Audiovisual Exhibition in Gallery Spaces: Curatorial and Practical Concerns

The presence of audiovisual displays and installations within museum spaces has long passed the point of novelty. Museums and galleries of all varieties exhibit video and film pieces in an array of formats, and with this expansion comes a need for standardization and the collection of resources on the subject. While the installation of any museum exhibition requires a great deal of careful design and attention to detail, the technical considerations involved in audiovisual displays demand particularly meticulous planning, yet comprehensive, widely-available guidelines on the subject of are sparse. This project explores the issues and necessary considerations surrounding audiovisual elements within these spaces, both curatorial and practical. Additionally, this effort will serve as a collection and analysis of resources on the subject, with the goal of serving as a reference for future museum and gallery operators interested in the exhibition of audiovisual pieces.

In comparison to their library and archive counterparts, museums fall behind in terms of open access of collection-related material. The lack of a publicly-accessible United States-based museum catalog aggregator akin to OCLC's WorldCat illustrates this difference. In 2011, OCLC published a research report titled *Single Search: The Quest for the Holy Grail* detailing efforts to begin the creation of a platform that would enable searches across library, archive, and museum collections. Needless to say, such a platform remains out of reach in 2017. Granted, the fundamental purposes and missions of these institutions and their collections differ; museums

¹ Leah Prescott and Ricky Erway, "Single Search: The Quest for the Holy Grail." *Online Computer Library Center, Inc.* July 2011. http://www.oclc.org/content/dam/research/publications/library/2011/2011-17.pdf

use curatorial expertise to display works that they believe merit exhibition, whereas at libraries and archives, the burden of selection lay primarily with the patron.

This difference parallels the willingness of museums to share resources and statistics regarding their exhibition design and installation processes; museums are tasked with managing the sometimes competing interests of artists, board members, as well as curatorial and exhibition design staff, and the minutiae behind an audiovisual installation has potential to shed light on these relationships that the institution prefer stay private. This exploration of AV displays in museums includes the firsthand input of Wendell Walker, Deputy Director for Operations, Exhibitions and Design at the Museum of the Moving Image on the museum's approaches to exhibition design and the audiovisual as well as a more detailed case study of film projection at the Smithsonian National Museum of African American History and Culture (NMAAHC) as relayed by the institution's media archivist, Walter Forsberg. However, repeated attempts to contact curators, conservators, and other representatives from art museums were unanswered.

History and Current Role of AV in Gallery Spaces

Despite the century-old history of moving images as a crowd-pleasing spectacle, audiovisual exhibitions in museums are relatively new. Even as experimental and non-narrative cinema have existed since the invention of the medium itself, gallery exhibitions of audiovisual works did not flourish until the 1960s and 1970s with the rise of video art. The Howard Wise Gallery's 1969 exhibition "TV as a Creative Medium" serves as a turning point for video art, displaying works by Charlotte Moorman, Nam June Paik, Ira Schneider, and Aldo Tambellini to great acclaim and cementing the place of AV works within the museum world.²

[&]quot;TV as a Creative Medium." *Howard Wise Gallery*. 17 May 1969. http://www.eai.org/user_files/supporting_documents/tvasacreativemedium_exhibitionbrochure.pdf

Film itself occupies a unique space in the context and history of gallery exhibition. In Film Culture in Transition: Exhibiting Cinema in Contemporary Art, author Erika Balsom writes, "However, though the cinema is older than new media, it is also newer than traditional media such as painting or sculpture. It is a technology aligned with mass culture that may be summoned to provide entertainment and accessibility. Enormous cinema-themed exhibitions and projected-image installations of high glass and bombast underline cinema's novelty in an art institutional context," essentially arguing that cinema's origins in mass culture render it at odds with traditional art museum rhetoric.³ Curiously, the relatively long history of art cinema does not translate to the exhibition of film within museum galleries⁴. Even as experimental and nonnarrative films were collected by institutions such as the Museum of Modern Art througough the mid-20th century, they were typically exhibited in a theatrical setting rather than an open gallery. These distinctions are much more fluid today than in years past; for example, Anthology Film Archives programs an ongoing series titled "White Cube/Black Box," which aims to raise questions regarding the relationship between experimental cinema and audiovisual works by visual artists 5

Balsom focuses her aforementioned study on the boom of film-based installations that arose during the 1990s, arguing for a new understanding of audiovisual works in gallery spaces—

³ Erika Balsom, *Film Culture in Transition: Exhibiting Cinema in Contemporary Art.* (Amsterdam: Amsterdam University Press, 2013), 11.

⁴ In a 2012 article for the *Moving Image Review & Art Journal* titled "Brakhage's sour grapes, or notes on experimental cinema in the art world," Balsom details arguments between Stan Brakhage and Paul Sharits on the divide between the experimental cinema community and those, like Sharits, who exhibited their work in gallery spaces.

⁵ "White Cube/Black Box." *Anthology Film Archives* http://anthologyfilmarchives.org/film screenings/series/42451

In place of video art, artists' cinema has emerged. Far from reducible to a single postulate, this cinema is multifaceted. It encompasses single-channel works alongside multiscreen projection, film as well as video, looped exhibition and scheduled screening times [...], and works made expressly for a gallery context and those made for traditional cinematic exhibition but now transported into the white cube.⁶

These theoretical discussions warrant further exploration than this project—which aims to examine logistical and curatorial concerns when displaying AV elements across all museum types, not only those exhibiting art—can provide. Unfortunately, little information is available on the history of audiovisual displays within non-art museums (i.e. as a means of relaying information), whether through showing archival footage of a historical event or an animation demonstrating the evolution of a species over centuries.

Exhibiting AV: Curatorial Concerns

Different museum sectors will approach audiovisual displays with distinctive concerns. Consistent between these museum types—art, science, and history—is the presence of open gallery spaces and the difficulties posed for AV materials therein. As opposed to a theatrical setting, open galleries present the challenge of patrons entering and exiting at their leisure, in addition to a slew of sound bleed and lighting issues. Unlike art museums, where original format of an object plays a major role, science and history museums are far more likely to utilize exclusively digital projections as a means of relaying information. One possible exception would be an institution such as the Museum of the Moving Image demonstrating the mechanics of a film projector and exhibiting a looped film in the process. When asked about that particular possibility, Walker confirmed this assumption, stating, "We have rarely had film projection in exhibitions. [...] The only reason I can imagine using film in an exhibition if it is a curatorial or otherwise conceptual necessity... if the projection process itself is part of the installation or

⁶ Ibid., 13.

artist's intent. Otherwise, if it is the content that is important, versus the mode of delivery, then I see no reason to have film."⁷

Though the specifics of these considerations differ, all museums that display audiovisual installations must weigh curatorial decisions in the exhibition planning stage. For an art museum, curators must consider the importance of presenting a piece in its original format (a particular concern for works originated or film or analog video) and whether the machines required for projection are intended to be visible or hidden. Additionally, curators grapple with the notion of visitors entering and leaving during a piece, potentially only viewing a portion of an AV work—planning the flow of the exhibition and its egress points around whether patrons are intended to view a piece from start to finish.

These issues are somewhat more flexible when exhibiting the work of a living artist who is able to modify past installation guides as needed; curators are understandably less likely to impose changes on the work of a deceased artist—lest venturing into murky ethical territory. In *Exposing the Film Apparatus: The Film Archive as a Research Laboratory*, Julia Noordegraaf refers to the digitized works of visual artist Marijke van Warmerdam, whose choice to forgo film exhibition fundamentally altered her works. Though she had exhibited with a customized EIKI 16mm projector and loop apparatus for years, Van Warmerdam eventually conceded to digital projection despite her stated preference for the analog medium. In this case, curators had the benefit of working with the artist in order to construct an exhibition, yet this is obviously not always a possibility. For works where the artist is deceased or otherwise unavailable, curators

⁷ Email correspondence with Wendell Walker, 20 April 2017.

⁸ Julia Noordegraaf, "The Analog Film Projector in Marijke Van Warmerdam's Digitized Film Installations," *Exposing the Film Apparatus: The Film Archive as a Research Laboratory* (Amsterdam: Amsterdam University Press, 2016), 213-221.

and designers should attempt to present a work according to its original construction when at all

possible.

Of equal importance is the recognition of whether a piece was originally intended to be exhibited theatrically or within a gallery. On this subject, Austrian Film Museum director Alexander Horwath scathingly renounces the notion of exhibiting film works in galleries that were originally meant for theatrical screenings, stating, "The high popularity of film in art shows today (and of 'film in art' shows) stands in an inverse relation to the number of successful presentation models that we see [...] What I'm talking about are the various attempts, mainly curatorial but also by artists themselves, to turn existing film works into pseudo-installations or into pallid plasma pictures on the wall." To Horwath, the concept of cinema is a strictly-theatrical experience, and any manipulation of such works in a gallery detracts from the intended experience.

Curators are also tasked with considering the relationships established between works within an exhibition. Theatrical showings of films either stand alone or are placed in conversation with other films within a series, but the immediacy of two pieces next to each other in a gallery is undeniable and can have a powerful effect on what information or meaning is conveyed. This issue will be discussed further when outlining practical issues, as sound or light bleed can significantly affect the overall conceit of an exhibition and how patrons interpret individual pieces. For non-art museums, the interplay between audiovisual displays and objects is particularly relevant. History museums, for example, are likely to show archival footage of a historical event paired next to an object from that same era or event. Similarly, science museums

⁹ Alexander Horwath, *Film Curatorship: Archives, Museums, and the Digital Marketplace* (Vienna: Österreichisches Filmmuseum, 2008), 133.

may show an experiment via television screen positioned near an interactive model of those specific chemical bonds or elements depicted onscreen. This method of interdisciplinary display engages visitors beyond the basic model of reading, looking, and moving on. By suggesting connections between audiovisual elements and their surrounding objects, curators are facilitating powerful learning opportunities.

Practical Issues and Logistics of Exhibiting AV Material

In addition to the many theoretical questions that arise in the planning of a museum's audiovisual display, logistical and practical issues abound—with the potential to result in tension between museum departments' competing interests. For example, conservators may not be satisfied with light levels or the intended circulation route through an exhibit as constructed by designers. These issues are complicated even further with the introduction of audiovisual elements that require complicated equipment and moving parts.

Sound and lighting are two fundamental aspects of exhibition design, and play a crucial role in the presentation of audiovisual pieces. The term "sound bleed" refers to the audio component of a display being heard outside its intended viewing area. Understandably, managing sound bleed is a major concern when designing and constructing exhibitions that feature audio components, either as standalone pieces or in combination with visuals. Directional speakers and careful placement can alleviate unwanted sound bleed issues, and such a setup would undoubtedly benefit from the added input of an audio engineer or similar specialist. Wendell Walker spoke of a surprising way the Museum of the Moving Image addresses sound bleed, stating that the museum frequently "use balanced sound bleed as a way of filling spaces, and sometimes it can be used to lead visitors from one area to another." 10

¹⁰ Email correspondence with Wendell Walker, 20 April 2017.

Lighting is similarly complicated; some audiovisual displays demanded a dimly-lit room; others, such as a backlit screen, can be easily viewed regardless of light level. Since audiovisual displays are (with rare exception) not displaying a unique object, lighting is not as serious a conservation concern as it may be with paintings or photographs. Instead, lighting concerns with audiovisual stem from visibility and accuracy to an artist's intentions (for an art museum, that is). The College Art Association's "Guidelines for Presenting Works in Digital Format's" advice on the subject is relevant for analog pieces as well,

Be sure to consider how gallery lighting, natural lighting, and various shadows will affect work throughout the span of day and night. Also consider that screens and projections are themselves light sources, and are commonly dynamic. This can cause lighting shifts and color flashes that affect the viewing of nearby works. There are blackout materials that can be used to cover windows. Lights on dimmers work best to find the optimal level of low light. Exit lights usually need to remain illuminated. These considerations should also be taken into account when positioning works.¹¹

As this quote suggests, trial and error are the most reliable tools for both sound and lighting when constructing an exhibition with audiovisual elements.

Analog film poses a set of unique challenges when designing and maintaining audiovisual exhibitions—from the arguable and increasing obsolescence of analog film as a medium for visual (i.e. gallery-oriented) artists to the the technical issues inherent to old machinery. That said, art museums in particular still exhibit film on a regular basis, predominantly with the use of loopers—contraptions that enable projectors (usually, though not always 16mm) to play the same print on repeat. As archivist Matthew Cowan detailed in his 2012 TechFocus talk, "Installation and Exhibition: Film Projection in the Gallery," loopers come in both handled and tabletop varieties, with some professionally constructed and others

¹¹ "Guidelines for Presenting Works in Digital Format." *College Art Association*. 26 October 2014. http://www.collegeart.org/standards-and-guidelines/guidelines/digital-format

homemade. Cowan asserts that images and resources on the construction and use of loopers are inexplicably vague and difficult for museum and gallery workers to obtain. ¹² After considering the overall dearth of widely-available audiovisual exhibition design materials, this is perhaps not surprising, but nonetheless frustrating for those attempting to design film-based exhibits.

Cowan speaks further to the wear and tear that nonstop analog film projection can have. Separately, both he and Walter Forsberg, media archivist at NMAAHC, state that prints last roughly 2-3 weeks of constant projection before needing replaced, with bulbs and belts needing replacement just as frequently. The importance of having trained staff at the ready cannot be overstated when projecting film in a gallery, especially when a malfunctioning projector could result in burned film or damage to an obsolete machine with difficult-to-source parts. Audience interference is an issue with all types of AV displays (accidental bumps resulting in a misaligned projection), but are of particular concern with analog film, where such a misstep could result in more than cosmetic damage to the equipment.

Case Study: National Museum of African American History and Culture

Opened in 2016, the National Museum of African American History and Culture, a Smithsonian institution, exhibits the home movies of Reverend S.S. Jones on film as a part of their second-floor "Everyday Beauty" exhibition. Without acknowledging that the content is projected on 16mm film, the museum's website describes Jones as "an amateur filmmaker, Baptist minister and businessman based in Oklahoma. Jones' home movie footage shows vibrant African American communities in Oklahoma in the 1920s, several years after the Tulsa riots."13

¹² Matthew Cowan. "Installation and Exhibition: Film Projection in the Gallery." *TechFocus II*. 28 April 2012. https://vimeo.com/111421662

^{13 &}quot;Everyday Beauty" National Museum of African American History and Culture. https://nmaahc.si.edu/everyday-beauty

Conversations with the museum's media archivist, Walter Forsberg, illuminated the challenges and decisions that led to this installation.¹⁴

According to Forsberg, the Smithsonian's Exhibitions Team handles these concerns, rather than audiovisual specialists, which proved particularly challenging with the 16mm home movie footage. Forsberg stated he and the curator fought particularly hard in favor of having film projected in the gallery in order to convey historical accuracy to these important objects, despite a blanket unwillingness to learn about the format on the part of the Exhibitions Team, resulting in the audiovisual archivists bearing the burden of daily maintenance for the piece. Despite the difficulties, Forsberg states that his team ultimately benefit from learning how to repair EIKI SSL-O projectors and maintain looper systems.

The team tries to check projectors twice daily. NMAAHC is open seven days a week, every day of the year except December 25th, resulting in regular need for replacement parts in AV displays. Projector belts and bulbs need changed out on a 1-2 week basis, and the 16mm print gets replaced every 2-3 weeks at best (that is, if projectors are cared for when stopping and starting the film). Forsberg noted the importance of having a separate backup machine from which to pull parts or swap entirely, especially given the lack of care that other museum staff have paid to the machine and film. The screen was another point of contention for this exhibit—while the Exhibitions Team initially lobbied for a Plexiglas screen that would enable Jones' home movies to be viewed from both sides, Plexiglas did not (as Forsberg predicted) provide the necessary luminance, rendering the image difficult to see. Shortly after the exhibition opened, proper film screens were purchased and swapped in. This flexibility and capability to make

¹⁴ Email correspondence with Walter Forsberg, 5 May 2017.

changes even after opening is a crucial element with AV exhibitions, as they often do not involve enough testing beforehand.¹⁵

This examination of Rev. Jones' home movies at NMAAHC sheds light on the communication difficulties that arise when handling complex formats and exhibition challenges, even (or perhaps especially) at a well-sourced and top-tier institution such as the Smithsonian. Forsberg alludes to a territorial nature between departments, and the lack of cooperation and minimal testing resulted in last minute changes needing to be made. An important note is that this was the museum's first film installation, and future exhibits will likely benefit from the resolution of these past challenges

Collection and Analysis of AV Exhibition Resources

As confirmed by both Wendell Walker and Walter Forsberg, comprehensive resources on the subject of audiovisual exhibition are rare, and exhibition designers often rely on personal experience and trial and error to perfect an installation. This lack of reliable documents to reference or standardized exhibition guidelines can result in technical failure or a poorly constructed display—with such great care and attention paid to standardization in other areas of exhibition design (wall labels, lighting, paths for foot traffic), audiovisual elements should not be left behind. Particularly when dealing with technology outside the realm of traditional IT or exhibition design departments such as film projection loopers, CRT monitors, or obsolete computers, specific knowledge is required in order to produce a successful exhibition. For larger institutions that maintain specific media conservation or audiovisual departments this is less of a concern, but smaller museums or galleries would undoubtedly benefit from a widely-available reference guide that provides instructions or at very least other sources that can aid in the

¹⁵ Email correspondence with Walter Forsberg, 5 May 2017.

construction of such an installation. The following paragraphs describe resources that are easily accessible on the subject:

- Smithsonian Guidelines for Accessible Exhibition Design, Section IV: This document includes mandates for constructing exhibition spaces that are accessible to patrons regardless of ability status. These guidelines are mandatory for Smithsonian institutions and exhibits, but other museums—such as the Museum of the Moving Image—employ their recommendations as well. Section IV: Audiovisuals and Interactives, addresses the use of moving image materials in exhibitions, providing instruction related to when captioning and/or audio description are necessary as well as the ideal heights and angles of screens and interactive pieces to best suit those of all heights and any wheelchair users. In comparison to other available resources, the Guidelines for Accessible Exhibition Design provide far more specific figures with a highly specific degree of detail. However, these guidelines are geared toward informational displays such as found in science and/or history museums, rather than an art museum's exhibition of video art, where a piece's dimensions and installation specifics may be prescribed by the artist and therefore inflexible.

 16
- College Art Association Guidelines for Presenting Works in Digital Format: This document from the CAA details the exhibition of born-digital or digitized works. Unlike any other available resources, these guidelines include information aimed at institutions as well as a section geared toward helping artists prepare for an exhibition—that is, using proper file formats, ensuring that their carrier will be playable on the institution's

^{16 &}quot;Guidelines for Accessible Exhibition Design: Section IV." Smithsonian Institution. https://www.si.edu/Accessibility/SGAED

equipment, and considering the space in which a work will be exhibited. The guide distinguishes between projected and screen-based works, as well as stand-alone audio, and considers the benefits and challenges of online art submissions (from Vimeo or a cloud-based service) versus those delivered via hard drive or USB memory stick. By providing helpful information to both sides of the art exhibition equation, this CAA resource proves eminently useful in the exhibition design and execution phase when dealing specifically with digital formats.¹⁷

- nonprofit distributor of experimental video and media art EAI released a resource guide in 2007 with a significant portion dedicated to gallery exhibition. Fairly exhaustive, this guide is broken down into subsections on single-channel video, computer-based arts, and installation works, with no specific instructions for film projection. Published ten years ago and only sparsely updated in the years since, the EAI Resource Guide is woefully outdated. For example, the introductory page in the computer-based arts subsection speaks of exhibition strategies "as artists generate projects specifically for mobile phones, PDAs and iPods"—technologies that evoke the mid-2000s. ¹⁸ Still, the EAI Resource Guide is extremely comprehensive, using case studies and covering equipment and technical issues, budgets, contracts, and shipping procedures for electronic art (though primarily geared toward working with EAI itself).
- **TechFocus Workshop Series**: While many of these resources avoid mention of technical specifics and instead concern themselves with generalizations on exhibition design, the

¹⁷ "Guidelines for Presenting Works in Digital Format."

^{18 &}quot;Computer-based Arts." *EAI Media Art Resource Guide*. http://www.eai.org/resourceguide/exhibition/computer.html

TechFocus symposiums are each "dedicated to one specific media-art technology. A systematic lecture program, delivered by international experts, introduces workshop participants to the technology behind these artworks, and offers real-world guidelines for their preservation." As this blurb suggests, the workshops operate in a preservation-focused context, yet several individual sessions across each of the three workshops (Caring for Video Art, 2010; Caring for Film and Slide Art, 2012; and Caring for Software-Based Art, 2015) examine exhibition needs of specific formats when addressing art exhibitions. These conferences are geared toward art institutions rather than science and history museums.

Of particular interest are Matthew Cowan's 2012 presentation (discussed above) titled "Installation and Exhibition: Film Projection in the Gallery," Sara Gordon Bender's "Slide Projection in the Gallery," Janice Allen's "Creation of Exhibition Copies: Motion Picture Film," and "Preparing for Exhibition: Peng Mengbo 'Long March: Restart' (2008)"—all available via Vimeo on CoOL's website. Recordings from the first TechFocus would also likely prove helpful in this arena (e.g. Steven Dye's "Assembling Video Art" and Heather Lyon Weaver's "Preservation and Exhibition of Video Art, Featuring Installations by Artist Doug Hall"), yet are not available to view. In addition to recordings of these talks, the presence of transcripts would result in this TechFocus collection emerging as a foremost resource for audiovisual exhibition guidance.

¹⁹ "About TechFocus." *Conservation Online Resources (CoOL)*. http://resources.conservation-us.org/techfocus/

- *Manual of Museum Exhibitions*, Section 7.3: This sprawling text, edited by Barry Lord and Gail Dexter Lord, covers a wide variety of aspects related to exhibition design and construction, with section 7.3 covering "Audio-Visual Hardware." While likely useful on an extremely macro scale, the lack of specificity in this text suggests that it was not written by an audiovisual specialist, but instead a general exhibition designer or other museum professional. Opaque statements such as "the co-ordination of requirements of the hardware in relation to the software is important to the final presentation in the exhibition" are not factually incorrect, but seem unlikely to result in tangible benefit to an institution's planning efforts.²⁰
- Guggenheim Preservation Model: In recent years the Guggenheim has emerged as one of the foremost figures in time-based media preservation and exhibition. Found on their website are three separate documents featuring graphic models of the institution's approach to the subject, detailing recommended formats for each stage of managing a video or born-digital work in a museum. These models are not descriptive, and instead show small images of various formats and arrows without explaining reasoning or methodology behind the choices. Unfortunately, these publicly-available documents were last updated in 2012, and recommend the use of outdated technologies such as Digital Betacam and Gold DVD for archival and duplication purposes. While the Guggenheim's own practices have likely shifted, other institutions would benefit from an update to these resources. This preservation model serves little use as a standalone object, but in conjunction with other resources could prove valuable.²¹

²⁰ "7.3: Audio-visual Hardware," *The Manual of Museum Exhibitions* ed. Barry Lord, Gail Dexter Lord, (Altamira Press, 2001), 214-224.

²¹ "Guggenheim Preservation Model: Analog Standard Definition Video" *Solomon R*.

Conclusion

Exhibiting audiovisual works in museum galleries is undeniably complicated, with considerations to be made depending on setting, format, budget, and an array of more theoretical, curatorial concerns. Though no single resource could ever capture the intricacies of exhibition audiovisual materials—especially one that encompasses the needs of science, history, and art museums—a widely-available collection of resources on the subject could be extremely beneficial to exhibition designers and museum employees across departments. This project serves as a springboard for such a collection, one that will hopefully grow and prove useful within the museum world.

Guggenheim Museum. 2012. https://www.guggenheim.org/wp-content/uploads/2015/11/guggenheim-time-based-media-preservation-model-for-analog-standard-definition-video-2012.pdf

Works Cited

- "7.3: Audio-visual Hardware," *The Manual of Museum Exhibitions* ed. Barry Lord, Gail Dexter Lord. (Altamira Press, 2001), 214-224.
- "About TechFocus." *Conservation Online Resources (CoOL)*. http://resources.conservation-us.org/techfocus/
- "About the Resource Guide." *EAI Media Art Resource Guide*. 2007. http://www.eai.org/resourceguide/about.html
- Balsom, Erika. Film Culture in Transition: Exhibiting Cinema in Contemporary Art. (Amsterdam: Amsterdam University Press, 2013), 11.
- Cowan, Matthew. "Installation and Exhibition: Film Projection in the Gallery." *TechFocus II*. 28 April 2012. https://vimeo.com/111421662
- "Everyday Beauty" *National Museum of African American History and Culture*. https://nmaahc.si.edu/everyday-beauty
- "Guidelines for Accessible Exhibition Design: Section IV." *Smithsonian Institution*. https://www.si.edu/Accessibility/SGAED
- "Guidelines for Presenting Works in Digital Format." *College Art Association*. 26 October 2014. http://www.collegeart.org/standards-and-guidelines/guidelines/digital-format
- "Guggenheim Preservation Model: Analog Standard Definition Video" *Solomon R. Guggenheim Museum.* 2012. https://www.guggenheim.org/wp-content/uploads/2015/11/guggenheim-time-based-media-preservation-model-for-analog-standard-definition-video-2012.pdf
- Horwath, Alexander. Film Curatorship: Archives, Museums, and the Digital Marketplace (Vienna: Österreichisches Filmmuseum, 2008), 133.
- Noordegraaf, Julia. "The Analog Film Projector in Marijke Van Warmerdam's Digitized Film Installations," *Exposing the Film Apparatus: The Film Archive as a Research Laboratory* (Amsterdam: Amsterdam University Press, 2016), 213-221.
- Prescott, Leah and Erway, Ricky. "Single Search: The Quest for the Holy Grail." *Online Computer Library Center, Inc.* July 2011. http://www.oclc.org/content/dam/research/publications/library/2011/2011-17.pdf
- "TV as a Creative Medium." *Howard Wise Gallery*. 17 May 1969. http://www.eai.org/user_files/supporting_documents/tvasacreativemedium_exhibitionbrochure.pdf

"White Cube/Black Box." *Anthology Film Archives*. http://anthologyfilmarchives.org/film_screenings/series/42451