CAN MUSEUMS SAVE VIDEO INSTALLATION ART AT THE MOMENT OF ACCESSION?

by

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INTRODUCTION

Video installation art is a complex form of art and a “specialty” that no one person can master. This art does not get the full attention it needs since it requires a different approach to the standards of care given to traditional art.

—Michelle Barger

“Do you think we’ll be able to find those monitors on eBay?” I imagine many contemporary art museum registrars and conservators ask each other this question as they struggle to preserve video installation artwork by Nam June Paik using television monitors that are quickly becoming obsolete due to advances in technology. For example, in Paik’s 1989 TV Clock (see Fig. 1) he arranges twenty-four manipulated cathode ray tube (CRT) color television monitors in a row on top of tall black pedestals. All twenty-four monitors are of the same type, shape, and color. Paik manipulated the cathode ray tubes inside the monitors so they would display fixed beams of light on the screens,

1 Michelle Barger, Associate Conservator of Objects, San Francisco Museum of Modern Art, personal interview by author, 10 December 2003, San Francisco.
different times on a
clock. As each cathode
ray tube burns out over
time due to wear,
registrars have worked
with conservators to
simply replace the tubes with their equivalents. However, with the influx
of flat panel television monitors on the market, cathode ray tubes are
becoming a thing of the past. As a result, registrars and conservators
have had to seek out places to find them. Already in 1999, this challenge
was clear to Pip Laurenson, Sculpture Conservator for Electronic Media
and Kinetic Arts at the Tate Gallery in London (Tate) as evidence in her
writing about a similar CRT monitor-based artwork by Gary Hill, titled
Between Cinema and a Hard Place (see Fig. 2):

that cathode ray tube technology will be superseded in the
next few years by liquid crystal display panels. The [Tate]

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2 According to conservator Pip Laurenson in her article, “‘The Mortal Image’—The Conservation
Heuman (London: Tate Gallery Publishing, 1999), 113-114: “The cathode ray tube was first
developed in 1897 by German scientist Ferdinand Braun. However it was not used in the first
television sets until the late 1940s. This technology is now 100 years old, and is unlikely to last
another 100 years. The demise of the old cathode ray tube monitors is already evident since the
first flat liquid crystal display panel television was launched in 1997. Although 100 years is a long
time in terms of technological developments, it is a short lifespan for an artwork…It may not
matter that a replacement cathode ray tube is of the same make, but it is important that it is not
replaced by an entirely different technology. Along with holding a set of spare monitors which can
be used for parts in the future, we must also try to predict and document the information which will
be of the greatest value for future generations of conservators.”
Gallery has acquired an extra set of monitors, which will provide spare parts for some time. However, this will only be a temporary solution, and the problem of how to replace this equipment when it is no longer widely available remains.³

Thus, once the remaining pool of CRT monitors is depleted, Nam June Paik’s *TV Clock* and Gary Hill’s *Between Cinema and a Hard Place* run the risk of becoming obsolete and unexhibitable—and this is just the beginning of the many problems surrounding the preservation of video installation artwork.

Video installation art is defined as installation art incorporating the use of video and moving parts in its assembly, which must be carefully constructed and installed within a designated space as defined by the artist. Each video installation artwork is different in the number and types of components used and the way it is installed within a selected space, and may or may not include the use of sound. For instance, video installation art can be made up of one monitor displaying a single video image; three monitors showing three separate video images synched together using a time delay device; a video image projected onto a screen or wall; or a

combination of all of these. They may also use a video format that is made from an analogue signal or a digitally encoded signal in the form of 1s and 0s, such as an analogue VHS magnetic tape, a digitally encoded BetaSP magnetic tape, or a digitally encoded DVD laser optical disc. Furthermore, these video format types dictate the type of video playback equipment used in the artwork, such as a VHS, BetaSP, or DVD playback device.

Due to its site-specificity and dependency on technology, video installation art has come to rely on museums for its very existence. However, because its origins as a conceptual art form lie in challenging preconceived notions of what constitutes a work of art to be, its preservation becomes a daunting task for registrars and conservators whose training and experience is geared towards artwork made from traditional media, such as paintings, sculptures, textiles, photographs, and works on paper. Additionally, registrars and conservators are bound by a museum code of ethics to preserve all the artwork in their museum’s collections—even those that are meant to have a shorter shelf life. As one

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5 Julie H. Reiss, *From Margin to Center: The Spaces of Installation Art* (Cambridge, Massachusetts: The MIT Press, 1999), 70.
museum registrar with whom I spoke laments, “We haven't really had the time, staff, or resources to deal with this subject.” Without needed resources, trained staff, and adequate time to deal with video installation artworks, museum registrars will be left to fashion disparate and potentially ill-informed approaches to safeguarding video installation art from disorder, decay and/or obsolescence.6

Simply put, video installation art is in danger of becoming non-functional almost as soon as it is accessioned into the museum. In speaking with Robert Hollister, Director of Collections and Registration, and David Bradshaw, Exhibitions Technical Manager, of the Museum of Contemporary Art, Los Angeles (MOCA), I learned that in 2000 MOCA acquired Sarah Sze’s 1999 mixed-media/video installation artwork titled Many a Slip (see Fig. 3). After sitting in storage for nearly two years, the museum decided to install the artwork for its exhibition titled “Sittings:

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Installation Art 1969-2002” at the Geffen Contemporary exhibition annex. During the reinstallation process Hollister and Bradshaw found out after speaking with the artist that this artwork originally included six little Sony CPJ-100 or Sony CPJ-200 video projectors, which, at the time the artwork was created in 1999, were very popular among artists working with projection. However, by 2002, these projectors were no longer on the market and proved very difficult to find. At the time this artwork was accessioned in 2000, the museum’s registrar did not know about the inclusion of these projectors in Sze’s artwork. If known, the registrar could have anticipated the future need for these six projectors. Hollister and Bradshaw were able to consult with the artist and purchase, via eBay, some used models of the Sony CPJ projectors (see Fig. 4)—but due to the exhibition installation schedule, not enough projectors could be purchased in time. MOCA decided to update to data projectors since pure video projectors are no longer made. Sze’s artistic intent for her artwork was to bury the projectors deep inside the sculptural elements of her installation, and tilt the projectors in different orientations in order to cast visual images that bounced off the surrounding gallery walls, giving the
installation its own enchanted illumination. However, since these types of projectors are not meant to be tilted more than five degrees from their original upright position due to heat build-up in the bulbs—meaning they are to sit horizontally on a flat surface and project an image directly onto a perpendicular wall or screen—they burnt out two months into the exhibition. Hollister and Bradshaw contacted the manufacturer for replacement bulbs, but learned that they had been backordered for a month and no production date was anticipated. As a result, *Many a Slip* was closed for the remaining two months of the exhibition. Currently, it is sitting in storage in a state of deep sleep until the replacement bulbs finally become available. However, finding the funding for these new bulbs once they become available is another factor MOCA must consider, since curatorial demand for this artwork decreased upon the closing of the exhibition.\(^7\) Furthermore, replacing the video projectors with newer versions of a different size and type may affect the original look of the artwork, and may or may not conflict with Sarah Sze’s artistic intent. The difficulties surrounding the preservation of *Many a Slip* exemplify how practical solutions for preserving video installation art need to be

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\(^7\) Robert Hollister, Director of Collections and Registration, and David Bradshaw, Exhibitions Technical Manager, The Museum of Contemporary Art, Los Angeles, personal interview by author, 18 May 2004, Los Angeles.
established field-wide. As expressed by Jill Sterrett, Director of Collections and Conservation at the San Francisco Museum of Modern Art (SFMOMA), “As stewards of cultural property, we hand off the art of our times to the next generation. We need to apply practical solutions now to ensure we are able to do so.”

Documenting the preservation needs of contemporary video installation art at the time it is accessioned into the museum is one such practical solution. At this time, registrars are given the opportunity to obtain and record information about the artwork directly from the artist (through interviews or mailed correspondence)—an opportunity not always available to museums. Information learned could include, but is not limited to, the type and number of physical, technical, and conceptual components used in the artwork; how the artwork is to be installed and reinstalled; the dimensions and lighting requirements for the installation space; and how the artist feels about the preservation strategies the registrar may use to ensure the longevity of the artwork—such as changing the type of data projectors used in Sarah Sze’s 1999 Many a Slip.

Diligently documenting this information will allow registrars to create and apply the best possible preservation strategies to video installation art

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according to the artist’s wishes. As conservator Steven W. Dykstra acknowledges, “Precise language and a deliberate understanding of the role of the artist in the artwork allow artists’ intent to be carefully comprehended.” Without obtaining the artist’s intent for his or her artwork, the overarching meaning of the artwork—“its conceptual component”—may be lost to obsolescence in the same fashion as its physical and technical components.

The purpose of this master's project is to identify and improve the accession methods used by registrars to document and preserve video installation art in contemporary art museums. By focusing my research on preservation issues specifically affecting video installation art, I outline how registrars can better collaborate with artists, archivists, conservators, curators, exhibit technicians, and video preservation specialists in an effort to better understand and care for this artwork at the moment it is accessioned. Through an examination of published and unpublished literature, attendance at two professional museum conferences, interviews with eighteen contemporary art museum professionals, artists, and video preservation specialists, and a case study analysis of the accession and preservation practices used at two contemporary art museums, I offer

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registrars recommended guidelines and resources to assist them in the accession and long-term preservation of video installation art. The Background section of this project sketches the history of video installation art in museum settings, the four essential components comprising all video installation artworks, and the inherent preservation issues affecting these components. The Glossary section provides definitions for the most frequently used terms describing video installation art. One recommendation to emerge from my research findings is the creation of an interdepartmental museum “team” approach for accessioning and preserving video installation art. It would pull together resources from the registration, conservation, administration, curatorial, and exhibitions departments to create strategies and solutions for preserving video installation art, thus alleviating the burden placed upon any one person or department. In the case study portion of my Findings and Conclusions section, I explain in more detail the team approach currently being used with great success at the SFMOMA.

The findings and recommendations of my master’s project will be disseminated to registrars via my product titled *A Resource Guide to Accessioning and Preserving Video Installation Art*. This informational resource guide was written primarily for contemporary art museum registrars but will also be a useful reference for archivists, artists,
conservators, curators, exhibit technicians, gallery professionals and private collectors working to preserve video installation art. Due to a lack of published material on this topic, the guide should prove to be a timely and valuable resource.

**Research Questions & Objectives**

I established the following questions and objectives to help guide my research and keep my investigative analysis focused throughout the course of this project:

**Research Questions**

1. What is video installation art?

2. How did video installation art come to be in contemporary art museums?

3. What are some of the typical preservation problems affecting video installation art?

4. How does the preservation of video installation art challenge conventional contemporary art museum registration practices?

5. What methods are contemporary art museum registrars and conservators currently using to help preserve the video installation art in their collections?

6. What is the artist’s role in, and perspective on, the methods used to preserve his or her video installation artwork?

7. How can the accession process help to foster a better preservation plan for video installation art?
Research Objectives

1. To define and describe video installation art.

2. To determine how video installation art came to be in contemporary art museum settings.

3. To understand the typical preservation problems affecting video installation art.

4. To ascertain how the preservation of video installation art challenges conventional contemporary art museum registration practices.

5. To study the methods currently being used by contemporary art museum registrars and conservators for preserving the video installation art in their collections.

6. To assess the living artist’s involvement in, and perspective on, the methods used to preserve his or her video installation artwork.

7. To conclude how contemporary art museum registrars can best use the accession process for preserving video installation art.

8. To compile an informational resource guide that will assist contemporary art museum registrars as they accession and preserve video installation art.

Methodology

In order to identify and improve the accession practices used by contemporary art museum registrars to document and preserve video installation art at the moment of accession, four research methods were used to gather information: a literature review; interviews with eighteen museum registrars, archivists, curators, conservators, exhibit technicians, artists, and video preservation specialists; attendance at two professional...
museum conferences; and a case study analysis of the accession and
preservation practices presently used at two contemporary art museums—
the Solomon R. Guggenheim Museum (Guggenheim) and SFMOMA.10

Literature Review

In order to determine how video installation art is presently
accessioned and preserved by contemporary art museum registrars, I
conducted a literature review of art history, museum, and video
preservation journals, articles, and texts. From the art history publications,
I researched the concepts behind video installation art, how these concepts
challenge traditional ideas of art’s meaning, creation, and preservation,
and how video installation art came to be in contemporary art museum
settings. From the museum publications, I uncovered how video
installation art is defined, the common physical, technical, and conceptual
components comprising a video installation artwork, the typical
preservation problems affecting these components, and some of the
preservation approaches currently being tested in the field. From the
video preservation publications, I learned in-depth technical knowledge
about the video medium itself, including the equipment used to play and

10 Results from my methodology can be found in the Findings and Conclusions section of this
project, as well as in my final product, A Resource Guide to Accessioning and Preserving Video
Installation Art.
display this medium and the rate at which these materials deteriorate and/or become obsolete. Many articles, conference proceedings, and websites relating to video installation art preservation were found in bibliographic references listed in conservation journals, books, and conference handout materials.

**Interviews**

Based on my literature review, attendance at conference sessions, recommendations by other museum professionals, and the availability of the interviewees themselves, I selected eighteen professionals to interview who could provide a more in-depth and timely analysis of video installation art preservation. Of these eighteen professionals interviewed, based in both the United States and Europe, one was an archivist, four were conservators, six were registrars, three were curators, two were exhibit technicians, one was an artist, and one was a video preservation specialist. Interviews with museum professionals were determined to be the most effective way to learn specific preservation problems and/or temporary solutions for the video installation art in their museums collections. Three preliminary interviews were conducted with conservation and registration professionals active in the accession and preservation of video installation art. Listening to their preservation
struggles and recommended solutions helped me to develop my research objectives and determine the overall significance of this project for the museum field. Moreover, two of the three museum professionals interviewed were from contemporary art museums that are now case studied in this project (due to their superlative accession and preservation strategies for video installation art). Listening to artists, either through a direct interview or through attendance at a conference, helped me to better understand the significance of artistic intent and the importance of including artists within the overall accession and preservation process. The video preservation specialist’s interview enhanced my understanding of the different video formats used in video installation art and how best to preserve or upgrade these formats.

Interviews were conducted at the convenience of the interviewee over the phone, in-person, and through email. While I supplied each interviewee with a list of questions, individuals were encouraged to speak openly. From these interviews, I gained a deeper sense of the problems inherent in working with video installation art and the breadth of knowledge expected from museum professionals in order to care for this type of art.
Attendance at Professional Museum Conferences

I attended two professional museum conferences in order to acquire first-hand knowledge regarding the latest preservation and accession strategies used by contemporary art museum registrars in the field. On October 21, 2003, I attended “Concerning the Ephemeral: Materials That Won’t Last” held at the Western Museums Association & British Columbia Museums Association Joint Annual Meeting “Northwest by Southwest: Continuing Our Journey Together,” in Reno, Nevada. This session provided a forum for discussing the storage, preservation, conservation, documentation, and access issues inherent to objects whose composition is essentially transient, virtual, and/or subject to disintegration. On May 8, 2004, I attended the “Echoes of Art: Emulation as a Preservation Strategy” symposium held at the Guggenheim in conjunction with its exhibition “Seeing Double: Emulation in Theory and Practice.” This symposium examined and debated emulation’s usefulness as a preservation strategy for technology-based artwork that faces imminent obsolescence due to advances in technology and/or deterioration from continued use.

At these conferences, I listened to the concerns shared by artists and museum professionals of varying disciplines and video installation art preservation experience. I also participated in open forum discussions,
interviewed registrars, conservators, and curators about their video installation art experiences, and obtained helpful resource materials listing books, articles, websites, and preservation organizations pertinent to my research.

Case Studies

I conducted case studies of the Guggenheim and SFMOMA to better understand the practical approaches registrars are currently taking to document and preserve video installation art at the moment of accession. These museums were chosen based on their active accession of video installation artwork, their superlative accession and preservation methods, their staff and collection size, and the availability of staff to be interviewed. Staff members from the registration, collections information management, curatorial, conservation, and exhibitions/audio-visual departments were interviewed. Site visits were also conducted at each museum for the purpose of viewing installed video installation artwork, to speak with members from the registration, collections information management, conservation, curatorial, and exhibitions/audio-visual

11 Other contemporary art museums were also contacted to be a part of this case study, yet were unable to participate due to a lack of staff availability—which in itself proved to be a valuable finding for this project as it showed how limited staff and budgets can adversely affect the care given to video installation artwork.
departments, and to simply gain an overall perspective of the museum’s preservation strategies.\footnote{During my visit to the Solomon R. Guggenheim museum for its “Echoes of Art: Emulation as a Preservation Strategy” symposium, I was able to view currently installed video installation artwork and spoke briefly with members of conservation and collections management. However, due to time constraints, the majority of the information learned about this museum was gained through follow-up telephone and email conversations with staff.} In advance of the interview, museum professionals were given a questionnaire to review but were also encouraged to speak openly about his or her experiences.\footnote{Refer to Appendix A for a copy of the interview questionnaire.} Copies of SFMOMA’s accession records and policies were acquired for inclusion in this project’s appendices for the benefit of registrars who may wish to use or adapt them to their existing accession procedures.

**Limitations**

Several limitations impacted my ability to identify and improve the accession methods used to document and preserve video installation art in contemporary art museums. Primarily, time constraints limited the scope of this project. My project goal is to examine and improve the documentation methods used to preserve video installation art. While I chose to focus on the moment the artwork is accessioned into the museum, many other circumstances worthy of examination were not addressed.
These include: museum storage conditions (especially the issue of space since large and numerous component parts comprise this artwork); the creation of a registration tracking method to physically number or tag each artwork component while in storage or on exhibit; the designing of a custom collections management database system for video installation art and other time-based media artwork; a detailed look into materials science and the process taken by conservators to care for ephemeral materials, including the physical mediums of film and video; copyright laws; the creation of a collections management policy for video installation art; and the creation of outgoing loan instructions for traveling exhibitions.\(^\text{14}\) The focus of my research also precluded an investigation into the entire acquisition process, including whether or not to acquire a video installation artwork based on each museum’s collection management policy, and the costs associated with procuring and maintaining a video installation artwork once it is acquired.\(^\text{15}\) In addition, only the preservation issues affecting the physical, technical, and conceptual components of video installation art have been addressed, not those of film and its display.

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\(^{14}\) Refer to Appendix C for a listing of organizations offering film and video preservation services.

\(^{15}\) The acquisition process is crucial for museums interested in acquiring video installation artwork, as this process will reveal if a museum has the resources to care for this type of artwork, or if one video installation artwork is easier to maintain in terms of costs and future preservation issues than another video installation artwork. The acquisition process and its affect on contemporary art museum collecting practices would make for a great future master’s project.
and playback equipment. Due to the vast amount of computer programming terminology that must be explained, I felt that strategies needed to preserve computer digital art technology, such as Internet Art, are definitely needed and warrant further research, but merit a separate investigation. Lastly, another area in need of separate research is the fact that video installation art’s preservation is not limited to just museum settings, especially since museums do not exist within a vacuum. Galleries, private collectors, and corporations—who, consequently, regularly loan this artwork to museums—also actively acquire video installation art. A more detailed look is required into how these entities document and care for their video installation artwork.

Time constraints also limited the number of site visits I could conduct. Due to the complex nature of this topic and the fact that it is so current in the field, additional site visits and interviews would have been beneficial in order to gain a more wide-ranging perspective. A case study of, and site visit to, the Tate would have proven most useful to this project, since this museum’s documentation and preservation practices for video

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16 The preservation issues affecting digital art are similar to those for video installation art. Due to this, comments from digital artists have been included in the Findings section of this project. Additionally, the Guggenheim’s Variable Media Initiative, for which I speak about in my Findings section, is simultaneously addressing the preservation challenges of this medium. For more information about the Variable Media Initiative, refer to the Findings section as well as the following website: http://www-variablemedia.net.
installation artwork are highlighted throughout this project. Unfortunately, this was not an option for reasons of time, money, and availability of staff. A case study of the Tate would have provided a more in-depth analysis of these practices and the opportunity to speak with and gain knowledge from staff, including Pip Laurenson, since she is currently in the process of producing a handbook for the care and management of time-based media artwork.\textsuperscript{17} It must also be noted here that, due to a lack of time and resources, artists’ opinions about the documentation and preservation of their artworks were only obtained through attendance at one professional museum conference and one direct artist interview. More artist interviews would have provided richer insight into artists’ perspectives on how best to document and preserve video installation art.

An additional factor inhibiting a more robust discussion of video installation art preservation is my own lack of expertise in producing or caring for this artwork. Before beginning this project, the only experience I had with video installation artwork was through viewing it on exhibition at SFMOMA in November of 2001. While the collections management and preventive conservation training I received—through both my museum studies graduate program and internships at art museums—

\textsuperscript{17} Pip Laurenson, “Re: [AMIA-L] Controlled Vocabulary,” 16 April 2002, \texttt{<amia-l@lsv.uky.edu>} (11 February 2004).
touched on the some of the challenges associated with preserving technology-based artwork, practical registration methods for documenting video installation art’s physical, technical, and conceptual components were not addressed. However, my lack of experience is representative of the majority of contemporary art museum registrars in the field who are now faced with accessioning and caring for video installation artwork. Through this project, I have learned to explore this limitation when seeking out optimal resources and guidelines to include in my informational resource guide for the field. Following is a description of this guide.\footnote{Refer to the Product section for a completed version of this guide.}

**Product Description**

*A Resource Guide to Accessioning and Preserving Video Installation Art* was written for the benefit of contemporary art museum registrars struggling with, but dedicated to, the preservation of video installation art. Traditionally, registrars have had access to volumes of resource materials offering “best practices” guidelines for preserving museum collections, including time-tested and peer reviewed sample worksheets, databases, and collections management policies. *The New Museum Registration Methods*, created by the Registrars Committee of the
American Association of Museums, is one such resource. Considered the “bible” of all registration handbooks, as well as the main textbook in collections management training programs, it offers museum collections personnel a concise set of guidelines and essays into the care, safety, and documentation of museum collections.\(^\text{19}\) Unfortunately, the vast majority of these resources focus on standards of care given to artwork that are made of traditional media, such as paintings, sculptures, and works on paper. Conceptually-based, non-medium specific art, such as video installation art, are not addressed. This is primarily because museums have only begun to collect and accession video installation art in earnest within the past decade. Thus, the emergence of video installation art is changing the very tools traditionally trained registrars have used to care for museum collections.

The first challenge to preserving video installation art is learning the various physical, technical, and conceptual components involved in the artwork. “What type of videotape is that, how long will it last, and with whom should I consult once it no longer plays?” These are a few of the questions commonly asked by registrars sensitive to video installation art’s special needs. The next challenge lies in understanding how each

artwork is uniquely created and displayed. For example, one video installation artwork may consist of two video projectors, two screens, and one Sony DVD playback device, and may be displayed in a large semi-enclosed gallery space with other artwork nearby; while another video installation artwork may consist of one CRT television video monitor, one pedestal, and one Sony DVD playback device, and may be displayed in a fully-enclosed, empty dark room with no other artwork present. The result is that registrars presently accession and preserve each video installation artwork in their care on a case-by-case basis using an ad hoc, and sometimes ill-informed, approach.

The decision to create a resource guide was made in the early stages of my master’s project research. I realized information describing methods for accessioning and preserving video installation artwork were limited to a few published and unpublished essays written predominantly by conservators. This realization was confirmed after speaking with registrars, conservators, exhibit technicians, and curators experienced with video installation artwork. Given this, the timeliness of this resource guide could not be better. In this resource guide, I combine information learned through a review of these published and unpublished essays, as well as through my interviews with eighteen museum professionals, artists, and video preservation specialists, attendance at two professional
museum conferences, and a case study analysis of the accession practices used at the Guggenheim and SFMOMA.

A resource guide is the optimal vehicle for disseminating valuable information to registrars in the field. As the demands of museum work require registrars to be efficient, timely, and budget-conscious in their day-to-day schedules, an easy-to-use guide will greatly assist them in meeting these demands. Due to the complexity of video installation art, registrars will need to seek specialized assistance from their colleagues in curatorial, exhibitions, conservation, and administration. This resource guide can be a catalyst for collaboration by identifying universally understood terminology for video installation artwork components. This is particularly important when defining the type of information needed about the artwork and who will be responsible for acquiring, recording, and explaining it. The information presented in this guide answers the following questions:

- What is video installation art?
- What preservation issues do art museum registrars need to be aware of before accessioning video installation artwork?
- How does the accession of video installation art challenge conventional art museum registration practices?
- How are museum registrars currently approaching the accession of video installation artwork?
• What is the artist’s role during this accession process?

This resource guide is printed on six and one-quarter by eight and three-quarter inch white bond paper and contains a total of thirty-seven double-side pages. The guide is compiled in a booklet format with binding on its left side and plastic protector sheets over its front and back covers. The content of this guide is divided into twelve overall sections. In the foreword, I outline the purpose of this guide and the audience for which it is intended. I also explain how this guide emerged from my master’s project at John F. Kennedy University and encourage readers to contact me directly with comments or requests for additional copies. In the introduction I explain my reasons for creating the guide, as well as provide a summary of its content structure. The introductory chapter leads into section four, which is titled “What is Video Installation Art?” In this section I provide a concise definition of video installation art. In the section that follows, I describe the four main components common to all video installation artwork. This leads into a description of some of the common preservation issues affecting these components. Section seven, titled “Recommendations for Accessioning & Preserving Video Installation Art,” includes recommended solutions for establishing effective documentation and preservation methods. Section eight includes samples of practical accession procedures. The final four sections include
a Glossary, Selected Bibliography, Internet Resources, and Endnotes. The glossary provides definitions for universally used terms for video installation artwork components and concepts. In the selected bibliography and Internet resources sections, the reader is directed to books, articles, published conference proceedings, and websites discussing video installation art preservation. It is hoped that this guide will foster increased collaboration between all museum professionals committed to preserving video installation art.

_A Resource Guide to Accessioning and Preserving Video Installation Art_ supports the goals of my master’s project by offering registrars a source for understanding, accessioning, and preserving video installation artwork. It compiles information in a simplified structure that while most relevant for contemporary art museum registrars, may also be useful for conservators, curators, exhibit technicians, gallery professionals and private collectors working with video installation artwork. This resource guide will be made available to registrars at the 2004 Western Museums Association annual conference in Seattle-Tacoma, Washington, and at the 2005 American Association of Museums annual conference in Indianapolis, Indiana.
Glossary

Art History

**Conceptual art**: In conceptual art, the idea, rather than the object, is paramount. Conceptualism soon became an umbrella term used to describe other art forms that were neither painting nor sculpture, such as Video Art. Conceptual art has its roots in early 20th century “readymades” by Dada artist Marcel Duchamp, which emphasized the artist’s thinking over his manipulation of materials.  

**Electronic media**: A broad term to describe all artwork that use video, tape, disks, and electronic devices to control motion, sound and/or light, often in conjunction with more tangible objects and spaces.

**Installation art**: Art genre referring to a site-specific artwork. The artwork is created especially for a particular gallery space or outdoor site, and it comprises not just a group of discrete art objects to be viewed as individual works, but an entire ensemble or environment. Installations provide viewers with the experience of being surrounded by art. Installations generally are exhibited for a relatively brief period and then dismantled, leaving only documentation.

**Technology-based installation art**: An installation incorporating the use of an electronic component in its assembly, such as videotape or computer software.

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22 Atkins, 105-106.

**Time-based media:** A useful term to describe installations that have a limited duration and therefore have to be experienced in the context of the passing of a period of time.24

**Video art:** Art style that developed from electronic media, in which the basic instrument, the camcorder, is used to record images and sound (noise, speech, music) to produce highly diversified works that borrow from various artistic disciplines and defy all classification. Video art includes videotapes and installations.25

**Video Installation Art:** Installation art incorporating the use of video and moving parts in its assembly, which must be carefully constructed and installed within a designated space as defined by the artist. Just as each individual artist is creatively different, each video installation artwork is different in the number and types of components used and the way it is installed within a selected space.26

**Registration**

**Documentation:** Consists of two meanings: 1) materials, such as photographs, videotapes, or written materials related to an artwork’s creation, exhibition, or history; or 2) the artist’s written record of a performance art, which becomes a part of the art itself and exhibited and/or sold as such. This latter definition comes out of Conceptual Art.27

**Video Preservation**28

**Analogue:** A recording in which continuous magnetic signals are written to the tape as representations of the voltage signals coming from the recording of the video camera or microphone. Analogue signals stored on

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24 Ibid.

25 Atkins, 105-106.

26 (Author’s term.)

27 Atkins, 85.

28 Unless where individually noted, all definitions were obtained from the Bay Area Video Coalition, “Video Preservation Resources,” BAVC Online, 2003, <http://www.bavc.org/preservation/dvd/resources/gloss.htm> (5 April 2004).
tape deteriorate with each copy or generation; in contrast see digital. The main analogue videotape formats include the following (see chart):29

<table>
<thead>
<tr>
<th>Format</th>
<th>Tape Size</th>
<th>Intro. Date</th>
<th>Developer</th>
<th>Principal Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadraplex</td>
<td>2-inch</td>
<td>1956</td>
<td>Ampex</td>
<td>Time Shift Broadcasting</td>
</tr>
<tr>
<td>EBU-C</td>
<td>1-inch</td>
<td>1977</td>
<td>Ampex/Sony</td>
<td>Studio Recording</td>
</tr>
<tr>
<td>U-Matic</td>
<td>¾-inch</td>
<td>1971</td>
<td>Sony</td>
<td>Portable Recording</td>
</tr>
<tr>
<td>Betamax</td>
<td>½-inch</td>
<td>1975</td>
<td>Sony</td>
<td>Domestic</td>
</tr>
<tr>
<td>VHS</td>
<td>½-inch</td>
<td>1976</td>
<td>Matsushita</td>
<td>Domestic</td>
</tr>
<tr>
<td>Betacam</td>
<td>½-inch</td>
<td>1981</td>
<td>Sony</td>
<td>Portable Broadcast Recording</td>
</tr>
<tr>
<td>SVHS</td>
<td>½-inch</td>
<td>1982</td>
<td>Matsushita</td>
<td>Domestic/Industrial</td>
</tr>
<tr>
<td>Betacam SP</td>
<td>½-inch</td>
<td>1986</td>
<td>Sony</td>
<td>Portable Broadcast Recording</td>
</tr>
<tr>
<td>(&quot;Beta SP&quot;)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U-Matic SP</td>
<td>¾-inch</td>
<td>1988</td>
<td>Sony</td>
<td>Industrial</td>
</tr>
<tr>
<td>Video 8</td>
<td>8-millimeter</td>
<td>1985</td>
<td>Sony</td>
<td>Domestic Camcorder</td>
</tr>
<tr>
<td>Hi 8</td>
<td>8-millimeter</td>
<td>1990</td>
<td>Sony</td>
<td>Industrial Camcorder</td>
</tr>
<tr>
<td>MII</td>
<td>½-inch</td>
<td>1988</td>
<td>Matsushita</td>
<td>Portable Recording for Broadcast</td>
</tr>
</tbody>
</table>

**Analogue-to-digital:** The process in which a continuous analogue signal is quantized and converted to a series of binary integers.

**Analogue video:** A system of recording video images that employs continuously varying waveforms to encode brightness, color and the timing information necessary to reproduce a moving image.

**Archival format:** A video format that provides reliable playback, without information loss. At present, archival video material is typically stored on magnetic tape; however, in the near future computer-based storage is likely to become an option for archives.

**Beta:** Also referred to as “Betacam,” “Betamax,” or “BetaSP”; a professional-grade analogue or digital videotape. The digital version is also referred to as “Digibeta.”30

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**Bit**: Shorthand for binary digit, which has two optional values "0" or "1."

**Compression**: A process employed to reduce the bit rate of digital video.

**Compression, lossless**: Coding essentially expands to provide identical data, bit for bit, with the original source data, although the processing does introduce the possibility of errors. The compression factor of such a system is usually around 2:1. Digital Betacam is a format that employs "lossless" intra-coded compression.

**Compression, lossy**: Coding does not expand to produce identical data to the source material and differences are detectable. MPEG 2 is an example of a lossy inter-coded compression standard. MPEG-2 is the compression system used for DVD.

**Data**: Information transmitted as binary code. In the case of component video each pixel is a vector quantity and includes information for all color components Y', R-Y' and B-Y'. High quality standard definition for a moving color picture requires a data rate of 200 million bits per second.

**Data Compression**: A technique that provides for the transmission or storage, without noticeable information loss, of fewer data bits than were originally used when the data was created.

**Deterioration**: The degradation of videotape, most typically with the binder, which is responsible for holding the magnetic particles on the tape and facilitating tape transport. If the binder loses integrity - through softening, embrittlement, loss of cohesiveness, or loss of lubrication - the tape may become unplayable.

**Digibeta**: A digital video version of the professional-grade “Beta” video format.

**Digital**: Electronic system that functions by converting the analogue signal into a series of discrete binary bits (ones and zeros). Unlike analogue, there is no information loss with each copy or generation.

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31 Ibid., 124.
**Digital video:** A catchall term for a variety of video formats developed in the 1990s, all based on encoding video signals as 1s and 0s rather than analogue signals. Although compressed digital video may have a lower image quality than analogue video, it can be edited using nonlinear editors, stored on computer hard drives, streamed over the Internet, and incorporated into interactive presentations. The main digital formats include the following (see chart).32

<table>
<thead>
<tr>
<th>Format</th>
<th>Compression Ratio</th>
<th>Developer</th>
<th>Principal Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Uncompressed</td>
<td>Sony</td>
<td>Component Studio Recording</td>
</tr>
<tr>
<td>D2</td>
<td>Uncompressed</td>
<td>Ampex</td>
<td>Composite Studio Recording</td>
</tr>
<tr>
<td>D3</td>
<td>Uncompressed</td>
<td>Matsushita</td>
<td>Portable Recording</td>
</tr>
<tr>
<td>D5</td>
<td>Uncompressed</td>
<td>Matsushita</td>
<td>Component Studio Recording</td>
</tr>
<tr>
<td>Digital Betacam</td>
<td>c.2.3:1</td>
<td>Sony</td>
<td>Portable Recording for Broadcast</td>
</tr>
<tr>
<td>(“Digibeta”)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVCAM</td>
<td>c.5:1</td>
<td>Sony</td>
<td>Industrial</td>
</tr>
<tr>
<td>DVCPro</td>
<td>c.5:1</td>
<td>Panasonic</td>
<td>Portable Recording for Broadcast</td>
</tr>
<tr>
<td>Digital S</td>
<td>c.3.3:1</td>
<td>JVC</td>
<td>Portable Recording for Broadcast</td>
</tr>
<tr>
<td>Betacam SX</td>
<td>c. 10:1</td>
<td>Sony</td>
<td>Compressed Transmission</td>
</tr>
<tr>
<td>DVCPro50</td>
<td>c.3.3:1</td>
<td>Panasonic</td>
<td>Portable Recording for Broadcast</td>
</tr>
<tr>
<td>Mini-DV</td>
<td>c.5:1</td>
<td>Joint</td>
<td>Domestic Camcorder</td>
</tr>
<tr>
<td>Digital 8</td>
<td>c.5:1</td>
<td>Sony</td>
<td>Domestic Camcorder</td>
</tr>
</tbody>
</table>

**Digital-to-analogue:** Data in clean binary digital form can be converted to an analogue form by using digital-to-analogue (D-A) converter.

**Dubmaster:** The copy of a master used for making additional copies.

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32 Ibid.

33 Ibid.

34 According to page 30 of *The MITES Manual:* “Although compression ratios provide some guide to the quality of a recording format, there are many further considerations that need to be taken into account, such as compression method, colour sampling method and recording method.”
**DVD**: Abbreviation for Digital Versatile Disc. There are a number of different types of DVD. At the time of writing these include DVD-R, DVD-Rom, DVD-RAM, DVD+RW, DVD-R/W. DVD is not a suitable archival format for video mainly because it uses a lossy form of compression - MPEG2. DVD is a rapidly developing technology and there is a continued push to increase the amount of data that can be stored on a disc.

**Exhibition format**: Tape or disc copies that are used expressly for frequent playback, as opposed to master tapes that should only be played as part of the archival process. The criteria for a good exhibition format are different from that of an archival format. For example hard disc, DVD and laser disc are all good exhibition formats for video as they are reliable and because playback is made possible without mechanical deterioration to the media as a result of being played. This is important where a video is on display all day every day. In the near future, it is likely that we will see uncompressed digital video being streamed from hard discs for display. It is more common that the video is compressed. Such compression would not be acceptable for the master copy but may be a compromise that is acceptable for display. Each media have different advantages and disadvantages, but the important point is to be clear that the criteria for display may be different than for archiving; for example, the display of a complex video work may require reliable frame-accurate synchronization.

**Generation**: Copy of original video program material. The original videotaped material (source footage) is the first generation. A copy of the original is a second generation tape and so on. Generally the edited master tape is a second-generation tape. In analogue systems, extensive efforts are made to keep generations to a minimum, since each copy or process adds noise and other artifacts resulting in diminished quality with each generation.

**Generational loss**: Degradation cause by tape duplication.

**Laserdisc**: A form of optical media that, unlike DVD, stores video as a composite analogue signal. Laserdiscs can be glass or plastic. There are essentially two types of laser disc: those mastered for constant linear velocity (CLV) and those mastered for constant angular velocity (CAV). CAV store approximately 30 minutes of video, can be controlled in a frame-accurate way and can be still-framed. CLV discs can store approximately one hour of video but cannot be controlled frame-
accurately and cannot be still-framed. Once a popular display format for many artists, the laserdisc has now largely been superseded by DVD.

**Magnetic media**: Tape and discs that store information on a magnetized surface such as videotape, audiotape or computer floppy discs.

**Magnetic particles**: Elements incorporated in the binder to form the magnetic layer - or top coat - on magnetic tape. The signal is recording on these particles.

**Master**: The earliest generation of a finished tape that should also be of the best quality. Masters should not be used as exhibition tapes, i.e., not for repeated playback. See also dubmaster.

**Migration, re-mastering, transferring**: Terms used interchangeably to refer to the process of copying the content of an existing videotape to new media.

**Playback**: The viewing of recorded video footage or reproduction of recording video signal via a magnetic pickup device.

**Playback demagnetization**: A loss of magnetization and thus a degradation of recorded information caused by repeated playing of a recorded tape.

**Remastering, migration, transferring**: Terms used interchangeably to refer to the process of copying the content of an existing videotape to new media.

**Signal**: Analogue video signal is an electrical signal that is continuously variable. Digital video signal is comprised of binary digits.

**Standards**: A set of common guidelines such as for recording and playback processes, physical media and storage. See Appendix D for standards committee website addresses.

**Transferring, migration, re-mastering**: Terms used interchangeably to refer to the process of copying the content of an existing videotape to new media.
**U-Matic**: A video format developed in the late 1960s consisting of ¾-inch magnetic tape in a cassette; the precursor to “Beta.”

**VCR**: “Video Cassette Recorder,” a playback deck designed to record and play consumer-grade, ½-inch videotapes in various standards.

**VHS**: “Vertical Helical Scan,” a consumer-grade video format developed in the late 1970s, consisting of ½-inch magnetic tape in a cassette. (Compare professional-grade video formats such as “U-Matic” and “Beta.”)

**Videotape**: Oxide-coated plastic-based magnetic tape used for recording video and audio signals.

**Videotape formats**: Recording formats that differ in magnetic patterns of information, but rely on the same fundamental process of recording image and sound on magnetic tape. A particular format needs its own playback machine that is able to read the magnetic pattern. There are several characteristics that distinguish one format from another, such as the type of recorded signal, tape speed, width and placement of the video tracks and audio tracks. After 1970 the EAIJ standard was accomplished. The VHS (video home system) 1/2" consumer videotape format is one example. Since 1956, approximately 50 formats have been introduced worldwide. For examples, see the resources Hardware section at http://www.bavc.org/preservation/dvd/resources/hardware.htm. Current video tape formats include C, U-Matic, Betacam, M, Betacam SP, MII, D1, D2, D3, D5, Digital Betacam, Beta, VHS, Hi-*, 8mm, S-VHS, DVC Pro and DVcam.

**Video preservation**: An archival system that ensures the survival in perpetuity of the program content according to the highest technical standards reasonably available. There are three major facets of video preservation: (1) safeguarding the recording under secure and favorable storage conditions, (2) providing for its proper restoration and periodic

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35 Depocas, 129.
36 Ibid.
37 Ibid.
transfer to modern formats before the original or next generation copy is no longer technologically supportable, and (3) continuing protective maintenance of at least a master and a copy, physically separated in storage, preferably in different geographic locations.

**Viewing copy:** A videotape dubbed from a master and made for repeated viewing. See exhibition format.

**Video Installation Artwork “Behaviors”**

**Contained:** In the variable media paradigm, even paintings and sculptures can provoke prickly questions when some aspect of their construction alters or requires an intervention. Such works are “contained” within their materials or a protective framework that encloses or supports the artistic material to be viewed. To account for these alterations in otherwise stable mediums, the variable media questionnaire asks questions such as whether a protective coating is appropriate, whether surface qualities such as brushstroke or gloss are essential to the work, or whether an artist-made frame can be replaced.

**Encoded:** To say that a work is encoded implies that part or all of it is written in some other language that requires interpretation (e.g. dance notation; complex installation notes from artist, binary bits compressed onto a DVD). In the case of works with nondigital components, this code can sometimes be archived separately from the work itself.

**Installed:** For the purposes of variable media guidelines, to say that an artwork must be “installed” implies that its physical installation is more complex than simply hanging it on a nail. Examples of artwork with this behavior are works that scale to fill a given space or make use of unusual placement such as the exterior of a building or a public plaza. For such works, the variable media questionnaire tracks issues of site-specific placement as well as scale, public access, and lighting.

**Interactive:** While the word is most commonly applied to electronic media such as computer-driven installations and Web sites, interactivity also describes installations that allow visitors to manipulate or take home

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38 Depocas, 124-128.
components of a physical artwork. The variable media questionnaire tracks such considerations as the type of interface: the method by which visitors modify the work; and the form in which traces of such input are recorded.

**Performed**: In the variable media paradigm, “performed” works include not only dance, music, theater, and performance art, but also works for which the process is as important as the product. For such works, the variable media questionnaire ascertains instructions that actors, curators, or installers must follow to complete the work, in addition to more conventional performance considerations such as cast, set, and props.

**Video Preservation “Strategies”**

**Dubbing**: The process of copying the audiovisual signals from one magnetic tape onto another. Depending upon whether the medium is analogue or digital, dubbed tapes can be “duplicates” or “reproductions.” Also: the process of adding sound to a silent video to complete a video production. (See also “migration.”)

**Duplicated**: To say that a work can be duplicated implies that a copy could not be distinguished from the original by an independent observer. This behavior applies to artifacts that can be perfectly cloned, as in digital media, or to artifacts comprising readymade, industrially fabricated, or mass-produced components. (Compare to “reproduced.”)

**Emulation**: To emulate a work is to devise a way of imitating the original look of the piece by completely different means. The term emulation can be applied generally to any refabrication or substitution of an artwork’s components. (See also hardware-for-hardware.)

**Hardware-for-hardware**: A type of “emulation” consisting of refabrication or substitution of an artwork’s equipment or material. For example, to imitate the physical appearance of the obsolete video monitors in an original video installation by Nam June Paik, reconstructors might custom-build cathode-ray tubes or embed flat screens in old television casings.

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39 Depocas, 124-129.
Migration: To migrate an artwork involves upgrading equipment and source material. To migrate the video monitors of Nam June Paik’s *TV Garden*, for example, would be to replace them with up-to-date models as TV sets change with industry trends. The major disadvantage of migration is that the appearance of the original artwork may change substantially when the technology undergoes an evolutionary jump, as when cathode-ray tubes give way to flat screens.

Reinterpretation: The most radical preservation strategy is to reinterpret the work each time it is re-created. To reinterpret a Dan Flavin light installation would mean to ask what contemporary medium would have the metaphoric value of fluorescent light in the 1960s. Reinterpretation is a dangerous technique when not warranted by the artist, but it may be the only way to re-create “performed” or “installed” art designed to vary with context.

Reproduced: In the variable media paradigm, a recording medium is “reproduced” if any copy of the original master of the artwork results in a loss of quality. Such media include analogue photography, film, audio, and video. (Compare to “duplicated.”)

Storage: The most conservative collecting strategy—the default strategy for most museums—is to store a work physically. Storing one of Dan Flavin’s fluorescent light installations simply means buying a supply of the out-of-production bulbs and putting them in a crate. The major disadvantage of storing obsolescent materials is that the artwork will expire once these ephemeral materials cease to function.
BACKGROUND

‘You had to be there…’ to know what an installation is.

—Margaret Morse

It is difficult to comprehend video installation art without experiencing it in person and in its fully assembled and configured state. Video installation artist Bill Viola provides one reason for this:

As instruments of time, the materials of video, and by extension the moving image, have as part of their nature this fragility of temporal existence. Images are born, they are created, they exist, and, in the flick of a switch, they die. Paintings in the halls of the museum in the middle of the night are still there, a form of sleep, but in the room of the video projections there is nothing. The images are thoroughly non-existent, gone into some other dimension.

At the core of video installation art is its concept, its overall meaning, which is created by the artist using the played video image in unison with various displayed and non-displayed physical, technical, and sculptural components that serve to produce or accentuate the image. Without the image, the assembled artwork is like that of an unfinished painting; uninstalled, the artwork is void of meaning and is, literally, all over the place. As expressed above by Viola, video is time-based and can only

40 Morse, 166.

truly exist when it is “turned on” and displayed for the viewer to witness.

While on a class assignment at the San Francisco Museum of Modern Art (SFMOMA) in November 2001, I had the privilege of experiencing video installation art for the very first time. As I reached the top of the stairway on level four of the museum, my eyes fell upon a massive black wall with the following words painted boldly in white across its face:

*Double Feature: Paul Kos and Nam June Paik*, an exhibition series initiated by SFMOMA’s Department of Media Arts, juxtaposes two works of art. Simply by exhibiting two artworks next to each other, this format reveals unique affinities and unexpected associations.42

To my right, flanked by two large double doors and a security guard, stood an opening to a small box-shaped room. From my place on the stairway I could see the interior was dark and sparse, except for a peculiar glow emanating from a series of boxed-shaped objects on the left wall.

Captivated, I left my position on the stairs and walked closer towards the room. Upon the threshold, I suddenly stopped as my eyes caught sight of a long, dimly lit corridor to my left. Interested in seeing what lay ahead, I slowly stepped into the darkness of the corridor.

After walking a few feet, I found myself eye level with a softly illuminated cone-shaped object, which lay inside a plastic display case

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42 Curatorial text wall panel to SFMOMA’s 2001 exhibition “Double Feature: Paul Kos and Nam June Paik.”
affixed to the wall. Also on the wall was the only source of information I could find to help decode the meaning behind this object; yet, the information given was nothing more than the artist’s name: Paul Kos, the object’s title: *Flytrap*, the year the object was made: 1975-1976, and the materials used to bring the object into being: wire mesh and wood. Turning to my right I found a second wall label that read: “Paul Kos, *Tokyo Rose*, 1975-1976.” Intrigued by these two cryptic displays, I walked further down the corridor in search of this second object. Consumed by darkness, I found myself at a dead end. Forced to turn right, I proceeded further and found myself facing another dead end. Standing there, confused about my next step, my eyes adjusted more clearly to the darkness and I saw there was an entranceway to a room at my left. Excited, I entered the room.

Inside the room it was dark, quiet, and still. Only after my eyes had adjusted again to the darkness did I notice a large metal structure in the center. Covered in soft rays of light shining down from the ceiling, I stood mesmerized by the visual spectacle before me. In my transfixed state I began to tune into the sound of a female voice coming from a monitor placed inside the structure. It called to me: “Come in…give
As I stood there, listening to the voice, I felt a sense of calm and relaxation wash over me. Strong desires to obey the voice and see what was displayed on the monitor inside urged me to step closer to the structure. “Come in...come in...” she continued, and closer and closer I walked. I could feel my sense of self slipping away and in its place grew a curiosity I had never known before. I moved towards an opening at the back of the structure, all the while keeping my eyes transfixed on the monitor, while reflections of light bouncing off the metal frame danced around me.

Through the narrow opening at the back of the structure I made my way towards the voice coming from the monitor at the other end. Walking closer, I could see that the monitor was positioned approximately three feet above my head. I stood there, mesmerized by the black and white images displayed above me, and the sound of the soothing voice in my ears. After a few minutes I slowly became aware of my surroundings and of how easily I had been drawn into the structure. In looking around the room I realized that I had seen something like this before. It suddenly dawned on me that I was actually standing inside a life size recreation of the flytrap I had seen in the plastic display case just outside the room. I

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43 Recorded voice of Marlene Zullo in Paul Kos’ *Tokyo Rose*, 1975-76 video installation artwork.
further realized that the sounds and images coming from the monitor had been used as the bait to lure me inside this human-sized trap. From this I grasped that the artist had not intended for me to simply view his artwork—his intention was more profound. Kos had intended for me to become the final component that made his artwork complete. I had become the fly in his flytrap (see Fig. 5). Curious to experience what the second half of this exhibition held for me, I retreated out of my “trap” towards the adjacent, dimly lit room.

Leaving the confines of the corridor, I found myself back in the light of the museum and within the hustle and bustle of other visitors. Feeling a little disoriented, I looked with longing into the serene room I had gazed upon before my trip down the corridor. I stepped into the room and walked towards the bench placed along the middle of the back wall. After sitting down, my eyes fell immediately upon eight video monitors of various sizes positioned directly across the room. Shifting my gaze slightly to the left, I saw a single white egg resting under a beam of light. As it lay there, alone on its pedestal, a camcorder affixed to a tripod recorded its image. This image was transferred onto the faces of eight
video monitors running in sequence from left to right. As they grew larger in size and shape, the image of the egg appeared to grow larger as well. By reading the text on the wall label to my left, I learned that the artist, Nam June Paik, aptly titled this exhibit *Egg Grows* and used this exhibit as a “cunning metaphor for video’s capacity for exaggeration.” In reading this, I realized that Paik had used the power of video to naturalize an unrealistic image of a growing egg right before my eyes (see Fig. 6).

Fascinated by the video installation artwork I had just experienced, a number of questions raced through my mind. How did this artwork come to be in this museum? Was it difficult to install, and if so, whose responsibility was it to install it? What if one of the monitors in Paik’s *Egg Grows* burnt out? Would it be replaced? What if that type of monitor was no longer available? Could a different type of monitor be used as a substitute? This section of my project will examine how video installation art came to be in art museum settings, the four

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[44 Curatorial text wall panel to Nam June Paik’s *Egg Grows* video installation artwork within SFMOMA’s 2001 exhibition “Double Feature: Paul Kos and Nam June Paik.”]
components essential to all video installation artwork, and the common preservation problems affecting these components.

The Rise of Video Installation Art in Museum Settings

The emergence of video installation art in the 1960s and 1970s coincided with the huge popularity of television, the exponential growth of mass media, and a social and political rebellious spirit sparked by the anti-Vietnam War, gay liberation and civil rights movements, and the assassinations of President John F. Kennedy, Attorney General Robert F. Kennedy, and civil rights leaders Reverend Dr. Martin Luther King, Jr., and Malcolm X. During this time, established ideas of tradition and authority began to be questioned and alternatives to dominant modes of culture sprang forth in the form of activities such as counter-culture lifestyles, feminism, urban uprisings, student protests, and ecological awareness. The rebellious spirit of this time permeated the art community and encouraged certain artists, such as Dan Graham, to create temporary, site-specific video installation artwork that both opposed commercial broadcast television and challenged conventional ideas of art making and exhibition.45

According to Julie H. Reiss, independent scholar and art historian, “the temporary nature of installation art was a gesture of protest at a time when the museum’s authority as an institution was being questioned…in part because the museum was seen by many in the art community as the embodiment of political evil.”46 This perception of the museum was founded in the art community’s belief that the trustees and major donors funding museums were also funding, and profiting from, the Vietnam War. Additionally, as the art market became more commodities-based, artists felt their artwork were valued more by how they would sell and less on what they meant as an expression of art.47 Thus, of primary importance for some video installation artists was the desire to remain on the fringes of mainstream art as a means to voice their political and social views. Yet, while alternative spaces, such as non-profit galleries, offered artists a place outside of the norm to display their artwork, art critics and collectors did not consider these spaces to be at the highest levels of art. Despite the controversy over issues of funding, the museum space continued to be revered by artists. Stated simply by artist Ilya Kabakov, “the placement of

46 Reiss, 70.

installations into museum sacred space makes the installations also sacred.” Given this, video installation artists found a way to remain true to their protest of museums while, ironically, choosing to display their artwork within them. As Reiss affirms: “By virtue of their ephemeral nature, these forms challenged the market system of the art world and by extension became a protest against the politics of the institutions…and thus [a] resistance to preservation and collection.”

Now, some forty years after video installation art’s emergence into the art world, it has transitioned from that of an art movement founded in political protest against museums, preservation, and collection, to an established genre that is actively collected by and dependent upon museums for its very existence. This ironic transition is confirmed by Michael Rush, Director of the Palm Beach Institute of Contemporary Art and author of the book *New Media in Late 20th-Century Art*: "While much of late twentieth century Installation art is rooted in an anti-museum attitude characteristic of the 1960s and early 1970s, it is museums and galleries that are the primary focus for such art.”

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48 Reiss, 138.

49 Ibid., 77-81.

Mary Lucier addressed this transition from the artist’s perspective during a presentation given at the 1996 conference Playback 1996:

We artists are right now the primary repositories of our own work. And in some cases, this is becoming inordinately burdensome…It isn’t just a bunch of laser discs, or a bunch of videotapes that need to be preserved. It [is] also the conceptual arrangement and the physical embodiment of that arrangement in a sculptural form…what we need you to help us with now is how to keep these works alive, so that memory is not lost.\(^51\)

The essential characteristics of video installation art, its ephemeral nature, and its proliferation in the permanent collections of contemporary art museums today can best be understood through a discussion of the art movements and artists from which it originated.

The origins of video installation art trace back to the Constructivism and Dadaism art movements of the early twentieth century, which reflected the influence of post-Industrial Revolution technology on art design and society’s fascination with mass-produced machine-made products, and challenged traditional ideas of art as the high art of classical painting and sculpture. For example, classically trained Dada artist Marcel Duchamp proposed that an everyday object, such as a porcelain urinal, possessed an inherent artistic beauty that, when

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displayed, could be included within the high echelons of art. Duchamp produced a number of such objects for display in museums and commonly referred to them as his “readymades.” According to art historian Helen Molesworth, “Arguably, the readymade has done more to reorganize aesthetic categories than any other twentieth-century art practice. One of its many ramifications was a disavowal of an ontological definition of art.” By the middle of the twentieth century, artists incorporating technology within their art further challenged the conditions of art’s existence and for whom or for what purpose it should exist.

In the 1950s and 1960s, due to advances in technology, artists began to explore the use of light and motion in their artwork, resulting in a convergence of styles, mediums, and art movements such as Kinetic Art, Lumino-Kinetic Art, Cybernetic Art, and Neon Art. Of special significance was the artist’s desire for the viewer to become an active participant in the artwork rather than a passive observer. This idea carried over into the Conceptual and Fluxus art movements of the same time period. Central to the Conceptual art movement was the belief that the idea behind the artwork, and the means by which the artwork came to

be, was more significant than the finished artwork itself; while, according to Hannah Higgins in her 2002 book *Fluxus Experience*, “the meaning of Fluxus experiences lies in their simultaneous engagement and withdrawal from everyday life, in their substitution of art and anti-art with life (as art).”\(^5\) The influence of Fluxus and Conceptualism on artists working with site-specific installation artwork, coupled with an increased interest in the use of video technology, saw the birth of video installation art in the 1960s and 1970s.

Video installation art appeared under the umbrella of Video Art, which emerged in the 1960s in opposition to commercial television. In 1965 Sony created the “Sony Portapak” (see Fig. 7) and revolutionized the video business because it was the first handheld video camera made available to the general public—making video a medium anyone could use.\(^5\) Many of the artists employing this new medium—later referred to as “guerilla video”—felt commercial television lacked

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substance and took it upon themselves to use video to record people, places, and events considered outside of prescribed broadcast programming. Artist and writer, Karl Erickson, writes:

> Into this time came consumer grade portable video. Events and ideas became instantly recordable and transmittable. Control could be wrested away from mediators of commercial television and put into the hands of average people. Video seemed to be the medium of democracy.56

In a 1999 interview with *Wired News*, video installation artist Bill Viola comments that because of video’s portability one could make something on one’s own and share it with others; one didn’t have to accept what was on television from broadcasters such as ABC, NBC, and CBS. Viola recalls, “There was a real awareness that this was a political as well as social cultural change.”57 However, the intentions of video artists at this time varied as much as the images they recorded. On the one hand there was the use of video cameras as simple recording devices, while on the other hand video cameras were considered to be complex artistic devices that could be manipulated like pictorial or sculptural materials to produce

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unique images. It is from artists experimenting in this latter approach where we see the first examples of video installation art.

Marina Benjamin, arts editor for *New Statesman & Society*, remarks in her 1993 article “Ghosts in the Machine:”

> Video as an art form is a genuine hybrid, with sculpture, experimental film, conceptual and performance art in its chromosomes. It’s capable of endless mutations, in gallery or site-specific environments, and can evolve by incorporating new technologies.59

One such mutation is that of video installation art, which is, as previously stated, defined as installation art incorporating the use of video and moving parts in its assembly and must be carefully constructed and installed within a designated space as defined by the artist. Korean-born video artist Nam June Paik is credited with pioneering the video installation art genre. Drawing from his Fluxus roots, and his opposition to commercial television, Paik explored the experimental treatment of the video image using his Sony Portapak handheld video camera, his modifications of the television set, and his custom “Paik-Abe” color synthesizer for producing Fauve colors and electronically induced osmotic

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58 Popper, 54.

forms. Paik’s work was first shown in the solo exhibition “Exposition of Music-Electronic Television” at the Galerie Parnass in Wuppertal, Germany in 1963. According to John G. Hanhardt, Senior Curator of Film and Media Arts at the Solomon R. Guggenheim Museum (Guggenheim), “This exhibition attested to increasing interest in transforming the electronic medium of video into an art form that would bring the dimensions of time and movement to art practice.”

Following this exhibition, Paik moved to New York in 1964 and began working in video installation art profusely. Some of his most pivotal artwork include his 1974 TV Garden (see Fig. 8), in which approximately 40 single-channel television sets are intermingled with live plants to produce a surrealistic collage of technology and nature, and his massive 1995 Electronic Superhighway that depicts a continental USA map created from 313...
television sets, 50 laser disc playback devices, approximately 60 video distribution amps, approximately 20 fans, 1 video camera, scaffolding, “state borders” fabricated in steel, neon, and a 200-watt audio system.62

Following Nam June Paik other important pioneering artists emerged onto the scene in the 1970s, from which three stand out: Gary Hill, Dan Graham, and Bill Viola—all of whom are still actively creating video installation art today. In describing Gary Hill’s work, independent curator and art critic Michael Duncan remarks:

Gary Hill pursues an ambitious goal in his video installations: to use dazzling state-of-the-art technology to transform literary and philosophical themes into immediate sensory experience…his installations liberate video art from the confines of the screening room.63

A few of Hill’s most essential works include his first video installation artwork *Hole in the Wall*, 1974, which Hill considered to be his transition from sculpture to video;

and his 1991 *Between Cinema and a Hard Place* (see Fig. 9), in which he placed twenty-three black and white and color monitors of varying sizes, each showing its exposed cathode ray tubes, in groups arranged by size to resemble clusters of rocks on demarcated land, which are conjoined through a computer-controlled video-switching matrix that also brings together three audio speakers for an aural component.64  S. Brent Plate, Assistant Professor of Religion and the Visual Arts at Texas Christian University, comments:

The work’s exposed wirings and picture tubes, and the otherwise sparse layout of the installation, give an impression of simplicity, of a "stripped-down" video installation...[and] allows the viewer to see behind the scene, to realize the amount of infrastructural wiring necessary to put the final image on the screen.65

Pip Laurenson, Sculpture Conservator for Electronic Media and Kinetic Arts at the Tate Gallery in London (Tate), adds that this installation is a good example of a complex video installation artwork where the original equipment is integral to the work’s overall meaning.66

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65 Ibid.

In describing the work of Dan Graham, Michael Rush comments that from the very beginning Graham’s work focused on the fact that “all video practice, from a technical point of view, originated and is ultimately contained in the dominant mass-cultural discourse of television.” This viewpoint is seen in Graham’s groundbreaking 1974 video installation artwork *Opposing Mirrors and Video Monitors on Time Delay* (see Fig. 10). In this artwork Graham gives structural form to the television medium and uses its imaging ability (with the help of opposing mirrors and a video camera) to complicate the viewer’s physical perception of space and time, and falls into the “closed-circuit” video installation art category shared by artists such as Peter Campus and Bruce Nauman—a category of video installation art that made it possible for the observer to become a part of the artwork for the very first time. “The observer,” adds Barbara Otterbeck, conservator at the Kunstmuseum Wolfsburg in Germany, “…must participate as a single, individual person in order to complete the

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67 Rush, 65.
work of art.”

Like Hill, Graham incorporates the use of video equipment in his experiments of the video image in order to produce a sensory experience for the viewer.

In describing Bill Viola’s work, Frank Popper, Professor Emeritus of Aesthetics and the Science of Art at the University of Paris VIII, imparts that Viola aims to create audio-visual temporal compositions that are rearrangements of his own perception, imagination, conscience, dreams and memory, and are free from the usual narrative of conventional film and television. Viola himself refuses to provide a detailed explanation about the meaning of his artwork, claiming that,

A fully understood idea is a dead idea…The creative process has its roots in the state of confusion…Not only is this awareness necessary for the genesis of new thoughts but it is this process that all works of art must actively re-create in the viewer if they are to move us beyond the confines of time and place.


69 Popper, 65.

Some of Viola’s most pivotal artwork include his 1992 *Nantes Triptych* (see Fig. 11), in which his use of three projected video images onto three side-by-side video screens integrally helped convey his telling of life’s beginning, end, and “the space in between;” and his 1983 *Room for St. John of the Cross*, in which he used video display equipment, sound, and an array of mixed-media to recreate the imprisonment of St. John and to show how the Saint was able to use the power of poetry and his imagination to overcome his physical sufferings.71 As seen in the works of Paik, Hill, Graham, and Viola, video installation artwork is created by artists using various physical, technical, and conceptual components and can differ greatly in their appearance and concept; yet, however different these artwork may be they each have in common four essential components: a video medium, display and playback equipment, a conceptual idea, and supporting documentation—all of which will be

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71 This artwork is part of The Museum of Contemporary Art, Los Angeles permanent collection through funds provided by The El Paso Natural Gas Company Fund for California Art.
explained in further detail through an analysis of Bill Viola’s 1983 *Room for St. John of the Cross.*

**Essential Components**

The video medium—also referred to as the “software” of the artwork—is the essential component to all video installation artwork as it contains the visual image that is displayed for the viewer to experience and can be created using either an analogue or digital video signal format. An analogue video signal is defined as a continuously varying electrical signal, whereas a digital video signal is comprised of binary bits (ones and zeros) (see Fig. 12). In analogue video, electrical signals coming from the video camera or microphone recording are converted into an analogue voltage that is then captured and imprinted onto the magnetic surface of either a videotape or an optical disc. With the advent of computerized digital processing in the early 1990s, digital video allowed for electrical signals to be converted into a series of

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72 Refer to the Glossary section for definitions of technical terms described herein. Refer to Appendix C for names of organizations to contact for resource materials and classes offering video preservation and audio-visual training.
numbers rather than an analogue voltage. Both analogue and digital video signals can be stored on either a magnetic videotape enclosed within a cassette or on an optical disc (depending on the type used) and each storage medium can vary depending on its quality level (consumer vs. professional grade), storage capacity, and overall cost. Common analogue formats include Vertical Helical Scan (VHS), low and high band U-Matic, and Beta SP videotapes, as well as an Optical Video Laser Disc, while digital formats usually include Digital Versatile Disc (DVD), Digital Betacam videotape, and a computer’s Hard Disk Drive (HDD).  

Furthermore, since analogue technology is based on capturing a physical magnetic impression of the video or sound recording’s electrical signal, each subsequent generation copy made from the original version will incur a slight physical loss, as well as the inclusion of random miscellaneous signal “noise.” In contrast, digital technology allows for error correction and noise reduction to be built into video processing equipment, which is why almost exact copies of the original digital format can be made. Yet, conservator Pip Laurenson declares that “most artists, however, still use an

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73 Refer to the Vidipax website at http://www.vidipax.com for a complete listing of all audio and video formats and playback machines in production since 1956, magnetic tape preservation assistance, an introduction to encoding, and additional resource links.

74 Gillman, 28.
analogue format and their material has to be converted into the digital domain for archiving. This conversion from an analogue to a digital signal risks changes to the visual appearance of the video.”

Laurenson asserts that museum professionals working with video installation artwork need to be aware of this and take the steps necessary to preserve the video signal in the best quality possible. Equally as challenging is the fact that once the conversion occurs, the stability of digital formats can also vary depending on the rate of compression used. For example, digital video using a lossy-compressed format, such as that used in DVDs, is more unstable since it does not allow for the identical replication of its source material and should not be used for archival purposes; while digital video using a lossless compression format, such as that in Digital Betacam, is more stable and archival since it does allow for the identical replication of the source material, which means that copies can be produced without the generational loss of information.

Given these risks, the ability to make copies of the video format, whether in analogue or digital form, allows

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76 Refer to the glossary for a more detailed explanation of analogue and digital video signal formats, as well as the different digital compression types and suitable archival video medium formats.
museum professionals to duplicate and preserve the video medium for archival, exhibition, and research purposes.

When a video installation artwork is made it commonly contains more than one copy of the video format used. The master tape (usually retained by either the artist or gallery dealer) is the first tape made from the artist’s original footage after all editing has been done and contains the best quality picture (and sound if applicable). Typically, an artist (or the gallery dealer representing the artist) will supply the museum with, or allow it to make, a second-generation clone of this master tape using a stable digital tape format, such as Digital Betacam or “Digibeta,” that permits duplication without a loss in quality. This copy is usually accessioned by the museum as part of the original artwork, referred to as the “archival copy,” and is not played or lent; its primary purpose is to remain in pristine condition in order to preserve the video medium of the artwork. A second clone copy—usually referred to as a “dub-master copy”—of the archival copy is then made by the museum and used to create additional copies that will be used specifically for exhibition and research purposes. The “exhibition copy” is used during exhibitions, either in-house or on loan, and is usually created in an inexpensive digital disc format, such as DVD, that is less prone to loss after continuous play, while the “researcher/curator viewing copy” is used mostly for reference
content only, is viewed less frequently, and is created using either a digital disc format or analogue format, such as a VHS tape.\textsuperscript{77} According to Robert Hollister, Director of Collections and Registration at the Museum of Contemporary Art in Los Angeles (MOCA), the video format used in Viola’s 1983 \textit{Room for St. John of the Cross} was converted from its original analogue 3/4 –inch U-Matic videotape version (see Fig. 13) to its current laser disc “optical media” analogue format (see Fig. 14). Hollister commented that this decision was probably based on advances in technology at the time, as well as the fact that laser disc playback devices last longer than those that play magnetic tape—since they do not have as many moving parts that will deteriorate from wear. A laser disc, unlike a digital DVD, stores video as a composite analogue signal. The laser disc version used in Viola’s artwork is of the constant angular velocity (CAV) type, which means it can store

approximately 30 minutes of video that can be controlled in a frame accurate way. Given this, the laser disc technology better allows for Viola’s projected mountain range image to more clearly go from black and white to color than the less versatile and stable U-Matic videotape version. Hollister commented further that the laser disc is rapidly becoming obsolete and the next conversion will most likely be to a more widely accessible DVD format (see Fig. 15), since DVD is based on a digital format, is instantly repeatable, does not wear out like magnetic tape, and, due to advances in technology, is becoming less compressed and more archival.78

Supporting the video medium is the playback and display equipment—also referred to as the “hardware” of the artwork. The playback device is responsible for allowing the video medium to be shown, and the display device enables the visual image to be seen by the viewer. Fundamentally, the playback and display devices function solely for the purpose of bringing this visual image to life. The type of playback device used is dependent upon the medium’s format. Typical devices

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78 Hollister, personal interview by author, 18 May 2004.
include a VCR or a DVD playback device. For clarification, the display device is not dependent on the medium format used and may take the form of a television monitor, a video projector that broadcasts the image onto a screen or wall, or the screen or wall itself. The artist and his or her conceptual idea for the artwork determine how the video medium and equipment components work together in the artwork. As previously discussed in Viola’s *Room for St. John of the Cross*, the migration of the video medium format from a ¾-inch U-Matic videotape to a laser disc resulted in the upgrade to the playback devices used. Therefore, the playback device went from that of a Sony VP-5000 ¾-inch U-Matic videotape playback device (see Fig. 16) to a Pioneer LDP-4400 laser disc playback device (see Fig. 17), and per Hollister’s speculation, may possibly upgrade to a DVD playback device.
device in the near future (see Fig. 18). However, the remaining display equipment primarily stayed the same and includes a Sony KV-4000 3.7-inch television monitor (displaying the color video image), a mounted wall screen, and a mounted projector (used to project the black-and-white video image onto the mounted wall screen). Understanding how these equipment components work together in the artwork is determined by Viola and his conceptual idea for the artwork.

The conceptual idea—also referred to as the “artist’s intent”—is considered the glue that holds the entire artwork together—physically, aesthetically, and theoretically. This intent dictates all aspects of the artwork’s installation and preservation and, according to the Visual Artists Rights Act (VARA) of 1990, must be respected by museum professionals when documenting, exhibiting, and conserving the artwork.79 In Room for

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79 In December 1990 Congress passed the Visual Artists Rights Act (VARA). This copyright law granted new rights for American artists called “moral rights”: the “right of attribution,” which grants artists the right to be identified with their works, and the “right of integrity,” which grants artists the right to protect their works from modification and destruction. The passage of this law has imposed a legal obligation on art conservators, collectors, and others to preserve the artistic intent of the artist. For more information refer to Ann M. Garfinkle, Janet Fries, Daniel Lopez, and Laura Possessky, “Art Conservation and the Legal Obligation to Preserve Artistic Intent,” Journal of the American Institute for Conservation 36 (1997): 165-179.
St. John of the Cross,

Viola’s artistic intent is to recreate the imprisonment of St. John to show how the Saint was able to use the power of poetry and his imagination to overcome his physical sufferings. To do this, Viola uses the video medium and equipment in collaboration with the artwork’s remaining sculptural, architectural, and aural components—a large dark room, a black cubicle with window and an illuminated interior with peat moss on the floor, a wooden table, a glass filled with water, a metal pitcher filled with water, one-channel mono sound (imparted from the speaker mounted inside the wall), and amplified stereo sound (played through the mounted wall speaker)—to define his idea for the space in which the viewer encounters and relates to his artwork (see Fig. 19). In his book, Rites of Passage, Stuart Morgan provides a descriptive account of how Viola accomplishes this recreation:

…the physical and mental situation of the sixteenth-century mystic and poet was evoked by a space in which images of high, bare mountains appeared, surrounding the viewer. An already stark setting was made unbearable by the movement of the mountains on each wall; the camera
registering the image was lurching from side to side, suggesting loss of control, desperation, but also freedom…Wandering in this large, dark space, the visitor eventually discovered the second element of the installation. Stable and meditative, visible from only one side and lit from within, it was a scale-model of the cell from which John prayed and wrote during his incarceration—sometimes in ecstasy, sometimes despair…Inside was a dirt floor, wooden table, a glass of water, a metal jug. A voice could just be heard reading his poetry…Oddest of all, a tiny video monitor showed mountains, no longer in monochrome but now in vivid colour [and rock-solid static]...

The final essential component to a video installation artwork is the supporting documentation that serves to help explain the relationship between the artwork’s video medium, equipment, and conceptual idea, as well as how the artwork is to be installed and preserved according to the artist’s wishes. This documentation often takes the form of complex installation instructions, photographs of the artwork during each phase of installation, service manuals for the equipment used in the artwork for when replacements need to be obtained, and instructions on how best to preserve the artwork over time. Much of this information can be obtained from the artist during the accession process through in-person interviews and/or written correspondence, yet, due to timing and limited resources, museum professionals often collect this information piecemeal over many

years—if at all. Without such sufficient documentation, registrars are left puzzled about the artist’s intentions for the artwork, how to correctly install the artwork, which components are to be preserved or upgraded as technology changes, or what to do once components become obsolete.

This essential component to video installation artwork is the most pertinent for ensuring the artwork’s survival, yet it is currently the most lacking in many registration departments. As shown in the handwritten notes above for Viola’s 1983 Room for St. John of the Cross (see Fig. 20), Viola communicates the concept for his artwork using notes and illustrations depicting the relationship between the artwork’s various components. When SFMOMA exhibited this artwork in its 25-year retrospective on Viola’s work, it was able to use this supporting documentation to help create precise gallery
installation diagrams (see Fig. 21) in which to correctly re-install this artwork according to Viola’s intentions.  

Lastly, the components described within this section—video medium, equipment, conceptual idea, and supporting documentation—can be categorized further according if they are displayed or not displayed for the viewer to see. Displayed components usually include the playback device (such as a DVD playback device); the video image itself (also

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81 List of components obtained from original 1987 accession folder (87.2) documentation, courtesy of MOCA. See Appendix B for copies of this documentation.
known as the “played” format of the media element); signal processing equipment (such as amplifiers and graphic equalizers); the display device (such as television monitors, projectors, speakers, and screens); any possible control devices (such as computer synchronizers); the physical environment itself (such as the walls, ceilings, acoustics, flooring, and acoustic paneling that help to bring the viewer in as an active participant in the artwork); and any possible sculptural elements (such as a bench for the viewer to sit on). Components that are typically not displayed include the archival tapes (which are not used and function to preserve the video medium of the artwork); the dub-master tapes (which are used for making exhibition and researcher/curator viewing copies); the installation instructions and supporting documentation (such as transcripts from artists interviews and photographs documenting how the artwork is to look once installed); servicing manuals for the equipment; spare equipment parts to replace worn out or obsolete parts; and the interconnecting audio and video cables. With these four essential components come, unfortunately, common preservation challenges.

Common Preservation Challenges

Since video installation art’s birth in the 1960s, much of what is known about its physical and technical components resides with electrical engineers and video technicians outside of the museum field, and with the artists themselves. Additionally, video installation artwork is continuously “used” so to speak, since they must be plugged-in and operating while on exhibit. This prolonged use can cause them to deteriorate more rapidly than traditional artwork, suffering wear and tear of mechanical parts, burnt-out cathode ray television picture tubes, and taxed circuits due to electrical surges. More pressing than purely mechanical considerations, continuous use, advances in technology, and insufficient supporting documentation can lead to the components becoming obsolete and incorrectly installed—threatening the overall preservation of video installation artwork. In his essay “Longevity of Electronic Art,” Howard Besser, Associate Professor at the University of California, Los Angeles’ School of Education and Information Studies, and Director of the Moving Image Archiving and Preservation Program at New York University, articulates how this is a serious preservation issue for museums and one that is still in the process of being resolved:

Museum curators and conservators will need to struggle with deciding when a particular display device is an important characteristic of a work, and when a particular
form of playback may be intrinsic to the work...Curators will also need to make plans of how to preserve the appropriate device, as well as how to indicate to future museum staff that they need to display this work on a particular type of device.  

In 1991, SFMOMA acquired and accessioned Mary Lucier’s 1973 video installation artwork, *Dawn Burn*, into its permanent collection (see Fig. 22). According to SFMOMA’s Jill Sterrett, Director of Collections and Conservation, and Justin Graham, Media Arts Technician, *Dawn Burn* exploits the time-based aspect of video both in its linear nature and in the way the apparatus degrades over time through continued use. In this artwork Lucier recorded the rising of the sun over the Hudson River on seven separate videotapes over a total of seven days. The recordings of images and events are played back on seven monitors arranged in obelisk pedestals to

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display both their continuous and discontinuous "memory". Upon entering the museum’s collection in 1991, Lucier’s artwork was in a serious state of degradation due to deteriorated open reel videotapes, missing playback and display equipment, absent sculptural elements, and a lack of installation instructions. Working with the artist, SFMOMA devised a preservation plan to restore the physical videotapes, upgrade the video medium format, create detailed installation instructions, and replace the missing equipment and sculptural elements in order to save this artwork from impending obsolescence. As the essential component of the artwork, the video medium was restored first. With the assistance of the Bay Area Video Coalition, SFMOMA was able to restore the original open-reel analogue videotapes to make a new 1-inch “master” analogue archival
tape for preservation purposes. 85 This tape was not played, so as to prevent magnetic tape loss due to wear, and was used to make exhibition copies on analogue optical laser discs that would be played. With the video medium restored SFMOMA was ready to purchase the correct equipment to display Dawn Burn: CRT video monitors, laser disc playback devices, structural elements, and all interconnecting audio and video cables (see Fig. 23). Additionally, a video synchronization and automation system was designed to operate the artwork and keep it up and running through the long exhibition hours when on exhibit. As Graham and Sterrett point out in their article, “It would be dangerously counterproductive to assume at this point that the work is ‘rescued’ and preserved for all time,” since video formats and video playback and display devices obsolesce quickly due to rapid advances in technology and the components in these technology-based artwork, such as light bulbs or moving mechanical parts, will burn-out or break down swiftly due to being constantly turned on and running. 86 Graham and Sterrett add that as long as the image is restored and the artwork retains the same conceptual look and feel as the artist intended, the newer technologies used to recreate

85 Refer to http://www.bavc.org for more information.

the artwork will not compromise the artwork’s integrity. However, attaining this goal is both the current key and challenge to preserving technology-based artwork for museums and artists, as Lucier herself explains:

We [artists] find ourselves in this very ironic position, 20, 25 years later, of attempting to rematerialize, to remake in a material form, these works that, for us, were valuable at that time, precisely because of their ephemerality. So, one of the things that needs to be preserved in the reconstituting of these pieces and in the preserving of them, is the sense of their ephemerality. I mean, we mustn't make them over-weighty in their object-ness, while at the same time, we do have to reconstitute and preserve them. We need to retain that sort of vitality that was there when we were, at that time, rebelling against the art object, and the art. It's completely ironic that here we are, in the San Francisco Museum of Modern Art, and we are now all engaged in this process of bringing back to life pieces that are lost, and preserving pieces that will be lost from an ethic and aesthetic that originally wanted them to be lost. Anyone who made work at that time knows precisely what I'm talking about. So we all find ourselves somehow trying to bridge this gap of where we are conceptually in our understanding of the totality of what we've done, and how we have changed and the work has changed, and the necessity of the moment, that history, the needs of history, which involve this act of preservation. 87

Thus, the preservation of video installation artwork faces obstacles on three fronts: physically, in the form of material degradation and obsolescence; technically, in the form of outdated video medium formats.

and a lack of user knowledge; and conceptually, in the form of inadequate or non-existent documentation explaining installation procedures and the artist’s wishes for future preservation efforts. As SFMOMA’s conservation of Lucier’s artwork shows, museum professionals are actively working to find solutions to these preservation challenges. The next section of my project examines how these preservation challenges have affected traditional museum practices, the frustrations felt by museum professionals in the field, and the strategies currently being developed by museum professionals, artists, and professionals outside of the museum community to save video installation art from entropy.
FINDINGS & CONCLUSIONS

Can art museums save video installation art at the moment of accession? Through a review of published and unpublished literature; interviews with eighteen museum registrars, conservators, curators, exhibition technicians, artists, and video preservation specialists; attendance at two professional museum conferences; and a case study analysis of two contemporary art museums’ accession and preservation practices, I learned how and why art museum professionals are presently struggling to address this very question. I have documented the preservation challenges roundly recognized by art museum professionals working with video installation artwork and the accession strategies they are currently developing to address these challenges. The findings and conclusions of my research are presented according to the research methodology used.

Literature Review & Interviews

A review of published and unpublished literature was conducted in order to trace how registrars have responded to the preservation challenges of video installation art at the moment of accession. The most comprehensive relevant articles date from the early 1990s to the present and were found in journals produced by the American Institute for
Conservation (AIC), the Getty Conservation Institute (GCI), Guggenheim Museum Publications, and Tate Gallery Publishing. Published and unpublished proceedings from seven major international museum conferences also proved invaluable for this project.88 Reviewing these sources was essential to understanding how video installation art is defined, the current preservation problems faced by contemporary art museum registrars, and the strategies these registrars are developing to keep video installation artwork from fading into oblivion. Included in these materials were definitions for commonly used terms describing video installation artwork, as well as the estimated life span for the equipment and video formats typically comprising this artwork.

An additional indispensable aid to my research was *Playback: Preserving Analogue Video*, an interactive DVD produced by the Bay Area Video Coalition that profiles analogue video preservation techniques

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as they are practiced, accompanied by critical discussions on the topic by artists, conservators, and video engineers. The video content included analogue video basics, a preservation case study, and views of a reconstructed artwork. Additionally, interviews with eighteen museum registrars, conservators, curators, exhibit technicians, artists, and video preservationists were conducted for the purpose of assessing the challenges registrars face when acquiring and preserving video installation artwork. All the professionals interviewed were enthusiastic about this project, spoke freely about their experiences, and expressed what they felt were the primary issues affecting video installation art’s preservation.

Out of all this research, five main issues emerged that challenge the registrars’ role in documenting and preserving video installation artwork. First, a lack of training and guidelines for working with technology-based artwork left registrars feeling ill prepared to understand video installation art’s physical, technical, and conceptual components. Second, as a consequence, registrars felt they were left to their own devices in determining the best accession and preservation approaches to take, which, third, has created a strong need for published best practices on this topic. Fourth, limited resources in funding, staff numbers, and staff time were seen as detrimental to the proper care of video installation artwork, so that, fifth, increased collaboration and resource sharing
between registrars and their colleagues in conservation, curatorial, and exhibitions was recognized as critical for both the short and long-term preservation of video installation artwork.

**Understanding the Artwork**

“Complex” and “cryptic” are adjectives best used to describe video installation artwork. Through the course of my research, the term video installation art has been used synonymously with terms such as electronic media, electronic art, time-based media, technology-based art, installation art, video art, kinetic art, variable media, and ephemeral art. Finding a concise definition for video installation proved just as elusive. For instance, in a presentation at the 1997 *Modern Art: Who Cares? An International Symposium on the Conservation of Modern and Contemporary Art* Derek Pullen, Head of Sculpture Conservation at the Tate Gallery in London (Tate), uses electronic media as a broad term to describe all artwork that uses videotape, disks, and electronic devices to control motion, light, and/or sound in combination with physical objects and spaces.\(^8^9\) Pullen’s colleague, Pip Laurenson, Sculpture Conservator

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for Electronic Media and Kinetic Arts at the Tate, refines Pullen’s use of the term “video” as it relates to electronic media in her 1999 essay on the conservation of video installations, explaining that “video” is a broad term used to describe the formats in which an artwork might be made, archived and displayed, and the equipment used in its production.90 In a 2001 follow-up essay, Laurenson applies the term time-based media to electronic media artwork since it can be used to describe installation artworks that have a duration and must be experienced over a period of time.91 According to Margaret Morse, Professor of Film and Digital Media at the University of California, Santa Cruz, the term “installation” suggests that an artist must actually come and install the electronic components of a video installation artwork into a designated space, which makes the artwork dependent on museums, or like institutions, for its very existence.92 Using the definitions outlined above from both staff at the Tate and Morse, for the purpose of this project, video installation art can be defined as installations incorporating the use of video and moving parts in their construction, which are carefully constructed and positioned


92 Morse, 154.
according to specific space allocations as designated by the artist. So, what does this mean to the registrar who has to document, store, and install this artwork?

Steven Dye, Exhibitions Technical Manager at the San Francisco Museum of Modern Art (SFMOMA), explained during an interview that every video installation artwork must contain at least three main components—a video medium, a playback device, and a display device—and understanding how these three components relate to each other is the key to bringing the artwork to life.93 A key corollary is identifying which of these components will be seen while on display and which ones will be working in the background to make the artwork function. Meeting these goals requires technical audio-visual knowledge and experience that most contemporary art museum registrars do not have. Equally as challenging is realizing that each artwork is unique in the number and type of components used, just as the artistic intent of one artist may differ from that of another. Allison Cummings, Assistant Registrar at SFMOMA, confirmed that her museum “actively collects installation-based video art; however, the speed by which we are able to accession and preserve these artwork is dependent upon our understanding of their different

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SFMOMA’s Jill Sterrett, Director of Collections and Conservation, and Justin Graham, Media Arts Technician, corroborates these challenges in their article, “An Institutional Approach to the Collections Care of Electronic Art.” Sterrett and Graham explain that video installation artwork is not easy to categorize and store because it usually involves videotape and the equipment to play the tape. Additionally, specific architecture is almost always built as part of the artwork, and this along with the artwork must be put into a gallery according to the artists' specifications. Sterrett and Graham exclaim: “What is the art? Is the equipment required to run the piece considered ‘stock’? Is it dedicated to the piece? What happens when equipment parts break? What happens when the equipment is no longer available? If only the challenges of preserving electronic art stopped with preserving the videotape itself.”

Laurenson clarifies in her article “Between Cinema and a Hard Place: The Conservation and Documentation of a Video Installation by Gary Hill,” that the components making up a video installation artwork must work in unison to create the resulting play of images, and sounds


when applicable. If one element is changed, there is a risk that the whole system could collapse and no longer work correctly.\textsuperscript{96} For example, in \textit{Between Cinema and a Hard Place}, Hill uses a computer-controlled switching device to regulate the time in which the images off the laser discs are distributed in combination with the spoken words emanating from three tracks of audio. Hill’s conceptual intent is for the spoken words to be heard in melodic sequence with the changing images displayed on the monitors. To achieve this, the interchange between the images and the sounds must be precise; if the laser disc playback device, audio equipment, or computer-control device malfunctions or is set-up incorrectly, this interplay will fail—thus, rendering the artwork incomplete.\textsuperscript{97} Therefore, it is necessary to understand the precise role of each piece of equipment—specifically, what it does, how it relates to other pieces, and how the system functions as a whole. Laurenson adds that with this type of art museum professionals will “need to expand their vocabularies of risk to include mechanical breakdown and obsolescence of parts or whole technologies, or perhaps the lack of documentation to guide light levels or the choice or construction of a space in order to install the

\textsuperscript{96} Laurenson, ““Developing Strategies for the Conservation of Installations Incorporating Time-Based Media,”” 263.

\textsuperscript{97} Ibid., 261-265.
Without such knowledge, art museum registrars run the risk of witnessing the artwork succumb to disorder, decay, and, eventually, obsolescence. As Martha Buskirk explains Bill Viola’s video installation artwork, “Viola recognized that his works faced a double threat: first from the physical deterioration of the magnetic recordings used for sound, video and other electronic data, and second from the obsolescence of the equipment needed to play tapes, project films or decode older digital formats.” According to Buskirk, Viola has responded by giving greater attention to the documentation of installation instructions and regularly transferring his master tapes to new digital media as they became available.

Recognizing that Viola’s response points toward best practices for the field, museum registrars roundly acknowledged the need for accession, installation, and maintenance guidelines. These guidelines must offer definitions about the common components used in video installation artwork, how to evaluate and document this artwork, the most appropriate preservation strategies to apply to the components comprising the artwork,

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98 Ibid., 261.


100 Ibid.
and resource information once components failed and/or became obsolete. Through my research, I found many museum registration departments were in the process of establishing such guidelines and policies, while others already had working documentation methods and guidelines in place. Of the museums in this latter category, I found the Tate to possess the most extensive guidelines and procedures for accessioning and preserving video installation artwork.101

**Lack of Training & Resources**

Billy Kluver, technical collaborator with artists such as Robert Rauschenberg and Jean Tinguely, claims in his 1991 article titled, “Four Different Pieces,” that it is irresponsible on the part of a museum to allow a technology-based artwork to cease to exist just because its components are not maintained or updated.102 According to Kluver, this lack of care usually results in the artwork being only marginally operational and lying “dead” in storage. Sarah Sze’s 1999 artwork *Many a Slip* at the Museum of Contemporary Art, Los Angeles (MOCA) exemplifies this challenge. The six video projectors used in the artwork became obsolete after two

101 Refer to the Recommendations and Appendix C sections for examples of methods and guidelines.

years in storage due to advances in video projector technology. By the
time MOCA was able to install the artwork for its 2002 exhibition, it did
not have backup projectors, nor was it able to successfully find newer
replacement projectors that were able to run for the length of the
exhibition—thus, the artwork was placed back into storage and is
currently waiting to be restored.\textsuperscript{103} Given this,
Kluver adds that many of the
technology-focused artists
with whom he has worked
considered museums to be
unsafe environments for their
artwork.\textsuperscript{104} In speaking about his installation experiences with museums,
artist Anthony Discenza (see Fig. 24) commented:

\begin{quote}
The people who make things happen in a museum, such as
the conservators and registrars who are installing my
artwork, may not really possess the tools to get the job
done. Right now there are no preservation standards for
video or other new media, and due to this I try to avoid
\end{quote}

\begin{footnotes}
\textsuperscript{103} Refer to the introduction section for a review of this artwork and the steps taken by MOCA to
preserve it.
\textsuperscript{104} Kluver, 99.
\end{footnotes}
creating monitor-based artwork since they are dependent on hardware that will soon become obsolete.\textsuperscript{105}

Discenza acknowledged that he preferred creating artwork, such as his \textit{November, 2002} (see Fig. 25), that could be projected onto a screen or a wall since the projector does not need to be seen by the viewer, thus, it does not need to be preserved as part of the artwork. Consequently, he likes to stay flexible with his artwork so as to allow those working with them—whether they may be museum professionals, art gallery dealers, or private collectors—the ability to use and replace any type of projector that is compatible with the video formats used, ultimately resulting in fewer preservation issues for the future.\textsuperscript{106} To these issues, Robert Storr, curator in the Department of Painting and Sculpture at The Museum of Modern Art in New York, asks:

\begin{center}
\textbf{But how do we contend with the built-in weaknesses of so many of these objects? It is intellectually and aesthetically dishonest to pretend that many of them are not, in some}
\end{center}

\textsuperscript{105} Anthony Discenza, video installation artist, personal interview by author, 17 May 2004, Oakland, CA.

\textsuperscript{106} Ibid.
measure, beyond caring for—not just in the sense that curators and conservators may declare an object irreparably damaged or “dead,” but in the sense that what remains no longer conveys the meaning of the work in its original form.107

In reaction to all these preservation dilemmas, museum professionals began to investigate how better to approach the preservation of contemporary artwork, especially those incorporating technology. This investigation began in earnest back in 1991 when the Canadian Conservation Institute organized and hosted Symposium ’91 – Saving the Twentieth Century to stimulate thought, encourage research, and help to raise awareness about the preservation of artwork incorporating all kinds of modern materials, including that of technology. A key issue expressed was that registrars approached the preservation of technology-based artwork ad hoc, using their limited training in materials science, as well as an ethical code conceived with more traditional artifacts in mind.108 Mark Roosa, Chief Preservation Officer at the Huntington Library, explains that traditional museum registration practices evolved out of many years of practical experiences and theoretical investigations with traditional media,


such as oil paintings and bronze sculptures. As a result, a substantial amount of museum documentation procedures and working guidelines were developed to enable registrars to feel confident in the standards of care they provided for this artwork.\textsuperscript{109} For example, through training, practical experience, and the use of the information outlined in procedures and working guidelines, registrars know if they store or exhibit an oil painting under the appropriate conditions for temperature, light levels, and humidity, the degree at which the painting will deteriorate will be minimal. However, applying these same procedures and guidelines to the care of video installation art has proven difficult. According to Sterrett, traditional preservation methods can have deleterious effects on video installation artwork. When a video installation artwork is placed into storage according to the lighting, temperature, and humidity conditions mandated by traditional guidelines, the plastic and metal materials in its physical display and playback device components will be safeguarded from deterioration, such as cracks in the plastic or rust in the metal. Sterrett confirms that while this is a desirable condition, and registrars have been diligent about following set guidelines to ensure this outcome, it really is not an efficient form of preservation in terms of safeguarding the

components against obsolescence.\textsuperscript{110} “For instance,” says Sterrett, “an artwork’s media format and playback components need to be migrated as advances in technology occur, and this migration has to be done one cycle at a time. We can’t address this issue if the artwork is left to sit in storage.”\textsuperscript{111} This preservation dilemma is due to the fact that video is a coded system, which requires a particular video format to be played back on a machine that is designed to decode that given format. Preserving encoded information is pointless if the machine to decode the signals back into the picture is no longer available.\textsuperscript{112}

When a video medium format is migrated from analogue to digital due to advances in technology, the corresponding display and playback device equipment components must change as well in order to read the new digital format. For instance, an analogue VHS playback device will only be able to read a VHS analogue videotape, and a digital DVD playback device will only be able to read a digitally encoded DVD disc. Sterrett argues that traditional guidelines need to be adapted to meet the needs of video installation artwork, and states, “As video formats change

\textsuperscript{110} Jill Sterrett, Director of Collections and Conservation, San Francisco Museum of Modern Art, personal interview by author, 8 April 2004, San Francisco.

\textsuperscript{111} Ibid.

\textsuperscript{112} Laurenson, “The Conservation and Documentation of Video Art,” 263-264.
and components deteriorate or become obsolete, any preservation steps taken must be acknowledged as inherently temporary."113 Given this, Sterrett claims that museum professionals need to view the life of a video installation artwork as one that is continuously changing, and commit to a preservation process of constant reassessment in order to ensure the artwork’s long-term care. Sterrett expounds that the use of technology in contemporary art is not a brand new concept, as seen in Kinetic art’s computer operated sculptures and Dan Flavin’s colorized cathode ray tube light sculptures. The challenge is not that technology itself is difficult to understand, but rather keeping up with technology’s advances into newer, cutting edge forms. This “newness” requires museum professionals to constantly rethink and adapt preservation practices and, as Sterrett exclaims, “artwork that is considered cutting edge today will inevitably be labeled traditional artwork someday.”114 According to Robert Hollister, Director of Collections and Registration at MOCA, it is an explicit rule in MOCA’s registration department to not use the term “new media” because what is new now is not going to be new in the future. For instance, DVD is a standard now but probably won’t be 10 years from now, and all you


can do is be conscious of these issues and make sure that you have into your management structure a means to be able to migrate in the future. Hollister advised for museums to try to put money away in their budgets for this now, if they can, as well as properly store the artwork and make back-ups of the video formats. Hollister emphasized that video installation art’s equipment is not going to be forever, as shown in the previous example given for Sarah Sze’s *Many a Slip*, 1999: “Those projectors are not used anymore so they are going to cease to be made and cease to be maintained. What do you do? Do you have back-up bulbs that will last 20-50 years into the future? Probably you should.” However, Hollister underscores that these are all things that are easy to say, but they involve resources and future unknowns; the key is staying flexible with the preservation process and, of course, buying a digital camera in order take as many pictures now as you can!

Video installation art is a relatively young medium without sufficient documentation to guide registrars on how to address its

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116 Ibid.

117 Ibid.
preservation needs. This preservation dilemma is compounded once newer forms of technology cause video installation art’s technical components, such as its playback and display equipment, to become obsolete. Roosa explains that without documentation and specialized training registrars are left to develop their own preservation approaches.\textsuperscript{118} In “Screen Savers: How to Preserve an Artwork That Depends on Electronic Parts That Might Be Obsolete in a Few Years?” Carol Stringari, Senior Conservator of Contemporary Art at the Guggenheim, affirms Roosa’s point and adds that conservation training programs have yet to teach students the methods for preserving technology-based art.\textsuperscript{119} While Laurenson adds: “The idea of a conservator who comes along and fixes things is long out of date. A lot of what you need to do now is documentation and dealing with new technologies.”\textsuperscript{120}

In response to the lack of training offered to registrars and conservators, I found that three postgraduate training programs have recently been established to specifically educate students about modern art’s wide range of materials and techniques, conceptual meanings, and

\textsuperscript{118} Roosa, 41.

\textsuperscript{119} Carly Berwick, “Screen Savers: How to Preserve an Artwork that Depends on Electronic Parts that Might be Obsolete in a Few Years? They’re Working on it,” \textit{ARTnews} (September 2002): 125.

\textsuperscript{120} Ibid.
artist intentions. These programs include: the Moving Image Archiving and Preservation two-year M.A. degree program at the Tisch School of the Arts, New York University, the Contemporary Art Conservator two-year postgraduate certificate program at the University of Ghent in Belgium, and the Conservation of Modern Art five-year postgraduate program at the Limburg Conservation Institute in Maastricht, The Netherlands. I found that each program is geared toward incorporating the artist in the preservation and conservation process, and is open to students with humanities or sciences backgrounds. While still in their infancy, it is the goal of these programs to establish a new paradigm in modern and contemporary art conservation training, as well as be accessible to those students without a material sciences background—such as registrars.

Documenting Artists’ Intent

A lack of knowledge about the artist’s intent for the material and conceptual makeup of his or her artwork was another challenge expressed by museum registrars working to preserve video installation art. As one registrar with whom I spoke commented, “I often find myself asking: what is the artwork and what about it needs to be preserved according to the

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121 Refer to Appendix C for more information on these programs.
artist’s wishes?” In her essay, “Installations and Problems of Preservation,” Stringari provides further insight into this issue:

Often there are misinformed and sometimes arrogant decisions made to interpret the work of an artist, without regard to original intent: history is easily rewritten and works can be completely misunderstood. If we have any ability to ward this off, we should certainly strive to do so. It is our collective responsibility, as museum professionals, to preserve both the material nature and the conceptual nature of the art works in our care.122

However, the challenges impeding the registrar’s ability to ensure artist’s intent is followed are three-fold. First, once an artwork has already been accessioned and stored into the museum’s permanent collection, it becomes more difficult to initiate contact with the artist in order to fill in holes in the documentation—such as inadequate installation instructions and/or unacknowledged preservation requests—due to time constraints, limited staff numbers, and financial costs. Secondly, this difficulty is fully compounded once the artist is deceased, as it becomes more challenging to acquire information about how the artist intended for his or her artwork to be installed and preserved over time.123 For instance, in preparation for an


upcoming exhibition, the Berkeley Art Museum (BAM) needed to decide what to do with the deteriorated videotape in an artwork from deceased artist Theresa Hak Kyung Cha, since there was no written record of Cha’s preservation intentions for this artwork. In order to be able to preserve and display this artwork, curatorial made the decision to migrate the videotape’s analogue video format to DVD, with the intention that Cha would have approved of this modification if she were alive. According to Lisa Calden, Director of Registration: "It is difficult to make decisions about how to preserve an artwork when the artist’s intentions are not recorded. When an artist is deceased, we will contact the artist's family members, studio assistants, and other people who knew the artist well to ascertain their intentions as best we can." With artwork that is collected today, BAM is making an effort to acquire the intentions of artists at the time the artwork is accessioned, as Calden explains: “Although we currently do not have a formal process for interviewing artists about their long-term intentions for media works that enter the BAM collection, this is something that BAM staff is very much aware needs to be remedied and we are looking at a number of questionnaires from other museums to use

124 Lisa Calden, Director of Registration, Berkeley Art Museum and Pacific Film Archive, personal interview by author, 22 April 2004, Berkeley.
as a basis for developing our own.” Third, as technology rapidly advances, the manufacturers that create the common components used in video installation art choose to upgrade, change, and discontinue components when necessary, forcing the artwork to upgrade as well or perish. Consequently, art museums that acquire technology-based artwork using these obsolete components are still bound by a conservation and registration code of ethics to preserve such artwork. Universally, the professionals code of ethics for conservators and registrars state that a museum’s collection should be accounted for, documented, cared for, and preserved to the highest ability possible. G. Ellis Burcaw, author of *Introduction to Museum Work*, explains the reason for this code by simply stating that since all materials deteriorate, the museum must maintain the best possible conditions for the longest possible life of each object.” Rachel Barker, Conservator of Twentieth-century Paintings at the Tate, supports Burcaw’s statement and adds that unless the artist clearly acknowledges that his or her artwork is ephemeral and can be allowed to change over time, it is the conservator’s responsibility to preserve and

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125 Ibid.


maintain the artwork as close to its original condition as possible. For example, when conserving an oil painting, a conservator will repair any paint losses, such as cracks or chips, which may have occurred due to extreme changes in temperature or humidity. In doing this, the conservator is working to keep the original painting intact. However, when conserving a newspaper clipping that is attached to a mixed-media artwork, the conservator knows and accepts that retaining its original condition will be impossible due to the acid used in its construction. Depending on the artist’s intentions, the conservator can either let the newspaper component disintegrate, replace it with a duplicate version, or photocopy the newspaper’s contents onto acid-free paper. With video installation artwork that is at the mercy of changing technology and equipment, keeping it in its original state can be as difficult as trying to preserve the acidic newspaper clipping in the mixed-media artwork.

So, where can these preservation challenges lead? One obvious path is to no longer actively collect and accession video installation artwork, but rather commission artists to create it for exhibition purposes only. However, an alternate solution is to ask artists directly about how

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they would like their artwork to be preserved; specifically, whether its status will be that of an ephemeral artwork that requires change in order to survive, or an artwork that needs to retain its original hardware and software, which will eventually succumb to deterioration and/or obsolescence and fade away. In essence, artists are being asked to be the caretakers of their own works, and “at the moment,” says Stringari, “there’s a great emphasis on getting to the artists if they’re living.”

According to Jennifer Draffen, Chief Registrar and Exhibitions Manager at the Museum of Contemporary Art in Chicago (MOCA-Chicago), in order to formulate a preservation plan, registrars need to find out immediately from artists during the accession process what takes priority in their artworks: the concept of the work or the physical manifestation of its concept? Once this distinction has been made, then the registrar will need to gather as much information from the artists about the day-to-day maintenance of the work, and how to display the work in the safest way possible while still respecting the artist’s intent. For instance, in a recent post to the Association of Moving Image Archivists-Listserv, Laurenson

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129 Barker, *Conserving Modern Art: A Lifetime to Consider*.

130 Berwick, 125.

131 Draffen, “Innovative Management of Irritating Artworks.”

132 Ibid.
recommended for registrars to ask artists questions about the relationship of the artwork’s display equipment and the reasons why the equipment was chosen. Additionally, if an artist is not specific about the display technology used in the artwork, then that in itself is significant. According to Suzanne Quigley, Head of Registration at the Whitney Museum of American Art (Whitney), the development of an artist interview questionnaire including questions such as these is an important first step in dealing with these types of artworks. However, Quigley stresses that other questions obviously may remain after the interview, and many may remain depending upon who is doing the interview. If the Registrar is not involved then certain questions may be overlooked, such as how to re-fabricate the artwork for exhibition. Draffen agrees with Quigley’s recommendation and adds that while the artist questionnaire is not perfect, it is usable, and is sent out every time MOCA-Chicago acquires a work so as to determine how to handle, display, and conserve it in a manner that is consistent with the artist intent. In addition to the questionnaire, Draffen comments:

I think that one of the most important things when you’re working with “time arts”—which is what we [MOCA-Chicago] call pieces that are “A/V works”—is to create

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133 Laurenson, “Re: [AMIA-L] controlled vocabulary,” <amia-l@lsv.uky.edu>.

134 Draffen, “Innovative Management of Irritating Artworks.”
something as simple as an Excel spreadsheet that lists all of
your A/V, or “time-arts,” what format they’re in, and how
long they’ve been in that format.\textsuperscript{135}

Draffen stresses that this Excel spreadsheet should then be shared between
registration and its colleagues in A/V in order to maintain an active
dialogue, together, about the artwork needs, and for example, when 2005
rolls around both departments can say it is time to re-look at a particular
set of A/V works because they are in this such and such a format and need
to be migrated.\textsuperscript{136} Draffen reiterates that the people who are ultimately
responsible for the artwork are the registrars and technicians who go to the
artists and go to websites for research in order to obtain as much
documentation about the artwork as possible—to the point that others are
driven crazy! Yet, Draffen applauds meticulous documentation because
the people whose responsibility it is to document the artwork are the same
people who are responsible for the artwork’s long-term care.

Documenting artist’s intent through interviews and questionnaires
is currently the accession and preservation method of choice in the field.
This is due quite simply because, as Jon Ippolito, Associate Curator of
Media Arts at the Guggenheim, explains: “We need artists—their

\textsuperscript{135} Ibid.
\textsuperscript{136} Ibid.
information, their support, and above all their creativity—to outwit oblivion and obsolescence.”137 Through my research I uncovered several models in the field covering different artist interview approaches, including the use of artist questionnaires.138 Among these, one stood out: the Guggenheim’s Variable Media Initiative. This Initiative encourages artists to participate in the museum’s accession and preservation process and was born out of the Guggenheim’s 2001 conference Preserving the Immaterial: A Conference on Variable Media. In the variable media approach, registrars are given the opportunity to document the artist’s conceptual intent for his or her artwork, gather any complex installation instructions, and learn how the artist feels about applying one or more of the variable media approach’s proposed preservation strategies.139 Put succinctly, the variable media approach asks creators to play the central role in deciding how their work should evolve over time, with archivists and technicians offering choices rather than prescribing them.140 Working within the parameters of the artist’s documented intentions can provide the

137 Depocas, 47.

138 Refer to Appendix B and C to obtain examples of these different models.

139 Refer to the case study section for information about the Variable Media Initiative’s different preservation approaches. For additional information refer to the following website: http://www-variablemedia.net.

140 Depocas, 47.
registrar with the necessary information to more effectively preserve the artist’s artwork over time before it lost to decay, obsolescence, or even more simply, the inability to recreate the artwork due to insufficient installation instructions. According to Carol Stringari, the purpose of the Variable Media Initiative is to offer practical approaches to preserving and conserving technology-based artwork, since the preservation requirements for this medium differ greatly from those of traditional media artwork.\textsuperscript{141} With traditional artwork (such ceramic sculptures or oil paintings) conservators and registrars can monitor the deterioration process over many, many years by using guidelines learned through their training. Conversely, technology-based artwork requires conservators and registrars to act quickly to prevent the deterioration and impending obsolescence of the artwork’s physical, technological, and conceptual components. Stringari feels conservators need to think about preserving the “spirit” of technology-based artwork rather than their physical components, and stated that published preservation guidelines based on the needs of traditional media artwork are unable to offer conservators and registrars with the information to do this; new guidelines are needed and in the

\textsuperscript{141} Carol Stringari, presented as part of the symposium “Echoes of Art: Emulation as a Preservation Strategy” at the Solomon R. Guggenheim Museum, New York, 8 May 2004.
interim, according to Stringari, this is where the Guggenheim’s Variable Media Initiative can offer assistance.\footnote{Ibid.}

**Collaboration and Resource Sharing**

According to the *The New Museum Registration Methods*, it is generally the registrar’s responsibility to manage, maintain, and preserve artwork during the accession process. This process includes, but is not limited to, arranging for the artwork to be brought to the museum, checking its physical condition upon arrival, contacting the donor or artist in order to complete its transfer of ownership documentation, assigning and physically applying an accession number to the artwork, entering the accession information into the collections management database, and making recommendations, in conjunction with a conservator when possible, about the feasibility of caring for, exhibiting, and properly storing the new artwork.\footnote{Rebecca A. Buck and Clarisse Carnell, “Acquisitions and Accessioning,” in *The New Museum Registration Methods*, ed. Rebecca A. Buck and Jean Allman Gilmore (Washington D.C.: American Association of Museums, 1998), 161.} In accessioning video installation artwork, registrars must be diligent about not only completing the steps outlined above, but also making sure to obtain complex installation instructions from artists, including sound, display, gallery spacing specifications, and
the artists’ conceptual intent and preservation wishes for the artwork; recording the number and types of components making up the artwork, such as video monitors, DVD or VHS playback devices, video screens, DVDs or VHS videotapes, cables, sound equalizers, etc.; and asking the artist which of these components is essential to the overall concept of the artwork and must be accessioned as part of the artwork (commonly referred to as “married”), or which components are non-essential and can be pulled from the museum’s pool of audio-visual equipment (commonly referred to as “standard”) at the time of installation. Additionally, registrars must discern how to accession these “married” or “standard” components in terms of number application, and how and/or where they will be stored until they are ready to be installed for exhibition.  

Conservation duties may also be added to a registrar’s list of responsibilities in museums without an in-house conservation department. For video installation art, such duties might include replacing burnt out or obsolete video playback equipment, or getting new archival copies of videotapes made once the current archival videotape format becomes obsolete or reaches the end of its expected shelf life. In an interview with Robert Hollister, I learned that this scenario was the case for his museum:

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144 Refer to Appendix B for an example of SFMOMA’s accessioning numbering system for video installation artwork.
“It is the responsibility of the MOCA Registration office to set standards and monitor the conservation needs of its collections.”145 However, as previously stated, having conservation personnel on staff will not necessarily save video installation artwork from entropy and obsolescence, due to the lack of training conservators typically receive in technology-based artwork.

Given the number of responsibilities traditionally placed upon registrars during the accession and preservation process, caring for video installation artwork has proven difficult due to a lack of time, staff, and resources to deal with video installation art’s complex components, terminology, and installation requirements. For example, Lisa Calden expressed that since BAM’s registration department has a small staff—which is just she and one part-time registration assistant—one of her main concerns was trying to find the time and resources to preserve the 50-70 pieces of video installation artwork in her museum’s collection of over 15,000 works of art.146 Michelle Barger, Associate Conservator of Objects at SFMOMA, acknowledges Calden’s concern and confirms, “Video installation art is a complex form of art and a ‘specialty’ that no one

145 Hollister, personal interview by author, 4 December 2003.
146 Calden, personal interview by author, 4 May 2004.
person can master. This art does not get the full attention it needs since it requires a different approach to the standards of care given to traditional art.\(^{147}\) As a result, both registrars and conservators are required to take a case-by-case approach to determine the most appropriate preservation methods to apply. As a solution, Barger recommends a team approach for dealing with these artworks in order to understand their preservation issues and to raise the standards for their care.\(^{148}\) Pip Laurenson adds that if Barger’s recommended team approach is not feasible, due to a museum’s staffing structure, it is important to at least clearly define who within the museum will be responsible for preserving video installation art—such as the registrar, conservator, curator, or exhibit technician—and how that person or persons will disseminate this knowledge to others within the museum.\(^{149}\) Calden’s colleague, Heidi Zuckerman Jacobson, Chair of the BAM Curatorial Department & Phyllis Wattis MATRIX Curator, noted that even though BAM’s curatorial and registration departments are small, they do try to work closely during the accession of video installation artwork. With their combined expertise and lack of additional staff, this is

\(^{147}\) Barger, personal interview by author, 10 December 2003.

\(^{148}\) Ibid.

\(^{149}\) Pip Laurenson, Sculpture Conservator for Electronic Media and Kinetic Arts, Tate Gallery, personal interview by author, 8 May 2004, New York.
a viable solution in the short-term; however, as the museum’s collection of video installation artwork grows, increasing their department staff size would be beneficial.\footnote{150}

Coming to the aid of museums working with technology-based art are organizations whose mission it is to increase collaboration, shared resources, and preservation assistance in the field. These include the Guggenheim’s Variable Media Network, the International Network for the Conservation of Contemporary Art International (INCCA), Conceptual and Intermedia Arts Online (CIAO), the Bay Area Video Coalition (BAVC), Electronic Arts Intermix (EAI), and the Franklin Furnace Archive.\footnote{151} In addition to these organizations, curators, conservators, registrars, and media technical managers from the New Art Trust, SFMOMA, Tate, and the Museum of Modern Art in New York have formed a consortium to establish best practices for the care of time-based media art (such as video, slide, film audio, and computer-based installations), to raise awareness on the requirements of these works, and to provide a practical response to the need for international agreement.

\footnote{150} Heidi Zuckerman Jacobson, Chair of the BAM Curatorial Department & Phyllis Wattis MATRIX Curator, Berkeley Art Museum and Pacific Film Archive, personal interview by author, 5 May 2004, Berkeley.

\footnote{151} Refer to Appendix C for a complete list of organization names and website addresses.
among museums. While still in its early development, this consortium plans to post the results of its first project—the management of loans of time-based media, including a generic process diagram, agreed terminology and documentation, agreed amendments to facility reports, and recommended revisions of standard loan requirements and loan letters—on the Tate’s website by the end of summer 2004.152

Attendance at Professional Museum Conferences

Attendance at two professional museum conferences—which occurred at the beginning and ending stages of my thesis research—afforded me the chance to listen to presentations and open forum discussions on the preservation of video installation artwork, and learn firsthand the latest documentation strategies used by museum professionals in the field.

On October 21, 2003, I attended the session titled “Concerning the Ephemeral: Materials That Won’t Last” at the Western Museums Association & British Columbia Museums Association Joint Annual Meeting Northwest by Southwest: Continuing Our Journey Together, in Reno, Nevada. This session discussed storage, preservation, conservation, conservation, conservation,

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documentation, and access issues inherent to objects whose composition is essentially transient, virtual, and/or subject to disintegration. In attendance at this session were museum professionals and students from art, natural history, history, and science museums, historical societies, art galleries, and fine art shipping and insurance companies. Attendance by individuals from such different museum backgrounds was a significant finding for me and made me aware of how large and far reaching the issue of ephemeral art preservation really is, and how further research and preservation guidelines are needed in the field. Equally informative were the resource materials available and the professional interview contacts made. The resource materials distributed listed books, articles, and organizations focused on the issue of ephemeral art preservation, as well as preservation strategies currently being tested by the San Francisco Museum of Modern Art’s “Team Media” department and through the Solomon R. Guggenheim’s “Variable Media Initiative.”

153 This session was facilitated by Susanne Lambert, Collections Manager/Registrar at the Nora Eccles Harrison Museum of Art, and moderated by Jacqueline Gijssen, Head of Museum Services at the Vancouver Art Gallery. Presenting at this session were Robert Hollister, Director of Collections and Registration at the Museum of Contemporary Art in Los Angeles; and Michelle Barger, Associate Conservator of Objects, and Allison Cummings, Assistant Registrar of the Permanent Collection, from the San Francisco Museum of Modern Art.

154 Refer to the case study section for more details regarding the preservation strategies used at the San Francisco Museum of Modern Art and the Solomon R. Guggenheim Museum. For additional information about the Variable Media Initiative, refer to the following website: http://www.variablemedia.net.
questions contemplated during this session were: “How best should conceptually-based ephemeral artwork be preserved?” “As registrars and conservators, do we really want the material preservation of this artwork to be our focus or the preservation of their conceptual experience—as intended by the artists?” “If the latter, how then can we preserve this conceptual experience for future generations if the original artwork ceases to exist?” A desire to answer these questions was the impetus for my master’s project. In the next conference session report, I describe what I learned some museum professionals are currently doing to answer to this question. On May 8, 2004, I attended the symposium “Echoes of Art: Emulation as a Preservation Strategy” held at the Solomon R. Guggenheim Museum in New York in conjunction with its exhibition “Seeing Double: Emulation in Theory and Practice,” in which deteriorated and/or obsolete technology-based artwork are placed side-by-side with their re-created doubles, and sometimes triples, in newer mediums using a preservation process called emulation.155 Stated simply, “‘Echoes of Art’

155 Financial support for this symposium was provided by the Daniel Langlois Foundation for Art, Science, and Technology.
probes what is gained or lost when artists dare to translate past
technologies into present or future ones.**156

Born out of the Guggenheim’s Variable Media Initiative,
emulation is considered a promising and powerful technique for
resurrecting art made with obsolete software, hardware, and/or materials,
since it enables museums to imitate the original look of an artwork
through completely different means—such as the refabrication or
substitution of an artwork’s components.157 Using the “Seeing Double”
exhibition as a test case, the symposium discussed emulation’s
effectiveness as a preservation strategy. The first session, “Magic Bullet or
Shot in the Dark? Emulation as a Preservation Strategy,” discussed
applying the technique of emulation to artwork incorporating software,
hardware, and/or ephemeral materials on a case-by-case approach—since
artistic intent and the materials and technologies used could vary from

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156 Taken from session handout given at the “Echoes of Art: Emulation as a Preservation Strategy”

157 Refer to the case study section for a more detailed discussion on the Guggenheim’s Variable
Media Initiative. For additional information, refer to the following website:
http://www.variablemedia.net.
artwork to artwork.¹⁵⁸

The focal point of this session was an in-depth discussion into the emulation strategy used to resurrect the interactive video installation, *Erl King*, 1982-1985, by Grahame Weinbren and Roberta Friedman (see Fig. 26). The session included the artists, computer programmers, and conservators who undertook this emulation project, and focused on three areas of discussion: artistic intent, collaboration, and emulation’s viability as an affordable means of preservation.

*Artistic Intent*

Emulating *Erl King* (see Fig. 27) required defining its essence in order to establish a preservation strategy. According to artists Grahame

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¹⁵⁸ Carol Stringari, Senior Conservator of Contemporary Art at the Solomon R. Guggenheim Museum moderated this first session. Presenters included: computer programmer, Isaac Dimitrovsky; artists, Roberta Friedman and Grahame Weinbren; and computer scientist, Jeff Rothenberg. Respondents included: Caitlin Jones, Project Research Assistant at the Solomon R. Guggenheim Museum; Pip Laurenson, Sculpture Conservator for Electronic Media and Kinetic Arts at the Tate Gallery in London; and Jill Sterrett, Director of Collections and Conservation at the San Francisco Museum of Modern Art.
Weinbren and Roberta Friedman, the concept behind *Erl King* is how to break out of the linear aspect of cinematic film. To help convey this idea, the artists included a touch screen in the artwork so the visitor could manipulate the image sequences shown on the monitor. The artists also wanted a private space for the individual using the touch screen, and a public space behind this visitor so other visitors could view the process. Once the original artwork was emulated into its newer version, there was concern that it had lost some of its authenticity, since the technology and original components used in the original were not carried over—other than its restored computer source code. However, the artists felt that the artwork’s authenticity was not lost because the preservation of its image and conceptual idea was retained, which was more important to them than keeping the same hardware components. Additionally, the emulated version of *Erl King* did not change how the viewer reacted to the artwork, and in the end this was the goal. Overall, the artists felt the video image in
the original version did not look as good as the newly emulated one, and they favored the new one better. However, audience member Howard Besser, Associate Professor at the University of California, Los Angeles’ School of Education and Information Studies, questioned why then did the artists choose to insert pauses into the emulated version of *Erl King* in order to recreate the look and sound of the original equipment, if the hardware and software used was not significant for retaining their conceptual idea. Also, in 20 years from now might the artists change their minds when non-linear cinema is common and the technology might be more significant to retain instead? In response, the artists stated that the timing was key to the experience of the artwork, not the technology used to create this timing. The time delays seen in the original version were not just conceptual, but due to the time it took the computer control device to operate the other equipment. These mechanical delays were absent in the newer emulated version. He and Friedman wanted to rebuild them in order to keep consistent with the conceptual “spirit” of the original version. The artists added that they hoped the artwork was better now, and in 20 years from now they hoped it would be even better and not remembered for its technology.

For museum professionals, retaining the spirit of an artwork is key on a very basic level because they must be cognizant about programming
in the limitations and delays of older hardware and external devices in order to retain the look and feel of the original artwork. This is an interesting example of how the recreation of an artwork needs to retain the original’s speed, pacing, smoothness, sound effects, and other intended sounds, and this exemplifies how extreme museums need to be in retaining the artist’s intent. Obtaining artistic intent can be done by working in collaboration with the artist, and having this knowledge will also help to predict for changes in technology that are not yet known. Jeff Rothenberg, a computer scientist from The RAND Corporation, explained that emulation helps museum professionals and artists move away from having to preserve the original artwork’s obsolete hardware and software, and work to preserve the artwork’s conceptual idea instead.

Collaboration

Emulating Erl King was phenomenally collaborative. Since the artists are not technical installers and the conservators are not computer experts, both found that they needed the technical expertise of a computer programmer and chose Isaac Dimitrovsky for the project. To begin the technical aspect of Erl King’s emulation, Dimitrovsky checked to see if the computer source code responsible for controlling the time delay between the laserdisc playback devices and touch screen was clean and in
a self-contained state. He found that it was very compressed and had been written by the artists so it could be changed for each new installation. For him, restoring the source code and figuring out how the computer interacted with all the external devices was a challenge. He also acknowledged that the hardware used today is more advanced than it was when the original version was made, and will only get better and more advanced over time, which is a key thing to keep in mind for preservation. The viable preservation strategy in the interim is to keep up with the new technology to retain the concept of the original artwork. According to Dimitrovsky, the artists, and the conservators, focusing on the current technology used to recreate Erl King is not relevant; what is relevant is that newer forms of technology can be used for emulation now and into the future in order to preserve the artwork’s conceptual idea.

In response to Erl King and the “Seeing Double” exhibition as a whole, Pip Laurenson, Sculpture Conservator for Electronic Media and Kinetic Arts at the Tate Gallery in London stated that it was wonderful to have this issue on exhibit because it explores a promising preservation option for conservators. From her experience, each case in technology-based art is different and must be preserved in terms of its identity and concept. The relation of equipment, technology, and the artist’s involvement is key for this. Carol Stringari, Senior Conservator of
Contemporary Art at the Guggenheim commented that for technology-based artwork in general, re-installation is a challenge for museums because the requirements of each new gallery space are different. Having non-rigid parameters for which to collaborate and conduct the installation process is essential, as well as documenting what was done, the rational behind it, and keeping a working file on the artwork’s subsequent installations. Jill Sterrett, Director of Collections and Conservation at the San Francisco Museum of Modern Art, added that the criteria for success is to keep the work’s life for the future, and working in collaboration with artists and computer programmers to do this forges new territory for museums. Since art museums are tools for understanding art, as the art changes it is not surprising that museums’ methods change (including approaches to long-term care). Additionally, since the concept of change is embedded in so many contemporary works, museums in the later part of the 20th century are charged with exploring this element of change and considering its effects on current methods of care. Methods of care may need to do more than accept change, and museums might be charged with ushering it in; traditionally, this is where the conflict has occurred, with artists on one side and conservators on the other. With emulation, artists and conservators can meet in the middle.
Whenever possible, the artist should be involved in defining the completed state of the artwork, because, according to Sterrett, artist involvement is now more key and sought at by museums: “This collaborative ‘team effort’ approach signals a cultural shift in museums because treatment can’t be done by only one person; it involves an installation crew, registrars, conservators, technicians, artists, and curators.” Working in a vacuum is dangerous since no one person in the museum knows all the new technology and materials out there. Collaboration is needed in order to gain technical knowledge from experts in the field and to deepen one’s understanding of the artwork’s preservation needs. Based on her experience at the Tate, which has over 200 works of art in time-based media, Laurenson advised it is important to remain in touch with the range of expertise in the field and collaborate to share solutions: “A proactive approach to preservation is needed. We don’t need to recreate the wheel!” To this, Sterrett added that installing and exhibiting the artwork is also a preservation opportunity; display creates an exercise for understanding the conceptual and material

159 Jill Sterrett, Director of Collections and Conservation, the San Francisco Museum of Modern Art, presented as part of the symposium “Echoes of Art: Emulation as a Preservation Strategy” at the Solomon R. Guggenheim Museum, New York, 8 May 2004.

relationships operating within these works, allowing for new things to be found that were not previously anticipated. However, this preservation concept contrasts with traditional conservation philosophy and has not yet been utilized to its full capacity.

**Viability**

The new resources applied to *Erl King* were resources that were not known were needed before, such as a new policy, a new budget, and a new staff. While the Daniel Langlois Foundation for Art, Science & Technology funded this emulation project as a test case, emulation’s overall viability as a preservation strategy from a financial point of view was questioned. According to Caitlin Jones, Variable Media Project Research Assistant at the Guggenheim, the money and effort that goes into emulating something is equal to the amount of energy, money, and effort that goes into maintaining old equipment, just as it takes a lot of money, time, and energy to do a treatment on a painting—sometimes working on something for six months to a year. The big issue is that institutions are not used to having to deal with these questions immediately. Deciding what works of art to emulate and how to apply this approach is a question of policy that should come from the Director and the Board. So, what does it mean to preserve the conceptual idea of an artwork if the funds and
resources are not allowing for its hardware to be saved? Are not museums missing out on saving the history of the technological process? My concluding thoughts from this session were that while saving the equipment can help museum professionals understand the process in the future, it might not be essential to preserving the artwork’s concept. If one cannot save all the old hardware due to a lack of storage space, resources, and funding, then this is where documentation is key for keeping a record of the previous hardware and media formats used.

The second half of the symposium, titled “Generation Emulation: Games, Art, and Technological Nostalgia,” discussed the results of the “Seeing Double” exhibition survey and analyzed the artists’ opinions of emulation as a preservation strategy. 161 Jon Ippolito, Associate Curator of Media Arts at the Guggenheim, began the session with a brief summary of the “Seeing Double” exhibition survey, which was completed by 85 media experts, museum professionals, and members of the lay public, ranging in ages from twenty to fifty. Horizontally, between age and familiarity with technology, it was reported that there really was not a huge difference in

161 Jon Ippolito, Associate Curator of Media Arts, Guggenheim, and artist, Still Water for Networked Art and Culture, University of Maine, moderated this second session. Presenters included: artists Cory Arcangel, Mary Flanagan, and John F. Simon, Jr. Respondents included: writer and art critic, Tilman Baumgaertel from Berlin; artist, Joan “jodi” Heemskerk from The Netherlands; Francis Hwang, artist and Director of Technology at Rhizome.org; and Christiane Paul, Adjunct Curator of New Media Arts at the Whitney Museum of American Art.
respondents’ answers, and categories ‘fair’ to ‘good’ were the consensus. Given this, the emulation process could be seen as a success, since, according to Rothenberg, “The programmer did a good job if the differences between the original and emulated artwork are not noticeable!”

Since my findings place a heavy emphasis on artist collaboration during the preservation process, this session proved invaluable to my research as it gave me the opportunity to hear directly from artists about their opinions on the subject. For example, when asked about her feelings on the preservation of her artwork digital artist Joan “jodi” Heemskerk responded that she did not really think about it as she created it; the medium starts to stop if only conservation concerns are thought about and conservation should not be the work of artists because the artists are about creation and evolution of the medium. Digital artist Mary Flanagan provided a similar response when asked about the preservation of her artwork. She explained that since she gives her work away for free

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163 While the artists profiled here work within the category of Internet and Digital Art, which falls outside the scope of this project, the preservation methods used to preserve their art are similar to those for video installation art, and their opinions about preservation and their place in the process warranted inclusion in this project.
over the web, preserving it just means to save the source code. She does not really think about her work living on; she just creates it for now. She believes artists are attracted to this medium because it is variable and ephemeral.

On the subject of emulation, artists had mixed responses. For instance, digital artist, Cory Arcangel did not want his artwork, *I Shot Andy*, to be emulated because it is a light gun hardware hack. Hardware is the key to this artwork, so emulation would eliminate this key aspect. While, digital artist John F. Simon, Jr. stated that the core of his artwork is the software, and if the source code is printed out, saved, and then made to come alive again using the found original parts, or emulated, then that is acceptable. According to Simon, Jr., in reality this artwork is not really ever finished and one could basically emulate the look and then migrate the source code. As a programmer, he found that simple code is best for understanding and preserving because when more layers are put on—meaning new code through emulation—it becomes more difficult to preserve. Francis Hwang, artist and Director of Technology at Rhizome, added that it is important to remember how technology-based artwork is made, including the hardware used, because this helps the audience to understand society at that time; if you reinterpret or discard the parts, you lose some of this history.
To these issues, Christiane Paul, Adjunct Curator of New Media Arts at the Whitney Museum of American Art asked whose responsibility is was to preserve digital art. All the weight cannot be put on the artist, especially if the museum is not supporting the preservation of digital art. Hwang responded that while there are over 1000 functioning digital works of art in Rhizome’s art database, the collectors’ market for digital art is small. Due to this, Rhizome has not had to deal with obsolescence yet, but it will have to take obsolescence very seriously in 10 years in order to work against the disappearing of history. What is needed now is a technical, archival strategy for working with technology-based materials, and this strategy must involve collaboration with the artist, or friends, family, or galleries familiar with the artist’s work if the artist is deceased.

Many questions about emulation’s value as a preservation strategy were discussed in this symposium. My concluding thought about this strategy is that it is viable and should be explored by other museums working with video installation artwork. Essentially, the functional behavior of a technology-based artwork resides in the video medium format contained within the software, and not the hardware used to display the video image. Through the process of emulation, software can be migrated onto newer versions as technology advances, resulting in upgraded versions of the hardware as well. The conceptual idea for the
artwork, the video image itself, is what needs to be preserved and not the hardware used to display it.

**Case Studies**

Through information obtained during the literature review, attendance at museum conferences, and professional interviews, two contemporary art museums were identified as case study subjects based on their active accession of video installation artwork, their well-developed accession and preservation methods, their staff and collection size, and the availability of staff to be interviewed: the Solomon R. Guggenheim Museum and the San Francisco Museum of Modern Art. Where possible, members from registration, conservation, curatorial, and exhibitions were interviewed, and copies of collections management policies, accession worksheets, installation instructions, artist interviews, and database records were obtained in order to gain a comprehensive understanding of the registrar’s role in documenting and preserving video installation artwork at each museum.\(^{164}\)

\(^{164}\) Refer to Appendix B for copies of these documents.
On May 24, 2004, I conducted a conference phone interview with Carol Stringari, Senior Conservator of Contemporary Art, and Caitlin Jones, Daniel Langlois Fellow in Variable Media Preservation, of the Solomon R. Guggenheim Museum for the purpose of gathering information for this case study report. During this interview I was able to learn the Guggenheim’s key approaches to preserving the video installation artwork in its collection, as well as work it is doing for the museum field through its “Variable Media Initiative.” Keeping within the scope of my master’s project, I compiled and emailed a list of questions to Stringari and Jones in preparation for the interview pertaining to the Guggenheim’s documentation and preservation policies for accessioned artworks, as well as questions about its “Initiative.” However, each interviewee was encouraged to speak openly about her experiences in order to foster a more wide-ranging discussion of the topic.

The Guggenheim has approximately 300 video installation artworks in its entire collection comprising approximately 7,000-8000 works of art. For the accession process, a case-by-case approach is used and consists of conducting several artist interviews. For this process,

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165 Refer to Appendix A for a copy of these questions.
Stringari stressed that “with new media we are forced to address its essential components quickly and devise a preservation plan that will be used for the life of the artwork.”¹⁶⁶ In order to do this, the Guggenheim created the Variable Media Initiative. According to Stringari, the purpose of the Initiative is to work with artists directly using the “Variable Media Questionnaire” in order to define artists’ artwork in terms of medium-independent behaviors and to identify artist-approved strategies for preserving artwork. As Stringari and Jones explained, the questionnaire is an interactive form linked to an online Filemaker Pro database, and is designed to assist artists and museum staff in writing and answering variable media guidelines. The questionnaire is not intended to be exhaustive, but to be considered a place to begin a collaborative relationship with the artist over the life of his or her artwork. The questions asked must serve to capture the artist’s intentions about how to translate his or her artwork into newer mediums once the artwork’s original medium has expired. Stringari and Jones further explained that the database housing the questionnaire was made available in the Fall of

2003 to members of the Variable Media Network and to artists and other persons with access to Filemaker Pro on their computers.\footnote{167}{Unfortunately, I do not have Filemaker Pro and was not able to review the online database’s functionality.}

In essence, the Variable Media Initiative consists primarily of a complex questionnaire that is used by curators, conservators, registrars, collection managers, and exhibit technicians during the artist interview process in order to ascertain from the artist which aspects of his or her artwork are “fixed” elements, meaning what must remain the same, and which elements are “variable” and can be altered without affecting the essential qualities of the work. Two key questions addressed to artists through the use of this questionnaire are: 1) What do you consider the artwork’s original state to be; and 2) Can this original state be altered for preservation purposes? For the first question, the artist is asked to describe the artwork according to its “behavior.” The following five behaviors are identified on the questionnaire: contained, encoded, installed, interactive, and performed.\footnote{168}{For a complete definition of these “behaviors” and preservation strategies, refer to the glossary. For a detailed account of the emulation process, refer to the discussion of the \textit{Erl King} in the conference summary.} Using this information, the Initiative can decipher the best possible preservation strategy to apply to
the artwork, which may include: reinterpreting, migrating, emulating, or storing the artwork.\textsuperscript{169}

To help facilitate research into the Variable Media Initiative, the Guggenheim partnered with the Daniel Langlois Foundation in 2002 to create a special position called the “Daniel Langlois Fellowship in Variable Media Preservation.” The purpose of this one-year fellowship is to train future museum staff in how to apply the variable media model to the demands placed on museums working with technology-based artwork. Caitlin Jones was selected as the first Daniel Langlois Fellow and is currently working on a number of case studies of endangered artworks in a variety of mediums. Additionally, the Guggenheim recently tested its “emulation” preservation strategy during its March 19, 2004 - May 16, 2004 exhibition, “See Double: Emulation in Theory and Practice,” and the exhibition’s corresponding symposium, “Echoes of Art: Emulation as a Preservation Strategy”—for which I discuss in detail in the conference section of this report. In closing the interview, Stringari and Jones stated that the Variable Media Initiative is just one method to take when working with technology-based artworks, but offers a viable approach to

\textsuperscript{169} Ibid.
understanding how the artist defines his or her artwork and how to choose and apply the best strategy for the artwork’s preservation.

San Francisco Museum of Modern Art (SFMOMA)

On January 16, 2004, I conducted a two-hour site visit at the San Francisco Museum of Modern Art for the purpose of gathering information for this case study report. During this site visit I was able to learn SFMOMA’s key approaches to preserving the video installation artwork in its collection. Subsequent emails, phone calls, and site visits were conducted as needed to expound upon information received. The following four museum professionals from SFMOMA’s “Team Media” group were interviewed: Michelle Barger, Objects Conservator, Allison Cummings, Assistant Registrar, Permanent Collection, Steven Dye, Exhibitions Technical Manager, Marla Misunas, Collections Information Manager, and Jill Sterrett, Director of Collections and Conservation. Keeping within the scope of my master’s project, I compiled and distributed a list of questions to interviewees pertaining to SFMOMA’s documentation and preservation policies and procedures for accessioned artworks only.\footnote{Refer to Appendix A for a copy of these questions.} However, each interviewee was encouraged to speak
openly about his or her experiences in order to foster a more wide-ranging discussion of the topic.

In speaking with these museum professionals, I learned that video installation art comprises approximately 1-percent of SFMOMA’s entire collection of 24,000 works of art. SFMOMA is an actively collecting museum and acquires between five to ten video installation artworks per year. This acquisition rate is driven by curatorial seeking artist commissions for exhibition, which are either gifted or purchased for accession, or through year-end gifts from art galleries and private collectors. Dedicated to finding preservation solutions for the video installation artwork in its collection, SFMOMA created a Department of Media Arts in early 1988 to facilitate the acquisition, accession, conservation, and exhibition of technology-based artwork. By 1996, SFMOMA launched its Team Media group within this department for the purpose of allocating dedicated staff personnel and resources for addressing the artwork’s installation and preservation challenges. Comprising this group are members from curatorial, registration, collections information management, conservation, and exhibitions. These members meet once a month to discuss possible acquisitions, accessions, exhibitions, commissions, and collections information management policies. The museum professionals interviewed for this
report represented registration, collections information management, conservation, and exhibitions.  

In response to my first question concerning how SFMOMA approaches the accession of its video installation artwork, I learned that each artwork is accessioned on a case-by-case basis using procedures recently developed in collaboration with Pip Laurenson, Sculpture Conservator for Electronic Media and Kinetic Arts at the Tate Gallery in London. These procedures consist of: conducting a taped artist interview that would later be transcribed, a pre-accession summary report that would be completed by all Team Media members, and the application of an established accession numbering system facilitated by the registration department. The artist interview was seen as a crucial aspect of the accession process. During this time, Team Media members could ask the artist questions pertaining to how he or she wished the artwork to be preserved once its components aged or became obsolete due to

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171 Additional Team Media members were contacted for inclusion in this case study report, but were unable to participate due to time constraints.

172 Beginning in 2001, Pip Laurenson embarked on a three-year PhD research project into the care and conservation of time-based media with support from the New Art Trust, and in conjunction with the Tate, the San Francisco Museum of Modern Art, and the Royal College of Art in London. Laurenson completed part of her research while in residence at SFMOMA for nine months in 2001. Results from her research are pending, and will include a best practices handbook for the care and management of time-based media.

173 Refer to Appendix B for examples of these procedures.
advances in technology. Such questions might include: “Do you accept
copies being made of your artwork for exhibition purposes?” “Would you
accept the replacement of your display and playback device equipment
once they deteriorate or become obsolete; and if so, what would the
acceptable procedure be?” Additionally, the artist’s conceptual intent for
the artwork and the instructions for the artwork’s installation could be
documented and collected at this time. According to Team Media
members, oftentimes an artwork is not installed until an exhibition occurs,
resulting in an artwork that is accessioned without its installation
requirements fully tested and documented by museum staff. By
interviewing the artist at the moment the artwork is accessioned, museum
staff is given the opportunity to ask the artist directly about how to install
the artwork in the future, and acquire from the artist, if possible, any
written instructions, diagrams, and/or images. Since each video
installation artwork is different and needs to be addressed according to its
own specific needs, SFMOMA does not present the artist with a set of
formalized questions since they have found this to be restricting.
SFMOMA’s format is to meet as a group to draw up a set of informal
questions pertaining to the specific artist and his or her specific artwork to
be accessioned. These questions are forwarded to the artist for review
prior to the interview. After the questions have been reviewed, a date and
time is set for the artist to interview with members of Team Media as a group either in-person at SFMOMA or through a conference call.

After the initial interview, subsequent interviews are conducted with the artist to gather more information about the artwork if needed, and usually occur at the time the artwork is installed for an exhibition. Team Media members expressed that developing an open and reoccurring dialogue with the artist is important for helping SFMOMA understand how the artist wishes his or her artwork to age over time, and the steps that can be taken in the interim to preserve the artwork according to the artist’s intentions. Issues about obsolescence are also asked of the artist and documented during the interview so SFMOMA will “ideally” know what to do with the artwork once the inevitable occurs. So far, SFMOMA has been able to consult with artists whenever an artwork has had issues with obsolescence and solutions have been found, such as finding replacement equipment or migrating the tape to a newer format. However, SFMOMA realizes that the artist will not always be around and is currently working on setting procedures, in addition to the initial artist interviews, for when this scenario may occur. These procedures would be to contact those familiar with the artist’s work, such as gallery representatives, art historians, conservators who may have worked on similar pieces, or other museums that have artworks by the artist in their
collections. Team Media reported that they have been successful with implementing the Guggenheim’s “Variable Media Approach” to help define what components the artist has stated are “fixed” or unchangeable to the artwork and which ones are “variable” or changeable. For preservation and exhibition purposes, this approach allows SFMOMA to break the artwork down into its essential components needed to comply with the artist’s intent, and then continue to preserve or exhibit the artwork using “stock” or variable equipment. SFMOMA’s collection’s management policy is currently in the process of being updated with the “working” accession procedures used for video installation artwork. SFMOMA expects to have this final draft by fall of 2004.

Following the artist interview, Team Media members collaborate together to complete a pre-accession summary report using EmbARK, which is SFMOMA’s collections management database system. This report is used to record a conceptual and technical description of the artwork, the number and type of components comprising the artwork, how it was created, who created it, its overall dimensions, how it is to be installed, the costs associated with its preservation and exhibition, images
of the artwork, any restrictions mandated by the artist, and any copyright restrictions.\textsuperscript{174}

The accession numbering system offered Team Media members with an organized way to keep track of all the components pertaining to one video installation artwork, as well as any non-accessioned components, such as video projectors, monitors, or video screens that could be pulled from SFMOMA’s audio-visual department when the artwork was to be installed for display. Allison Cummings walked me through SFMOMA’s registration numbering system, pointing out that the artist does not intend for every component of the artwork to be accessioned.\textsuperscript{175} For example, an artist may supply SFMOMA with two copies of his or her master tape, but will not provide the video monitor for which to view the image once the artwork is installed for an exhibition. During the artist interview SFMOMA will document that the artist requires a “stock” component for the artwork, which will alert SFMOMA during the time of exhibition to pull a monitor from its own Audio-Visual Department’s pool of equipment.\textsuperscript{176} SFMOMA will then ask the artist

\textsuperscript{174} Refer to Appendix B for an example of the EmbARK pre-accession summary report.

\textsuperscript{175} Refer to Appendix B for an example of SFMOMA’s accession numbering system using a hypothetical video installation artwork.

\textsuperscript{176} If the monitor was a dedicated component to the artist’s artwork in this scenario, SFMOMA would refer to it as a “married” component.
what type of monitor is preferred for the exhibition. Team Media members stressed that this question was very important to ask because it would clarify if the artist is particular about the size, type, or shape of the monitor to be used or if any monitor will suffice and not interfere with his or her conceptual idea for the artwork. Any other questions pertaining to the artist’s intent about the artwork are asked and documented during the interview. To complete the accession, SFMOMA will assign an accession number to the two master copy tapes, and rename them the “archival” and “dub master” copies. The archival copy is accessioned and stored as part of the “original” artwork; it is not to be played for exhibition or viewing purposes, but rather is used to migrate the video format in the future once technology mandates another video upgrade, and/or before physical deterioration of the tape occurs. The sole purpose of the dub master copy clone copies of the master copy, which will be used for exhibitions and curator/researcher viewing. As part of SFMOMA’s accession policy, artists are encouraged to supply two master copies of his or her artwork using a stable, low compression, or “lossless-compression” format, such as Digital Betacam. This format will allow for clone copies to be made without a loss to data. An exhibition copy, or the permission to make copies, is encouraged as well. These copies are usually made using a higher compression, or “lossy-compression,” format such as DVD. While
less stable because data can be lost during each migration, DVD’s hold more data, are less expensive, can be played for longer periods of time without physical loss, and can be loaned out for exhibition. The curator/researcher viewing copy is usually made in-house by SFMOMA’s technical department using DVD or a lower grade analogue format, such as VHS. After the artist interview is conducted, the pre-accession summary is completed, and the artwork is accessioned using the specific accession numbering system for video installation artwork, all accession information and supporting documentation from the artist (such as installation technical notes) are stored in a dedicated “Archive Folder.” The contents of this folder are entered into the EmbARK collections management database system, while the physical folder is stored in the Curatorial Department.

In order to get a better understanding of SFMOMA’s accession and preservation procedures, I asked Steven Dye, Exhibitions Technical Manager, how these procedures were applied to Kristin Oppenheim’s 2002 video projection artwork, *Numbers*, which is part of SFMOMA’s permanent collection.\(^{177}\) According to Dye, the artwork is described in the pre-accession summary report as a five-channel DVD video installation on

\(^{177}\) Refer to Appendix B for the Oppenheim’s pre-accession summary report.
Kristin Oppenheim, *Numbers*, 2002 in the permanent collection of the San Francisco Museum of Modern Art (see Fig. 28). The overall dimensions for this artwork are 162 x 216 inches. In the “Additional Object Information” section of the report, the artwork is described as being originally shot on mini DV, which was then edited using a computer (non-liner) for output onto a DVD. The archival master tape came from the artist’s original editing software and was migrated to Digital Betacam or “Digibeta.” In the “Curatorial Description” section of the report, the artwork is described as five images of identical size with dimensions that can vary according to space. The “Technical Description” section adds that the five-channel video projection must be synchronized with six channels of audio, and that four of the images come together to create a four-sided space, with four channels of audio accompanying the images. The fifth image is projected onto the reverse of one of the four screens, is accompanied by two
additional channels of audio, and is the first image the viewer sees when encountering the artwork. In the “Action Required” section, SFMOMA lists that five master tapes must be acquired from the artist along with a complete gallery installation plan. Dye worked with the artist for several months, communicating via fax, telephone and email, in order to compile the information needed for the pre-accession summary report. Since the artwork was commissioned for exhibition before it was acquired, there was a lot of back and forth regarding what equipment SFMOMA could use. Before the pre-accession summary report could be completed, Dye first needed to put a lot of thought into how to install and exhibit the Oppenheim work, and this kind of thought process will vary for every artwork. Dye also explained that since the Oppenheim artwork was a commission, part of the commission agreement was for the artists to produce Exhibition DVD's an Archive Master tape and a Dub Master tape (both of these on Digital Betacam). Dye stated that the artist is based in New York, so he believed that she worked with a local Video Production facility to make the Tapes. Otherwise she did all of the shooting and editing herself. Dye added that the most difficult aspect to acquiring, documenting, and installing the Oppenheim artwork was keeping track of which image goes on what screen and keeping that in line with where the audio is routed. For registrars and other museum professionals new to this
type of artwork and in need of technical training, Dye recommended on
the job experience, classes at local video preservation organizations, such
as the Bay Area Video Coalition in San Francisco, local
universities/community colleges, workshops given by manufacturers, on
line classes, and on the job trial and error.\textsuperscript{178}

Information obtained through these two case studies lead me to the
conclusion that artists must be seen as collaborative partners in the
accession, documentation, and preservation process of their artworks. To
further initiate how registrars can do this, I devised the following seven
recommendations

\textbf{In Conclusion}

What constitutes the best methods for accessioning and preserving
video installation artwork in contemporary art museums offers insight into
the needs, wants, and concerns shared by contemporary art museum
registrars regarding their ability to care for the video installation artwork
in their collections. This insight will help to establish museum-wide
recognition into the challenges faced by registrars and the development of
universally improved accession and preservation methods.

\textsuperscript{178} Steven Dye, Exhibitions Technical Manager, San Francisco Museum of Modern Art, personal
interview by author, 4 May 2004, San Francisco.
The findings of my research indicate that registrars are often perplexed when confronted with a newly acquired video installation artwork, and they find themselves asking the following questions:

1. How do I number this artwork for accession?

2. What do I need to know to accession, exhibit, and loan this artwork?

3. How do I preserve the artwork’s video medium format? Or, whom do I contact to do this?

4. Whom do I contact when the component parts break or become obsolete?

5. Will the artist be okay if different types of equipment are used in the future, such as the playback device equipment when the video format changes?

6. Who is in charge of installing this artwork for exhibition? If I am responsible, what technical knowledge do I need to have—and how or where do I go about getting this information?

As Jill Sterrett, Director of Collections and Conservation at SFMOMA succinctly noted, “If only the challenges of preserving electronic art stopped with preserving the videotape itself.”

Throughout this research process, I have documented the growing need for registrars to collaborate with artists, conservators, archivists, curators, exhibit technicians, and video preservation specialists in order to

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care for video installation artwork. Pulling in the expertise of each one of these individuals will not only help the registrar during the accession process, but will help to develop, through trial and error, preservation strategies for the future. This collaboration process should begin at the moment a video installation artwork is accessioned into the museum, since it is at this time valuable information pertaining to video installation art’s complex physical, technical, and conceptual components may be best acquired to help establish a preservation plan for safeguarding the artwork from its imminent decay and/or obsolescence. By reading and applying my seven recommendations for accessioning and preserving video installation artwork, obtaining a copy of my product A Resource Guide to Accessioning and Preserving Video Installation Art, and utilizing the vast amount of resource information supplied in this project’s appendices, contemporary art museum registrars will find the support and resources needed to document and preserve the video installation artwork in their collections, as well as save video installation art beginning at the moment of its accession.
RECOMMENDATIONS

The following recommendations are targeted to registrars in contemporary art museums dealing with the accession and preservation of video installation artwork, though conservators, curators, exhibit technicians, private collectors, artists, gallery staff, and registrars in other types of museums and public institutions can also benefit. Prior to entering into a museum’s permanent collection, a video installation artwork must first be carefully organized, documented, and preserved by a registrar. During this process, the registrar must assess and record the artwork’s condition, assign and apply an accession number indicating the number and type of components comprising the artwork, acquire instructions about how to reinstall this artwork upon exhibit or loan, and determine the best course of action for its preservation. Oftentimes, the registrar must perform these duties without the necessary training or expertise in technology-based art. By collaborating with key staff, obtaining specialized technical training, and seeking the resources of preservation support organizations in the field, registrars will be better prepared to accession and preserve video installation artwork. In order to help facilitate this level of preparation and enhance registration knowledge in the field, I present the following seven recommendations to registrars.
1. **Consider the Moment of Accession as the Optimal Time for Acquiring Documentation**

Registrars must work diligently to obtain and record as much information as possible about a video installation artwork at the moment it is accessioned into the museum. Due to the number of components involved in any one video installation artwork and the rate at which these components deteriorate and/or become obsolete, registrars must see the accession process as the optimal time for gathering information that can aid in the artwork’s long-term preservation. The following guidelines—adapted from the “Tate Gallery Guidelines for the Care of Video Art Works” and the Foundation for the Conservation of Modern Art’s “The Model for Data Registration,” and the numbering system used at the San Francisco Museum of Modern Art—serve as an excellent paradigm for registrars to use and adapt to their own accession procedures:

At the moment of accession, the following information should be obtained:

— A description of, and requirements for, the artwork’s meaning, as obtained from the artist himself/herself during one or more interviews with the artist.

— A description of, and requirements for, the artwork’s presentation and installation, including: the number and type of components comprising the artwork as part of the accession, and the number and type of components the museum must obtain for installation and are not considered dedicated to the piece. This information is linked to the artist’s intention, which should guarantee the desired “effect.” In addition, references can be made to information about past presentations, thus creating an installation history.
— A description of the artwork’s significance: its meaning within the context of art history and its importance within both the artist’s and the museum’s collections.

— The formulation of ethical guidelines for preservation: the do’s and don’ts in the light of the work’s significance, as based on the artist’s intent.

At the moment of accession, the following items should be obtained:
— All equipment/components that is dedicated or “married” to the artwork—also referred to as “married” to the artwork
— A list of all equipment/components that is not dedicated to the artwork and must be acquired for installation out of the museum’s pool of equipment—also referred to as “stock”
— Two copies of the artist’s master tape or permission to make these copies. These copies will serve as the “Archival Master” copy of the artwork that will be accessioned as part of the artwork, and the “Dub Master” copy that will be used for making all exhibition and curator/researcher viewing copies.

The accession and preservation record
Some installations are less defined than others. This might be the artist’s conscious intention. However, it is important to establish the parameters of possible change, for example the largest and smallest acceptable sizes of monitors. Given this, the accession and preservation record should include:
— A precise description of the artwork.
— A condition report with a history of the tapes.
— Equipment details identifying which parts of the equipment are key to the meaning of the artwork and why they are important.
— An installation manual which records the light levels of the room, the sound levels and details of how to calibrate the equipment, as well as wiring diagrams, plans of the space (showing entrances and exits) and lighting and seating arrangements.
— Documentation of any control systems used for the artwork.

For each artwork one would expect to hold material falling into the following categories:
— Archival format (a lossless compression format, such as a Digital Betacam tape, is preferred)
— Exhibition format (a disc format, such as DVD, is suitable)
— Curator’s/Researcher’s viewing copy (an analog tape, such as a VHS, is recommended)

**Tips for choosing archival formats**
— Choose a professional digital format to ensure the highest possible quality and reliability of tape stock.
— Choose a format that is likely to be in wide use in the industry for a reasonable period. This will mean that commercial facilities houses will continue to invest in equipment and personnel to support this format.
— Consider its compatibility with new formats. This is usually possible to predict where technology is developing in general terms.

**Tips for choosing display formats**
When choosing a display format, the following criteria should be considered:
— Reliability, i.e. its ability to run repeatedly eight hours a day, seven days a week with minimal maintenance and wear and tear.
— Ease of operation: the ideal is a system that can be operated simply by switching the power on in the morning and off at night or even perhaps computer controlled. However, anything on a timer should allow the possibility to be easily over-ridden for openings and out-of-hours private views.
— Capacity to be controlled externally and synched up to other video, images, and sound if necessary.
— The quality of the sound and picture.
— The cost.

**Upon accession, all video material should be labeled with:**
— The accession number and/or artist’s name and title of the work
— The status of the material (i.e. archival master, exhibition format, et cetera.)

Based on a hypothetical 2-channel video installation comprising: 1 custom projector, 1 bench, 2 cushions 2 master tapes, 2 sub-master tapes, 4 exhibition copies (2 for each master), 1 custom bench, the numbering system could be as follows (using 2003.145 as a hypothetical number):
— 2003.145.A (Master Tape #1)
— 2003.145.B (Master Tape #2)
— 2003.145.A.m1 (sub-master tape A)
— 2003.145.B.m1 (sub-master tape B)
— 2003.145.C (projector)
— 2003.145.D (bench frame)
— 2003.145.E (cushion)
— 2003.145.F (cushion)

The cover record would be: 2003.145.A-F

The exhibition copies would not be accessioned and would be given temporary XC numbers as follows:
— XC1.2003.145.A (exhibition copy of tape A)
— XC2.2003.145.A (exhibition copy of tape A)
— XC.2003.145.B (exhibition copy of tape B)
— XC.2003.145.B (exhibition copy of tape B)

2. Consult the Artist about Intent

Consulting the artist about his or her intent for the artwork must be a top priority for registrars during the accession process. Doing so will enable registrars to learn pertinent information about the artwork’s installation requirements, the number and type of components and materials making up the artwork, and the artist’s wishes for the artwork’s preservation. During the all phases of the accession process, registrars should conduct one or more interviews with the artist using an artist questionnaire form. Good communication is essential during the interview process. Questions listed on the questionnaire form should be tailored specifically to the artist being interviewed and about the specific artwork being accessioned. Registrars need to be flexible about how they obtain
this information, so as to make the interview process as convenient as possible for the artist. The interview can be conducted in-person, through a conference call, or through written correspondence with the artist. When conducting the interview, key questions should be asked concerning the video material, equipment, artist’s conceptual idea for the artwork, and his or her requirements for preservation. The following questions, adapted from the Tate Gallery’s artist interview questionnaire, can serve to prompt registrars about specific questions to ask during an artist interview:

**The video material**
- When was it made in terms of the artist’s career?
- What format was it shot on?
- Where was it made, who was involved?
- Are there any technical problems that the artist is unhappy with?

**Equipment**
- Has the artwork ever been shown for eight hours a day, seven days a week? What is the most likely technical problem to arise?
- If monitors are used, what size constraints are there on the monitors? Is there a maximum or minimum height for which they can be displayed?
- If the artwork is projected, what projector is used?
- What type of screen is required? Are there any types of screens which have not been suitable and if so, why?

**Display**
- What equipment is required to show the artwork?
- Is there anything about a particular piece of equipment now being used to show the artwork that may become obsolete while the artist believes it is essential to the artwork?
- If the artwork has sound, what are the specifications of the speakers?
Conceptual idea/installation
— Is there an installation plan?
— How should the public gain access to the artwork (door plans)?
— Discuss health and safety requirements in terms of entrances and exits, fire exit signs, barriers, emergency switches.

Many models for interviewing artists were gathered during my research. Since no one artist or artwork can be addressed using one standardized interview approach, registrars should consult the following sources in order to learn different methods and approaches to take: “A Methodology for the Communication with Artists,” by Frederika Huys; “Artist’s Interview Questions,” by Pip Laurenson; “Artist’s Questionnaire: Time Arts,” from the Museum of Contemporary Art in Chicago; “Concept Scenarios: Artists’ Interviews,” by the Netherlands Institute for Cultural Heritage (NICH)/Foundation for the Conservation of Modern Art, Amsterdam; “From Questionnaires to a Checklist for Dialogues,” by Cornelia Weyer and Gunnar Heydenreich; “Guide to Good Practice: Artists’ Interviews,” by the International Network for the Conservation of Contemporary Art (INCCA); and the “Variable Media Questionnaire,” by the Solomon R. Guggenheim’s Variable Media Initiative.180

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180 Refer to Appendix B and C to obtain examples of these different models.
3. Establish and Commit to a Preservation Process of Constant Reassessment

Video installation artwork requires registrars to think differently from the preservation approach they are used to giving to artwork made from traditional media. As Mark Roosa, Chief Preservation Officer at the Huntington Library explained, traditional museum registration practices evolved out of many years of practical experiences and theoretical investigations with traditional media, such as oil paintings and bronze sculptures. As a result, a substantial amount of museum documentation procedures and working guidelines were developed to enable registrars to feel confident in the standards of care they provided for this artwork. Given this, registrars must adapt their preservation practices to meet the needs of video installation art. Registrars must see the life of a video installation artwork as one that is in a constant state of flux, and that any steps taken to preserve the artwork will in essence be temporary. This is quite a different approach than most registrars are accustomed to, yet committing to a preservation process of constant reassessment will be vital for ensuring the short and long-term care of a video installation artwork.

To meet the demands of preserving video installation artwork, registrars must develop and commit to a preservation plan. As registrars begin to recognize that they may not be able to save a video installation
artwork in its original form, they must be diligent about documenting information that will explain and contextualize the artwork, such as instructions for its reinstallation and the artist’s wishes about what future preservation efforts should be taken. To do this, registrars must create accession procedures specific to addressing how to obtain this information, such as an artist interview questionnaire and a specialized accession numbering system. They must then address how they are to preserve the components comprising video installation artwork, including whom to consult when equipment parts break or become obsolete. Once this plan is in place, registrars must also be diligent about revisiting the plan every 5-7 years in order to keep current with the demands of changing technology. Additionally, registrars must examine their budget and staff size to determine if they are prepared to carry out this preservation plan and adjust accordingly by making requests to their administration for increased resources. The Solomon R. Guggenheim’s Variable Media Initiative offers registrars theoretical guidelines for establishing a preservation plan. Using the variable media approach as a model, registrars can work to define each video installation artwork in their museum’s collection according to “fixed” or “variable” medium-independent behaviors. This approach makes it possible for registrars to break down an artwork into “fixed” essential components that are
necessary to comply with the artist’s intent, and then preserve or exhibit the artwork using “variable” components. Doing so will help to identify artist-approved strategies for preserving the artwork, especially when faced with components that will become obsolete as technology advances.

4. Seek Specialized Training

One of the most critical aspects to working with video installation art is understanding and determining what the artwork really is and under what technical conditions it must be displayed. To do this, registrars need to seek specialized training in video preservation and audio-visual technology in order to become well versed with the different display and playback device components, video medium formats, preservation methods, and technical terms comprising video installation artwork. Registrars can seek assistance through local video preservation organizations, such as the Bay Area Video Coalition in San Francisco, local Universities or Community Colleges offering classes in audio-visual training, any workshops that are given by manufacturers, and through trial and error on the job. For more formalized training, the following three post-graduate training programs can be considered: the Moving Image Archiving and Preservation two-year M.A. degree program at the Tisch
School of the Arts, New York University, the Contemporary Art Conservator two-year postgraduate certificate program at the University of Ghent in Belgium, and the Conservation of Modern Art five-year postgraduate program at the Limburg Conservation Institute in Maastricht, The Netherlands.

5. Work Collaboratively with Artists, Conservators, Curators, and Exhibit Technicians during the Accession and Preservation Process

Due to the complexity of video installation artwork, registrars need to work collaboratively with artists and their colleagues in conservation, curatorial, and audio-visual in order to care for this artwork. These professionals possess specialized training in materials science, art history, and technology, and can offer assistance with understanding the artwork’s technical components, the artist’s intent for its conceptual installation, and for its long-term preservation in the museum’s collection. Such collaboration can be modeled after the “Team Media” team approach used at SFMOMA. This approach pulls together dedicated representatives from curatorial, conservation, registration, collections information management, and exhibitions. These team members meet once a month to discuss possible acquisitions, accessions, exhibitions, commissions, and
collections management policies. During the acquisition of a new artwork, these members meet as a group to formulate questions about the artwork in question that will then be forwarded to the artist for review. An interview is then conducted between the artist and the team members. At this time key information about the artwork’s components, installation, and preservation are addressed, as well as the artist’s conceptual intent for the artwork and how he or she wishes for it to age over time. Subsequent interviews are conducted as needed, fostering a long-term collaborative relationship not only with the artist, but with all members of Team Media. This team structure should be modeled and adapted by registrars at other museums. If a team approach is not feasible, due to a museum’s staffing structure, it was important for registrars to at least clearly define who within the museum will be responsible for preserving video installation art, and how that person or persons will disseminate this knowledge to others within the museum.

6. Publish More Articles to Serve as Resources for Other Registrars

As my literature review demonstrated, there is a lack of published articles written by registrars regarding their working accession procedures, accession numbering systems, artist interview questionnaires, and
preservation successes and/or failures. Registrars need to network and share information with each other as diligently as their colleagues in conservation do, since those registrars working on a regular basis with video installation artwork have the expertise and knowledge to help promote practical solutions in the field that should be shared in a published format. The field would welcome examples of different accession numbering systems, the best approaches to take when interviewing an artist, learning about other registrars’ successes or pitfalls experienced when installing an artwork for exhibition, and/or receiving personal recommendations on vendors to consult when equipment parts break or video mediums need to be upgraded. Additionally, examples of collections management policies, accession worksheets, and database reviews would be of benefit.

7. Use *A Resource Guide to Accessioning and Preserving Video Installation Art*

Due to a lack of resources and published information addressing the needs of registrars working with video installation artwork, registrars can look to *A Resource Guide to Accessioning and Preserving Video Installation Art* as a starting point for increasing their registration knowledge about this artwork. As the demands of museum work require
registrars to be efficient, timely, and budget-conscious in their day-to-day schedules, this easy-to-use guide will greatly assist them in meeting these demands. This guide will also serve as a tool for networking with colleagues since, by helping to define commonly used terminology associated with video installation artwork components, it will help assist in raising the standards for their care. This guide will also help registrars to recognize the different types of components that comprise a video installation artwork and how they relate to each other to make the artwork function once installed. Due to the complexity of video installation art, registrars will need to seek specialized assistance from their colleagues in curatorial, exhibitions, conservation, and administration. This is particularly important when defining the type of information needed about the artwork and who will be responsible for acquiring, recording, and explaining it. This resource guide can act as a catalyst for establishing this collaboration.
BIBLIOGRAPHY

Literature Reviewed


Atkins, Robert. Art Speak: A Guide to Contemporary Ideas, 
Movements, and Buzzwords, 1945 to the Present. New York: 

Barker, Rachel. Conserving Modern Art: a Lifetime to Consider. Paper 
presented as part of the conference “Post Prints of Contemporary Art: Creation, Curation, Collection and Conservation” at the 
annual meeting of the Irish Professional Conservators and 

Bay Area Video Coalition. Playback: Preserving Analog Video. San 
Francisco: Bay Area Video Coalition, 2003. DVD.

Bay Area Video Coalition. “Video Preservation Resources.” BAVC 

Benjamin, Marina. “Ghosts in the Machine.” New Statesman & Society 6, 
no. 281 (December 1993): 33-34.

Berwick, Carly. “Screen Savers: How to Preserve an Artwork that 
Depends on Electronic Parts that Might be Obsolete in a Few Years? They’re Working on it.” ARTnews (September 2002): 124-125.

Besser, Howard. “Longevity of Electronic Art.” Paper submitted to the


Laurenson, Pip. “Developing Strategies for the Conservation of
Installations Incorporating Time-Based Media with Reference to Gary Hill’s *Between Cinema and a Hard Place.*” *Journal of the American Institute for Conservation* 40 (2001): 259-266.


**Locations Visited**

Bay Area Video Coalition, San Francisco, CA. (5 April 2004).


Museum of Contemporary Art, Los Angeles, CA. (3 June 2004).


Studio of Anthony Discenza, Oakland, CA. (17 May 2004).


**Professional Museum Conferences Attended**


Interviews


Calden, Lisa, Director of Registration, Berkeley Art Museum and Pacific Film Archive. (22 April 2004).


Discenza, Anthony, artist. (17 May 2004).

Draffen, Jennifer, Chief Registrar and Exhibitions Manager, Museum of Contemporary Art, Chicago. (27 May 2004).


Hough, Katherine, Director of Collections and Exhibitions, Palm Springs Desert Museum. (23 January 2004).

Ippolito, Jon, artist, Associate Curator of Media Arts, Solomon R. Guggenheim Museum. (27 December 2003).

Jacobson, Heidi Zuckerman, Chair, BAM Curatorial Department & Phyllis Wattis MATRIX Curator, Berkeley Art Museum and Pacific Film Archive. (5 May 2004).


Koeberer, Kacey, artist, Manager/Associate Producer, Bay Area Video Coalition. (5 April 2004).


Rinehart, Richard, Digital Media Director, UC Berkeley Art Museum and Pacific Film Archive. (2 December 2003).


Stringari, Carol, Senior Conservator of Contemporary Art, Solomon R. Guggenheim Museum. (8 May 2004).

Websites Reviewed


Berekeley Art Museum/Pacific Film Archives.
<www.bampfa.berkeley.edu> (2 December 2003).

Canadian Conservation Institute.

Conceptual and Intermedia Arts OnLine.

Conservation and Art Materials Encyclopedia Online.

Conservation OnLine: Resources for Conservation Professionals.


Netherlands Media Art Institute/Montevideo. 


(3 January 2004).


The Daniel Langlois Foundation for Art, Science, and Technology, 

The International Committee for Documentation of the International 
Council of Museums (ICOM-CIDOC). 
<http://www.willpowerinfo.myby.co.uk/cidoc> (6 May 2004).


(6 May 2004).


(28 January 2004).

(28 January 2004).

Video Format Identification Guide. <http://216.149.118.71/VideoID> 
(6 May 2004).

APPENDICES
Appendix A: Professional Interview Questions

1. What percentage of video installation art comprises your collection?

2. How do you approach the accession of video installation artwork? Is it a case-by-case approach, or do you have one standard accession policy that includes guidelines for documenting the hardware, the video format, and the preservation approach? (If you have a standard accession policy, may I have a copy of it for my research?)

3. Do you have the video installation artwork fully installed by the artist before it is accessioned? If yes, where/how do you go about doing this? (For example, is it commissioned for exhibit first and then acquired and accessioned?)

4. How do you work with artists during the accession process? Do you require the artist to supply an archival master tape (such as Digibeta, Betacam, or BetaSP) and/or a dub master tape (for making copies) with the artwork?

5. Do you obtain the artist’s “intent” for his or her video installation artwork during the accession process, or is it acquired over a period of time? In other words, how difficult is it to anticipate what/when/how the artwork’s components will deteriorate or become obsolete?

6. How do you work with artists after the accession process?

7. How do you determine if equipment or sculptural elements of a video installation artwork are “married” (must stay with the artwork) or “standard” (can be pulled from A/V stock) to the artwork? Do you also have an accession numbering system? (If yes, may I have a copy for my research?)

8. Do you have any additional information regarding the methods for accessioning video installation artwork that you can share with me?

9. Who else do you recommend I speak with about this topic?
Pertaining to a Specific Video Installation Artwork (as determined by my research)

1. Can you please tell me the process you used to accession this artwork into the permanent collection?

2. As a part of this accession process, can you please tell me if a collaborative effort was made between the living artist and the members of the registration, collections management, curatorial, conservation, and exhibition museum departments?

3. Are you in frequent contact with the artist about this artwork?

4. Have you had any documentation or preservation problems with this artwork?

5. Do you have any additional information regarding this artwork that you can share with me?

THANK YOU!
## Appendix B: Supporting Documentation

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Accession Documentation

“Tate Gallery Guidelines for the Care of Video Art Works”
By the Tate Gallery, London <Refer to The Conservation and Documentation of Video Art in the “Methodology/Documentation” section of http://www.incca.org>

“The Model for Data Registration”
By the Foundation for the Conservation of Modern Art, The Netherlands <Refer to the Registration Models Modern Art (SBMK) in the “Methodology/Documentation” section of http://www.incca.org>

Artist Interviews/Questionnaires

“A Methodology for the Communication with Artists”
By Frederika Huys <Refer to the “Methodology/Artists Intent” section of http://www.incca.org>

“Artist’s Interview Questions”
By the Tate Gallery <Refer to the “Methodology/Documentation” section of http://www.incca.org>

“Concept Scenarios: Artists’ Interviews”
By the Netherlands Institute for Cultural Heritage (NICH)/Foundation for the Conservation of Modern Art, Amsterdam <Refer to the “Methodology/Artists Intent” section of http://www.incca.org>

“From Questionnaires to a Checklist for Dialogues”
By Cornelia Weyer and Gunnar Heydenreich <Refer to the “Methodology/Artists Intent” section of http://www.incca.org>

“Guide to Good Practice: Artists’ Interviews”
By the International Network for the Conservation of Contemporary Art (INCCA) <Refer to the “Methodology/Artists Intent” section of http://www.incca.org>
“Variable Media Questionnaire”
By the Solomon R. Guggenheim Museum and the Daniel Langlois Foundation of Art, Science, and Technology
<http://variablemedia.net/pdf/Ippolito.pdf>

Collaborative Networks & Support

American Association of Museums <http://www.aam-us.org>

Association of Moving Image Archivists <http://www.amianet.org>

Bay Area Video Coalition <http://www.bavc.org>

Canadian Conservation Institute <http://www.cci-icc.gc.ca/main_e.shtml>

Conceptual and Intermedia Arts OnLine
<http://www.bampfa.berkeley.edu/about_bampfa/avantgarde.html>

Electronic Arts Intermix <http://www.eai.org>


Experimental Television Center <http://www.experimentaltvcenter.org>

Franklin Furnace Archive <http://www.franklinfurnace.org>

Getty Conservation Institute <http://www.getty.edu/conservation>

Image Permanence Institute <http://www.rit.edu/~661www1>

Independent Media Arts Preservation <http://www.imappreserve.org>

International Institute of Conservation <http://www.iiconservation.org>

International Network for the Conservation of Contemporary Art
<http://www.incca.org>
Media Alliance <http://www.mediaalliance.org>

National Alliance for Media Arts and Culture <http://www.namac.org>

National Film Preservation Board
   <http://lcweb.loc.gov/film/filmpres.html>

Netherlands Media Art Institute/Montevideo <http://www.montevideo.nl>

Rizome.org <http://rhizome.org/info/index.php>

The American Institute for Conservation of Historic & Artistic Works
   <http://aic.stanford.edu/index.html>

The Daniel Langlois Foundation for Art, Science, and Technology, Montreal
   <http://www.fondation-langlois.org>

The International Committee for Documentation of the International Council of Museums (ICOM-CIDOC)
   <http://www.willpowerinfo.myby.co.uk/cidoc>

The International Council of Museums <http://icom.museum>

The Internet Archive <http://www.archive.org>

The Kitchen <http://www.thekitchen.org>

Variable Media Network <http://www.variablemedia.net>

Education/Training

Conservation of Modern Art Postgraduate Program at the Limburg Conservation Institute in Maastricht, The Netherlands
   <Refer to the “Education/Programmes” section of http://www.incca.org>

Contemporary Art Conservator Postgraduate Certificate Program at the University of Ghent in Belgium—A Joint Venture of Ghent College, City of Ghent and the University of Ghent
<Refer to the “Education/Programmes” section of http://www.incca.org>

Moving Image Archiving and Preservation M.A. Degree Program at the Tisch School of the Arts, New York University <http://www.tisch.nyu.edu/preservation>

Standards Committees

Association for Information and Image Management <http://www.aiim.org/article_aiim.asp?ID=18274>


National Information Standards Organization <http://www.niso.org/about/index.html>


Terminology & Identification


Conservation OnLine: Resources for Conservation Professionals (CoOL) <http://palimpsest.stanford.edu>

INCCA Literature Database <http://www.incca.org/dir003/incca/cmt/Literature.nsf/Title?OpenView&Count=288>
Mika Iisakkila’s Video Recording Formats Site  
<http://www.hut.fi/u/iisakkil/videoformats.html>


Video Format Identification Guide <http://216.149.118.71/VideoID>
A Resource Guide to Accessioning & Preserving Video Installation Art

from the moment of accession...

to installation...

by Jacqueline Morton Arase
M.A. Museum Studies
John F. Kennedy University
endnotes

6. (author’s term)

7. Unless where individually noted, all definitions were obtained from the “Video Preservation Resources” section of the Bay Area Video Coalition (BAVC) website on 5 April 2004 from http://www.bavc.org/preservation/dvd/resources/gloss.htm.


9. Ibid., 124.

10. Ibid.

11. Atkins, 85.

12. According to The MITES Manual, page 30: “Although compression ratios provide some guide to the quality of a recording format, there are many further considerations that need to be taken into account, such as compression method, colour sampling method and recording method.”


14. Ibid.

15. Ibid.

16. Ibid., 124-128.

17. Ibid., 124-129.

Cover photographs by author and The Museum of Contemporary Art, Los Angeles

Top photograph—Detail of collection storage area at The Museum of Contemporary Art, Los Angeles

Bottom photograph—Bill Viola Room for St. John of the Cross, 1983 from the Museum of Contemporary Art, Los Angeles permanent collection
5. Refer to http://www.bavc.org for more information.

Sample Accession Methods
1. Example of accession numbering system used at the San Francisco Museum of Modern Art. Permission to reproduce obtained by author.
2. Worksheet information was compiled from accession work sheets currently being used at the Museum of Contemporary Art, Chicago and the San Francisco Museum of Modern Art. Permission to reproduce obtained by author.

Glossary
4. Ibid.

A Resource Guide to Accessioning and Preserving Video Installation Art, was written for the benefit of registrars struggling with, but dedicated to, the preservation of video installation art. This resource guide compiles information in a simplified structure, and is addressed to contemporary art museum registrars. The information in this guide may also be useful for conservators, curators, exhibit technicians, gallery professionals, and private collectors working with video installation artworks.

The contents of this guide represent the results of my 2004 Museum Studies master’s project, Can Museums Save Video Installation Art at the Moment of Accession?, at John F. Kennedy University in Berkeley, California. I welcome comments about this guide, and for the cost of printing and postage, will be happy to ship copies upon request. I may be reached through the following contact information:

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rights for American artists called “moral rights”: the “right of attribution,” which grants artists the right to be identified with their works, and the “right of integrity,” which grants artists the right to protect their works from modification and destruction. The passage of this law has imposed a legal obligation on art conservators, collectors, and others to preserve the artistic intent of the artist. For more information refer to Ann M. Garfinkle, Janet Fries, Daniel Lopez, and Laura Possessky, “Art Conservation and the Legal Obligation to Preserve Artistic Intent,” Journal of the American Institute for Conservation 36 (1997): 165-179.


9. List of components obtained from original 1987 accession folder (87.2) documentation, courtesy of The Museum of Contemporary Art, Los Angeles.


Common Preservation Issues to Consider


4. Justin Graham and Jill Sterrett, “An Institutional Approach to the Collections Care of Electronic Art,” WAAC Newsletter 19, no. 3 (September 1997),
ENDNOTES

What is Video Installation Art?


Essential Components

1. Refer to the Vidipax website at http://www.vidipax.com for a complete listing of all audio and video formats and playback machines in production since 1956, magnetic tape preservation assistance, an introduction to encoding, and additional resource links.


4. Refer to the glossary for a more detailed explanation of analog and digital video signal formats, as well as the different digital compression types and suitable archival video medium formats.


7. In December 1990 Congress passed the Visual Artists Rights Act (VARA). This copyright law granted new

INTRODUCTION

As the demands of museum work require registrars to be efficient, timely, and budget-conscious in their day-to-day schedules, an easy-to-use guide will greatly assist registrars in meeting these demands. Due to the complexity of video installation art, registrars will need to seek specialized assistance from their colleagues in curatorial, exhibitions, conservation, and administration. This is particularly important when defining the type of information needed about the artwork, and whom will be responsible for acquiring, recording, and explaining it. This resource guide can act as a catalyst for establishing this collaboration. The information presented in this guide answers the following questions:

• What is video installation art?
• What preservation issues do art museum registrars need to be aware of before accessioning video installation artworks?
• How does the accession of video installation art challenge conventional art museum registration practices?
• How are museum registrars currently approaching the accession of video installation artworks?
• What is the artist’s role during this accession process?

This resource guide is organized into nine main sections. In the first three sections, I define video installation art in terms of its essential components and preservation issues. In section four, I propose eight recommendations for establishing effective ways to document and preserve video installation artworks. In section five I provide samples of currently practiced accession procedures. The final four sections include a Glossary, a Se-
lected Bibliography, Internet Resources, and Endnotes. The glossary section includes the most frequently used terms for describing video installation artworks. In the selected bibliography and Internet resources sections, the reader is directed to books, articles, published conference proceedings, and websites discussing video installation art preservation. It is hoped that this guide will offer registrars with a resource for understanding, accessioning, and preserving video installation artworks, as well as foster increased collaboration between all museum professionals committed to preserving video installation art.

### Internet Resources

#### Standards Committees

- **Association for Information and Image Management**
- **American National Standards Institute**
- **American Society for Testing and Materials**
- **International Standards Organization**
- **National Information Standards Organization**
  [http://www.niso.org/about/index.html](http://www.niso.org/about/index.html)
- **Research Libraries Group**
  [http://www.rlg.org/rlg.html](http://www.rlg.org/rlg.html)

#### Terminology & Identification

- **Conservation and Art Materials Encyclopedia Online**
- **Conservation OnLine: Resources for Conservation Professionals**
  [http://palimpsest.stanford.edu](http://palimpsest.stanford.edu)
- **INCCA Literature Database**
- **Mika Iisakkila’s Video Recording Formats Site**
- **Video & Audio Format Information Guide**
  [http://www.vidipax.com](http://www.vidipax.com)
- **Video Format Identification Guide**
  [http://216.149.118.71/VideoID](http://216.149.118.71/VideoID)
WHAT IS VIDEO INSTALLATION ART?

“You had to be there…” to know what an installation is.

—Margaret Morse

Video installation art is defined as a genre of installation art incorporating the use of video, sound, and moving parts in its assembly, which must be carefully constructed and installed within a designated space as defined by the artist. As expressed by Morse, it is difficult to comprehend video installation art without having experienced it in person and in its fully assembled and configured state. Video installation artist Bill Viola provides one reason for this:

As instruments of time, the materials of video, and by extension the moving image, have as part of their nature this fragility of temporal existence. Images are born, they are created, they exist, and, in the flick of a switch, they die. Paintings in the halls of the museum in the middle of the night are still there, a form of sleep, but in the room of the video projections there is nothing. The images are thoroughly non-existent, gone into some other dimension.

At the core of video installation art is its concept, its overall meaning, which is created by the artist using the played video image in unison with various displayed and non-displayed physical, technical, and sculptural components that serve to produce or accentuate the image. Without the image the assembled artwork is like that of an unfinished painting: uninstalled, the artwork is void of meaning and is, literally, all over the place. As expressed above by Viola, video is time-based.
and can only truly exist when it is “turned on” and displayed for the viewer to witness. Some of Viola’s most pivotal artwork include his 1992 *Nantes Triptych*, in which his use of three projected video images onto three side-by-side video screens integrally helped convey his telling of life’s beginning, end, and “the space in between;” and his 1983 *Room for St. John of the Cross*, in which he used video display equipment, sound, and an array of mixed-media to recreate the imprisonment of St. John and to show how the Saint was able to use the power of poetry and his imagination to overcome his physical sufferings. As described here in the works of Viola, video installation artwork is created by artists using various physical, technical, and conceptual components and can differ greatly in their appearance and concept; yet, however different these artwork may be they each have in common four essential components: a video medium, display and playback device equipment, a conceptual idea, and supporting documentation—all of which will be explained in further detail through an analysis of Bill Viola’s 1983 *Room for St. John of the Cross*.

**INTERNET RESOURCES**

**Accession Documentation**

“Tate Gallery Guidelines for the Care of Video Art Works” By the Tate Gallery, London (Refer to The Conservation and Documentation of Video Art in the “Methodology/Documentation” section of http://www.incca.org)

“The Model for Data Registration” By the Foundation for the Conservation of Modern Art, The Netherlands [Refer to the Registration Models Modern Art (SBMK) in the “Methodology/Documentation” section of http://www.incca.org]

**Artist Interviews/Questionnaires**

“A Methodology for the Communication with Artists” By Frederika Huys (Refer to the “Methodology/Artists Intent” section of http://www.incca.org)

“Artist’s Interview Questions” By the Tate Gallery (Refer to the “Methodology/Documentation” section of http://www.incca.org)

“Concept Scenarios: Artists’ Interviews” By the Netherlands Institute for Cultural Heritage (NICH)/Foundation for the Conservation of Modern Art, Amsterdam (Refer to the “Methodology/Artists Intent” section of http://www.incca.org)

“From Questionnaires to a Checklist for Dialogues” By Cornelia Weyer and Gunnar Heydenreich (Refer to the “Methodology/Artists Intent” section of http://www.incca.org)

“Guide to Good Practice: Artists’ Interviews” By the International Network for the Conservation of Contemporary Art (INCCA) (Refer to the “Methodology/Artists Intent” section of http://www.incca.org)


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### ESSENTIAL COMPONENTS

The video medium—also referred to as the “software” of the artwork—is the essential component to all video installation artwork as it contains the visual image that is displayed for the viewer to experience and can be created using either an analogue or digital video signal format. An analogue video signal is defined as a continuously varying electrical signal, whereas a digital video signal is comprised of binary bits (ones and zeros) (See Fig. 1). In analogue video, electrical signals coming from the video camera or microphone recording are converted into an analogue voltage that is then captured and imprinted onto the magnetic surface of either a videotape or an optical disc. With the advent of computerized digital processing in the early 1990s, digital video allowed for electrical signals to be converted into a series of numbers rather than an analogue voltage. Both analogue and digital video signals can be stored on either a magnetic videotape enclosed within a cassette or on an optical disc (depending on the type used) and each storage medium can vary depending on its quality level (consumer vs. professional grade), storage capacity, and overall cost. Common analogue formats include Vertical Helical Scan (VHS), low and high band U-Matic, and Beta SP videotapes, as well as an Optical Video Laser Disc, while digital formats usually include Digital Versatile Disc (DVD), Digital Betacam videotape, and a computer’s Hard Disk Drive (HDD). Furthermore, since analogue technology is based on capturing a physical magnetic impression of the video or sound recording’s electrical signal, each subsequent generation copy made from the original version will incur a slight physical loss, as well as the inclusion of random miscellaneous...
1. Chart Depicting Analog (top) and Digital (bottom) video signal formats.

selected bibliography


signal “noise.” In contrast, digital technology allows for error correction and noise reduction to be built into video processing equipment, which is why almost exact copies of the original digital format can be made. Yet, conservator Pip Laurenson declares that “most artists, however, still use an analogue format and their material has to be converted into the digital domain for archiving. This conversion from an analogue to a digital signal risks changes to the visual appearance of the video.” Laurenson asserts that museum professionals working with video installation artwork need to be aware of this and take the steps necessary to preserve the video signal in the best quality possible. Equally as challenging is the fact that once the conversion occurs, the stability of digital formats can also vary depending on the rate of compression used. For example, digital video using a lossy compressed format, such as that used in DVDs, is more unstable since it does not allow for the identical replication of its source material and should not be used for archival purposes; while digital video using a lossless compression format, such as that in Digital Betacam, is more stable and archival since it does allow for the identical replication of the source material, which means that copies can be produced without the generational loss of information. Given these risks, the ability to make copies of the video format, whether in analogue or digital form, allows museum professionals to duplicate and preserve the video medium for archival, exhibition, and research purposes.

When a video installation artwork is made it commonly contains more than one copy of the video format used. The master tape (usually retained by either the artist or gallery
essential components

2. Example of a ¼-inch U-Matic videotape.

3. Example of a CAV laser disc.

selected bibliography


### SELECTED BIBLIOGRAPHY

<table>
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<th>Author</th>
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and source material. To migrate the video monitors of Nam June Paik’s *TV Garden*, for example, would be to replace them with up-to-date models as TV sets change with industry trends. The major disadvantage of migration is that the appearance of the original artwork may change substantially when the technology undergoes an evolutionary jump, as when cathode-ray tubes give way to flat screens.

**Reinterpretation**: The most radical preservation strategy is to reinterpret the work each time it is re-created. To reinterpret a Dan Flavin light installation would mean to ask what contemporary medium would have the metaphoric value of fluorescent light in the 1960s. Reinterpretation is a dangerous technique when not warranted by the artist, but it may be the only way to re-create “performed” or “installed” art designed to vary with context.

**Reproduced**: In the variable media paradigm, a recording medium is “reproduced” if any copy of the original master of the artwork results in a loss of quality. Such media include analog photography, film, audio, and video. (Compare to “duplicated.”)

**Storage**: The most conservative collecting strategy—the default strategy for most museums—is to store a work physically. The major disadvantage of storing obsolescent materials is that the artwork will expire once these ephemeral materials cease to function.
instructions that actors, curators, or installers must follow to complete the work, in addition to more conventional performance considerations such as cast, set, and props.

**Video Preservation Strategies**

**Dubbing:** The process of copying the audiovisual signals from one magnetic tape onto another. Depending upon whether the medium is analog or digital, dubbed tapes can be “duplicates” or “reproductions.” Also: the process of adding sound to a silent video to complete a video production. (See also “migration.”)

**Duplicated:** To say that a work can be duplicated implies that a copy could not be distinguished from the original by an independent observer. This behavior applies to artifacts that can be perfectly cloned, as in digital media, or to artifacts comprising readymade, industrially fabricated, or mass-produced components. (Compare to “reproduced.”)

**Emulation:** To emulate a work is to devise a way of imitating the original look of the piece by completely different means. The term emulation can be applied generally to an refabrication or substitution of an artwork’s components. (See also hardware-for-hardware.)

**Hardware-for-hardware:** A type of “emulation” consisting of refabrication or substitution of an artwork’s equipment or material. For example, to imitate the physical appearance of the obsolete video monitors in an original video installation by Nam June Paik, reconstructors might custom-build cathode-ray tubes or embed flat screens in old television casings.

**Migration:** To migrate an artwork involves upgrading equipment—since they do not have as many moving parts that will deteriorate from wear. A laser disc, unlike a digital DVD, stores video as a composite analogue signal. The laser disc version used in Viola’s artwork is of the constant angular velocity (CAV) type, which means it can store approximately 30 minutes of video that can be controlled in a frame accurate way. Given this, the laser disc technology better allows for Viola’s projected mountain range image to more clearly go from black and white to color than the less versatile and stable U-Matic videotape version. Hollister commented further that the laser disc is rapidly becoming obsolete and the next conversion will most likely be to a more widely accessible DVD format (See Fig. 4), since DVD is based on a digital format, is instantly repeatable, does not wear out like magnetic tape, and, due to advances in technology, is becoming less compressed and more archival.

Supporting the video medium is the playback and display equipment—also referred to as the “hardware” of the artwork. The playback device is responsible for allowing the video medium to be shown, and the display device enables the visual image to be seen by the viewer. Fundamentally, the playback and display devices function solely for the purpose of bringing this visual image to life. The type of playback device used is dependent upon the medium’s format. Typical playbacks include a VCR or a DVD device. For clarification, the *display* device is not dependent on the medium format used and may take the form of a television monitor, a video projector that broadcasts the image onto a screen or wall, or the screen or wall itself. The artist and his or her conceptual idea for the artwork determine how the video medium and equipment components work...
that encloses or supports the artistic material to be viewed. To account for these alterations in otherwise stable mediums, the variable media questionnaire asks questions such as whether a protective coating is appropriate, whether surface qualities such as brushstroke or gloss are essential to the work, or whether an artist-made frame can be replaced.

**Encoded:** To say that a work is encoded implies that part or all of it is written in some other language that requires interpretation (e.g. dance notation; complex installation notes from artist). In the case of works with nondigital components, this code can sometimes be archived separately from the work itself.

**Installed:** For the purposes of variable media guidelines, to say that an artwork must be “installed” implies that its physical installation is more complex than simply hanging it on a nail. Examples of artworks with this behavior are works that scale to fill a given space or make use of unusual placement such as the exterior of a building or a public plaza. For such works, the variable media questionnaire tracks issues of site-specific placement as well as scale, public access, and lighting.

**Interactive:** While the word is most commonly applied to electronic media such as computer-driven installations and Web sites, interactivity also describes installations that allow visitors to manipulate or take home components of a physical artwork. The variable media questionnaire tracks such considerations as the type of interface: the method by which visitors modify the work; and the form in which traces of such input are recorded.

**Performed:** In the variable media paradigm, “performed” works include not only dance, music, theater, and performance art, but...
tistinguish one format from another, such as the type of recorded signal, tape speed, width and placement of the video tracks and audio tracks. After 1970 the EAIJ standard was accomplished. The VHS (video home system) 1/2” consumer videotape format is one example. Since 1956, approximately 50 formats have been introduced world wide. For examples, see the resources Hardware section on http://www.bavc.org/preservation/dvd/resources/hardware.htm. Current video tape formats include C, U-Matic, Betacam, M, Betacam SP, MI, D1, D2, D3, D5, Digital Betacam, Beta, VHS, Hi-8, 8mm, S-VHS, DVC Pro and DVcam.

**Video preservation**: An archival system that ensures the survival in perpetuity of the program content according to the highest technical standards reasonably available. There are three major facets of video preservation: (1) safeguarding the recording under secure and favorable storage conditions, (2) providing for its proper restoration and periodic transfer to modern formats before the original or next generation copy is no longer technologically supportable, and (3) continuing protective maintenance of at least a master and a copy, physically separated in storage, preferably in different geographic locations.

**Viewing copy**: A videotape dubbed from a master and made for repeated viewing. See exhibition format.

**Video Installation Artwork “Behaviors”**

**Contained**: In the variable media paradigm, even paintings and sculptures can provoke prickly questions when some aspect of their construction alters or requires an intervention. Such works are “contained” within their materials or a protective framework together in the artwork. As previously discussed in Viola’s *Room for St. John of the Cross*, the migration of the video medium format from a ¾-inch U-Matic videotape to a laser disc resulted in the upgrade to the playback devices used. Therefore, the playback device went from that of a Sony VP-5000 ¾-inch U-Matic (See Fig. 5) to a Pioneer LDP-4400 laser disc playback device (See. Fig. 6), and per Hollister’s speculation, may possibly upgrade to a DVD playback device in the near future (See Fig. 7). However, the remaining display equipment primarily stayed the same and includes a Sony KV-4000 3.7-inch television monitor (displaying the color video image), a mounted wall screen, and a mounted projector (used to project the black-and-white video image onto the mounted wall screen). Understanding how these equipment components work together in the artwork is determined by Viola and his conceptual idea for the artwork.

The conceptual idea—also referred to as the “artist’s intent”—is considered the glue that holds the entire artwork together—physically, aesthetically, and theoretically. Put succinctly, it is the quality of the work that evidences the artist’s intentions for creating the artwork in the first place. This intent dictates all aspects of the artwork’s installation and preservation and, according to the Visual Artists Rights Act (VARA) of 1990, must be respected by museum professionals when documenting, exhibiting, and conserving the artwork. In *Room for St. John of the Cross*, Viola’s artistic intent is to recreate the imprisonment of St. John to show how the Saint was able to use the power of poetry and his imagination to overcome his physical sufferings. To do this, Viola uses the video medium and equipment in col-
laboration with the artwork's remaining sculptural, architectural, and aural components—a large dark room, a black cubicle with window and an illuminated interior with peat moss on the floor, a wooden table, a glass filled with water, a metal pitcher filled with water, one-channel mono sound (imparted from the speaker mounted inside the wall), and amplified stereo sound (played through the mounted wall speaker)—to define his idea for the space in which the viewer encounters and relates to his artwork (See Fig. 8). In his book, Rites of Passage, author Stuart Morgan provides a descriptive account of how Viola accomplishes this recreation:

...the physical and mental situation of the sixteenth-century mystic and poet was evoked by a space in which images of high, bare mountains appeared, surrounding the viewer. An already stark setting was made unbearable by the movement of the mountains on each wall: the camera registering the image was lurching from side to side, suggesting loss of control, desperation, but also freedom. (This was what a bird might see as it is in flight.) Wandering in this large, dark space, the visitor eventually discovered the second element of the installation. Stable and meditative, visible from only one side and lit from within, it was a scale-model of the cell from which John prayed and wrote during his incarceration—sometimes in ecstasy, sometimes despair...Inside was a dirt floor, wooden table, a glass of water, a metal jug. A voice could just be heard reading his poetry...Oddest of all, a tiny video monitor showed mountains, no longer in monochrome but now in vivid colour [and rock-solid static]....

The final essential component to a video installation art-

glossary

Sticky shed: The gummy deposits left on tape path guides and heads after a sticky tape had been played. Sticky shed is also known as the phenomenon whereby a tape binder has deteriorated to such a degree that it lacks sufficient cohesive strength so that the magnetic coating sheds on playback. The shedding of particles by the tape is a result of binder deterioration that causes dropout on VHS tapes.

Transferring, migration, re-mastering: Terms used interchangeably to refer to the process of copying the content of an existing videotape to new media.

U-Matic: A video format developed in the late 1960s consisting of ¾-inch magnetic tape in a cassette; the precursor to “Beta.”

VCR: “Video Cassette Recorder,” a playback deck designed to record and play consumer-grade, ½-inch videotapes in various standards.

VHS: “Vertical Helical Scan,” a consumer-grade video format developed in the late 1970s, consisting of ½-inch magnetic tape in a cassette. (Compare professional-grade video formats such as “U-Matic” and “Beta.”)

Videotape: Oxide-coated plastic-based magnetic tape used for recording video and audio signals.

Videotape formats: Recording formats that differ in magnetic patterns of information, but rely on the same fundamental process of recording image and sound on magnetic tape. A particular format needs its own playback machine that is able to read the magnetic pattern. There are several characteristics that dis-
**Magnetic media**: Tape and discs that store information on a magnetized surface such as videotape, audiotape or computer floppy discs.

**Master**: The earliest generation of a finished tape that should also be of the best quality. Masters should not be used as exhibition tapes, i.e., not for repeated playback. See also dubmaster.

**Migration, re-mastering, transferring**: Terms used interchangeably to refer to the process of copying the content of an existing videotape to new media.

**Noise**: Any unwanted signal present in the total signal.

**Playback**: The viewing of recorded video footage or reproduction of recording video signal via a magnetic pickup device.

**Playback demagnetization**: A loss of magnetization and thus a degradation of recorded information caused by repeated playing of a recorded tape.

**Remastering, migration, transferring**: Terms used interchangeably to refer to the process of copying the content of an existing videotape to new media.

**Resolution**: A measure of the ability of a camera or television system to reproduce detail (the number of picture elements that can be produced with good definition).

**Signal**: Analog video signal is an electrical signal that is continuously variable. Digital video signal is comprised of binary digits.

**Standards**: A set of common guidelines such as for recording and playback processes, physical media and storage. See Ap-
work is the supporting documentation that serves to help explain the relationship between the artwork’s video medium, equipment, and conceptual idea, as well as how the artwork is to be installed and preserved according to the artist’s wishes. This documentation often takes the form of complex installation instructions, photographs of the artwork during each phase of installation, service manuals for the equipment used in the artwork for when replacements need to be obtained, and instructions on how best to preserve the artwork over time. Much of this information can be obtained from the artist during the access process through in-person interviews and/or written correspondence, yet, due to timing and limited resources, museum professionals often collect this information piecemeal over many years—if at all. Without such sufficient documentation, registrars are left puzzled about the artist’s intentions for the artwork, how to correctly install the artwork, which components are to be preserved or upgraded as technology changes, or what to do once components become obsolete. This essential component to video installation artwork is the most pertinent for ensuring the artwork’s survival, yet is currently the most lacking in many registration departments. As shown in the handwritten notes for Viola’s 1983 *Room for St. John of the Cross* (See Fig. 9), Viola communicates the concept for his artwork using notes and illustrations depicting the relationship between the artwork’s various components. When SFMOMA exhibited this artwork in its 25-year retrospective on Viola’s work, it was able to use this supporting documentation (along with the direct, on-site participation of the artist and his assistant) to help create precise gallery installation diagrams (See Fig. 10) in which to correctly re-install this artwork according to Viola’s inten-
**Format**: See videotape formats.

**Frame**: One complete video picture. A frame contains two video fields, scanned at the NTSC rate of 30 frames per second, 525 lines, or the PAL rate of 25 frames per second, 625 lines.

**Generation**: Copy of original video program material. The original videotaped material (source footage) is the first generation. A copy of the original is a second generation tape and so on. Generally the edited master tape is a second generation tape. In analog systems, extensive efforts are made to keep generations to a minimum, since each copy or process adds noise and other artifacts resulting in diminished quality with each generation.

**Generational loss**: Degradation cause by tape duplication.

**Laser disc**: A form of optical media that, unlike DVD, stores video as a composite analog signal. The laser disc was first introduced by Philips and MCA in 1972, and has been on the market since 1978. Laser discs can be glass or plastic. There are essentially two types of laser disc: those mastered for constant linear velocity (CLV) and those mastered for constant angular velocity (CAV). CAV store approximately 30 minutes of video, can be controlled in a frame-accurate way and can be still framed. CLV discs can store approximately one hour of video but cannot be controlled frame-accurately and cannot be still-framed. Once a popular display format for many artists, the laser disc has now largely been superseded by DVD. Laser discs could not handle saturated areas of color, and would produce artifacts appearing as herring bone patterns. CAV discs did, however, have the advantage of frame-accurate external control.

Lastly, the components described within this section—video medium, equipment, conceptual idea, and supporting documentation—can be categorized further according if they are displayed or not displayed for the viewer to see. Displayed Components usually include the playback device (such as a DVD playback device); the video image itself (also known as the "played" format of the media element); signal processing equipment (such as amplifiers and graphic equalizers); the display device (such as television monitors, projectors, speakers, and screens); any possible control devices (such as computer synchronizers); the physical environment itself (such as the walls, ceilings, acoustics, flooring, and acoustic paneling that help to bring the viewer in as an active participant in the artwork); and any possible sculptural elements (such as a bench for the viewer to sit on). Components that are typically not displayed include the archival tapes (which are not used and function to preserve the video medium of the artwork); the dub-master tapes (which are used for making exhibition and researcher/curator viewing copies); the installation instructions and supporting documentation (such as transcripts from artists interviews and photographs documenting how the artwork is to look once installed); servicing manuals for the equipment; spare equipment parts to replace worn out or obsolete parts; and the interconnecting audio and video cables. With these four essential components comes, unfortunately, common preservation challenges.

was increased to 4.7GB. There are two types of DVD-R discs: "General" and "Authoring". This has caused some compatibility issues as the lasers in the playback devices for these discs need to be angled differently. Professional DVD playback devices will have both lasers, however if you are using a domestic model it is important to check which discs your playback device is compatible with. This is also true for all other types of disc as there is unfortunately a lack of compatibility between playback equipment at this time. DVD is a rapidly developing technology and there is a continued push to increase the amount of data that can be stored on a disc.

Exhibition format: Tape or disc copies that are used expressly for frequent playback, as opposed to master tapes should only be played as part of the archival process. The criteria for a good exhibition format are different from that of an archival format. For example hard disc, DVD and laser disc are all good exhibition formats for video as they are reliable and because playback is made possible without mechanical deterioration to the media as a result of being played. This is important where a video is on display all day every day. Although in the near future it is likely that we will see uncompressed digital video being streamed from hard discs for display, it is more common that the video is compressed. Such compression would not be acceptable for the master copy but may be a compromise that is acceptable for display. Each media have different advantages and disadvantages, but the important point is to be clear that the criteria for display may be different than for archiving for example the display of a complex video work may require reliable frame-accurate synchronization.
DVD: Abbreviation for Digital Versatile Disc. There are a number of different types of DVD. At the time of writing these include DVD-R, DVD-Rom, DVD-RAM, DVD+RW, DVD-R/W. DVD is not a suitable archival format for video mainly because it uses a lossy form of compression – MPEG2. It is also a format that is likely to see rapid changes in technology and therefore the risk of speedy obsolescence is high. DVDs are made up of a reflective aluminum layer, a polycarbonate substrate, a dye layer and a clear lacquer. The aluminum layer is highly susceptible to pollution and the lacquer layer does not sufficiently protect the aluminum layer to prevent oxidation. Where the DVD is double-sided the two sides are bonded using an adhesive. The adhesive have not been subjected to accelerated aging tests by the manufacturers and there is little data on their life expectancy. A DVD is the same diameter as a CD (120cm) but cannot be read by the same equipment. DVD and CD both record data by encoding it as tiny pits in tracks that correspond to the zeros and ones of binary digits. The pits are read by laser and played back. DVD is able to store more data by making the pits smaller and the tracks closer together and employing the compression system MPEG II. Many artists use DVD-R as an exhibition format and this has replaced laser disc as a popular display format for many museums and galleries. However, because of the way the data is encoded frame-accurate control cannot be achieved by referencing the picture content as it can with laser disc. Where external control is needed for display it is important to be clear of any specific requirements of the control system before having the disc(s) made. DVD-R discs were introduced in 1997 with the capacity of 3.95 GB and a track pitch of 0.8 microns that later, by reducing the track pitch to 0.74 microns, this
Traditionally, registrars have had access to volumes of resource materials offering "best practices" guidelines for preserving museum collections, including time-tested and peer-reviewed worksheet, database, and collections management policy examples. *The New Museum Registration Methods*, created by the Registrars Committee of the American Association of Museums, is one such resource. Considered the "bible" of all registration handbooks, as well as the main textbook in collections management training programs, it offers museum collections personnel a concise set of guidelines and essays into the care, safety, and documentation of museum collections. Unfortunately, the vast majority of these resources focus on standards of care given to artworks that are made of traditional media, such as paintings, sculptures, and works on paper. Conceptually-based, non-medium specific artworks, such as video installation art, are not addressed. This is primarily due to the fact that museums have only begun to collect and accession video installation art in earnest within the past decade. Thus, the emergence of video installation art within museum collections is changing the very tools traditionally trained registrars have used to care for museum collections.

The first challenge to preserving video installation art is learning the various physical, technical, and conceptual components involved in the artwork. Understanding how these main components relate to each other requires technical audio-visual knowledge and experience that most contemporary art museum registrars do not have. This dilemma is compounded by the fact that each video installation artwork is uniquely different in the

**glossary**

describe the phenomenon associated with deterioration of the magnetic tape binder.

**Digibeta**: A digital video version of the professional-grade "Beta" video format.9

**Digital**: Electronic system that functions by converting the analog signal into a series of discrete binary bits (ones and zeros). Unlike analog, there is no information loss with each copy or generation.

**Digital video**: A catchall term for a variety of video formats developed in the 1990s, all based on encoding video signals as 1s and 0s rather than analog signals. Although compressed digital video may have a lower image quality than analog video, it can be edited using nonlinear editors, stored on computer hard drives, streamed over the Internet, and incorporated into interactive presentations.10

**Digital-to-analog**: Data in clean binary digital form can be converted to an analog form by using digital-to-analog (D-A) converter.

**Documentation**: Consists of two meanings: 1) materials, such as photographs, videotapes, or written materials related to an artwork's creation, exhibition, or history; or 2) the artist's written record of a performance art, which becomes a part of the art itself and exhibited and/or sold as such. This latter definition comes out of Conceptual Art.11

**Dub**: A copy of a video recording, or to make a copy.

**Dubmaster**: The copy of a master used for making additional copies.
process around a proposed course of action, the likely effects of such action and its justification.

**Conservation report**: A detailed description of the work of art or artifact, its condition, an analysis of the risks to that object and a description of how those risks might be mitigated. If treatment is proposed the report should document each stage of any action taken, the decision making process involved and a description and assessment of the outcome. Reports should be signed and dated.

**Data**: Information transmitted as binary code. In the case of component video each pixel is a vector quantity and includes information for all color components \( Y', R-Y' \) and \( B-Y' \). High quality standard definition for a moving color picture requires a data rate of 200 million bits per second.

**Data Compression**: A technique that provides for the transmission or storage, without noticeable information loss, of fewer data bits than were originally used when the data was created.

**Decoder**: A device used to recover the component signals from a composite (encoded) source. Decoders are used in displays and in various processing hardware where component signals are required from a composite source, such as composite chromakeying of color correction equipment, etc.

**Deterioration**: The degradation of videotape, most typically with the binder, which is responsible for holding the magnetic particles on the tape and facilitating tape transport. If the binder loses integrity - through softening, embrittlement, loss of cohesiveness, or loss of lubrication - the tape may become unplayable. Sticky tape and sticky shed are commonly used terms to

number and type of components used by the artist. Additionally key to this relationship is understanding which components will be seen while on display, and which ones are working in the background to make the artwork function. “What type of videotape is that, how long will it last, and with whom should I consult once it no longer plays?” These are a few of the common questions asked by registrars at this stage. The next challenge lies in understanding how each artwork is uniquely created and displayed. For example, one video installation artwork may consist of two video projectors, two screens, and one Sony DVD playback device, and may be displayed in a large semi-enclosed gallery space with other artworks nearby; while another video installation artwork may consist of one CRT television video monitor, one pedestal, and one Sony DVD playback device, and may be displayed in a fully-enclosed, empty dark room with no other artworks present. As shown by these examples, registrars must accession and preserve each video installation artwork in their care on a case-by-case basis using an ad hoc, and sometimes ill-informed, approach. The physical, technical, and conceptual components making up a video installation artwork must work in unison to create the resulting play of images and/or sounds. If one element is changed there is a risk that the whole system could collapse and no longer work correctly. Therefore, it is necessary for registrars to understand the precise role of each piece of equipment—specifically, what it does, how it relates to other pieces, and how the system functions as a whole.\(^2\)

Since video installation art’s birth in the 1960s, much of what is known about its physical and technical components
resides with electrical engineers and video technicians outside of the museum field. Additionally, video installation artworks are continuously “used” so to speak, since they must be plugged-in and operating while on exhibit. The effects from this prolonged use can cause video installation artworks to deteriorate more rapidly than traditional artworks. Examples of this deterioration include, but are not limited to: wear and tear of mechanical parts; burnt-out cathode ray television picture tubes; and taxed circuits due to electrical surges. In addition to deteriorated electrical and mechanical parts, obsolescence of these components threatens the overall preservation of video installation art. Through use and advances in technology, the technological components of video installation artworks will quickly deteriorate and become obsolete. In his essay “Longevity of Electronic Art,” Howard Besser, Associate Professor at the University of California, Los Angeles’ School of Education and Information Studies, and Director of the Moving Image Archiving and Preservation Program at New York University, articulates how this is a serious preservation issue for museums and one that is still in the process of being resolved:

Museum curators and conservators will need to struggle with deciding when a particular display device is an important characteristic of a work, and when a particular form of playback may be intrinsic to the work… Curators will also need to make plans of how to preserve the appropriate device, as well as how to indicate to future museum staff that they need to display this work on a particular type of device.\(^3\)

The preservation challenges affecting video installation artworks can best be understood through the following artwork:

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**Glossary**

**Compression, lossy:** Coding does not expand to produce identical data to the source material and differences are detectable. MPEG 2 is an example of a lossy inter-coded compression standard. MPEG-2 is the compression system used for DVD.

**Conservation:** The action taken to identify and assess the risks to a work of art, or artifact, from agents of deterioration and change, plus any steps taken to minimize undesirable change. Different types of artifacts will have different vulnerabilities to change and therefore different vocabularies of risk. For example, in the case of videotape we may be concerned about the impact of environmental factors such as temperature and humidity that increase the rate of deterioration or the obsolescence of a particular format or technology. Where undesirable change has occurred a conservator may explore ways of intervening and treating the work of art or artifact. Decision-making is based on information about the effects of deterioration or change, an understanding of the historical and aesthetic value of that artifact and of the likely effects of any proposed action. Appropriate conservation techniques and treatments are developed in accordance with an agreed professional code of ethics. Conservators have a responsibility to future generations in preserving the historical and aesthetic value of a work, what is essential to preserve, however conservators also have a responsibility to the historical integrity of the work. The professional body for conservation in the USA is the American Institute for Conservation (AIC) [http://aic.stanford.edu/](http://aic.stanford.edu/). The worldwide body for conservation is the International Institute of Conservation (IIC) [http://www.iiconservation.org/](http://www.iiconservation.org/)

**Conservation plan:** A clear articulation of the decision making
<table>
<thead>
<tr>
<th>Format</th>
<th>Intro. Date</th>
<th>Developer</th>
<th>Tape Size</th>
<th>Main Analog Video Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadraplex</td>
<td>1956</td>
<td>Ampex</td>
<td>2-inch</td>
<td>Time Shift Broadcasting</td>
</tr>
<tr>
<td>EBU-C</td>
<td>1977</td>
<td>Ampex/Sony</td>
<td>1-inch</td>
<td>Studio Recording</td>
</tr>
<tr>
<td>U-Matic</td>
<td>1971</td>
<td>Sony</td>
<td>1/2-inch</td>
<td>Portable Recording</td>
</tr>
<tr>
<td>Betamax</td>
<td>1975</td>
<td>Sony</td>
<td>1/2-inch</td>
<td>Domestic</td>
</tr>
<tr>
<td>VHS</td>
<td>1976</td>
<td>Matsushita</td>
<td>1/2-inch</td>
<td>Portable Broadcast Recording</td>
</tr>
<tr>
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<td>Sony</td>
<td>1/2-inch</td>
<td>Domestic/Industrial Recording</td>
</tr>
<tr>
<td>SVHS</td>
<td>1982</td>
<td>Matsushita</td>
<td>1/2-inch</td>
<td>Domestic Camcorder</td>
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<td>1986</td>
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<td>Sony</td>
<td>8-millimeter</td>
<td>Portable Recording for Broadcast</td>
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<td>1990</td>
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<td>1988</td>
<td>Matsushita</td>
<td>1/2-inch</td>
<td>Portable Recording for Broadcast</td>
</tr>
</tbody>
</table>

In 1991, the San Francisco Museum of Modern Art acquired and accessioned Mary Lucier’s 1973 video installation artwork, *Dawn Burn*, into its permanent collection (See Fig. 11). According to SFMOMA’s Jill Sterrett, Director of Collections and Conservation, and Justin Graham, Media Arts Technician, “*Dawn Burn* is a work that exploits the time-based aspect of video both in its linear nature and in the very way that the apparatus degrades through continuous use.” In this artwork Lucier recorded the rising of the sun over the Hudson River on seven separate videotapes over a total of seven days. The recordings of images and events are played back on seven monitors arranged in obelisk pedestals to display both their continuous and discontinuous “memory”. Upon entering the museum’s collection in 1991, Lucier’s artwork was in a serious state of degradation due to deteriorated open reel videotapes, missing playback and display equipment, absent sculptural elements, and a lack of installation instructions. Working with the artist, SFMOMA devised a preservation plan to restore the physical videotapes, upgrade the video medium format, create detailed installation instructions, and replace the missing equipment and sculptural elements in order to save this artwork from impending obsolescence. As the essential component of the artwork, the video medium was restored first. With the assistance of the Bay Area Video Coalition, SFMOMA was able to restore the original open-reel analogue videotapes to make a new 1-inch “master” analogue archival tape for preservation purposes. This tape was not played, so as to prevent magnetic tape loss due to wear, and was used to make exhibition copies on analogue optical laser discs that would be played. With the video medium restored SFMOMA was ready to purchase the correct equipment to...
common preservation issues to consider


**NTSC, PAL, SECAM, etc.** Chrominance is added as a modulated subcarrier to the luminance signal of approximately 3.58 MHz in NTSC and 4.43 MHz in PAL.

**Compression:** A process employed to reduce the bit rate of digital video. Compression algorithms aim to do this in ways that minimize the visible effects. For example, most images contain large amounts of identical or similar pixels that are repeated within a frame or a sequence of frames. Intra-coded compression will identify such redundancy within each frame whereas Inter-coded compression takes into account redundancy from one picture to the next. An intra-coded compression system therefore uses a time delay to calculate the pixel differences between pictures. The first picture is an absolute picture known as an Intra-coded or "I" picture. "I" pictures are sent periodically and require a large amount of data, this is then used as the reference in order to calculate the picture differences between successive pictures known as the differentially coded picture. Essentially this form of compression takes advantage of the similarities between successive pictures sending only the differences between pictures to cut down on the amount of data transmitted. Other techniques are based on the human ability to perceive picture detail and the predictability of the signal.

**Compression, lossless:** Coding essentially expands to provide identical data, bit for bit, with the original source data, although the processing does introduce the possibility of errors. The compression factor of such a system is usually around 2:1. Digital Betacam is a format that employs "lossless" intra-coded compression.
masters. Ideally these formats should be uncompressed, component formats; however, for practical and cost reasons formats employing lossless compression are also used. Suitable archival formats will change as older formats become obsolete and are no longer supported. Ideally, archival master material is transferred onto new stock every 5–7 years and at this point a decision should be made about whether it is necessary to move to a new format as well. An archival format is therefore one that can be migrated onto new stock and new formats without the loss or distortion of information.

Artifact: An undesirable picture element in a video image, which may naturally occur in the recording process and must be eliminated in order to achieve a high quality image. Most common artifacts are cross-color and cross-luminance. Not to be confused with artifact as a cultural product.

Beta: Also referred to as “Betacam,” “Betamax,” or “BetaSP”: a professional-grade analog or digital videotape. The digital version is also referred to as “Digibeta.”

Component video: An unencoded video signal in which luminance (black and white) and chrominance (color) are transmitted as separate components, as such requires greater bandwidth than composite video. Component analog video consists of three primary color signals (RGB) that together convey all necessary picture information.

Composite video: A mixed encoded signal combining luminance (black and white), chrominance (color), blanking pulses, sync pulses and color burst, that includes horizontal or vertical synchronizing information, using one of the coding standards:

display Dawn Burn: CRT video monitors, laser disc playback devices, structural elements, and all interconnecting audio and video cables (See Fig. 12). Additionally, a video synchronization and automation system was designed to operate the artwork and keep it up and running through the long exhibition hours when on exhibit. As Graham and Sterrett point out in their article, “It would be dangerously counterproductive to assume at this point that the work is ‘rescued’ and preserved for all time,” since video formats and video playback and display devices obsolesce quickly due to rapid advances in technology and the components in these technology-based artwork, such as light bulbs or moving mechanical parts, will burn-out or break down swiftly due to being constantly turned on and running. Graham and Sterrett add that as long as the image is restored and the artwork retains the same conceptual look and feel as the artist intended, the newer technologies used to recreate the artwork will not compromise the artwork’s integrity. However, attaining this goal is both the current key and challenge to preserving technology-based artwork for museums and artists, as Lucier herself explains:

We [artists] find ourselves in this very ironic position, 20, 25 years later, of attempting to rematerialize, to remake in a material form, these works that, for us, were valuable at that time, precisely because of their ephemerality. So, one of the things that needs to be preserved in the reconstituting of these pieces and in the preserving of them, is the sense of their ephemerality. I mean, we mustn’t make them over-weighty in their object-ness, while at the same time, we do have to reconstitute and preserve them. We need to retain that sort of vitality that was there when we
were, at that time, rebelling against the art object, and the art. It's completely ironic that here we are, in the San Francisco Museum of Modern Art, and we are now all engaged in this process of bringing back to life pieces that are lost, and preserving pieces that will be lost from an ethic and aesthetic that originally wanted them to be lost. Anyone who made work at that time knew precisely what I'm talking about. So we all find ourselves somehow trying to bridge this gap of where we are conceptually in our understanding of the totality of what we've done, and how we have changed and the work has changed, and the necessity of the moment, that history, the needs of history, which involve this act of preservation.7

Thus, the preservation of video installation artwork faces obstacles on three fronts: physically, in the form of material degradation and obsolescence; technologically, in the form of outdated video medium formats and a lack of user knowledge; and conceptually, in the form of inadequate or non-existent documentation explaining installation procedures and the artist's wishes for future preservation efforts. As SFMOMA's conservation of Lucier's artwork shows, museum professionals are actively working to find solutions to these preservation challenges.

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common preservation issues to consider

of video, sound, and moving parts in its assembly, which must be carefully constructed and installed within a designated space as defined by the artist. Just as each individual artist is creatively different, each video installation artwork is different in the number and types of components used and the way it is installed within a selected space.6

Video Preservation7

Analog: A recording in which continuous magnetic signals are written to the tape that are representations of the voltage signals coming from the recording of the video camera or microphone. Analog signals stored on tape deteriorate with each copy or generation; in contrast see digital.

Analog-to-digital: The process in which a continuous analog signal is quantized and converted to a series of binary integers.

Analog video: A system of recording video images that employs continuously varying waveforms to encode brightness, color and the timing information necessary to reproduce a moving image.

ANSI: See standards.

Archival format: A video format that provides reliable playback, without information loss. The format should be a current (as opposed to obsolescent) professional one supported by the industry. At present archival video material is typically stored on magnetic tape however in the near future computer-based storage is likely to become an option for archives. The advantage of uncompressed digital formats over analog formats is that they can be copied without generational loss. For this reason many archives are using digital formats for creating their archival
**GLOSSARY**

**Art History**

**Electronic media**: A broad term to describe all artworks that use video, tape, disks, and electronic devices to control motion, sound and/or light, often in conjunction with more tangible objects and spaces.¹

**Installation art**: Art genre referring to a site-specific artwork. The artwork is created especially for a particular gallery space or outdoor site, and it comprises not just a group of discrete art objects to be viewed as individual works, but an entire ensemble or environment. Installations provide viewers with the experience of being surrounded by art. Installations generally are exhibited for a relatively brief period and then dismantled, leaving only documentation.²

**Technology-based installation art**: An installation incorporating the use of an electronic component in its assembly, such as videotape or computer software.³

**Time-based media**: A useful term to describe installations that have a limited duration and therefore have to be experienced in the context of the passing of a period of time.⁴

**Traditional art**: A useful term to describe medium and aesthetically dependant artworks, such as painting and sculpture, which are also recognized by cultural norms as being "true or fine art."⁵

**Video Installation Art**: Also referred to as electronic media, time-based media, and technology-based installation art, video installation art is defined as installation art incorporating the use

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**SIX RECOMMENDATIONS FOR ACCESSIONING & PRESERVING VIDEO INSTALLATION ART**

The following recommendations are targeted primarily to registrars in contemporary art museums dealing with the accession and preservation of video installation artwork, though conservators, curators, exhibit technicians, private collectors, artists, gallery staff, and registrars in other types of museums and public institutions can also benefit. Prior to entering into a museum’s permanent collection, a video installation artwork must first be carefully organized, documented, and preserved by a registrar. During this process, the registrar must assess and record the artwork’s condition, assign and apply an accession number indicating the number and type of components comprising the artwork, acquire instructions about how to reinstall this artwork upon exhibit or loan, and determine the best course of action for its preservation. Oftentimes, the registrar must perform these duties without the necessary training or expertise in technology-based art. By collaborating with key staff, obtaining specialized technical training, and seeking the resources of preservation support organizations in the field, registrars will be better prepared to accession and preserve video installation artwork. In order to help facilitate this level of preparation and enhance registration knowledge in the field, I present the following six recommendations to registrars.
# 1. Consider the Moment of Accession as the Optimal Time for Acquiring Documentation

Registrars must work diligently to obtain and record as much information as possible about a video installation artwork at the moment it is accessioned into the museum. Due to the number of components involved in any one video installation artwork and the rate at which these components deteriorate and/or become obsolete, registrars must see the accession process as the optimal time for gathering information that can aid in the artwork’s long-term preservation. The following guidelines—adapted from the “Tate Gallery Guidelines for the Care of Video Art Works” and the Foundation for the Conservation of Modern Art’s “The Model for Data Registration,” and the numbering system used at the San Francisco Museum of Modern Art—serve as an excellent paradigm for registrars to use and adapt to their own accession procedures:

At the moment of accession, the following information should be obtained:

- A description of, and requirements for, the artwork’s meaning, as obtained from the artist himself/herself during one or more interviews with the artist.
- A description of, and requirements for, the artwork’s presentation and installation, including: the number and type of components comprising the artwork as part of the accession, and the number and type of components the museum must obtain for installation and are not considered dedicated to the piece. This information is linked to the artist’s intention, which should guarantee the desired “effect.” In addition, references can be made to information about past presentations, thus creating an installation history.
- A description of the artwork’s significance: its meaning within the context of art history and its importance within both the artist’s and the museum’s collections.
- The formulation of ethical guidelines for preservation: the do’s and don’ts in the light of the work’s significance, as

## MATERIALS

- List and description of all other installation materials and components to artwork

## INSTALLATION

- List particular procedures for assembly (such as special equipment needed)
- Attach additional sheets for further information, diagrams, photographs, etc.

## COPYRIGHT

- Who owns copyright? (If not artist, how can copyright owner be contacted?)

## PRESERVATION QUESTIONS TO ASK ARTIST

- If necessary, due to concerns about equipment obsolescence, may we upgrade the format of the audio-visual components of the artwork?
- Please note preferences or stipulations as to the upgrade.
Sample Accession Worksheet

(Key information to obtain during the accession process)

ARTIST
- Artist’s name
- Phone numbers
- Address
- Gallery representative
- Year of birth
- Country of birth
- Country of citizenship
- Artist biography, including recent interviews and press articles

ARTWORK
- Museum accession no.
- Title and date of artwork
- Edition no.
- Object type
- Display medium
- Dimensions
- Provenance
- Exhibition history
- Credit line

FORMAT
- Length of video medium (hours/minutes)
- Format of audio-visual components and materials (which components are “married” or “standard”?)
- Distributor of audio-visual components and materials (including name of company, contact person, address, telephone number, etc.)

Sample accession methods

• based on the artist’s intent.

At the moment of accession, the following items should be obtained:
- All equipment/components that is dedicated or “married” to the artwork—also referred to as “married” to the artwork
- A list of all equipment/components that is not dedicated to the artwork and must be acquired for installation out of the museums pool of equipment—also referred to as “stock”
- Two copies of the artist’s master tape or permission to make these copies. These copies will serve as the “Archival Master” copy of the artwork that will be accessioned as part of the artwork, and the “Dub Master” copy that will be used for making all exhibition and curator/researcher viewing copies.

The accession and preservation record

Some installations are less defined than others. This might be the artist’s conscious intention. However, it is important to establish the parameters of possible change, for example the largest and smallest acceptable sizes of monitors. Give this, the accession and preservation record should include:
- A precise description of the artwork.
- A condition report with a history of the tapes.
- Equipment details identifying which parts of the equipment are key to the meaning of the artwork and why they are important.
- An installation manual which records the light levels of the room, the sound levels and details of how to calibrate the equipment, as well as wiring diagrams, plans of the space (showing entrances and exits) and lighting and seating arrangements.
- Documentation of any control systems used for the artwork.

For each artwork one would expect to hold material falling into the following categories:
- Archival format (a lossy-compression format, such as a Digital Betacam tape, is preferred)
- Exhibition format (a disc format, such as DVD, is suitable)
- Curator’s/Researcher’s viewing copy (an analog tape, such as a VHS, is recommended)
Tips for choosing archival formats

- Choose a professional digital format to ensure the highest possible quality and reliability of tape stock.
- Choose a format that is likely to be in wide use in the industry for a reasonable period. This will mean that commercial facilities houses will continue to invest in equipment and personnel to support this format.
- Consider its compatibility with new formats. This is usually possible to predict where technology is developing in general terms.

Tips for choosing display formats

When choosing a display format, the following criteria should be considered:

- Reliability, i.e. its ability to run repeatedly eight hours a day, seven days a week with minimal maintenance and wear and tear.
- Ease of operation: the ideal is a system that can be operated simply by switching the power on in the morning and off at night or even perhaps computer controlled. However, anything on a timer should allow the possibility to be easily overridden for openings and out-of-hours private views.
- Capacity to be controlled externally and synched up to other video, images, and sound if necessary.
- The quality of the sound and picture.
- The cost.

Upon accession, all video material should be labeled with:

- The accession number and/or artist’s name and title of the work
- The status of the material (i.e. archival master, exhibition format, et cetera.)

(Sample Accession Numbering System

(For a hypothetical 2-channel video installation artwork with a custom projector and bench) ¹

Inventory:
* 2 Master tapes
* 2 sub-master tapes
* 4 exhibition copies (2 for each master)
* 1 custom projector (married to the artwork)
* 1 bench
* 2 cushions for bench
(Note—any screen or monitor will do for display)

Numbering system using 2003.145 as hypothetical number:
2003.145.A (Master)
2003.145.B (Master)
2003.145.A.m1 (sub-master of tape .A)
2003.145.B.m1 (sub-master of tape .B)
2003.145.C (projector)
2003.145.D (bench frame)
2003.145.E (cushion)
2003.145.F (cushion)
(The cover record would be: 2003.145.A-F)

The exhibition copies would be given XC numbers in the temp ID field (note: they would NOT be accessioned) as follows:
XC1.2003.145.A (exhibition copy of tape A)
XC2.2003.145.A (exhibition copy of tape A)
XC1.2003.145.B (exhibition copy of tape B)
XC1.2003.145.B (exhibition copy of tape B)

(Refer to the “Sample Accession Methods” section for an accession numbering system example.)
**SAMPLE ACCESSION METHODS**

Accessioning video installation artworks pose some unique challenges for registrars, especially when it comes to the number of components involved in any one single artwork, such as: the video medium, equipment to play and display the video medium, as well as any additional sculptural elements. What follows on the next two pages are examples of practical registration methods obtained through my research. The first page shows an example of an accessioning numbering system currently being used at the San Francisco Museum of Modern Art. The second page lists pertinent information that should be obtained from the artist during the accession process, and was compiled from accession worksheets used at both the San Francisco Museum of Modern Art and the Museum of Contemporary Art, Chicago. (Permission to reproduce was obtained by author.)

**2. Consult the Artist about Intent**

Consulting the artist about his or her intent for the artwork must be a number-one priority for registrars during the accession process. Doing so will enable registrars to learn pertinent information about the artwork’s installation requirements, the number and type of components and materials making up the artwork, and the artist’s wishes for the artwork’s preservation. During the all phases of the accession process, registrars should conduct one or more interviews with the artist using an artist questionnaire form. Good communication is essential during the interview process. Questions listed on the questionnaire form should be tailored specifically to the artist being interviewed and about the specific artwork being accessioned. Registrars need to be flexible about how they obtain this information, so as to make the interview process as convenient as possible for the artist. The interview can be conducted in-person, through a conference call, or through written correspondence with the artist. When conducting the interview, key questions should be asked concerning the video material, equipment, artist’s conceptual idea for the artwork, and his or her requirements for preservation. The following questions adapted from the Tate Gallery’s artist interview questionnaire can serve to prompt registrars about specific questions to ask during an artist interview:

**The video material**

- When was it made in terms of the artist’s career?
- What format was it shot on?
- Where was it made, who was involved?
- Are there any technical problems that the artist is unhappy with?
Equipment

• Has the artwork ever been shown for eight hours a day, seven days a week? What is the most likely technical problem to arise?
• If monitors are used, what size constraints are there on the monitors? Is there a maximum or minimum height for which they can be displayed?
• If the artwork is projected, what projector is used?
• What type of screen is required? Are there any types of screens which have not been suitable and if so, why?

Display

• What equipment is required to show the artwork?
• Is there anything about a particular piece of equipment now being used to show the artwork that may become obsolete while the artist believes it is essential to the artwork?
• If the artwork has sound, what are the specifications of the speakers?

Conceptual idea/installation

• Is there an installation plan?
• How should the public gain access to the artwork (door plans)?
• Discuss health and safety requirements in terms of entrances and exits, fire exit signs, barriers, emergency switches.

Many models for interviewing artists were gathered during my research. Since no one artist or artwork can be addressed using one standardized interview approach, registrars should consult the following sources in order to learn different methods and approaches to take: “A Methodology for the Communication with Artists,” by Frederika Huys; “Artist’s Interview Questions,” by Pip Laurenson; “Artist’s Questionnaire: Time Arts,” from the Museum of Contemporary Art in Chicago; “Concept Scenarios: Artists’ Interviews,” by the Netherlands Institute for Cultural Heritage (NICH)/Foundation for the Conservation of Modern Art.

6. Publish More Articles to Serve as Resources for Other Registrars

As my literature review demonstrated, there is a lack of published articles written by registrars regarding their working accession procedures, accession numbering systems, interview questionnaires, and preservation successes and/or failures. Registrars need to network and share information with each other as diligently as their colleagues in conservation do, since those registrars working on a regular basis with video installation artwork have the expertise and knowledge to help promote practical solutions in the field that should be shared in a published format. The field would welcome examples of different accession numbering systems, the best approaches to take when interviewing an artist, learning about other registrars’ successes or pitfalls experienced when installing an artwork for exhibition, and/or receiving personal recommendations on vendors to consult when equipment parts break or video mediums need to be upgraded. Additionally, examples of collections management policies, accession worksheets, and database reviews would be of benefit.
museums. If a team approach is not feasible, due to a museum’s staffing structure, it was important for registrars to at least clearly define who within the museum will be responsible for preserving video installation art, and how that person or persons will disseminate this knowledge to others within the museum.

Amsterdam: “From Questionnaires to a Checklist for Dialogues,” by Cornelia Weyer and Gunnar Heydenreich; “Guide to Good Practice: Artists’ Interviews,” by the International Network for the Conservation of Contemporary Art (INCCA); and the “Variable Media Questionnaire,” by the Solomon R. Guggenheim’s Variable Media Initiative. (Refer to the “Internet Resources” section to obtain examples of these different models.)
3. Establish and Commit to a Preservation Process of Constant Reassessment

Video installation artwork requires registrars to think differently from the standards of care they are used to giving to artwork made from traditional media. As Mark Roosa, Chief Preservation Officer at the Huntington Library explained, traditional museum registration practices evolved out of many years of practical experiences and theoretical investigations with traditional media, such as oil paintings and bronze sculptures. As a result, a substantial amount of museum documentation procedures and working guidelines were developed to enable registrars to feel confident in the standards of care they provided for this artwork. Given this, registrars must adapt their preservation practices to meet the needs of video installation art. Registrars must see the life of a video installation artwork as one that is in a constant state of flux, and that any steps taken to preserve the artwork will in essence be temporary. This is quite a different approach than most registrars are accustomed to, yet committing to a preservation process of constant reassessment will be vital for ensuring the short and long-term care of a video installation artwork.

To meet the demands of preserving video installation artwork, registrars must develop and commit to a preservation plan. As registrars begin to recognize that they may not be able to save a video installation artwork in its original form, they must be diligent about documenting information that will explain and contextualize the artwork, such as instructions for its reinstallation and the artist’s wishes about what future preservation efforts should be taken. To do this, registrars must create recommendations.

5. Work Collaboratively with Artists, Conservators, Curators, and Exhibit Technicians During the Accession and Preservation Process

Due to the complexity of video installation artwork, registrars need to work collaboratively with artists and their colleagues in conservation, curatorial, and audio-visual in order to care for these artwork. These professionals possess specialized training in materials science, art history, and technology, and can offer assistance with understanding the artwork’s technical components, the artist’s intent for its conceptual installation, and for its long-term preservation in the museum’s collection. Such collaboration can be modeled after the “Team Media” team approach used The San Francisco Museum of Modern Art. This approach pulls together dedicated representatives from curatorial, conservation, registration, collections management, and exhibitions. These team members meet once a month to discuss possible acquisitions, accessions, exhibitions, commissions, and collections management policies. During the acquisition of a new artwork, these members meet as a group to formulate questions about the artwork in question that will then be forwarded to the artist for review. An interview is then conducted between the artist and the team members. At this time key information about the artwork’s components, installation, and preservation are addressed, as well as the artist’s conceptual intent for the artwork and how he or she wishes for it to age over time. Subsequent interviews are conducted as needed, fostering an long-term collaborative relationship not only with the artist, but with all members of Team Media. This team structure should be modeled and adapted by registrars at other
4. Seek Specialized Training

One of the most critical aspects to working with video installation art is first understanding and determining what the artwork really is and under what technical conditions it must be displayed. To do this, registrars need to seek specialized training in video preservation and audio-visual technology in order to become well versed with the different display and player components, video medium formats, preservation methods, and technical terms comprising video installation artwork. Registrars can seek assistance through local video preservation organizations, such as the Bay Area Video Coalition in San Francisco, local Universities or Community Colleges offering classes in audio-visual training, any workshops that are given by manufacturers, and through trial and error on the job. For more formalized training, the following three post-graduate training programs should be considered by registrars: the Moving Image Archiving and Preservation two-year M.A. degree program at the Tisch School of the Arts, New York University, the Contemporary Art Conservator two-year postgraduate certificate program at the University of Ghent in Belgium, and the Conservation of Modern Art five-year postgraduate program at the Limburg Conservation Institute in Maastricht, The Netherlands. (Refer to the “Internet Resources” section for more information about these programs.)