photo-realistic place that wasn’t restricted to CGI visualization.” Figure 5.21 demonstrates how the team members printed photos and scans of the environment and physically arranged and glued elements together to establish the plan for the online exhibition. This hands-on approach was then translated into its digital equivalent. Breslin notes that the designers used *After Effects* “as the main comping tool,” or method for creating composite images for the website. He added that *After Effects* is more “traditionally used for motion graphics,” but was well suited for the purposes of *Lost Art*.



Figure 5.20 Photo of Design Process, Courtesy of Mark Breslin

Flash was the only plug-in required for viewing the exhibition content, and Breslin writes that this “would have been standard or pre-installed” on most machines “at the time,” an important factor for a project that strove to “avoid any tech barriers” and promote accessibility. Smith further explained that ISO elected to use Flash because “it was then the best online delivery format for interactivity and a mix of rich media.” He added that, at the time of the project’s creation, “HTML5 was still in its infancy.” Particularly because of its short lifespan, *Lost Art* represents a technical time capsule, demonstrating the possibilities and challenges

unique to the early 2010s. The designers were not overly concerned about Apple's decision to stop supporting Flash on iPads, announced by Steve Jobs in 2010.⁴⁷⁶ The site creators never intended for the project to be viewed on mobile devices, nor were they interested in developing an app in conjunction with the exhibition. In fact, Breslin suggested that the experiential/visual experience they developed "would have been compromised on a phone." Smith reiterated that ISO wanted to facilitate exploration primarily "via a large screen."

The curatorial processes occurring at the Tate were less well documented, but Mundy provided the following simple explanation of how work proceeded on their end:

The research was greatly helped by assistants preparing dossiers of photocopies and sometimes copies of archival materials (a rare luxury). The aim was not to go deep, but to construct engaging narratives that illustrated different issues in the broader theme of loss.⁴⁷⁷

It seems that the research practices involved in the *Lost Art* project were relatively similar to those adopted for physical exhibition planning, but were certainly more collaborative.

5.5 Impact

Lost Art is presented as an exemplar of virtual immersive environments in Lord and Piacente's 2014 *Manual of Museum Exhibitions*.⁴⁷⁸ Anna Dezeuze described the exhibition as "excellent," in her 2016 publication: *Almost Nothing: Observations on Precarious Practices in Contemporary Art*. In Zoë Ryan's *As Seen: Exhibitions That Made Architecture and Design*

⁴⁷⁶ Steve Jobs, "Thoughts on Flash," April 2010, <https://www.apple.com/hotnews/thoughts-on-flash/>.

⁴⁷⁷ Mundy, Email to author, June 12, 2018. Jane Burton, who is no longer at the Tate, was unavailable for comment.

⁴⁷⁸ Lord and Piacente, "Virtual Experiences," 193.

History (2017), Paola Antonelli suggests that projects such as *Lost Art* have succeeded at demonstrating a key change in how digital technology is incorporated into the museum, as an institution. In her review of *Lost Art*, Antonelli concludes that the “the digital is no longer merely in service of the physical, and archives are not composed of just catalogues and ephemera in file cabinets.”⁴⁷⁹ Antonelli presents *Lost Art* as an ideal model of how digital projects can succeed within the space of the art museum.⁴⁸⁰

Among other achievements, *The Gallery of Lost Art* won a 2013 Design Week award in the category of “Interactive Design,” as well as a Museums + Heritage Innovations Award at the 2013 Museums + Heritage Show, an annual trade exhibition held in the United Kingdom. The project also won the 2013 South by Southwest Festival (SXSW) Interactive Award, and was presented at the International Documentary Festival Amsterdam Interactive Conference where it was nominated for the DocLab Award for Digital Documentary Storytelling. Further, *Lost Art* received a nomination for the 2013 Webby Awards, a series of awards presented by the International Academy of Digital Arts and Sciences. It was also covered in such large press venues as *The New York Times*, *The Huffington Post*, *Wired* and *The Guardian*, among others.⁴⁸¹

Still, site contributors—and particularly the curators—found it challenging to accurately quantify the value of their work, in some instances. Although the *Lost Art* team was comprised of skilled and experienced professionals, they faced an uphill battle in terms of demonstrating the

⁴⁷⁹ Ryan, *As Seen*, 106.

⁴⁸⁰ Ryan, *As Seen*, 106-108.

⁴⁸¹ Doreen Carvajal, “Where to Go to See Stolen Art,” *New York Times*, October 22, 2012, <https://rendezvous.blogs.nytimes.com/2012/10/22/where-to-go-to-see-stolen-art/>; Priscilla Frank, “Tate Gallery Of Lost Art Displays Destroyed Francis Bacon Work In Digital Archive,” *Huffington Post*, November 12, 2012, https://www.huffingtonpost.com/2012/11/12/francis-bacons-study-for-n_2102330.html; Watercutter, “Virtual Gallery Shows,” 2012.; Jonathan Jones, “Now you see them: the eternal allure of lost art,” *The Guardian*, July 1, 2012, <https://www.theguardian.com/artanddesign/2012/jul/01/gallery-of-lost-art>.

significance of their digital project. Mundy and Burton attributed this struggle to resistance within and among the museum community. Even though the site presented an exhibition that was “curated,” and therefore already motivated by the concept of “added value,” as articulated by Neil Beagrie, many in the art world have difficulty “accepting the intellectual value of sites designed for mass audiences.”⁴⁸²

Decisions about the project’s longevity directly correlated to engagement with the online exhibition. Visitors to *Lost Art* felt a sense of urgency because of the very visible reminders of the transient nature of the website. A countdown to the date of “destruction” appeared at the base of every webpage (“Lost in – X Days, X hrs & X mins), and notifications on social media sites such as Facebook and Twitter reminded the public of the website’s imminent disappearance. Smith writes that the ticking clock on the exhibition website caused “some consternation from visitors in the final weeks,” and even incited a short-lived online petition entitled “Save Lost Art.” Antonelli suggests that this kind of “friction” is productive in that it instills a “fear of missing out” among potential visitors. She argues that “giving less—less comfort, less time, less aesthetics—and expecting more appreciation of challenging content from the audience” might actually be a key component of a successful digital project or “happening.”⁴⁸³

By executing all of the previous components, the *Lost Art* project managers aimed to avoid creating yet another online exhibition that was exclusively didactic or one-dimensional. The site was both jarring and intriguing, conveniently accessible for a time, and then completely erased.

⁴⁸² Beagrie, “Digital Curation for Science,” 2008; Mundy and Burton, “Online Exhibitions,” 2013.

⁴⁸³ Ryan, *As Seen*, 108.

5.6 Conclusion

At the end of the project's tenure, Mundy and Burton wrote the following reflection on the exhibition:

Creativity, aesthetic sensitivity, scholarship, and intellectual authority can flourish in the online sphere, and it would seem that nowadays the door is wide open for museums to enter this new territory with the same conviction and passion that currently frame in-gallery exhibitions.⁴⁸⁴

In a sense, the curators' assessment is a call to action; a reassurance of the scholarly value of this type of unconventional project. However, the proof of their statement may rely on the replicability of this kind of venture. The Tate has not produced another online exhibition in the six years since *Lost Art*'s launch. Could the Tate take on a similar project, and how would their approaches vary? Neither the curators nor the designers published standards or best practices in the wake of the project. In looking back, Breslin reflected that, although ISO is interested in examining and incorporating standards in their work, there is really no "one size fits all" when it comes to digital projects.⁴⁸⁵ There is not a specific formula for success. He added that, "by their very nature, sites are 'usually' designed" to evolve and change in response to the content. Since *Lost Art* found a permanent solution to the longevity question, the project offered just one (compelling) solution to the sustainability conundrum. The issue of creating replicable and sustainable processes for digital projects remains extant.

Mundy and Burton ended their 2013 essay, "Online Exhibitions," on a hopeful note, stating that they could,

⁴⁸⁴ Burton and Mundy, "Lost Art...Going, going, gone," 2013.

⁴⁸⁵ Breslin, Email to author, May 25, 2018.

...identify today a number of styles of online exhibition that come closer to creating a parallel experience to that of a physical visit, sometimes seeking to harness and activate the things that, arguably, can be done better in the digital realm than in the gallery.

Mundy and Burton again reveal a desire to equate the online exhibition with the in-gallery experience. With this claim, the curators also may have sounded the alarm for certain curators and museum administrators who rely on foot-traffic for the success of their individual institutions. To this, Mundy and Burton have provided the reassurance that “real objects in real spaces” are still “unique and special (and worth making the special trip).” There is something “about seeing the artworks in the flesh that the digital realm simply cannot offer.”⁴⁸⁶ As the timeline in Chapter 4 demonstrates, there has not been a significant influx of online exhibitions since 2013, as digital preservation issues continue to rear their menacing heads.

For this reason, and since *Lost Art* dealt with art objects that could not be seen in the flesh, anyway, it represented less of a threat to the traditional museum exhibition. The website also benefitted from borrowing structures that are present in gallery shows including, most notably, an opening and closing date. Indeed, a great deal of the project’s success may be attributable to its approach to longevity. *On Performativity*, discussed in the next chapter, also deals with “lost” work, but in a markedly different way.

⁴⁸⁶ Burton and Mundy, “Lost Art...Going, going, gone,” 2013.

6.0 On Performativity

***How does the strong focus on presence that comes with art's turn to the experiential relate to the idea of a historical memory that is constituted by and through art?*⁴⁸⁷**

The Living Collections Catalogue (LCC) is an ongoing project that first emerged under the auspices of a broader, grant-funded initiative conceived by the Getty Foundation, and partly responds to the above question, posed by Dorothea von Hantelmann. Indeed, Hantelmann directly addresses the tension between documentation and ephemerality, a topic that receives considerable coverage in this chapter. Although the *LCC* is a decidedly idiosyncratic project, stamped with the distinct Walker brand, it is also the product of a multi-year collaboration informed by conversations with the larger Getty group. In 2009, the Online Scholarly Catalogue Initiative (OSCI) project gathered nine institutional participants around the topic of developing online catalogues within the space of the art museum. Unlike the other participants in the project, the Walker team endeavored to produce an online catalogue about ephemeral artwork, challenging the notion of objecthood and documentation as they are traditionally envisaged in the museum. Furthermore, through cataloguing performativity, the Walker raised questions about the status of such works in institutional collections and exhibition practices. The OSCI project was considered successful, and is featured in the fourth chapter of *Museums in the Digital Age: Changing Meanings of Place*, Susan Smith Bautista's 2013 publication and was reviewed in *The Art Bulletin*, a publication of the College Arts Association (CAA), in 2017.

⁴⁸⁷ Dorothea von Hantelmann, "The Experiential Turn," *On Performativity*, accessed June 14, 2018, <https://walkerart.org/collections/publications/performativity/experiential-turn/>.

6.1 Introduction

6.1.1 The Online Scholarly Catalogue Initiative (OSCI)

Robin Dowden, former director of Technology and New Media Initiatives at the Walker Art Center, actively participated in the OSCI project from its infancy through to its conclusion, and traveled to the Getty with Kathy Halbreich, former director of the Art Center, and other museum directors, to have discussions in advance of the formation of the official granting initiative. Dowden suggests that the Getty developed OSCI as a means of identifying a challenge in the field, and then finding “institutions...to help figure out what the problem was, and what the potential solutions were.”⁴⁸⁸ From the beginning of the grant period, the Getty took a hands-on approach, asking institutions “to tell us what you need,” rather than just dispersing funds. Dowden recalls that the main challenge, in those early days, was that “nobody knew what they needed.”⁴⁸⁹

To facilitate collaborative exchanges, the Getty first invited project representatives to attend workshops in Los Angeles. These workshops incorporated discussions about the importance of audience analyses, authorship, and interactive engagement to digital scholarship. In addition, workshop participants were asked to consider immediate, practical questions (about handling rights and reproductions issues, and developing information hierarchies, for example) as well as more ambiguous and intangible ones (relating to measuring “greater” impact or

⁴⁸⁸ Interview with Robin Dowden, June 11th, 2018.

⁴⁸⁹ Interview with Dowden.

success, and determining the broad meaning of these types of projects).⁴⁹⁰ Upon returning to their respective institutions, each of the project teams had to take these wide-ranging conversations and apply them to the task of producing an online catalogue that related to the museum's collections.

Although there were preliminary efforts to collectively develop a cross-institutional software for the purposes of online publishing, Dowden recalled that “that kind of quickly fell apart.”⁴⁹¹ The Art Institute of Chicago did conceive of an open-source OSCI Toolkit for the purposes of “broad dissemination” that was then developed by the Indianapolis Museum of Art, but the Toolkit is no longer maintained (as of 2017) and was not widely adopted.⁴⁹² In the end, each of the institutions took a relatively unique approach to the project, and produced various interpretations based on the original prompt. No particular tool or platform emerged as a common link among the institutions. Still, the participants shared certain challenges and successes in common, and the Getty published a final report in 2017, providing “Nine Lessons Learned,” alongside other reflections on the successes and failures of the initiative.⁴⁹³

As the third chapter of this dissertation illustrates, the *Living Collections Catalogue*, the Walker's contribution to the Getty initiative, was unique within the OSCI cohort for a number of reasons. Most notably, the Walker was the only institution in the group that elected to create a catalogue about ephemeral artwork, rather than tangible objects in their collection. Therefore, it

⁴⁹⁰ Brooke Kellaway, “Walker + Getty, part II: Amped up after a Couple of Days in LA,” *Walker Art Center: Sightlines*, December 15, 2009, <https://walkerart.org/magazine/walker-getty-part-ii-amped-up-after-a-couple-of-days-in-la>.

⁴⁹¹ Interview with Dowden.

⁴⁹² OSCI Toolkit, “OSCI Toolkit,” accessed December 1, 2018, <https://www.oscitoolkit.org/>.

⁴⁹³ Getty Foundation, “OSCI Final Report: Museum Catalogues in the Digital Age,” accessed December 5, 2018, <http://www.getty.edu/publications/osci-report/>.

is also the sole institution that was completely reliant on archival material, including photographs and time-based media, for the production of its online catalogue. Finally, and importantly, the Walker catalogue's appearance differed the most from a physical exhibition catalogue, as it emulated a journalistic approach to displaying content. SFMoMA's *Rauschenberg Research Project* is also quite unconventional in its layout, but appears to still have much in common with a traditional collections management database.⁴⁹⁴ The *LCC*, meanwhile, overflows with opportunities to investigate the challenges inherent to projects that diverge the most from traditional forms of museum scholarship.

6.1.2 *The Living Collection Catalogue*

In 2008, the Getty approached Olga Viso, former Executive Director at the Walker Art Center, to inquire about involving the organization in the OSCI project. Viso proceeded to assemble a team of museum staff to move forward with a proposal for the Getty, and the Walker began to generate an ambitious agenda. With an initial planning grant of \$200,000 from the Getty, the Walker started to conceptualize its *Living Collections Catalogue* in 2009, committing to the development of a new publishing space, or “hybrid environment,” that would exist at “the intersection of a collections database...printed catalogue, and digital reading environment.”⁴⁹⁵ From the perspective of the *LCC* site creators, the OSCI project motivated the Walker team to

⁴⁹⁴SFMOMA, “Rauschenberg Research Project,” accessed November 3, 2018, <https://www.sfmoma.org/rauschenberg-research-project/>.

⁴⁹⁵ Walker Art Center, “Living Collections Catalogue,” accessed November 1, 2018, <https://walkerart.org/living-collections-catalogue>; “OSCI Grants Awarded,” accessed October 5, 2018, http://www.getty.edu/publications/osci-report/assets/downloads/osci_grantsawarded.pdf.

better understand “how to make something that was slightly more accessible to broader audiences.”⁴⁹⁶ Because of its format, the catalogue could extend far beyond the confines of the Walker building, and the new approach aimed to “activate the collection” for both scholars and the general public. From the beginning, the *LCC*’s architects were conscientious about how the catalogue would reflect the Walker’s vision, and also endeavored to stimulate important changes to the museum’s publishing processes.

As the name implies, the *LCC* was intended to be an ongoing venture that would continue to unveil and discuss various aspects of the Walker’s collections, but the design and maintenance processes proved to be more complex than originally anticipated. As of February 2019, there are still only two volumes: *On Performativity, Volume I* (2014) and *Art Expanded, 1958-1978* (2015), although others are reportedly in development.⁴⁹⁷ This chapter focuses on the first catalogue, in part, because it stands as the original testing ground for the new, experimental practices involved in carrying out the OSCI project at the Walker. *On Performativity* is also uniquely independent, existing entirely on its own scholarly merit, whereas *Art Expanded* had a physical counterpart in the Walker’s galleries from June 14, 2014 through March 8, 2015.⁴⁹⁸ As such, the first volume remains the only stand-alone online catalogue produced by the institution.

Finally, the first volume is constructed around the subject of performativity, an inherently transitory art practice, so the catalogue raises unique questions about intentionality and preservation. As an institution, the Walker embraces the notion of hybridity, particularly in

⁴⁹⁶ Interview with Emmet Byrne, June 19, 2018.

⁴⁹⁷ Interview with Byrne, June 19, 2018.

⁴⁹⁸ Walker Art Center, “Walker Art Center Surveys Radical Shift in 20th Century Art, Film, and Performance with *Art Expanded, 1958-1978*, Opening June 2014,” accessed August 1, 2018, <https://walkerart.org/press-releases/2014/walker-art-center-surveys-radical-shift-in-20>.

relation to its collection of non-traditional artworks, and the Art Center has never been afraid to straddle various boundaries. “We seek out projects and artists that live between disciplines whose work could be framed as exhibition and as a performance,” states Philip Bither, Senior Curator of Performing Arts at the Walker in the 2018 publication, *Histories of Performance Documentation: Museum, Artistic, and Scholarly Practices*.⁴⁹⁹ Bither’s statement places performance and exhibition in parallel, as potentially interchangeable, artistic expressions.

The Walker has a long-standing relationship with the Minneapolis performing arts community, and has thereby gained the trust and support of local artists. In fact, the Guthrie Theater was physically linked to the Walker from 1963 to 2006 (T.B. Walker donated the land behind the Walker building to Sir Tyrone Guthrie’s company), and programmatic collaborations flourished.⁵⁰⁰ The Walker’s allegiance to performative art was further secured in 2005, when the institution initiated a program of collecting these types of works that continues in 2019.

6.1.3 On Performativity

The OSCI project’s agenda was formidable from the beginning, and the Walker added further layers of complexity in its interpretation of the online exhibition catalogue. The institution took two ephemeral phenomena, performance and exhibition, and endeavored to produce a quasi-permanent digital catalogue preserving these events. This approach, in essence, attempts to achieve the impossible, and to invert the performance paradigm, by guaranteeing the

⁴⁹⁹ Philip Bither, “Walker Art Center, Minneapolis,” in *Histories of Performance Documentation: Museum, Artistic, and Scholarly Practices*, eds. Gabriella Giannachi and Jonah Westerman, (London: Routledge, Taylor & Francis Group, 2018).

⁵⁰⁰ Bautista, *Museums in the Digital Age*, 59-60.

long-term persistence of these artworks. As primarily time-based events, exhibitions also only remain persistent through documentation. The Walker's approach runs counter to the premise of the traditional western archive, as articulated by Rebecca Schneider in her 2001 article, "Performance Remains." Schneider wrote, in relation to traditional perceptions of performance, about how, "in the museal context...performance appears to challenge object status and seems to refuse the archive its privileged 'savable' original."⁵⁰¹

Through their consideration of the issues arising around performative art, the *LCC* team both intentionally and unintentionally highlighted key assumptions and concerns about digital preservation and sustainability. Indeed, *On Performativity* was originally created to address the unusual challenges posed by what former Walker curator, Elizabeth "Betsy" Carpenter, describes as "performative" artworks. In describing these unique pieces, Carpenter emphasizes that the Walker approaches the ownership of performative work through stewardship, and strives to catalogue this art accordingly. While this dissertation is not explicitly concerned with the ethics surrounding these collections practices, it is worth noting the complicated nature of "owning" ephemeral art. This is particularly problematic in the digital era, as ownership can easily be misrepresented in, or completely absent from, collections databases and other forms of digital scholarship. Provenance information, sometimes captured retroactively via performance and exhibition histories, is difficult to establish.

Regardless, the Walker decided to focus on five performance pieces rather than any of the approximately 12,000 objects in their collection.⁵⁰² Interestingly, the Walker staff reportedly

⁵⁰¹ Rebecca Schneider, "Performance Remains," *Performance Research* 6, no. 2 (2001):100-108, DOI: 10.1080/13528165.2001.10871792 101.

⁵⁰² Kellaway, "Walker + Getty, part II," 2009.

take “a liberal approach to obtaining rights.” The organization does not, “as a matter of practice, obtain permission to use images of works in their own collection on their website and continued this practice” with *On Performativity*.⁵⁰³ While this unorthodox approach to image usage places the Walker in a vulnerable position, it explains why the institution may have felt less concerned about the practicability of maintaining the *LCC* catalogues into the foreseeable future.

Ostensibly, they did not have to worry about sustaining copyright fees. However, the metadata accompanying such objects may consequently provide an incomplete portrait of the work at hand.

However, the Art Center *did* have to invest in the socio-technical infrastructure of their project. The online catalogue required input from a range of experts. Contributors arrived from the new media, publications, visual arts, and education departments, so the initial team incorporated staff from disparate corners of the museum. These four nodes, covering a range of skills and expertise, were ideally positioned “to innovate.”⁵⁰⁴ Carpenter became the curatorial lead of the initiative, while Dowden simultaneously managed the grant and directed all new media contributions throughout the grant period. Andrew Blauvelt, former Director of Publications, and Sarah Schultz, Director of Education at the time, were also part of the core initial team. As is often the case within museums, this constellation of contributors (or “rotating cast of characters”) shifted somewhat as individuals entered or exited the Walker over the course of the project’s five-year lifespan.⁵⁰⁵

⁵⁰³ Getty Foundation, “Lesson 8,” *OSCI Final Report*, accessed February 13, 2019, <https://www.getty.edu/publications/osci-report/lessons-learned/#lesson-8>.

⁵⁰⁴ Interview with Eric Crosby, May 21st, 2018

⁵⁰⁵ Interview with Crosby.

6.2 Project Scope

6.2.1 Intellectual Goals

*We are redefining what we mean by collections, changing our documentation systems and processes, and instituting a new publication series that will remain part of our schedule in perpetuity.*⁵⁰⁶

According to Brooke Kellaway, one of two full-time Getty Research Fellows who were hired as part of the OSCI grant, the project planning stage lasted from 2009 to 2010, and incorporated trips to the Getty for workshops and far-reaching discussions about digital scholarship. In Kellaway's words, the first phase required "thinking up appropriate ways to select from, and to dynamically assemble, unprecedented amounts of available information into a viable user interface."⁵⁰⁷ In addition to traveling to Los Angeles for the OSCI gatherings, the Walker hosted their own workshops related to the topic of cataloguing performance.

One such workshop brought together museum and information professionals in November of 2011, and provoked both philosophical and logistical questions about documenting performance. For example, workshop participants contemplated: What does cataloguing performance mean? Does the institution take similar approaches to cataloguing something that was commissioned by the host museum, versus something that was acquired? Does the museum attempt to track every instance of a work being performed, from the past and into the future?

⁵⁰⁶ "Walker Art Center Launches New Online Collections Catalogue with Volume 1: *On Performativity*," Walker Art Center, accessed August 1, 2018, <https://walkerart.org/press-releases/2014/walker-art-center-launches-new-online-collect>.

⁵⁰⁷ Brooke Kellaway, "Walker + Getty," *Walker Art Center: Sightlines*, November 13, 2009, <https://walkerart.org/magazine/walkergetty>.

Susannah Schouweiler documented the 2011 workshop in a blog post published to the Walker's "Fourth Wall" section, recalling how Dowden and Jim Leija encapsulated the inherent complexity of performative art collections by calling them "living archives."⁵⁰⁸ In other words, these collections have a tendency to evolve and change, like an organic organism.

As the Walker workshops confirmed, the *LCC* project represented a dual challenge to the institution: the challenge of determining how to document and catalog performative works, and the challenge of deciding how to define and execute an online catalogue, under the purview of the Getty grant. The project was also initially connected to the idea of implementing a new, and more stable, Collections Management System (CMS) and thereby improving access to the unconventional collections at the Walker.⁵⁰⁹ In their use of the term "collections," the Walker includes not just the permanent collection, as it is traditionally conceived, but also the institution as it is more broadly comprehended.⁵¹⁰ Rather than thinking of the collection as only comprised of discrete objects, the Walker includes its intangible holdings. The Walker Art Center, therefore, aligns with Alexander's definition of a museum, described in Chapter 2. It is a multitude, incorporating research and exhibition practices while also facilitating a range of other cultural events and experiences. The collection, meanwhile, is comprised of unusual special assemblages, including "Performing Arts Commissions" and the "Merce Cunningham Dance

⁵⁰⁸ Susannah Schouweiler, "Cataloguing performance: How do you keep both history and magic alive?" *Walker Art Center: Sightlines*, November 7, 2011, <https://walkerart.org/magazine/cataloguing-performance-how-do-you-keep-both-history-and-magic-alive>.

⁵⁰⁹ Interview with Crosby.

⁵¹⁰ Interview with Dowden.

Company Collection.”⁵¹¹ Approaching the institutional collection in a holistic way, however, poses clear challenges to those attempting to harness and share that content.

In their first foray into online catalogues, the Walker team focused on creating a publication that could exist independently of any physical exhibition. In fact, all of the volumes of the *Living Collections Catalogue* were initially conceived as stand-alone publications, but this goal was thwarted, somewhat, by resource limitations.⁵¹² Catalogues usually derive momentum and secure institutional buy-in through their association with exhibitions, but these online publications sought to emphasize the importance of museum collections as they exist distinct from temporary exhibitions or other physical museum displays. Through its commitment to these works, the project was intended to catalyze institutional change. Ultimately, the Walker aimed to create “an online serial publication that would be tied to its acquisition strategies and collections-based exhibitions.”⁵¹³

According to Dowden, the project set up a series of dichotomies, “bridging the gap between the database and publishing,” and between “the iterative and dynamic nature of new media” and traditional publishing. *On Performativity* attempted to combine the best of both worlds, while also promoting the Walker’s assets. Emmet Byrne, Design Director at the Walker and contributor to the *LCC* project, provides a further comparison, describing these publications as occurring “somewhere between a rendering and a prototype: highly developed but still

⁵¹¹ “Art & Artists,” *Walker Art Center*, accessed March 7, 2019, <https://walkerart.org/collections>.

⁵¹² Interview with Crosby.

⁵¹³ Elizabeth Merritt, “Bringing a Collections Catalogue to Life,” *Center for the Future of Museums Blog*, July 31, 2014, <https://www.aam-us.org/2014/07/31/bringing-a-collections-catalogue-to-life/>.

somewhat speculative frameworks for future content.”⁵¹⁴ In other words, the *LCC* was tasked with fulfilling concrete goals while remaining sufficiently amorphous and flexible.

In a recent interview, Eric Crosby, former Associate Curator of Visual Arts at the Walker, and curatorial lead on *Living Collections*, indicated that there had “long been challenges between making the database speak to the online presentation of the collection,” and this seems to have been a widespread concern among the other art institutions involved in the Getty project as well.⁵¹⁵ Clearly, OSCI was aiming to address multiple issues at the institutional level under the guise of a one-time, digital scholarship initiative. In an interview, Dowden suggested that this sort of leveraging was also part of “the DNA of the Walker” at the time. The institution supported ventures that would simultaneously fulfill particular project requirements, but also “satisfy a broader need.” Through all of this complexity, Byrne suggests that the Art Center was embracing the broader notion of “contemporary art” as comprising “ideas and conversation” as well as objects.⁵¹⁶

Faced with complex questions about the very nature of collecting ephemeral art, and a fairly abstract interpretation of “collections” at the Walker, Dowden reports that the *On Performativity* team ultimately elected to showcase “works of art that weren’t necessarily cohesive together, but represented unique problems.”⁵¹⁷ The team incorporated works that embodied “an intellectual problem,” in part because they were excluded from the institution’s permanent collection. As such, these works were not assigned accession numbers, and “fell

⁵¹⁴ Merritt, “Bringing a Collections Catalogue to Life,” 2014.

⁵¹⁵ Interview with Crosby.

⁵¹⁶ Interview with Byrne.

⁵¹⁷ Interview with Dowden.

outside of the cataloguing systems that were already in place.”⁵¹⁸ For example, Tino Sehgal, a performance artist discussed in the seventh chapter of the catalogue, is adamantly opposed to any documentation of his performative artwork. Therefore, his art is evoked purely through descriptive text, unaccompanied by images or any material objects. In other sections, the catalogue wrestles with such issues as “the oeuvre of a deceased artist,” and the idea of “singularizing a multiple.”⁵¹⁹

Overall, the Walker team felt that performance could be presented online through the merging of image, video, and sound materials in ways that are impossible in the context of print publications.⁵²⁰ Publishing the catalogue to the Internet also provided an ideal opportunity to create a “portal” into the online collection database. Certain images, such as a photo of Jasper John’s set elements for *Walkaround Time*, link directly to the Walker’s collection management system.⁵²¹ In fact, most of the hyperlinks incorporated into the chapter texts are internal links that revert back to various parts of the Walker’s collections.

6.2.2 The Deliverable

The preceding intellectual and conceptual goals culminated in the creation of a public-facing website located at <http://walkerart.org/collections/publications/performativity>. *On Performativity, Volume I*, launched on June 30, 2014, and is divided into nine chapters. The

⁵¹⁸ Interview with Dowden.

⁵¹⁹ Brooke Kellaway, “Walker + Getty + Helio Oiticica, Katharina Fritsch, Tino Sehgal...” *Walker Art Center: Sightlines*, February 17, 2010, <https://walkerart.org/magazine/walkergettyhelio-oiticica-katharina-fritsch-tino-sehgal/>.

⁵²⁰ Interview with Crosby.

⁵²¹ Elizabeth Carpenter, “Introduction,” *Walker Living Collections Catalogue*, 2014, <http://walkerart.org/collections/publications/performativity/introduction/>.

catalogue's responsive design layout and structural elements align with the broader institutional website, which also features departmental blogs and other "news" items. By integrating these qualities, the *LCC* team were testing "the concept of a serialized magazine approach" that would look quite dissimilar from traditional scholarly catalogues.⁵²² The contributors to *On Performativity* explicitly tied the catalogue to the Walker brand by nesting the page within the institutional website and mirroring its aesthetics. The website more closely resembles the homepage of *The New York Times* than it does any of the other OSCI catalogues published in 2014-2015, and emphasizes the interconnectivity of content. This layout reflects Paul Schmelzer's statement that: "the news is first and foremost relational."⁵²³ Dowden spoke to the intentionality behind the Walker's approach, and the team's desire to "have a role in storytelling and narrative structures that were very different than just marketing."⁵²⁴

Dowden reports that the Walker "built the CMS in Ruby on Rails" for the original website, and the "archive capsules were built as custom pages using Omeka as the content management system."⁵²⁵ This complex combination of technologies offered the desired interface. Although it was considered innovative and unusual within the OSCI cohort, the *On Performativity* website adheres closely to the linear book type introduced earlier in this document. In this way, it does not stray too far from a printed catalogue in terms of layout. The homepage of the catalogue is simple, featuring the website's title and copyright information

⁵²² Interview with Byrne.

⁵²³ Paul Schmelzer, "Beyond Interface: #Opencurating and the Walker's Digital Initiatives," *Walker Art Center: Sightlines*, September 4, 2012, <https://walkerart.org/magazine/beyond-interface-opencurating-and-the-walkers-digital-initiatives>.

⁵²⁴ Interview with Dowden.

⁵²⁵ Robin Dowden, Email to the author, August 8, 2018.

superimposed over a large, color image (Figure 6.22). A navigation bar at the top of the webpage indicates the site's structure, providing an index of the catalogue's contents. Unlike *Lost Art*, *On Performativity* is self-enclosed: it has never had an associated Facebook, Instagram, or Twitter account, and did not incorporate a blog feature into its pages.

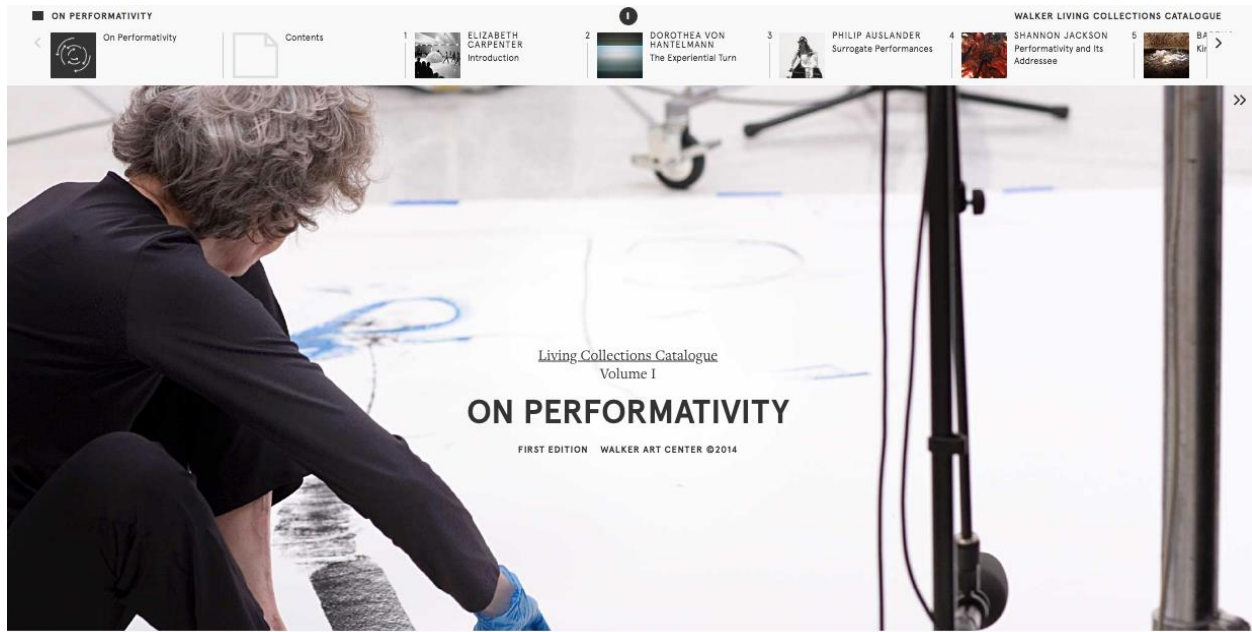


Figure 6.21 Homepage of *On Performativity*, Courtesy of the Walker Art Center

Each of the chapters in the catalogue follows a similar formula: incorporating a header image, text, photos, slideshows, and embedded videos. Beneath the title images of each chapter, there are clickable buttons for accessing lightbox-style pop-ups of each of the chapter abstracts and their recommended citation format. Similarly functioning “footnotes” are sprinkled throughout the text, for quick reference, and are included at the base of the page as well. Each of the images of artwork incorporated in the catalogue is accompanied by the relevant tombstone data: the name of the artist, title of work, dates of creation, medium and size (where available), and institutional affiliation. In some cases, accession numbers are also included. This metadata

contributes to the authoritativeness of the website, and also mimics the conventions used in identifying artwork in an in-gallery or in-print exhibition or catalogue.

Schmelzer explains how the various elements of the website combine “to create a textured and eye-engaging landscape for readers.”⁵²⁶ According to Jessica Santone’s 2017 review in *The Art Bulletin*, the catalogue succeeds in facilitating both scrolling and browsing, while, “at points, such operations seem archival, as if one is virtually opening and closing the folders of a densely packed file box.”⁵²⁷ Expandable images of archival materials appear alongside the catalogue text (see Figure 6.23).

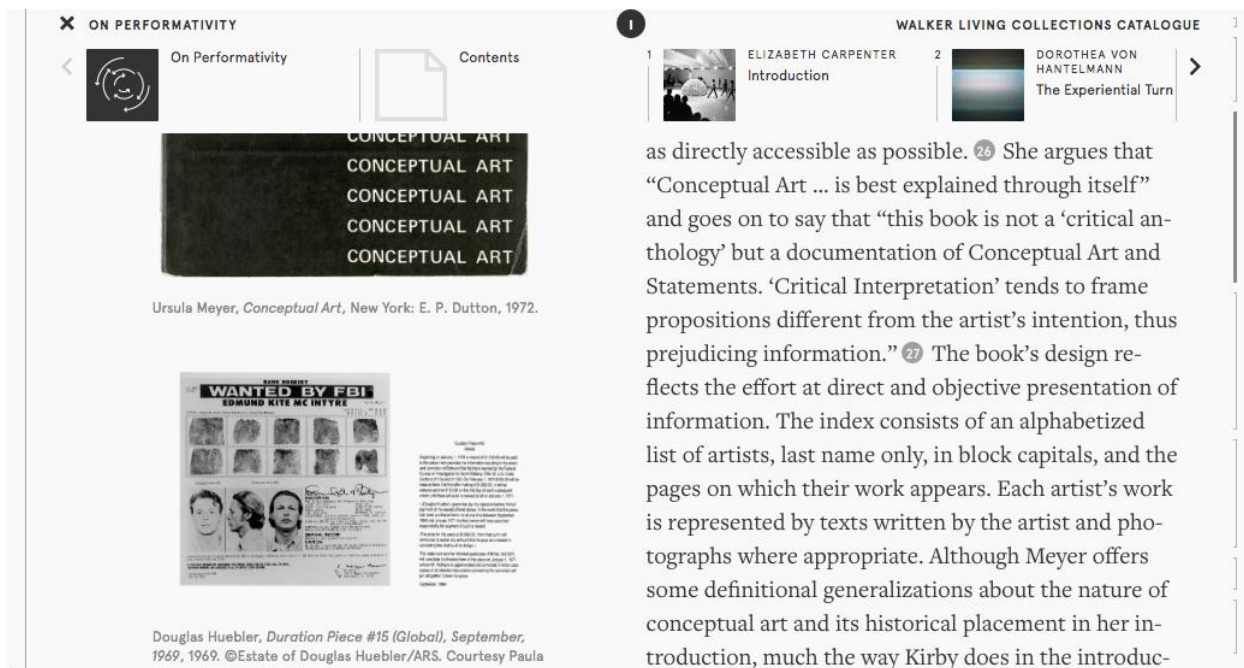


Figure 6.22 From the first chapter of *On Performativity*, Courtesy of the Walker Art Center

⁵²⁶ Paul Schmelzer, “Rethinking Collections Publishing for the Digital Age,” *Walker Art Center: Primer*, June 2, 2014, <https://walkerart.org/magazine/living-collections-catalogue>.

⁵²⁷ Jessica Santone, “On Performativity, edited by Elizabeth Carpenter,” *The Art Bulletin* 99, no. 2, (2017): 201-204, DOI: 10.1080/00043079.2017.1304671.

The catalogue is still available at its original location online and represents the “Web Content Management” approach outlined in the OSCI final report. According to the Getty, “this approach uses and enhances the systems that museums have already developed to present their collections online.”⁵²⁸ The Walker’s strategy was advantageous, in that the design of *On Performativity* was consistent with the surrounding information architecture on walkerart.org.⁵²⁹ The OSCI report refers to this consistency as “a shared ‘look and feel’ for the museum’s site.”⁵³⁰ However, the institution was simultaneously figuring out how to present their performance art collections online, so the work occurred in a somewhat ad-hoc manner. This improvisational approach to building the site’s content has resulted in significant sustainability challenges.

6.3 Longevity

Sustainability and digital preservation were an integral part of the OSCI agenda from the very beginning, and each of the project’s participants were required to fulfill certain expectations with regard to project maintenance. Dowden reflected that, from early on, “the sustainability drum was beaten long and hard,” and the OSCI museums were expected to develop a long-term maintenance plan.⁵³¹ Although the Getty never explicitly stated that the OSCI-funded projects should persist “forever,” stability and consistency are, by default, considered indicators of

⁵²⁸ Getty Foundation, “Three Approaches to Online Catalogues,” *OSCI Final Report*, accessed February 13, 2019, <https://www.getty.edu/publications/osci-report/three-approaches/#web-content-management>.

⁵²⁹ Carpenter, “Introduction,” *Walker Living Collections Catalogue*, 2014.

⁵³⁰ Getty Foundation, “Three Approaches,” *OSCI Final Report*.

⁵³¹ Interview with Dowden.

authoritative, digital scholarship. For the Walker, digital preservation and scholarly authority are also closely intertwined. The team wanted to ensure that the publication would be citable, with a stable URL that could be circulated worldwide “in the future” or “in perpetuity,” vague references to longevity.⁵³² Long-term persistence was, therefore, the goal of the Walker, and presumably, other OSCI participants.

In their initial conversations with the broader OSCI group assembled at the Getty, participants agreed that the portable document format (PDF) was still the most stable option for the purposes of preservation.⁵³³ However, institutional representatives also recognized that the PDF format “doesn’t take advantage of any of the features offered by online publishing.”⁵³⁴ The tension between functionality, usability, and sustainability still remains unresolved, as institutions feel compelled to include the bells and whistles afforded by new technologies but cannot predict the longevity of these elements.

Some institutions, including the Walker, are retroactively creating PDF versions of their online catalogues in an effort to capture snapshots of the original sites. Byrne reports that *On Performativity*’s site contents were never available in one, complete PDF, but that “we are planning to make this available” in the next phase of the Walker’s website redesign.⁵³⁵ Temporary exhibitions and performances are inherently bloom-and-fade, in that they are intended to exist, vibrantly, for a short amount of time, and then disappear (like *The Gallery of*

⁵³² Interview with Crosby and with Dowden.

⁵³³ “A PDF is a familiar format to readers and can be archived, assuring that it will “last” in the online environment,” Getty Foundation, “Lesson 2,” *OSCI Final Report*, accessed February 13, 2019, <https://www.getty.edu/publications/osci-report/lessons-learned/#lesson-2>.

⁵³⁴ Getty Foundation, “Museum Catalogues in the Digital Age: A Final Report on the Getty Foundation’s Online Scholarly Catalogue Initiative (OSCI),” (J. Paul Getty Trust, 2017), 19, <http://www.getty.edu/publications/osci-report/assets/downloads/osci-report.pdf>.

⁵³⁵ Emmet Byrne, Design Director and Curator, Walker Art Center, Email to the author, June 19, 2018.

Lost Art, as well). Digital projects have a similar proclivity to fade when they are neglected or abandoned, yet they are not considered innately ephemeral.

From the initial planning stages, the Walker intended to create “a sustainable publishing platform that will be of service to academics and art enthusiasts.”⁵³⁶ Based on this foundation, the *Living Collections* was projected to expand to incorporate multiple volumes over the course of many years. Dowden emphasized the importance of persistence when she stated that “as a living publication, the success of the Walker’s project is first and foremost tied to our ability to sustain it.”⁵³⁷ She was well aware of the key obstacles to digital preservation, including the complicated decision-making processes that occur within project prioritization. Most controversially, perhaps, team members have to consider which elements are absolutely crucial to maintain, and what can be lost. Dowden mentioned that the *On Performativity* site has already degraded somewhat in the past two years, as previously-existing external and internal links have been removed, or “stripped out.”⁵³⁸

Crosby indicated that the Walker is “very lucky” to have permanent staff dedicated to design, website development, curation, and the institutional archives. However, he lamented, ambitious publishing initiatives that fall outside of the purview of normal museum activities are still very difficult to reliably fund and maintain. Still, Crosby reports that “we learned from the technical limitations of the first [volume].” Indeed, *Art Expanded* attempted to move even farther from a print publication, incorporating “archival deep-dives, moving images, just more imagery than you would otherwise see.”⁵³⁹ Further, the editorial team had a better sense of how to

⁵³⁶ Walker Art Center, “Living Collections Catalogue.”

⁵³⁷ “Walker Art Center Launches New Online Collections Catalogue,” Walker Art Center, accessed August 1, 2018.

⁵³⁸ Interview with Dowden.

⁵³⁹ Interview with Crosby.

“generate scholarly content” that would feel more “native to a digital space,” so could more helpfully guide contributors to the second catalogue. The process has not been replicated since 2015, however.

Although there were efforts, at first, to somehow embed the *LCC* into the Walker’s strategic plan, these attempts were not sustained and the project has only been rejuvenated through the injection of new funds from the Andrew W. Mellon Foundation in 2016.⁵⁴⁰ Between 2015 and 2018, *On Performativity* appeared to be in the “maintenance” phase of its project lifespan, but Byrne reports that the site is now being migrated to a new system. The current Walker team wants to simplify their “technology equation” because attempting to maintain and update “seventeen technology stacks” is not sustainable.⁵⁴¹ With multiple technology stacks, a breakdown in one component guarantees the collapse of the entire system.

Emmet Byrne also informed the researcher that a third and fourth volume of *The Living Collections Catalogue* are currently in development.⁵⁴² The team is therefore in the process of rebuilding “the *LCC* experience” within the confines of the new Walker website template.⁵⁴³ This was not explicitly part of the initial project plan, but the assumption of persistence certainly was. The new system will be built on one CMS and have one backend to mitigate some of the degradation that occurs with a more complicated stack. Although it will be integrated into a new environment, the Walker designers intend to replicate the general layout of the original site

⁵⁴⁰ “Walker Art Center Awarded \$1 Million Grant from Andrew W. Mellon Foundation,” Walker Art Center, July 13, 2016 <https://walkerart.org/press-releases/2016/walker-art-center-awarded-1-million-grant-fro>.

⁵⁴¹ Interview with Byrne.

⁵⁴² Byrne said that Volume 3 will be about the Walker’s jazz commissions and Volume 4 will be about artist collectives. The latter exhibition will not necessarily be linked to any particular physical exhibition that will be mounted in the Walker galleries.

⁵⁴³ Interview with Byrne.

(navigation, article format, etc.). This emulation in a new environment will also require long-term maintenance in order to persist.⁵⁴⁴

6.4 Socio-Technical Infrastructure

Sustainability is impeded by staff attrition, according to Nik Honeysett, as “remaining staff must juggle competing priorities and new responsibilities.”⁵⁴⁵ This was certainly the case at the Walker, as several of the staff contributors to *On Performativity* left the institution over the course of the project, including members of the initial team. The project’s success relied on the skills and expertise of disparate staff members, and as this web of experts gradually and organically dismantled over time, opportunities for developing a socio-technical roadmap also disappeared. The OSCI grant invited the participating institutions to experiment with new modalities and develop unique research and design synergies across various departments, but these proved difficult to sustain.

As the previous section began to demonstrate, the processes involved in mounting these online catalogues require staff to step outside of their traditional roles. In an interview, Dowden described how the different approaches to project management contributed to the complexity of this particular endeavor. Prior to working on the *LCC*, the New Media Department operated as an “Agile development shop,” while publications staff were accustomed to cycling through an editorial process that was more aligned with the production of print material. Even though the

⁵⁴⁴ Again, these were the plans according to Byrne, as of 2018.

⁵⁴⁵ Honeysett, “The Transition to Online Scholarly Catalogues,” 1997.

eventual product was digital, the publications department wanted physical print-outs of all the catalogue's elements throughout the development process. In her reflection on the project, Dowden stated that the entire process was "kind of a mess, and we spent a tremendous amount of time going forward and then going back."⁵⁴⁶ Honeysett, formerly of the J. Paul Getty Museum, refers to this messiness as the "additional production complexity" that results from moving beyond a simple word-processing document to something with "front-end functionality...tombstone metrics...metadata," and more.⁵⁴⁷

Crosby suggests that the processes involved in producing an online catalogue are inherently more collaborative than those that are employed for traditional print publications. Customarily, the work of curators and designers occurs separately and asynchronously, without significant overlap. In Crosby's words, "print catalogues tend to be much more curator-driven," with designers taking the curatorial text and then either heavily or lightly imprinting the catalogue through their visual interpretations of the word documents. This workflow may be best described as linear, or passing from one individual or department in one direction (see Figure 6.24).⁵⁴⁸ *Living Collections* ostensibly repelled this assembly-line approach, instead promoting a "kind of stitching together" of research and design methods amongst and between staff.⁵⁴⁹

⁵⁴⁶ Interview with Dowden.

⁵⁴⁷ Honeysett, "The Transition to Online Scholarly Catalogues," 1997.

⁵⁴⁸ Getty Foundation, "Lesson 2," <https://www.getty.edu/publications/osci-report/lessons-learned/#lesson-2>.

⁵⁴⁹ Interview with Crosby.

PRINT TEAM



Where print book workflows tend to be linear—from content creation to editing, design, production, and distribution—digital publishing requires more cross-collaboration throughout the entire project.

Figure 6.23 Print Team Traditional Publishing Approach, Image © 2017 J. Paul Getty Trust

However, the Walker did not entirely succeed in establishing an alternative approach. The Getty Research Fellows inhabited the grey zone between departments, facilitating some of the cross-pollinations, but staff were more resistant to change than originally anticipated. Crosby stated that, without these Fellows, “a project of this depth couldn’t have happened.”

After working on the first volume of *Living Collections*, Robin Dowden reported that the Walker had “a better understanding of what’s involved,” in the production of digital projects, “but the fact remains that traditional author, designer, editorial roles and workflows aren’t a perfect match with online publishing.”⁵⁵⁰ Staff members arrived with their various credentials and pre-established work titles, but were then required to acknowledge the limitations of their standard approaches to scholarly publication. Dowden spoke to the need for an interpreter, or someone “unafraid of technology” to liaise with both the new media designer and the volume

⁵⁵⁰ Merritt, “Bringing a Collections Catalogue to Life,” 2014, <https://www.aam-us.org/2014/07/31/bringing-a-collections-catalogue-to-life/>.

editor. Evidently, more time needs to be invested in articulating and assigning tasks at the earliest stage of project planning.

Although the production benefitted from the input of various experts, the work methods were not always complementary among the departments. Byrne alluded to the complicated nature of these roles and configurations by suggesting that “these digital projects require a a new kind of collaboration.”⁵⁵¹ This new collaboration necessitates a great deal of improvisation and compromise by a team of specialists. The following figure (Figure 6.25) represents an idealized version of collaboration, as envisaged by the OSCI. This illustration reveals a neatly intertwined and embedded hexagon of collaboration, with nodes flowing into one another and towards a central core of understanding.⁵⁵²

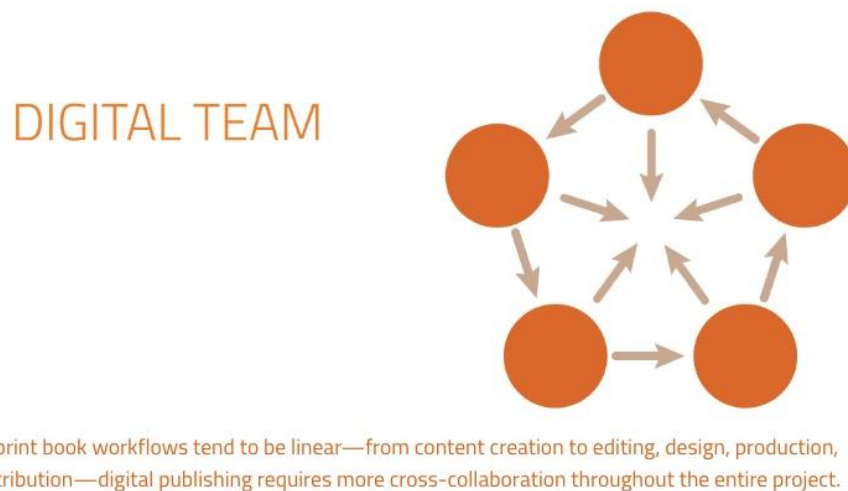


Figure 6.24 Digital Team Publishing Approach, Image © 2017 J. Paul Getty Trust

⁵⁵¹ Interview with Byrne.

⁵⁵² Getty Foundation, “Lesson 2,” accessed July 1, 2018, www.getty.edu/publications/osci-report/lessons-learned/#lesson-2.

However, the Walker's approach did not look anything like this, as the New Media team took on responsibility for new methodologies while other departments remained attached to their pre-established workflows. Dowden refers to the push and pull that occurs in a collective endeavor, but also notes that *overemphasizing* collaboration can be detrimental to a project. For the sake of efficiency and productivity, she said, sometimes "we really just have to make a decision and move on this, and we can't continue to have a conversation."⁵⁵³

As part of the planning and development stage of the project, the New Media team developed an authoring tool that was intended to better facilitate cross-departmental collaboration. The tool was also anticipated to streamline the editing process, so that authors and editors could make direct changes through the tool rather than through some middleman in New Media, or elsewhere. Unfortunately, the authoring tool was never successfully integrated into the editorial workflow, as the publications team were flummoxed by the "idea that the layout wasn't fixed" and "would change based on the size of the screen and the capacity of the browser."⁵⁵⁴ Although the responsive design was beneficial to users, the switch from fixed paper layouts to flexible digital templates proved more challenging than expected. "It was maddening!" Dowden exclaimed. Dowden also attempted to develop an editorial style guide in a Wiki environment, but these efforts were met with dismay and frustration by the more technophobic staff members. Although there was tremendous interest in online publishing, some project team members were resistant to the actual transformations needed at the process level.

⁵⁵³ Interview with Dowden.

⁵⁵⁴ Interview with Dowden.

Ultimately, Dowden did more of the editorial work on the project than planned, laying out the essays for every chapter. She had foreseen her role as “more of a managing editor.”

However, she ended up juggling multiple responsibilities:

I was managing the development of software...I was negotiating with the authors who were having trouble understanding who they were writing for, and then there was the actual processing of the bits...and I never thought that was going to be my job.⁵⁵⁵

The Walker’s experience reveals that authors and editors would benefit from writing in the “electronic environment at an early stage” so that they (or others) do not have to replicate work later. Dowden, in particular, found that curators continued to write and edit their work in a familiar environment—Microsoft Word, for example—and then needed this content to be transferred and reformatted for the online context. “There’s no way that that is a sustainable model,” Dowden said.⁵⁵⁶ This process required an intermediary to translate from one setting to another. This phenomenon also indicates the level of ambiguity that surrounds these types of projects. In particular, it suggests a lack of inter-disciplinary training among museum staff, and a need for individuals who can work at the boundaries of different departments, and receive equitable institutional support.

6.5 Impact

According to Eric Crosby, *On Performativity* benefitted from being online, but was also “very much like a print publication in a different space.”⁵⁵⁷ Dowden added that the project

⁵⁵⁵ Interview with Dowden.

⁵⁵⁶ Interview with Dowden.

⁵⁵⁷ Interview with Crosby.

adhered to certain conventions, particularly in its inclusion of exhibition histories and provenance information.⁵⁵⁸ These latter elements are especially vital in establishing the integrity of performative works, as these events do not display a “chain of custody” in the traditional sense. As such, a performance history is necessary. Honeysett pointed out in a 2011 presentation at “Museums and the Web” that these online catalogues must also compensate for their lack of the so-called “thump factor,” or the sound of a weighty book being placed on a table.⁵⁵⁹ As is often the case with traditional, published books, *On Performativity* features a colophon that includes a list of contributors as well as an ISBN number. The catalogue is also placed alongside other analog and digital works in the Walker Shop online. Listed under “Walker Publications,” the feature photo for *On Performativity* presents a selected page of the catalogue captured within the dark frame of an iPad (see Figure 6.26).⁵⁶⁰

⁵⁵⁸ Interview with Dowden.

⁵⁵⁹ Honeysett, “The Transition to Online Scholarly Catalogues,” 1997.

⁵⁶⁰ “On Performativity (Living Collections Catalogue),” Walker Publications, accessed February 13, 2019, <https://shop.walkerart.org/collections/walker-publications/products/on-performativity>.

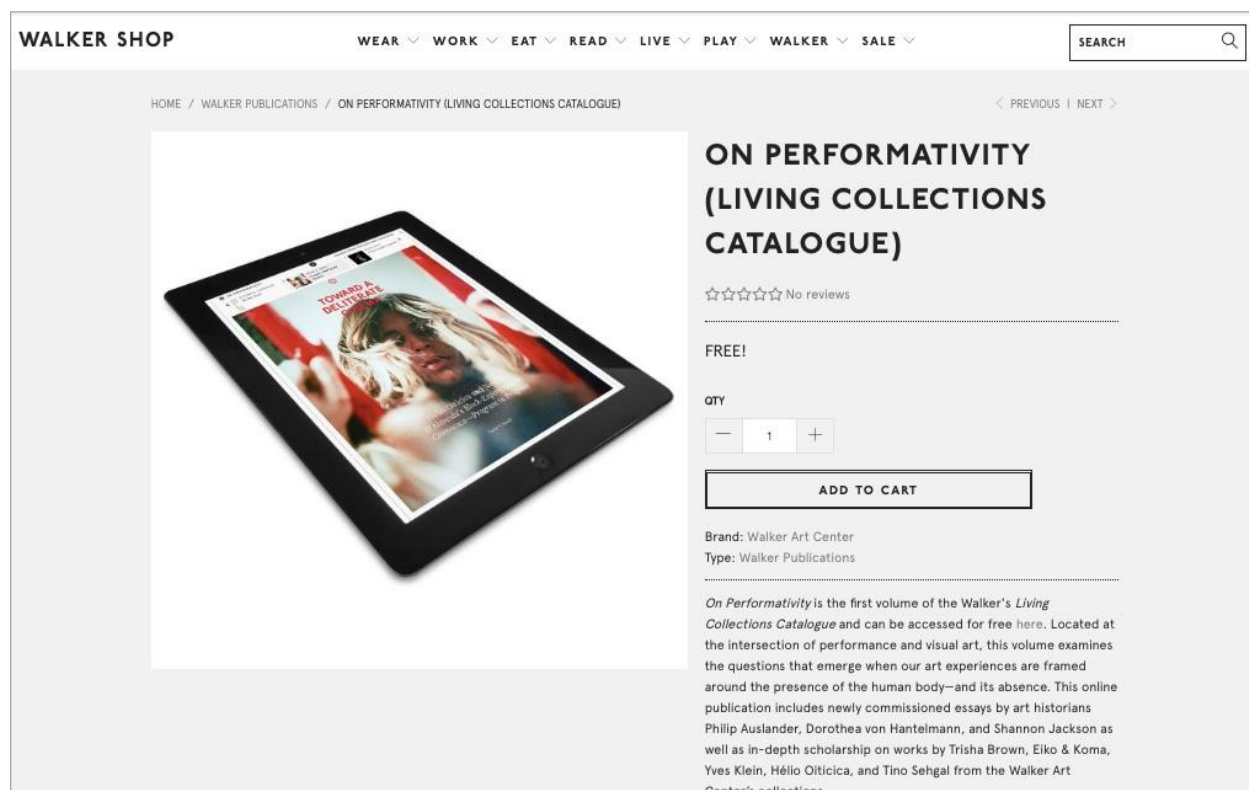


Figure 6.25 *On Performativity* Shop Entry, Courtesy of the Walker Art Center

Its inclusion on the Walker Shop, amongst print publications, increases the visibility of the online catalogue, but also infuses it with a certain degree of institutional and scholarly authority. Unlike print publications delivered by the Walker, however, the *Living Collections* “were not bound by the limitations of a print piece,” in terms of budgeting, timing, and the restrictions on incorporating new media typologies.⁵⁶¹

Crosby reported that exhibition catalogues at the Walker do not, generally, undergo a traditional peer review process. Still, he feels that the *LCC* catalogues are considered scholarly because of the perceived authority of the authors and editors (often well-known curators), and

⁵⁶¹ Interview with Byrne.

the institutional reputation, at large (or “the Walker brand”).⁵⁶² *On Performativity* featured essays by individuals who Crosby identified as “more established scholars.”⁵⁶³ The Walker also “took great pains to make sure the publication” appeared “like a scholarly, reliable source.”⁵⁶⁴ In 2009, Kathleen Fitzpatrick posited that publishing online, and “in the open,” provided a potential alternative to traditional peer review processes, and although the Walker still subscribes to the argument that “power and prestige” guarantees scholarly credibility, they were also experimenting with a more “open” model in terms of access and review.⁵⁶⁵

From early on, the Walker was concerned about instituting clear signposts of the scholarly authority of *The Living Collections Catalogue (LCC)*. The project team wanted university libraries, for example, to catalog *On Performativity* within their collection databases so that the publication would be discoverable and accessible to students and scholars. Crosby mentioned the important role that the librarians at the Walker played in disseminating the catalogue to other fine arts institutions via the library exchange system that exists among and between museums.⁵⁶⁶ Disappointingly, an external evaluation conducted by Frankly, Green + Webb in 2015 found that these efforts were not entirely successful. The researchers found that “libraries lack a standardized process for learning about and cataloging digital publications” and only eighteen libraries had actually catalogued *On Performativity*. As of August 2018, that

⁵⁶² Frankly, Green + Webb, 2016.

⁵⁶³ Interview with Crosby.

⁵⁶⁴ Interview with Crosby.

⁵⁶⁵ Kathleen Fitzpatrick, *Planned Obsolescence: Publishing, Technology, and the Future of the Academy* (New York: New York University Press, 2011).

⁵⁶⁶ Crosby stated that the library exchange at the Walker isn’t necessarily a public aspect of what they do but that the librarians sent out a communication to other museums saying “catalog this” even though we do not have a physical book to send.

number has still only grown to twenty-three, with approximately half of this number comprising libraries embedded in museums of fine art.⁵⁶⁷

The Frankly, Green + Webb report revealed other interesting findings. An independent consultancy, Green + Webb also produced an evaluation for SFMoMA's *Rauschenberg Research Project* (<https://www.sfmoma.org/rauschenberg-research-project/>), which provides a useful comparison to the *On Performativity* report. During the collection phase for both of their evaluations, Laura Mann and Alyson Webb conducted online surveys that incorporated usability questions, interviewed individuals from diverse institutions (professors, curators, librarians, and graduate students), and also ran a Google Analytics evaluation. The Walker case received 380 survey respondents, included ten interviews (three professors, four curators, two librarians, and one PhD student) and, one year of data gathered from Google Analytics (of pages containing walker.org/collections/publications between June 2014 and June 2015). The SFMoMA case received 350 survey respondents.

The Green + Webb assessments were both technical and academic, speaking to the credibility of the sites according to quantitative and qualitative measures. The evaluation ultimately affirmed some of the assumptions made by staff from both museums. For example, Walker staff were proved correct in their assumption that the “perception of the *LCC* is shaped more by the reputation of the contributors than by the lack of peer-review.” According to scholars, the key advantages to the *LCC*'s online format is its accessibility, “searchability,” “updatability,” and multimedia content.

⁵⁶⁷ The author did a search of OCLC WorldCat in August of 2018 at this link: <https://www.worldcat.org/title/on-performativity/oclc/896606536?referer=di&ht=edition>.

Green + Webb also reported that, within the surveyed community, the *LCC* was indeed being used by its intended or “primary target audience” of academics, curators, and librarians (57%). The secondary audience was comprised of museum educators and art journalists (12%), and the tertiary audience included artists and other individuals (30%). The data gathered through Google Analytics indicated that the *LCC* received 19,562 visitors during the twelve months succeeding its launch. Mann and Webb report that, with visitors from over 300 museums, universities, and library network domains, “the reach of the *LCC* is greater, and more diverse, than a comparable print catalogue.” Indeed, Webb + Mann reported that a print catalogue only receives approximately 500 visitors within a similar time frame.⁵⁶⁸

On Performativity, specifically, received more visits from users outside of the United States (55%) than from within (45%).⁵⁶⁹ The qualitative data collected from the interviews, in particular, speaks to the *LCC* project’s success in stimulating new modes of learning. Interviewees suggested that they would integrate the online catalogues into their teaching, and were impressed by the availability and quality of images within the websites. Further, scholars appreciated that the Walker included the recommended citation format both for ease of use and as a signifier of the site’s credibility.

Although this data paints a positive portrait of the catalogue’s impact, other aspects of Webb and Mann’s online survey reveal room for improvement. Indeed, of the 380 survey respondents, only 28% of the target audience indicated that they had any awareness of the *LCC* prior to receiving the survey. Still, the evaluation suggests that the quality of site visits may

⁵⁶⁸ Frankly, Green + Webb, “OSCI User Study,” Getty Foundation, April 7 2016, http://www.getty.edu/publications/osci-report/assets/downloads/osci_userstudy_franklygreenandwebb.pdf.

⁵⁶⁹ Frankly, Green + Webb, “OSCI User Study,” 2016.

outweigh the quantity of visitors. Unsurprisingly perhaps, Webb and Mann report that the *LCC* volumes were most often discovered through Google (45%). This was also the case with the *Rauschenberg* project at SFMoMA. Referrals through Facebook, walkerart.org, email, and getty.edu also occurred, but Google remained the primary access point. Discoverability could certainly be improved within the context of the Walker site, as search results did not actually incorporate linkages to relevant pages on the *LCC* site. Indeed, the site visitors wanted better search functionality within the *LCC* catalogues themselves.

Webb and Mann's report also points to problems within the current museum staff structure. A robust outreach and "ongoing communications program," an important but sometimes overlooked component of these projects, "may be outside the wheelhouse of the marketing department, while the digital and curatorial teams may lack the necessary resources or appropriate staff for a marketing effort."⁵⁷⁰ This type of promotional work may "not fit neatly into Walker departmental roles." Indeed, none of the Walker interviewees spoke about marketing efforts related to the online catalogue. Webb and Mann also offered recommendations for improving impact, by sending email blasts to prominent modern and contemporary art historians, and incorporating market research budgets into future digital project plans.

Even though a small percentage of the primary target audience may be aware of the *LCC*, this audience spends more time with *On Performativity* than with the main Walker website. For example, visitor behavior captured through Google Analytics demonstrated that users spent close to 3 minutes and 41 seconds with *On Performativity*, and only one minute, 37 seconds on the main walker.org site. Webb and Mann also reported a lower bounce rate and more frequent visits

⁵⁷⁰ Frankly, Green + Webb, "OSCI User Study," 2016.

to both volumes of the *LCC*. In terms of identifying the motivation behind visitor engagement with the site, the online survey found that visitors arrived with an interest in the form of the catalogue rather than its content.⁵⁷¹ On a Likert scale of 1-5 (1= not at all useful, and 5= extremely useful), the survey found that the audience had a very positive perception of the content on the site (within the range of 4.23-4.86). SFMoMA's range was somewhat smaller, but also similarly positive (4.26-4.63).

6.6 Conclusion

*Striking a balance between systematizing ongoing catalogue production and creating a flexible platform for feature development remains a primary goal for the team, as new research and an evolving understanding of digital publishing continue to inform the project.*⁵⁷²

In taking on the *LCC* project, staff at the Walker felt a certain confidence that arrives when an institution already has a “strong footing in the digital realm.” Crosby suggests that “so few institutions” are doing these types of projects, or “doing it well,” because they perceive such projects as overly risky. They lack the internal support structures that exist at the Walker, or at an organization like the Tate.⁵⁷³ Still, the project team had to find ways to ensure the quality of their scholarship within this new realm. As Dowden explained, “what happens around a Renoir painting isn’t the same thing that happens around a Tino Sehgal, and they didn’t see what we did

⁵⁷¹ Individuals were responding to the question: “What were your reasons for visiting/using the living collections catalogue? (please select all that apply),” Frankly, Green + Webb, “OSCI User Study,” 2016.

⁵⁷² Interview with Dowden; “Walker Art Center Launches,” Walker Art Center, accessed August 1, 2018, <https://walkerart.org/press-releases/2014/walker-art-center-launches-new-online-collect>.

⁵⁷³ Interview with Crosby.

as scholarship.” So, the Walker not only needed to guarantee the functionality of the catalogue, but also had to establish itself on “some other level of discourse.”⁵⁷⁴ Since *On Performativity* deals with artwork that is already difficult to define and describe, and remains outside traditional museum collections, the catalogue had to persuade readers that the content on the site was credible.

At least hypothetically, the *Living Collections* also provided an online platform that could continue to be updated over time. The greater problem, however, emerges when institutions attempt to embed these types of processes into the production schema and development cycles that already exist within an institution. Similar to the Walker, SFMoMA discovered that the biggest obstacle to project maintenance and integration into institutional schedules was “skills retention in the face of staff retention,” something that is not in fact “inherent to digital projects.” This challenge remains outstanding. In Byrne’s estimation, the Walker hasn’t “completely cracked that nugget.”⁵⁷⁵

The notion of persistence or “permanence” is another major concern for the Walker. Select participants in the Webb and Mann evaluation voiced their anxiety about the future accessibility of the Walker and SFMoMA catalogues. “Twenty years from now, will we be able to read this data?” one graduate student asked, while another questioned whether they risked citing something that might possibly “disappear.”⁵⁷⁶ The Walker has not arrived at a solution to

⁵⁷⁴ Interview with Dowden.

⁵⁷⁵ Interview with Byrne.

⁵⁷⁶ Frankly, Green + Webb, “OSCI User Study,” 2016.

this problem, while the *Rauschenberg* project at SFMoMA has already been migrated in the years since its initial launch.⁵⁷⁷

Reflecting upon his experiences co-creating *On Performativity*, Byrne said: “I have learned, from this project and from all of our online publishing initiatives, that creating new publishing platforms can change how an institution works and thinks.”⁵⁷⁸ Through the establishment of the *Living Collections*, the Walker team hoped to inspire systemic changes through the provision of new frameworks for collections-based research, curatorial thinking, and exhibition-making. Dowden, Crosby, and Byrne all considered *On Performativity* to be a success, although they had varying interpretations of the degree to which it was considered scholarly within the art history community. Dowden admitted that she felt it was not quite equated to traditional print catalogues, but she said that “we really pushed the questions in a way that was interesting and informative,” and the institution was well-poised to work on another iteration. However, the Walker has not produced another catalogue since 2015, so has not yet provided evidence of having created a systematized and “ongoing” production workflow.

⁵⁷⁷ Relaunched in 2016 in conjunction with new website, <https://www.sfmoma.org/rauschenberg-research-project/#section-94770>.

⁵⁷⁸ Merritt, “Bringing a Collections Catalogue to Life,” July 31, 2014, <https://www.aam-us.org/2014/07/31/bringing-a-collections-catalogue-to-life/>.

7.0 Cross-Case Analysis and Discussion

While both the Tate and the Walker have a legacy of supporting innovative projects, the selected case studies represent grand departures from standard institutional practices. As the previous chapters demonstrated, each of the projects required special funding structures as well as the integration of new practices and attitudes about collaboration. Although the two museums had erected new media departments in the years prior to launching their respective projects, there was still much to learn with regard to project management, cross-departmental communication, and digital preservation planning at scale. Both projects required resources that either were not previously available, or had never before been coordinated in this particular way.

Although *On Performativity* was published a year after *The Gallery of Lost Art* disappeared, the two projects had overlapping life spans. *On Performativity* represented the culmination of five years of project planning and collaboration (2009-2014) and *Lost Art* resulted from a three-year, cross-institutional endeavor (2010-2013). Thus, the projects emerged from similar technological contexts, although in different geographical locations. The Tate and Walker are distinct institutions, but shared common struggles in undertaking these ambitious digital works. The consequences of their disparate approaches to sustainability, however, are evident within every section of the following analysis.

7.1.1 Project Scope

7.1.1.1 Intellectual Goals

The primary difference between the two digital projects is quite clear: *Lost Art* represents an online exhibition, and *On Performativity* is an online catalogue. As such, the Tate's project is explicitly tied to a legacy of exhibition-making, not only at the Tate but at institutions of fine art, more generally. It is thus imbued with certain expectations of curatorial agency, as manifested through the selection, arrangement, and display of material in a way that follows an aesthetic or narrative logic (or both). *Lost Art* exemplifies Ngaire Blankenberg's definition of an online exhibition, or one that emphasizes original content and heightened user-based experiences.⁵⁷⁹ Still, the curatorial voice is audible in the scholarly essays included in the website, and authority is also clearly conveyed through the specific arrangement of the thematic content. The website adheres to Meijers' "ahistorical" exhibition typology, as it is organized according to a system imposed by the curators.⁵⁸⁰ Indeed, as explained in Chapter 5, *Lost Art* did not totally abandon linear navigation as an option for engaging with the exhibition content. While the site was intended to be navigable by the public, the logic was actually somewhat opaque. The forward and backward arrows included in the website offered a kind of "default" mode of engagement for those who desired it, or were unsure of any other way to experience the environment.

In addition to offering the option of forward locomotion through the exhibition content, *Lost Art* reifies traditional conceptions of the art exhibition as a primarily ephemeral information format. Just as the temporary gallery exhibition has a limited run, this website was only available

⁵⁷⁹ Blankenberg, "Virtual Experiences," 192.

⁵⁸⁰ Meijers, "The Museum and the 'Ahistorical' Exhibition," 8.

for a twelve-month period. Positioned as a kind of hybrid exhibition, *Lost Art* interrupted the evolving narrative of digital scholarship within museums. While it temporarily served the function of preserving culture, digitally, its intentional removal still sets it apart. It remains a unique example of a short-lived online exhibition.

As a “catalogue,” *On Performativity* is also disruptive, in that it rejects the historical convention of recording an “in-gallery show,” and is exclusively concerned with materials that were not formally accessioned by the museum. The catalogue also complicates the notion of “permanence,” as it exists in a somewhat dubious space in terms of funding and project maintenance. Since the conclusion of the OSCI grant, the *Living Collections* project has vacillated between active and inactive phases. If the *On Performativity* site is migrated or emulated in the coming years, certain elements will be lost in translation and the “original” catalogue will no longer exist. Indeed, it has already been altered with minor edits and hyperlink updates in the past few years.⁵⁸¹ Still, this degradation may remain consistent with the intellectual goals of the project: to create a catalogue that provokes important questions about, and demonstrates the challenges of, documenting and cataloguing performative works.

Indeed, as both *Lost Art* and *On Performativity* were comprised of digital traces in the form of images, archival film, essays, and digitized newspaper clippings, the curators involved in both projects had to adjust their intellectual goals accordingly. Jennifer Mundy, in reflecting on the process of curating the *Lost Art* exhibition, stated that:

Museums normally tell stories through the objects they have in their collections. But this exhibition focuses on significant works that cannot be seen. It explores the potential of the

⁵⁸¹ Interview with Robin Dowden, June 11, 2018.

digital realm to bring these lost artworks back to life – not as virtual replicas but through the stories surrounding them.⁵⁸²

In other words, in the absence of physical artworks, the curators emphasized object stories and contextual cues in order to generate meaning. In this way, the Walker wished to resurrect performative work that is defined by the “presence of the human body—and its absence.”⁵⁸³ However, the project team did not explicitly interrogate the implications of the site’s disappearance and the parallels between the conceptual and formal elements of the catalogue. For example, they did not explore how the ephemeral nature of performative works might be intentionally or unintentionally echoed in an online format.

7.1.1.2 The Deliverable

Unlike *The Gallery of Lost Art*, the Walker’s project was managed internally. Staff from within the museum managed the curation, website development, and dissemination of the catalogue. According to Bautista’s analysis of *On Performativity*, this approach to project management is advantageous. She claims that “by not outsourcing as much work they (the Walker) gained flexibility, control, and creativity with their digital projects.”⁵⁸⁴ However, the Walker also experienced the limitations of this method. The website had to adhere to the design expectations and publication standards extant in the institution. Certain staff members bore the responsibility of carrying out new procedures for the project, within a space that was unaccustomed to, and sometimes repellant of, such work. As the following section will elucidate

⁵⁸² Original “About,” page. Available to the author courtesy of Mark Breslin of ISO.

⁵⁸³ Walker Art Center “Living Collections Catalogue: Volume I,” accessed February 2, 2019, <http://walkerart.org/collections/publications/performativity>.

⁵⁸⁴ Bautista, *Museums in the Digital Age*, 80-81.

further, producing the deliverable internally may have ostensibly simplified the project maintenance scenario, but it also seems to have delayed the long-term project planning processes.

As the previous chapter suggested, the online catalogue produced by the Walker incorporated digital translations of elements commonly found in a physical book. The creators included a colophon, table of contents, and a linearly-oriented navigation bar, thus imbuing the catalogue with many familiar signposts carried over from print publishing. The environmental scan included in this dissertation demonstrated that sequential locomotion is still a natural, and commonly used, mode of engagement. Slideshows and similar presentations are the most explicitly linear typology, but many of the surveyed websites featured a hierarchical information infrastructure (including a table of contents, for example).

Although *Lost Art* arguably produced a more immersive and evocative website, replete with atmospheric sound and sophisticated navigation tools, it required external experts and was inherently less sustainable. While maintaining collaborative projects internally is challenging, accommodating the various schedules and project deadlines of external partners is even more complicated. The contributors to *Lost Art* certainly ventured farther from a physical book or exhibition than the Walker did, but this came with certain limitations. Indeed, ISO's staff may have predicted the challenges of sustaining the website beyond its one-year tenure because of their knowledge of technological infrastructures and their past collaborative experiences. They made every design decision with this outcome in mind, so could fashion a website accordingly. This also placed clear and necessary restraints on the curatorial team.

7.1.2 Longevity

Although they ultimately produced fairly different projects, the two sites faced the similar challenge of representing transient or lost artworks and therefore also relied heavily on archival materials. These materials arrived both from within the institutional archives and from external sources. The fifth chapter of *On Performativity*, for example, contains digital images of photos from the Walker Art Center Archives, the Frances Mulhall Achilles Library Archives at the Whitney Museum of American Art, and content copyrighted by Eiko & Koma (the artists themselves).⁵⁸⁵ Elsewhere in the catalogue, images of artworks link back to the Walker's content management system or provide a credit line acknowledging the host institution (Whitney Museum of American Art, etc.). *Lost Art* took a similar approach, sourcing images from far and wide. Diego Rivera's "table" in the exhibition, for example, featured digitized content from Old Stage Studios, the Rockefeller Center Archives, the Google News Archive, and the Library of Congress.⁵⁸⁶ As the chosen exhibition and catalogue were unattached to any physical exhibition, none of the selected works were actually on loan for the purposes of these publications. Unlike the Walker, however, the Tate team paid copyright fees for all images included in *The Gallery of Lost Art* exhibition throughout the brief lifetime of that project.

This difference in approaches to image rights is reflective of the way the two institutions diverged in their expectations of longevity. As the previous chapters demonstrated, the Walker has aimed for project "permanence," however that may be accomplished. Meanwhile, the Tate

⁵⁸⁵ Bartholomew Ryan, "Kinetic Observation: Viewing Eiko & Koma's *Naked*," in *On Performativity*, edited by Elizabeth Carpenter, Vol. 1 of *Living Collections Catalogue* (Minneapolis: Walker Art Center, 2014), <http://walkerart.org/collections/publications/performativity/eiko-koma>.

⁵⁸⁶ Archived credit page from *The Gallery of Lost Art*, courtesy of Mark Breslin.

did not aspire to provide a lasting exhibition, and could therefore guarantee a budget for copyright management, among other things, for the duration of the project. Despite the demise of their original website, the team has still had to maintain aspects of the *Lost Art* archive, including the transfer over of data from the now defunct social network service, Storify, to Wakelet. This upkeep seems to be managed by the staff at ISO and will likely continue for an undetermined amount of time. The fact that *Lost Art* is also memorialized in a print publication complicates matters further. Although it does not possess the same qualities as the website, the book features screenshots from the website and therefore ensures that the exhibition can be remembered, in some form.

7.1.3 Socio-Technical Infrastructure

In the fifth chapter of *Re-Collection: Art, New Media, and Social Memory*, Richard Rinehart discusses metadata and its role in establishing the historic record. In particular, he talks about the ways that traditional gallery labels have failed to capture the nuances of new media projects, ventures that often incorporate multiple contributors, dates, and phases of production. Rinehart responds to this conundrum by proposing a new “system of notation” that should “describe levels of agency and choice within the work, allowing for a continuum of assignable human or automated roles from creator to user.”⁵⁸⁷ This potential solution to adequately representing project roles is equally applicable to digital projects, more broadly. Both *Lost Art* and *On Performativity* required multiple contributors with a range of skills and expertise. The

⁵⁸⁷ Rinehart and Ippolito. *Re-Collection*, 2014.

two projects also incorporated new types of collaboration, and a willingness among staff to test the parameters of traditional museum roles.

In their 2018 publication, “A Role-Based Model for Successful Collaboration in Digital Art History,” Alison Langmead et al. identify four collaborative roles: Humanist, Technologist, Data Steward, and Catalyst.⁵⁸⁸ The *Lost Art* project required staff from ISO and Tate to inhabit these roles. The curators at the Tate became the catalysts for the project, in consultation with the ISO team, and were also the humanists and data stewards in the collaboration. The ISO staff took responsibility for data stewardship and served as the chief technologists. Meanwhile, at the Walker, Robin Dowden served as the catalyst for the online catalogue project, but also simultaneously inhabited the role of technologist, data steward, and interpreter across departments.

Because they sought experts external to their institution, the Tate, C4, and ISO team did not necessarily have to move outside of their professional comfort zones to a significant degree. They engaged in a cross-institutional collaboration that certainly incorporated new procedures, but the individual project roles still seemed to logically align with professional titles and areas of expertise. There was some give and take, but individuals seemed to more or less stay within their customary parameters. At the Walker, some staff resisted changing their traditional workflows, so Dowden became the central hub or “collaboration zone.” She interpreted the work of her fellow staff so that it could be implemented by individuals from other departments.

⁵⁸⁸ Alison Langmead et al., “A Role-Based Model for Successful Collaboration in Digital Art History,” *International Journal for Digital Art History* no. 3 (July 2018), <https://journals.ub.uni-heidelberg.de/index.php/dah/article/view/34297>, 77-78.

7.2 Discussion

In addition to revealing this disruption in workflows, the preceding research resulted in a number of other expected and unanticipated findings. From the Project Scope through to the Socio-Technical Infrastructure sections, the cross-case analysis underscores the importance of project and sustainability planning to the overall trajectory of a project. As the digital preservation “solution” was integrated into the *Lost Art* process from the point of the initial design proposal, everything was built upon the knowledge that the site would be short-lived and actively maintained for the duration of its existence. The opposite is true of *On Performativity*, and these divergent approaches to persistence significantly impacted the overall management of both projects. To a great extent, the two projects were successful, but they did not ultimately shift the digital scholarship paradigm in remarkable ways. Indeed, prominent examples of other stand-alone digital scholarship have not emerged in the intervening years since these projects were published.

In fact, the environmental scan and the selected case studies reaffirmed that online exhibitions and catalogues do not represent a real threat to the unidirectional knowledge transmission process practiced in traditional museums because they mostly still rely on the unassailable voice of institutional authority. The findings confirmed existing assumptions about online exhibitions and catalogues, but also expanded our understandings of these projects. In the end, the projects proved less effectual for unexpected reasons. Indeed, throughout the data collection and analysis processes, a surprising narrative emerged that was less about redefining digital scholarship within museums, and more about the questions and decisions related to sustaining and preserving this type of work. In the initial stages of conducting her dissertation

research, the author assumed that a comparison between online exhibitions and online catalogues would result in new definitions of these types of scholarship. However, the original definitions did not change considerably throughout the research process, although a number of interesting trends and typologies emerged.

The data demonstrated that online exhibitions still arrive in various shapes and sizes, and include varying degrees of “original content.” While *Lost Art* revealed the extent to which online exhibitions move beyond “flat documentations” online of physical gallery exhibitions, the Tate example remains a relatively unusual and elusive example of such digital scholarship. The OSCI project supported a plethora of online catalogues that exist on their own scholarly merit, but *On Performativity* exists as a rare case documenting ephemeral artwork rather than physical collections. The exceptionality of these projects was, in part, incorporated into the case study design, and the environmental scan served to reiterate the extraordinariness of the selected sites. Indeed, the scan revealed that there are still comparatively few examples of stand-alone projects among the cohort of digital scholarship in museums of fine art.

Indeed, the departmental and funding structures of most museums do not accommodate such experimental projects, especially when they will neither generate any revenue via admission tickets nor adhere to the strict and motivating deadlines associated with in-gallery exhibits. Without specific opening and closing dates, such digital ventures usually represent a risk to potential investors. Museum administrators are also sometimes surprised to discover that digital projects require financial support, at all. In reality, the funding required may be substantial, or, for example, approximately equivalent to the cost of mounting a small to medium exhibition in the galleries at the Tate London, as was the case with *The Gallery of Lost Art*. Even in the

absence of physical artworks, copyright fees apply to images, and substantial funding is required to support the work of curators, researchers, web designers and developers.

Beyond their funding structures, the comparison between the two projects revealed the differences between institutional approaches to digital scholarship. The case studies demonstrated the consequences of implementing particular socio-technical project infrastructures and preservation plans. Indeed, the Tate's and Walker's opposing approaches to producing the selected websites were indicative of divergent goals and perceptions of success. The *Lost Art* team seemed confident that the scholarly value of an ephemeral exhibition would translate to the digital space. After all, the online exhibition had been preceded by centuries of temporary art exhibitions that had garnered respect and admiration within and beyond the museum.

Meanwhile, the Walker aimed, ambitiously, to provide a permanent record of impermanent work. Indeed, the scholarly value of the Walker's project depended on its "citability" and persistence at a stable URL. Much like a library book, the catalogue is intended to remain at a predictable and accessible location in perpetuity, or for the duration of "Book Time." The aforementioned *Socio-Technical Sustainability Roadmap* describes "BookTime" as a project lifespan that is "equivalent to" the length of time that a "paper-based codex would last in the controlled, professional conditions of a library."⁵⁸⁹ In other words, this type of project is anticipated to remain in the "active creation or ongoing maintenance phases" for a period extending beyond three years, but has no actual plans for retirement. The author likes to think of

⁵⁸⁹ VMW, "Module A2: How long do you want your project to last?" accessed August 8, 2018, <https://sites.haa.pitt.edu/sustainabilityroadmap/a2-longevity/>.

this approach to project longevity as the “default” setting, as is it often stems from good intentions but the absence of a concrete plan.

7.2.1 Authority

The evidence of Tate Online, expressed in its editorial practices, points to a struggle to both embrace the possibilities of new media, while containing a series of perceived threats to traditional forms of cultural authority and provenance posed by the openness and reach of the Internet.⁵⁹⁰

Through these projects, the Walker and Tate were, in a sense, generating their own interpretations of authenticity and authority in the absence of physical objects. The second chapter of this dissertation presented Buckland’s interpretation of “documentation” as comprising more than just textual material, and including events, processes, and images.⁵⁹¹ *On Performativity* and *Lost Art* illustrated this broader interpretation of documentation, as they incorporated both time-based media, images, and references to ephemeral materials. Even though definitions of documentation are expanding, however, participants in both projects still felt the need to renegotiate perceptions of legitimacy within and outside of their respective institutions. Indeed, both case sites still strongly featured the voices of scholarly authority, expressed through the textual content included in their exhibition and catalogue narratives, in particular. Adhering to tradition, the voices of scholarly authority in both cases were also the voices of the museum curators. In fact, these voices took on even greater importance in the contexts of the two digital

⁵⁹⁰ Dewdney, Dibosa, and Walsh, *Post-Critical Museology: Theory and Practice in the Art Museum*.

⁵⁹¹ Buckland, “What Is a ‘Document’?” 804-805.

projects, as they had to compensate for the lack of “object” documents by interweaving archival materials with the design components of the digital infrastructures in which they existed.

The “default” setting for interacting with content on both the *Lost Art* and *On Performativity* websites was to essentially follow the route determined and dictated by the curator. In both cases, this was a linear route through the site’s content (oriented vertically or horizontally), so efforts to provide alternative modes of engagement were somewhat hampered. As the previous chapters mentioned, the authenticity of the two sites was further established through the presence of clear site credentials, including the names and logos of sponsoring bodies and collaborative partners, as well as institutional affiliations. The Walker and Tate are internationally-renowned institutions of fine art, so could guarantee a degree of scholarly recognition simply through their name and the names of their curators. This is an affordance that does not automatically carry over to other institutions of fine art.

7.2.2 Reconceptualizing Value

Although they were clearly concerned with indicating their authoritativeness, both the Tate and Walker sites demonstrated a clear commitment to user experiences. Without the physical objects that usually captivate the gallery-goer, *On Performativity* and *Lost Art* were tasked with enticing their visitors through unusual content and ways of interacting with that content. To a greater extent than in a physical exhibition, then, the curators and designers had to teach users how to engage with the content and structures of their work without overburdening them with technical obstacles. Project creators explicitly interrogated the very nature of space and navigation. This new type of creation, or a reconceptualization of value within the

exhibition, could not occur in the mind of the art curator, alone. Indeed, the data collected in this dissertation establishes the value of new approaches to scholarship, but also indicates the significance of socio-technical infrastructures and a need for new types of museum professionals. The traditional roles of curator and designer become less distinct in digital projects, as processes become intertwined and integrated. As curators renegotiate notions of authority and authenticity, new collaborative modes emerge as a matter of course.

Unexpectedly, a high rate of staff attrition and turnover emerged as an important factor at both the Walker and Tate. At the Walker, in particular, almost all of the contributors to *On Performativity* left the institution before or shortly after the conclusion of the OSCI grant. As such, the social or human infrastructures of this project have changed considerably between the beginning of the *LCC* endeavor and today. Similarly, many of the contributing scholars to the Tate exhibition are no longer working at the institution. This loss of staff corresponds to a loss of tacit knowledge, and poses clear sustainability challenges. The absence of certain individuals, in particular, also indicated the value of different types of labor and roles within the museum structure. For example, Robin Dowden was the rare example of a museum professional that possessed both technical and content expertise, and could therefore straddle the boundaries among museum departments. This also meant, however, that she shouldered more responsibilities than was originally expected or intended.

7.2.3 Sustainability and Preservation

In 2005, Dan Cohen and Roy Rosenzweig published an online guide to preserving digital history. Despite the passing of many years, the following statement still rings true: “Inevitably,

any creative work that requires a significant amount of effort will elicit concern about how to ensure its ongoing existence.”⁵⁹² With this message in mind, it is unsurprising that there is a small set of examples of digital scholarship within museums of fine art. Certain typologies, such as the linear slideshow typology, are likely more common because of their feasibility and similarity to the traditional slide lecture. They do not require significant human or technical resources, in comparison to other types, and can be implemented quite easily and quickly. In contrast, stand-alone projects require significant research, design, and implementation resources.

The configuration of socio-technical infrastructures clearly correlates to the viability and sustainability of a given digital project. This dissertation confirms that museums are still idiosyncratic institutions, repelling the kind of standardization found in libraries and archives. Indeed, OSCI was successful in many ways but did not result in a standard solution to collection management and the production of online catalogues. In the author’s analysis of extant online exhibitions, no one particular platform or tool emerged as the de facto option for producing these types of projects. Most museums used their own bespoke templates to create online exhibitions. Each of these templates and platforms therefore require their own set of preservation steps.

The two museums studied in this dissertation created customized websites, but took opposite approaches to project planning. The Walker produced *On Performativity* entirely in-house, while *Lost Art* incorporated external collaborators. As was previously discussed, the circumstances in which the latter project occurred necessitated a preservation plan from early on, as collaborators were motivated to establish an endpoint from the start. As a contractor, ISO had

⁵⁹² Dan Cohen and Roy Rosenzweig, “About the Authors,” accessed February 5, 2019 <http://chnm.gmu.edu/digitalhistory/authors.php>.

to set clearer parameters than an in-house design team might have to set. Establishing a project endpoint may not always occur with external collaborations, but likely is viewed as particularly important when several stakeholders are involved.

Unexpectedly, this dissertation is heavily invested in the importance of project planning and management, cross-departmental and cross-institutional communication, and digital preservation planning and front-end summative resource allocation. Museum computing seems to remain “disruptive” in 2019, but not for the reasons outlined in the literature review. Rather than revolutionizing through decentralization or democratization, computing disrupts the mechanisms occurring behind the scenes in a museum. The new procedures required by technology do not fit into preexisting project infrastructures, job descriptions, or budgetary configurations. To be clear, “disruption” is not a bad thing, and these projects have undeniably made positive contributions to the field.

7.2.4 Modes of Interpretation

Both *Lost Art* and *On Performativity* provided opportunities for reciprocal engagement, but they simultaneously reinforced the authority of the curatorial team. They offered new types of interaction, but within a range of “acceptable variance,” emphasizing the relationship between exhibitions and performativity.⁵⁹³ *Lost Art*, in particular, encompasses Ross’ notion of variance, as the website provided a small range of possible “functions and behaviors.”⁵⁹⁴ Each user could travel through the simulated warehouse space in a seemingly different way, but in actuality there

⁵⁹³ Ross, “Digital Preservation,” 45.

⁵⁹⁴ Ross, “Digital Preservation,” 45.

were fairly clear parameters on this movement. Still, each user's experience of the space could qualify as a re-performance of the exhibition. Ironically, although *On Performativity* is explicitly about performative works, the website itself operates less as a performance than *Lost Art* did. *Lost Art* had a stage (the warehouse), a set (the tables and documents), and even a certain set of characters (individuals who populated the space), whereas *On Performativity* functioned more as a linear book, with some animated elements interspersed throughout. These elements, such as embedded videos of performances, took place within the strictures of a rectangular space, so offered a similar type of engagement to that of a pre-programmed television playing in a physical gallery space. The visitors could not alter or *enter* the content of the visual works, and could only engage with them in a particular way.

Although these digital projects certainly required collaborative work, it still seemed that the curators had interpretive control over the appearance of the publications they produced. Even though they were not explicitly in charge of orchestrating the context, content, and structure of these projects, the exhibition and catalogue maintained the illusion of curatorial authority. The consequent user experience was one of a museum visitor segregated from the inner-workings of the exhibition, and lacking the social context promoted by Falk and Dierking's Interactive Experience Model.⁵⁹⁵ This circumstance may be partly responsible for the persistent challenges faced by digital project managers within the context of museums, and elsewhere. Visitors and curators seem to face obstacles in interacting with online content, especially when that content is primarily inspired by physical counterparts.

⁵⁹⁵ Falk and Dierking, *The Museum Experience*, 7.

8.0 Conclusion and Recommendations

Although this dissertation deals with the specific topic of online exhibition and online catalogue production, it reveals major fissures in art museums, as institutions. Namely, this study explores the tension that endures in an establishment that is reliant on the authority, authenticity, and persistence of the curator who selects the art object, yet is also dependent on technological innovation. In this regard, are museums setting themselves up for failure? It certainly seems that changes are slowly occurring, and that these will require major institutional overhauls (of staff, collections, and even entire buildings). Indeed, *TrendsWatch 2018: The Scenario Edition*, a special issue of the annual publication from the Center for the Future of Museums (CFM), suggests that museums will exist in 2040, but will have to overcome multiple challenges to persist. Elizabeth Merritt, Vice President of Strategic Foresight and Founding Director of the Center for the Future of Museums, developed this issue of *TrendsWatch* in part because “the habit of planning in the context of multiple futures cultivates an organizational culture that is nimble, responsive, and skilled at navigating change.”⁵⁹⁶ In 1992, Hooper-Greenhill wrote that:

Museums have always had to modify how they worked, and what they did, according to the context, plays of power, and the social, economic, and political imperatives that surrounded them.⁵⁹⁷

These words are particularly relevant today, as recent developments have challenged the art museum in various ways.

⁵⁹⁶ Center for the Future of Museums, *TrendsWatch 2018: The Scenario Edition*, accessed March 7, 2019, <https://www.aam-us.org/programs/center-for-the-future-of-museums/trendswatch-2018-the-planning-edition/>.

⁵⁹⁷ Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 1.

8.1 Introduction

This dissertation set out, in part, to do archaeological work, examining the history and evolution of online exhibitions and catalogues through an environmental scan. It also sought to dissect exemplars from these genres of digital scholarship through two case studies. The literature review, in Chapter 2, positioned this research at the intersection of the information sciences, museum studies, and museum computing. Incorporating the various voices represented in these fields contributed to the complexity of the overall project, but also set the stage for a number of illuminating findings. For example, this dissertation reveals that there are not presently any particular digital formats or tools within the museum context that are especially conducive to dissemination in an online environment as free-standing exhibitions or catalogues. Furthermore, the socio-technical systems required to create and sustain digital scholarship are more complicated or elusive than previously imagined.

This study reiterates that digital scholarship formats are inherently multi-layered, requiring the foundation and careful balance of a project team. The author examined how these knowledge networks emerge as well as the significance and vulnerabilities within their structures. At museums, these networks comprise diverse nodes, or individuals, including curators (or content experts), information scientists, computer scientists, administrators, and others who inhabit new types of roles that are not yet necessarily represented in most institutions. In particular, the researcher uncovered the fundamental challenge of asking individuals to step outside of their traditional roles and communicate across different channels. As director of New Media Initiatives at the Walker, Dowden demonstrated the hybrid nature of innovative roles within the museum, and also spoke to the difficulty of occupying such positions. She had to

interface with various individuals and take on unexpected duties, while also attempting to advocate for new approaches to scholarly practice.

8.2 A Reflection on the Methodology

The author began this research project with the preconceived notion that *Lost Art* and *On Performativity* represented exemplars of digital scholarship, but she did not bring these biases into her data collection or research. She did not, for example, attempt to collect favorable reviews of these projects, but rather sought to find as much extant documentation of the publications as possible. The author's background in library science and information retrieval was especially helpful in this regard. She also made a clear effort to acknowledge the prejudices that individual interviewees brought to the table, and looked for patterns among the subject's experiences of these projects. These approaches combined to produce a plethora of results that are worthy of further examination.

As the third chapter described in detail, this dissertation integrated mixed qualitative methodologies to provide a breadth of knowledge about online exhibitions and catalogues in art museums presented on the web, and a deep dive into two specific sites. To establish a foundation for this research, the author first endeavored to survey the field of online exhibitions and catalogues. Unexpectedly, this environmental scan, intended to function as a bridge between the literature review and case studies, came into its own as a significant investigation. The author conducted a comprehensive analysis within a specific set of parameters, allowing exhibition

typologies to emerge. She was able to identify patterns and trends among institutions, but also see how museums adopted a panoply of digital tools.

Environmental scanning, of course, comes with its own limitations. The very constraints that allow trends to emerge also represent a drawback of this research method. By only focusing on accredited institutions within the United States and England, for example, the author omitted countless museums around the world. The accreditation process for both the AAM and Arts Council requires an investment of time and resources that is not available to every institution. As the fourth chapter elucidated, the environmental scan and subsequent research was Western-centric, and therefore, unfortunately, exclusionary.

In addition to focusing on a fairly narrow geographical area, the environmental scan was time-delimited, occurring over the course of a finite period between September 2017 and February 2018. As Wendy Duff, Catherine Johnson, and Joan Cherry state in their 2013 publication about the use of social media in Canadian archives, the environmental scan approach provides only a “snapshot.”⁵⁹⁸ Although it is, in part, about social media, this article also proactively examines the use of environmental scans in information science research. The lessons learned in the article, such as the transitory nature of digital environments, reverberated with the author of this dissertation. Websites certainly appeared and disappeared in the intervening year between the original environmental scan and completion of this work. Indeed, a multi-year approach would offer a more exhaustive portrait of ongoing developments in digital scholarship, but would also require significant resources and likely arrive at similar conclusions,

⁵⁹⁸ Wendy M. Duff, Catherine A. Johnson, and Joan M. Cherry, “Reaching Out, Reaching In: A Preliminary Investigation into Archives’ use of Social Media in Canada, *Archivaria* no. 75 (2013): 94.

including: digital projects are difficult to create and sustain. Changes in funding, staffing, and technology are likely to occur during the lifetime of a digital project, and these will likely transform the work in ways both large and small.

With the environmental scan as a basis for her research, the author embarked on the case studies with some expertise, but also a sense of the limitations of such broad and superficial analyses. Indeed, environmental scans often exist to verify the need for further research, and require additional research methods. In the case of Duff, Johnson, and Cherry, the research study was enhanced by focus groups. For this dissertation, a case study approach emerged as the best methodology for closely interrogating the institutional, technical, and social circumstances from which digital scholarship surfaces. Among other things, case studies allow for the complexity of phenomena to be studied carefully, and respond to the important “why” and “how” questions so often left unanswered by quantitative research methods.⁵⁹⁹

Case study investigations, of course, also have their limitations. For example, they “provide very little basis for scientific generalization since they use a small number of subjects.”⁶⁰⁰ It is difficult to make sweeping claims based on just two institutions swimming in a sea of thousands. This concern was somewhat mitigated by the environmental scan, as the latter approach revealed a number of findings of direct relevance to the research problem. The environmental scan reiterated the uniqueness of the two case studies, and their usefulness in examining digital scholarship in this realm. A case study approach is also, by necessity, flexible. This means that the researcher altered her interview approach to allow for better, more

⁵⁹⁹ Izak Benbasat, David K. Goldstein, and Melissa Mead, “The case research strategy in studies of information systems,” *MIS Quarterly* 11, no. 3 (1987): 371.

⁶⁰⁰ Zaidah Zainal, “Case study as a research method,” *Jurnal Kemanusiaan* 9 (June 2007), http://psyking.net/htmlobj-3837/case_study_as_a_research_method.pdf

productive conversations. Certain questions that she asked in the first few interviews were omitted by the third or fourth, because they proved to be less useful than the author anticipated. For example, a targeted question about the initial site specifications resulted in less fruitful responses, overall, than a more general question about the project origins.

In addition, the researcher had conversations with different individuals than she had originally planned. Although she interviewed curators and project managers, she also interviewed other team members who became involved through word of mouth (or email forwarding). In the case of *Lost Art*, one email to ISO had a domino effect, and resulted not only in several helpful communications with project collaborators, but also unprecedented access to the archived site. The unintended ramifications of the author's choices, as well as the circumstances within which the relevant institutions found themselves in 2017 and 2018, were predominantly positive. With both sites, many individuals no longer occupied the same staff positions that they had during the active project implementation phase, or had left their previous institutions entirely, so were both more difficult to track down, and perhaps more critical of their project experiences now that they were no longer beholden to that particular workplace.

8.3 The Research Questions

At the beginning of this dissertation, the researcher posed two major research questions. The first part of the initial question asks: What constitutes the human and technical infrastructure of online exhibitions and catalogues, two forms of digital scholarship in the museum? Chapter 6 offers findings related to this question specifically within the section about socio-technical

infrastructures, but the implications of these frameworks are present throughout the cross-case analysis. Indeed, the preceding research demonstrates the vital importance of socio-technical infrastructures to digital scholarship, and the many ways that projects are impacted by the teams and technologies that produce them. The second part of the question responds directly to the first, asking: how have disparate museums converged or diverged in their approaches to these types of digital scholarship? In reality, it seems that there is no standard human or technical infrastructure for online exhibitions and catalogues, and that museums mostly diverge in their approaches to digital engagement. Museums share the common struggle of remaining legible and credible in an online environment, but do not agree on the types of staff that should carry out these projects, or the software and other technologies that should be used.

The author structured the research questions in such a way that they respond to, and build upon, each other, so the previous findings establish the basis for the final question. Namely, how have online exhibitions and catalogues, and the practices and processes involved therein, transformed scholarly museum practices and perceptions of longevity? What parts of museum practice have been translated into the online environment and how and what are the implications of this? This dissertation found that the socio-technical infrastructure required to create and manage digital scholarship is still seemingly absent from many museums, or is established in an ad-hoc manner. Rather than transform scholarly museum practices, institutions seem to mostly attempt to *transfer* scholarly museum practices over from the physical realm. Rather than alter perceptions of longevity, the way digital scholarship is implemented in museums seems to reemphasize the importance of authenticity and authority to their missions. Indeed, these projects demonstrated the willingness of curators and other museum staff to create digital projects, but mostly within the pre-established parameters of museum practice.

8.4 Contributions to the Field

This dissertation emerged in response to a number of conditions: among them, a gap in the scholarly literature. Although several digital museum projects, including online exhibitions and online catalogues, have emerged in the past twenty-five years, the impact of these endeavors has not been adequately measured. Usability studies have not kept pace with the development of these projects, often to the detriment of intended audiences and user communities. By describing and analyzing two online projects in depth, this dissertation lays the groundwork for further research into the impact of digital projects within the space of the art museum.

In the fourth chapter, the author describes online exhibition typologies in a way that has never happened previously. She combined the knowledge gathered by previous scholars with her own environmental scan of extant online exhibitions to generate specific categories and sub-types. Articulating the distinctions among these types of projects allowed for other important information to surface. For example, the researcher was able to identify the frequency with which certain typologies were employed, and when and where they were emerging. This data demonstrates the diversity of project types and institutional approaches to online exhibition practice.

This dissertation also cautions against assuming that new technology will indiscriminately solve usability and accessibility problems for museums. Indeed, the implications of using new technologies need to be assessed and considered carefully before a digital project plan is completed. Currently-existing socio-technical frameworks within museums will not seamlessly or magically adapt to new systems of information organization and production. Hopefully, this study has demonstrated the most essential challenges inherent to adopting new

modes of production. Among these, institutions and their staff need to accept that online exhibitions and catalogues are ephemeral and cannot be equated to print publications. All digital projects require ongoing maintenance, and can also be removed or migrated from the Internet at any time. As the Environmental Scan illustrated, online exhibitions and catalogues fall victim to URL rot, and so findability is an issue. Does something exist if it cannot be found? Findability is particularly tricky when online projects are not embedded within institutional websites. While it is in part a cautionary tale, this document also demonstrates the clear achievements made by museums with regards to digital technology. From the environmental scan through to the case study sites, the author identified a number of pioneering digital projects in museums of fine art.

The present research aims to encourage museum staff, as well as practitioners and scholars external to these institutions, to better communicate about needs and expectations. If nothing else, these pages hope to instill more self-awareness in the art museum with regards to the coordination of interdisciplinary collaboration and project management. In order to realize these changes, the art museum will likely need to experience other transformations. For example, museum studies programs would benefit from incorporating new elements into their curricula that focus specifically on project management and digital preservation planning. These skills will enable museums staff to proactively approach the challenges posed by a changing institution. In combination with this, art museums must begin to reconfigure their human infrastructures to accommodate the new roles required to fulfill project mandates.

This study also interrogates the notions of authority and authenticity, as they are utilized within the context of curatorial practice within Western art museums. Do these institutions need to loosen their grasp on these elements, or tighten their grips? In order to survive, museums need to do the former. Either way, museums are tasked with better matching their institutional outlook

to the inherent qualities of digital scholarship. While innovation is important, this study argues that it must be attended by robust institutional scaffolding.

8.5 Recommendations

The impetus for this research partly arrived from the author's on-the ground experiences on educational initiatives in libraries and museums between 2009 and 2012. As a young library and museum professional, she became intimately familiar with organizational procedures and information practices within cultural heritage sites, and saw opportunities for research and development within arts organizations. She also witnessed the benefits and pitfalls of grant-funding, especially when it comes to project maintenance. This dissertation addresses some of the challenges that she encountered in various institutional settings, and elucidated many more. It also opens the door for potential solutions.

Specifically, this dissertation demonstrates the value of preservation plans. The pervasive challenge of staff attrition and turnover suggests that such preservation plans should not be contingent on the presence of specific individuals. This may seem obvious, as all humans are mortal, but project plans are sometimes written under the assumption that a particular project manager will continue to exist throughout the lifetime of the project (whatever that may be). Rather than make this mistake, the creators of preservation plans would benefit from allocating sustainable resources for a certain *type* of professional with specialized knowledge and expertise, rather than expecting that one specific individual will remain in their role for the duration of a project. This professional should be a new kind of hybrid museum and information sciences

professional who possesses project management expertise and other skill-sets relevant to these types of projects. Of course, incorporating new types of professionals will require museums, their administrative boards, and traditional museum professionals to support the work being carried out within the context of these new roles. In reality, this constitutes a sea change for the museum ecosystem, so will be difficult to implement.

In addition to attending to the social infrastructures of digital projects, museums m need to embrace the idea that digital scholarship can be as ephemeral as performative work and in-gallery exhibitions. Although more mechanisms for digital preservation have emerged in recent years, these do not offer wholesale solutions to project sustainability. The Mellon Foundation, Rhizome, and Knight Foundation, for example, are all pursuing projects and publishing recommendations in the area of digital preservation. Still, tools such as Webrecorder.io rely on third party maintenance and sustainability, and the Internet is littered with the carcasses of long-lost platforms, tools, and websites purporting to solve preservation concerns. There are ways to evade such inevitabilities, such as avoiding Flash (more susceptible to deterioration) and sticking to more durable approaches, but persistence is an issue for every digital project.

8.6 Future Research

In preparing and executing this dissertation, the researcher found value in describing information typologies (such as online exhibition typologies) and their relative fragility in terms of digital preservation. Moving forward, she aims to also research socio-technical system “typologies” within museums to assess the potential sustainability of particular configurations.

The construction of these systems and the roles they accommodate has far-reaching implications not only for project managers, but also for the communities that they serve. Further, the author hopes to devote more time to looking at staff structures within the museum, attrition rates, and the new roles that are emerging in the twenty-first century. Are certain staff members functioning as translators between departments, or is this work distributed across various roles? How is knowledge transferred to other individuals when museum staff leave the institution? Through the process of interrogating these structures, the author will continue to closely examine the topics of information and project management, socio-technical frameworks, usability, and digital preservation. These factors are relevant to *all* collaborative digital projects occurring within the space of the museum.

Through her work on *Sustaining DH: An NEH Institute for Advanced Topics in the Digital Humanities*, the researcher is already taking lessons from her dissertation research “on the road.” Through these workshops, Dr. Langmead, Chelsea Gunn, and Aisling are engaging multiple participants in the processes of conducting project surveys, assessing their staffing and technologies, and exploring potential Digital Sustainability plans (incorporating the NDSA levels of Preservation, file formats and metadata, permissions and data integrity, and beyond). These workshops invite a wide range of digital humanities projects, but they all share the common threat of obsolescence. The work of this dissertation complements the ongoing research occurring within the space of this NEH grant. The author is also currently collaborating on a project that investigates and explicates different types of virtual memorials, a method of preserving culture that occurs outside of the confines of the museum. Without a doubt, there are numerous ways to apply findings from this dissertation to a variety of contexts, as digital projects continue to proliferate in various arenas.

Appendix A Extant Online Exhibitions

Table 1 Online exhibitions at accredited AAM and Arts Council Institutions

Institutions	Online Exhibition Sites
Alaska State Museums	http://museums.alaska.gov/asm/online_exhibits.html
Albany Institute of History and Art	http://www.albanyinstitute.org/online-exhibitions.html
Anchorage Museum	http://www.yupikscience.org/index.html
Art, Design, & Architecture Museum - University of California	http://www.museum.ucsb.edu/exhibitions/online
Chris H. MacNider Art Museum	http://www.macniderart.org/exhibit/full/
Cincinnati Art Museum	http://www.cincinnatiartmuseum.org/art/exhibitions/
De Young Museum	https://deyoung.famsf.org/digital-stories
Fitzwilliam Museum	http://www.fitzmuseum.cam.ac.uk/onlineresources/prints
Florence Griswold Museum	http://florencegriswoldmuseum.org/exhibitions/#Online
Hudson River Museum	http://www.hrm.org/exhibits/online_exhibitions.html
Isabella Stewart Gardner Museum	http://crivelli.gardnermuseum.org/
J. Paul Getty Museum	http://pstp-edison.com/
James A. Michener Art Museum	https://www.michenerartmuseum.org/exhibitions/online-exhibitions/
Kenosha Public Museums	https://museums.kenosha.org/virtualexhibits/
Legion of Honor	https://legionofhonor.famsf.org/digital-stories
Loyola University Museum of Art	https://www.luc.edu/luma/exhibitions/onlineexhibitions/
Lyman Allyn Art Museum	http://www.lymanallyn.org/category/digital-exhibitions/
Mary and Leigh Block Museum of Art	http://www.blockmuseum.northwestern.edu/picturesofmusic/index2.html
Massillon Museum	http://www.massillonmuseum.org/virtual-exhibits
Morgan Library & Museum	http://www.themorgan.org/online-exhibitions
Muscarelle Museum of Art - College of William & Mary	https://muscarelle.org/exhibitions/virtual/
Museum of Contemporary Photography	http://www.mocp.org/digital-exhibitions
Museum of Early Southern Decorative Arts	http://mesda.org/collections/exhibits/
Museum of Fine Arts, Houston	https://www.mfah.org/research/archives/archives-archival-exhibitions/
Museum of Indian Arts & Culture	http://miacalab.org/online-exhibitions/
Museum of Modern Art	https://www.moma.org/explore/conservation/cezannepissarro/conservation.html
	https://www.moma.org/interactives/exhibitions/2010/originalcopy/
	https://www.moma.org/interactives/exhibitions/2009/modernlibrary/

	https://www.moma.org/interactives/exhibitions/2008/elasticmind/index.html
Museum of Photographic Arts	http://mopa.org/exhibitions/online/
New Mexico Museum of Art	http://nmartmuseum.org/art/online-exhibitions
Parrish Art Museum	http://artists.parrishart.org/
Philadelphia Museum of Art	http://www.philamuseum.org/micro_sites/exhibitions/dali/index.html
Princeton University Art Museum	http://artmuseum.princeton.edu/learn/explore/online-exhibitions
Royal Academy of Arts	https://www.royalacademy.org.uk/exhibition/a-level-exhibition-online-2017
Samuel P. Harn Museum of Art - University of Florida	http://exhibits.uflib.ufl.edu/jacoulet/
Snite Art Museum	http://sniteartmuseum.nd.edu/exhibitions/online-exhibitions/american-ruins-challenging-ideas-of-progress/
Solomon R. Guggenheim Museum	https://www.guggenheim.org/exhibition/category/online-exhibition
The Frick Collection	https://www.frick.org/exhibitions/virtual_exhibitions
The Speed Art Museum	http://www.speedmuseum.org/exhibitions/kentucky-quilts/
USC Fisher Museum of Art & International Museum Institute	https://fisher.usc.edu/alone-and-together-solos-y-juntos/
Winterthur Museum, Garden & Library	http://www.winterthur.org/?p=986
Yale University Art Gallery	https://artgallery.yale.edu/online-features

Appendix B Adapted Rubric from Burdick, et. al

Table 2: Author's Interpretation of Rubric

Category	Description	Questions
Foundational Information	This section provides the scaffolding for all the succeeding questions by establishing the project's original context and structure.	<ul style="list-style-type: none">• How was the exhibition or catalogue initially published?• Did you recommend a particular browser for users?• Was it mobile-friendly?• Were any plug-ins required?• Is there an analogous process involved in mounting physical exhibitions/catalogues or did this project incorporate completely new practices?
Crediting	This section provides space for acknowledging the team of players who are, necessarily, involved in these types of collaborative projects. This also includes an evaluation of the types of roles played by participants.	<ul style="list-style-type: none">• Where did the project originate?• Intellectual versus technical origins?• Who created the initial specifications?• Who secured the funding for the project?• What role did each of the collaborators play?• Who authored the content (textual, visual)?• Who made decisions about the project's persistence/preservation, if at all?• Would responses to the above questions be significantly different in the case of a physical, in-gallery exhibition or physical catalogue?

Intellectual rigor	This section speaks to the quality and presentation of the project's content.	<ul style="list-style-type: none"> • How does the project's interface contribute to the generation of new knowledge? • Does the interface invite interaction? In what ways? • In what way does the present format differ from a physical exhibition or catalogue? • What are the advantages and disadvantages of mounting this work on the Internet?
Research, Teaching, and Civic Engagement	In the case of <i>Digital_Humanities</i> , Burdick is speaking to the triad of research, teaching, and service. While this is less explicitly relevant within the museum context, research, teaching, and community engagement are central to the missions of these institutions.	<ul style="list-style-type: none"> • How does the exhibition or catalogue engage with a problem or question or, in the words of Beverly Serrell, a "big idea"?⁶⁰¹ • How does the exhibition or catalogue reframe or reinterpret this problem or big idea in order to provide a new way of understanding it? • How does this occur both via content and context? • How is the exhibition or catalogue design itself integral to this process?⁶⁰² • How does this project stimulate learning? Has this been assessed? • Again, how do the responses to the previous questions diverge from approaches to physical exhibitions or catalogues?

⁶⁰¹ Beverly Serrell, *Exhibit Labels: An Interpretive Approach* (Walnut Creek, California: AltaMira Press, 1996).

⁶⁰² On the second page of their essay, Pierroux and Skjulstad state that they "conceptualize interaction design, interface design, and content on websites as an *integrated textual whole* that mediates meaning."

Peer review	Again, as this framework derives from an academic setting, it perpetuates some of the expectations of that particular culture. Although these projects/websites occur outside of the formal academic structure, they are assessed by peers on “online forums, citations, and discussions in scholarly venues,” including conferences. ⁶⁰³	<ul style="list-style-type: none"> • Has the online exhibition or catalogue been publically reviewed by peers? • Has the project received grants or other sources of funding? • Has the project been presented at conferences and symposia? • Has the project generated publications in peer-reviewed journals? • Has the website won any prizes? • How does the project measure up against similar types of projects? (case study approach)
Impact	This is the section of the analysis where both quantifiable and immeasurable impact will be discussed.	<ul style="list-style-type: none"> • What support has the project received from granting agencies? • Did the project team produce a grant report? If so, what were their findings? • What are/were the number of visitors to the site? • What citations has the project received, both in traditional publications and online fora including blogs, social media, links, and trackbacks? • Have other scholars, institutions, conferences, etc. adopted the project? • Is there any other evidence of the project’s resonance in public and community outreach? • How did the process of measuring impact as well as the actual impact differ from a physical exhibition or catalogue?

⁶⁰³ Burdick et. al, *Digital_Humanities*, 129.

Approximating equivalencies	This category more or less considers the weight of the work involved in the production of the respective site. The work invested in these projects is tantamount to the work required of more traditional publishing platforms (i.e. analog book publishing), but is not always recognized as such.	<ul style="list-style-type: none"> • How much time was involved in the planning and development of this project? • What kind of work was done in the planning and development stages? • What were the different content types being developed? • How did the time, work, etc. required to mount this online presentation differ from that of a physical exhibition or catalogue?
Development cycles and sustainability	Digital projects are inherently iterative in nature, so this section of the rubric will consider the status of the project as well as such considerations as sustainability and maintenance.	<ul style="list-style-type: none"> • What is the current status of the project? (is it “complete” or will it continue to evolve or is it one component of an evolving project?) • What standards or best practices have been followed throughout the “life” of the project? • Does the project have a sustainability or preservation plan? Has the work involved in the maintenance of this project been incorporated into institutional strategic planning, for example?

Appendix C IRB Approval Documentation

2/25/2019

Activity Details



University of Pittsburgh

OSIRIS

[Aisling Quigley](#) | [My Home](#) | [Logoff](#)

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[Studies](#) > [The Online Exhibition: A Critical Evaluation of Current Status and Proposals Toward Future Optimization](#)

[<< Return to Workspace](#)

[< Prev](#)

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[Next >](#)

Activity Details (Approved) Application is approved.

Author:	Teresa McKaveney (U of Pgh)
Logged For (Study):	The Online Exhibition: A Critical Evaluation of Current Status and Proposals Toward Future Optimization
Activity Date:	1/22/2018 3:03 PM

Activity Form

Property Changes

Documents

Notifications

University of Pittsburgh Institutional Review Board

3500 Fifth Avenue
Pittsburgh, PA 15213
(412) 383-1480
(412) 383-1508 (fax)
<http://www.irb.pitt.edu>

Memorandum

To: Aisling Quigley
From: IRB Office
Date: 1/22/2018
IRB#: PRO17100223
Subject: The Online Exhibition: A Critical Evaluation of Current Status and Proposals Toward Future Optimization

The University of Pittsburgh Institutional Review Board reviewed and approved the above referenced study by the expedited review procedure authorized under 45 CFR 46.110 and 21 CFR 56.110. Your research study was approved under:

45 CFR 46.110.(6)

45 CFR 46.110.(7)

The IRB has approved the waiver for the requirement to obtain a written informed consent for all procedures.

The risk level designation is Minimal Risk.

[https://www.osiris.pitt.edu/osiris/Rooms/RoomComponents/ProjectActivitiesView/ActivityDetailView?Activity=com.webridge.entity.Entity\[OID\[B62DBC8A0035...](https://www.osiris.pitt.edu/osiris/Rooms/RoomComponents/ProjectActivitiesView/ActivityDetailView?Activity=com.webridge.entity.Entity[OID[B62DBC8A0035...) 1/2

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