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TELEVISION AND VIDEO PRESERVATION 1997
A Report on the Current State of American Television
and Video Preservation

Volume 1

October 1997

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A Report on the Current State of American Television
and Video Preservation

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Preface by:

James H. Billington, The Librarian of Congress

Television affects our lives from birth to death. Most Americans inform and entertain themselves through it, and we use it to distract our children by providing (to paraphrase a famous quote) *chewing gum for their eyes.* Sadly, we have not yet sought to preserve this powerful medium in anything like a serious or systematic manner. At present, chance determines what television programs survive. Future scholars will have to reply on incomplete evidence when they assess the achievements and failures of our culture.

The 1992 National Film Preservation Act directed me, with advice from the National Film Preservation Board, 1) to prepare a study on the state of American film preservation and 2) then to design an effective program to improve current practices and to coordinate the preservation efforts of studios, archives and others. With cooperation from the film community, the Library of Congress completed the study and plan, and is now implementing the *plan's* recommendations. The plan called for a similar initiative involving television and video.

The 1976 Copyright Act established the American Television and Radio Archive in the Library of Congress. Since then we have acquired a treasure house of television programs in the form of copyright deposits or gifts. We have the entire output of National Educational Television and its successor, the Public Broadcasting System; all of NBC's extant entertainment programs; the main network evening news transmissions-- through an arrangement with Vanderbilt University; tapes of floor proceedings from the U.S. Senate and House of Representatives, and much more. The Act also gave us a modest annual budget to enhance, preserve, document and make available the archive of American television.

The Library has prepared this report in just a little over a year's time under the leadership of William Murphy of the National Archives and Records Administration. Hearings in Los Angeles, New York and Washington, D.C. enabled a wide variety of interested parties to testify in person. Nearly 100 individuals and institutions submitted written statements. The academic community stressed both the importance of television as a source material for the study of history, and the difficulties in gaining access for educational use to programs which have survived. Production companies and network executives suggested innovative ways to make news programming available to the academic community.

Television artists are rightly sensitive about living life in the shadow of cinema. Their achievements should be honored in their own forum, and individual donors should be able to direct their generosity toward safeguarding the television and video heritage just as they do for cinema.

Lack of resources is a major problem identified in this report: and the plan presents some innovative fund-raising proposals to help protect our television and video heritage.

I thank the members of the National Film Preservation Board for their help, counsel and testimony. I also commend the Association of Moving Image Archivists, an organization that has succeeded shown over the last few years in uniting under a single banner preservationists in the industry and nonprofit archives, in order to help us implement the recommendations in this report. The Library of Congress has invested considerable resources in preparation of this report.

We are therefore encouraged to know that the community that will benefit from the plan's ambitious ideas has volunteered to help bring them into reality.

EXECUTIVE SUMMARY

The American television and video heritage is at risk. Early television was broadcast live, kinescope or film copies were made selectively, other programs were deliberately destroyed, and videotapes were erased and recycled, still an unfortunate practice in the production of local television news. Television film and videotape vulnerability to deterioration further imperils this rich heritage, and additional videotape recordings may be lost to posterity if archival programs do not address format obsolescence.

That this heritage is worth preserving is a major theme of this report. Archival holdings of television and video materials have enormous educational and cultural value, as recognized in the American Television and Radio Archives Act (1976) and expressed in the testimony of educators who participated in Library of Congress's public hearings. Public archives are obliged to preserve television materials because of the popularity of television in American society and because of educational interests that focus on television's interactive role in numerous social and political processes. Our heritage would be diminished if this vast record of our culture is allowed to vanish. Inaction will eventually take its toll.

The scope of the report includes television and video materials in all their major dimensions: entertainment, nonfiction, news and public affairs, public television, local television news, video art, and independent video. Motion picture film made for television is included because film

along with videotape has played a fundamental role in television production since its earliest days. Just as the Library of Congress spearheaded the initiative to assess the general state of American film preservation in 1993, it is appropriate that the Library, the home of the Congressionally-authorized American Television and Radio Archive (ATRA), assume a similar leadership role in assessing the state of American television and video preservation. Two key objectives of the report are to lay down a factual foundation for understanding the issues confronting the preservation of American television and video, and to recommend a national plan of action based upon a broad consensus of the archival community.

Major Findings

Educational access remains largely unattainable for a variety of reasons, including underfunding in public archives, lack of descriptive cataloging and reference copies, copyright interests and very restrictive usage policies.

Scholars best qualified to judge the long-term research value of television and video materials are generally not given ample opportunity to participate in decision making in public and corporate archives on what will be saved and made available. Consequently scholars do not believe archives can always act in their best interests. The academic community, however, is not prepared to put funding into film preservation to ensure the availability of the programs it needs for teaching and research purposes.

Few television programs held by the major studios and networks are destroyed as a result of deliberate decisions or policies. The growth of the cable industry, video cassettes, multimedia, and overseas sales has encouraged the preservation of television and video materials. Each of the eight major studios that have produced extensive prime time programming has an assets protection program that includes film and television inventories. Past programs are protected rather than destroyed since they represent the real asset value of the corporations. Studios have been able to implement strategies for the preservation of videotape as part of managed programs.

The network news divisions have the greatest preservation difficulty because of the sheer quantity of film footage and videotapes they produce. The network archives are focused on the daily production needs of broadcasters, constantly posing a danger that precious images so important to the collective memory of the American people will be lost, altered, or destroyed. Every group that has studied the selection of television for preservation has concluded that all news programs should be retained and preserved as aired. The major networks have recently sought to improve storage conditions and set up programs for the conversion of obsolete or deteriorating videotapes.

Public television has always faced financial uncertainty, relegating preservation to a low priority. Yet, in the aggregate, public television

programming has recorded the rich cultural history of the United States, especially in the performing arts. The preservation provision of the Public Broadcasting Act of 1967 has not been carried out, and it is only with the signing of the 1993 PBS-Library of Congress Agreement that there is a systematic means for assuring that these programs will be preserved.

The most devastating losses have already occurred among news film and videotape files of local television stations across the United States. These losses were prompted by the switch from 16mm film to 3/4-inch U-matic for Electronic News Gathering in the mid-1970's. Some 25 years (covering approximately 1950-75) of American state and local history were destroyed. Less than 10% of the news film libraries survive in public archives. Even today local news tapes are rarely kept more than a week before they are recycled. About 20 states have no local television news collections in public archives, and very few libraries or archives take advantage of the right to make and retain off-air copies of daily newscasts. The Vanderbilt University Television News Archive is the only archive to do so at the network level.

The works of video artists and of independent video producers also face a precarious existence. Few productions have found their way into traditional archives. Researchers find it difficult to understand what was produced and what still exists. Many of the earliest open reel tapes made on the consumer format EIAJ have already decayed. No comprehensive effort has been made to list, catalog, or document, let alone preserve this remarkable record of American history and culture.

Funding of television and video preservation has been, in a word, inadequate. Foundations have rejected video preservation grant applications because of a perceived inadequacy of videotape as a preservation medium. However inadequate funding for motion picture preservation may appear, television and video archivists look with envy at the programs that have been set up to preserve American cinema. Advocates of television and video materials feel that their second-class status is no longer justified.

Recommendations

The final part of the report constitutes a national plan of action in four critical areas: preservation, access, funding, and public awareness.

Preservation:

Promotes the concept of a shared responsibility for the American television and video heritage, and calls for public and corporate archives to rationalize and coordinate their preservation programs to avoid unnecessary duplication and ensure that no significant portion of this heritage (held in collections throughout the nation) is endangered.

Provides a working definition of video preservation as

part of a total management system and proposes appropriate considerations and strategies with respect to technological obsolescence of video formats, restoration, and storage.

Reiterates the importance of the 1993 motion picture study as guidance for safeguarding and preserving film and addresses specific technical issues relating to television film.

Defines the role of film and videotape in preservation copying.

Recommends the establishment of a Video Preservation Study Center to collect bibliographic materials, manufacturers' literature, and obsolete equipment.

Access

Encourages public and corporate archives to seek the advice and guidance of scholars and educators to establish appraisal standards and determine appropriate selection guidelines.

Urges the identification of important television programs and coverage of events each year to encourage prompt availability in a public archives.

Urges local television stations to work closely with advisory boards and local archives to halt further destruction of local news coverage.

Recognizes the importance of video art and independent video production and calls for increased efforts to stimulate their collection.

Urges the support of public policies that encourage the widespread dissemination of information through the Internet and other sources, and asks for a national union listing, a network of publicly shared databases, and a comprehensive catalog of American television programs by decade.

Suggests ways for increasing the physical availability of television materials, minimizing regional or economic barriers.

Urges the Library of Congress to use its current authority under the Copyright Act of 1976 for off-air taping to the fullest extent possible, and encourages other libraries and archives to establish off-air recording projects as authorized by the Copyright Act for daily newscasts.

Identifies steps to make it easier for scholars and educators to use television and video materials in their research, writing, and teaching, and calls for interested parties to intensify discussions (through conferences, informal channels and other means), regarding copyright and educational access to television and video archives. Only through such dialogue can these difficult issues be fully addressed and perhaps solved.

Funding

Recommends the establishment of an independent nonprofit organization in the private sector to raise funds for television and video preservation, to recognize through an awards program individuals and organizations in this endeavor, and to keep television and video preservation at the forefront of the national archival agenda.

Urges public archives to build a consensus around the principles of television and video preservation and make

them understandable to funding organizations, which should then be more responsive to the needs of television and video archives.

Asks federal agencies to improve coordination of their much valued funding efforts.

Proposes discussions (among all affected parties) be held regarding possibility of two new avenues of funding: a dedicated sales tax and a share in future FCC auctions of broadcast spectrum.

Asks the CPB to establish a preservation grants program pursuant to the Public Broadcasting Act of 1967.

Recommends direct public appeals for donations through appropriate archival programming.

Proposes the Library of Congress use off-air recordings as a possible substitute for copyright deposit copies, if such an operation could be funded by the industry.

Increasing Public Awareness

Recommends the creation of a National Registry of television and video treasures at the Library of Congress.

Encourages professional and industry organizations to advance the cause of preservation through awards and grants.

Identifies the need for a documentary about the problems of television and video preservation aimed at general audiences and potential funders.

Urges the inclusion of video art and independent video in all public awareness campaigns.

This report marks only the beginning of a process to safeguard and preserve the American television and video heritage. Developing an implementation plan is the next crucial step, a plan that will assign lead responsibility for each recommendation to appropriate institutions and organizations.

CHAPTER ONE: INTRODUCTION

INTRODUCTION

A. Origins of Study

The origins of this study are interwoven with the history of the film and television preservation movement in the United States. It was in fact a film preservation study conducted by the Librarian of Congress, under the National Film Preservation Act of 1992, in consultation with the National Film Preservation Board, that provided the particular impetus to begin a study of the preservation status of American television and video materials.(1) A key recommendation asked for "a national study on the state of American television and video materials." The Librarian decided to conduct the study under the framework of the American Television and Radio Archives(2) (ATRA) legislation incorporated into the 1976 Copyright Act. The recommendation emerged from the Library's earlier study, Film Preservation 1993: A Study of the Current State of American Film Preservation, which described the most important problems facing film archives such as nitrate and

acetate film deterioration, color fading, and the need for improved storage conditions. The earlier report and plan included a full range of archival issues relating to moving images relevant to the present discussion.

This report also re-defined film preservation, taking into account the practices of the major studios and larger film archives, and the accumulated experience and knowledge of preservationists. For television and video preservation it is not so much a question of re-definition as it is defining preservation for the first time. Among the many reasons that a cohesive, nationwide effort to safeguard and preserve American television and video has yet to be organized is the absence of an archival paradigm that could include the impermanence of videotape with all its formats, the massive volume of generated material, and the decentralized and fragmentary nature of production processes in the United States compared to those of other countries. Preservation, to be sure, is central to the discussion, but whatever success the archival community has been able to achieve has been in the absence of an agreed-upon definition of television and video preservation and a comprehensive archival view. Thus, the overall purpose of the study is to lay down a factual foundation for understanding the issues and problems facing the preservation of American television and video materials, and, based upon this information, to develop a national plan.

Just as the Library of Congress spearheaded the initiative to assess the general state of American film preservation in 1993, it seems even more appropriate that the Library assume a similar leadership role in this endeavor. The Copyright Act of 1976 gave the Library the awesome responsibility for establishing the American Television and Radio Archives which would house a permanent record of the television and radio programs which are the heritage of the people of the United States and to provide access to historians and scholars without encouraging or causing copyright infringement.(2A) Twenty years have elapsed since the passage of this historic legislation, and remarkable changes have taken place since then that make some general re-assessment necessary. Among these changes are a university curriculum increasingly focused on the inter-relationship of media and society; broadcast industry expansion; and technological innovation. The audiovisual archival community itself has changed significantly in the last twenty years, in its numbers and its degree of professionalism, increasingly willing to articulate its genuine needs in competition with other national funding priorities. Such changes inevitably influence the shape and character of archival programs.

B. Scope of Study

This report concentrates on the preservation status of television and video created over the preceding fifty years of American history. Radio broadcast materials, important in their own right, are not included in the present discussion but may be the focus of another archival report. American television includes all programs regardless of their delivery or distribution systems; entertainment, documentary, news and public affairs, commercial programs, public broadcasting programs. For news and documentary, the scope includes unedited footage, or outtakes and trims, what some have called the raw materials of history. The scope also includes national as well as local programming. Local television news is represented in numerous collections throughout the nation. Video materials made only for video display and not

necessarily for broadcast are also an important part of the audiovisual heritage; these include video art, works conceived in the context of video display and fixed on videotape; independent or community video, productions made outside the mainstream media and used in the struggle for social and political change; and video as documentation, such as used by Federal agencies to record important events in our collective history as a nation. All this discussion of video and videotape makes it easy to overlook the importance of film as part of the American television heritage. From television broadcasting's earliest days to the current era, motion picture film has played a fundamental role. Thus films made primarily for broadcast are included in the scope of this report.

C. Fact-finding Process

Information and comments were invited relating to television and video preservation nationwide. A notice was published in the Federal Register on January 3, 1996 (See Appendix A). Copies of the notices, along with a survey questionnaire, were mailed to over 700 institutions and individuals inviting their contribution or participation. In addition, a number of site visits, interviews, and presentations were made to obtain relevant information and stimulate interest in this research project.

The core of the information presented in this report is based on the statements and discussions made in three day-long public hearings conducted by the Library of Congress in 1996: Los Angeles, March 13; New York, March 19; and Washington, March 26. Altogether 73 "witnesses" (not actually deposed and sworn in) addressed many of the key issues and concerns, described their own experiences in the field, and made numerous thoughtful recommendations for improvement in basic areas like preservation, access, training, public awareness, and funding. (See Appendix E.) To the extent possible these recommendations take into account the needs of public and corporate archives and have been adopted and consolidated in the "national plan," which forms the final part of this report. (See Chapter 8.)

In each city a panel of Library officials and distinguished representatives from different fields heard the statements and led the discussions. Presentations were organized according to affinity groups such as educators, major studios, network television, public broadcasting, and public archives. Every person who requested to make a statement before a panel was accommodated. Due to time constraints, however, witnesses could not always present their entire written statements. However, both the oral and written statements have been published elsewhere in this report. (See volumes 2,3,4 and 5.)

D. Urgency

In an ideal world television and video materials are recorded on a durable preservation format and carefully managed and stored from the first day of production. They are fully described in comprehensive catalogs and databases within reach of the nearest Internet connection, reference copies of the programs themselves are as ubiquitous as books, and restrictions governing nonprofit, educational use are few. Unfortunately the real state of television and video preservation is just the opposite of this ideal picture. Videotape is at best a medium-term storage format whose

usefulness is shortened by adverse storage conditions and technological obsolescence. Cataloging is scarce, limited to a few institutions or selective parts of collections, making it difficult to know what existed, what still exists, and where it may be found. Access to television and video materials for educational purposes is severely limited for a variety of reasons, the most important being copyright ownership . Archival access means a researcher's ability to consult records or documents together with the ability to reproduce them. The copyright owner has exclusive rights of reproduction, exhibit, or display except for specific limitations on exclusive use that Congress created for archives and libraries with respect to daily newscasts and for instances of "fair use."

It is important to view these limitation in the context of the history of television, much of which has already been lost. Early commercial television, roughly dating from the late 1940's, was live television, although recordings were made on film, called "kinescopes," and used sparingly for repeats, time-delay broadcasts to the west coast, and syndication in other markets. Ampex introduced professional recording videotape in 1956, an expensive 2-inch open-reel format used selectively, and often erased and reused.

As the first witness at the Los Angeles public hearing, television star Edie Adams described her difficulties when she tried to obtain kinescopes and videotapes of the television shows of comedian Ernie Kovacs, her husband who had died suddenly in 1962. After his death she embarked on a search and found it difficult to confirm inventories and titles; she learned that the programs he did for the DuMont network were dumped in a bay. She deposited what she found in UCLA's Film and Television Archive. In the history of television many important transmissions were not recorded or copies have been lost.

Losses from Early Television History

- b Opening of the World's Fair in New York, showing President Roosevelt with David Sarnoff, April 20, 1939; the first commercial broadcast.*
- b President Truman's address, September 30, 1947; first televised address from the White House.
- b Opening nights from the Metropolitan Opera broadcast by ABC in 1948 and 1950.
- b All television coverage of the 1948 presidential election.
- b Jackie Gleason's Cavalcade of Stars, 1950-1952.

- b I Love Lucy pilot, 1951. [Found!]
- b The first episode of CBS Evening News recorded on videotape, November 1956.
- b The first Super Bowl recorded on videotape and subsequently erased, January 15, 1967.
- b Milton Berle's Texaco Theater, many episodes lost.(3)
- b Soupy Sales programs during the 1960's.
- b The first ten years of the Tonight Show were erased or destroyed, including the television singing debut of Barbra Streisand.(4)
- b Network copies of You'll Never Get Rich starring Phil Silvers, who fortunately saved some episodes and donated them to UCLA.
- b Patsy Cline performances during the 1950's on local Washington, D.C. television.
- b Hullabaloo and Shindig, early rock and roll shows.
- b The complete version of The Twelve Angry Men.
- b Only 26 episodes of Big Town survive.
- b CBS broadcast of Cinderella, a musical speciality written for television by Rogers and Hammerstein starring Julie Andrews, March 21, 1957. Only the sound

*This and many items listed below are from a flyer distributed by the Museum of Television and Radio(formerly the Museum of Broadcasting)

Few early soap operas survive. There were few television newscasts saved prior to August 1968. Many local television news film libraries, some representing four decades of regional and local history, were destroyed by the truck load. Through sales, some copies of American programs and more footage ended up in foreign broadcasting organizations or archives, but no systematic survey has been undertaken to ascertain what may survive.

E. Earlier Efforts to Preserve Television

Needless to say, extensive and irretrievable losses have occurred in the past. Some of the losses can be attributed to the limitations of technology and short-sighted commercial practices. Part of the blame can be placed on the lack of a preservation sensibility for television, a need not clearly articulated by public archives until the last few decades. The Library of Congress accepted copies of television programs for copyright purposes as early as 1949, but television preservation was not identified as a separate program apart

from its other activities. In 1965 the Academy of Television Arts and Sciences established a national television library at UCLA, which has evolved into the second largest public archives of its kind in the United States. In 1976 UCLA changed its name to the UCLA Film and Television Archive. Also, in the same year the Peabody Award Archive of broadcasts was established at the University of Georgia.(5)

From 1967 to 1971 the William Paley Foundation commissioned Dr. William B. Bluem to study the possibility of creating a master collection of broadcast programs. The Bluem report found that "there is an urgent and vital need to create a master plan and a centralized collecting institution to prevent destruction and loss."(6) This and subsequent actions carried out by the Paley Foundation led to the founding of the Museum of Broadcasting in 1976 in New York.

The impetus for the preservation of network news started not with the networks but with the Television News Archive of Vanderbilt University founded during the tumultuous presidential election campaign of 1968.

The American Film Institute, which in 1972 decided to include television in its preservation interests, through the speeches and writings of its first director, George Stevens, Jr., articulated a need to preserve television programming. The AFI formed a coordinating committee and encouraged the Ford Foundation to develop guidance on acquisition, selection and preservation issues. Despite the work of three committees working under Ford sponsorship no final report was ever issued. Nevertheless, the AFI helped to establish regular lines of communications among television archives, at first through small informal groups, and then through the Television Archives Advisory Committee (TAAC), which subsequently merged with the Film Archives Advisory Committee (FAAC). The combined FAAC/TAAC re-constituted itself as the Association of Moving Image Archivists (AMIA) in 1990. Since then AMIA has served as an important forum for the regular exchange of information between public and corporate archives that share a mutual interest in moving-image preservation and other related subjects.

The Library of Congress activities in this area have stemmed from its responsibilities under the copyright law and the donations of various individuals and organizations. The Copyright Act of 1976 significantly increased the number of television registrations. In 1977 the Library hired the eminent media historian Erik Barnouw as a consultant to establish policies for ATRA; subsequently, he became Chief of the Library's Motion Picture, Broadcasting and Recorded Sound Division. A year later, the Library hosted a large meeting of institutions involved in collecting and preserving television materials.

Another important trend in public archives leading up to this report was the increase in local television news archives, prompted by the broadcast industry's switch during the 1970's from film to videotape in news gathering. Many institutions such as state historical societies and media centers began to receive donations of news film libraries but without the resources or experience necessary for managing large television film collections. This generated demand for information and technical training. The National Historical Publications and Records Commission funded a request from the AFI National Center for Film and Video Preservation to hold a local television news archives conference in 1987 in Madison, Wisconsin, the first opportunity for representatives of these

collections to coordinate their efforts and share their experiences. The creation of these new television archives dramatically increased the need for resources. NHPRC has been the only federal agency to provide major assistance. It is important to note that the introduction of so many new archivists into television archives in the 1980's has changed the character of the profession by linking the management of news film to traditional archival theory.

F. Major Issues

The following chapters of this report center around the main sources of broadcast production since World War II; for the vast majority of programs, these include the television networks, the major motion picture studios, public broadcasting, and local television news. The most important issues to emerge relate to educational access, divided responsibilities between public and corporate archives, the preservation of television film and videotape, local television news, and independent video.

1. Archival holdings of television and video materials have enormous educational and cultural value as recognized in the American Television and Radio Archives Act and underscored by the testimony of educators who participated in the public hearings. Public archives are obliged to acquire more and more television materials because of television's pervasive influence in contemporary American society and because of educational interests that frequently focus on television's interactive role in numerous social and political processes. Yet full access, as defined by a researcher's ability to survey, consult, copy, and use the audiovisual record, remains largely unattainable. The reasons are varied and complex, but most relate to the continuing underfunding of public archives, the isolation of scholars from archival issues, and copyright interests.

Educators who described a compelling need for access to the American television and video heritage for research and teaching also cited numerous obstacles that prevent real access, including significant losses, restrictive network policies, unavailability of original sources, expense of purchasing copies and electronic equipment, and lack of regional or local access. Educators believe that an insufficient amount of programming is being recorded off-air and saved by public archives. As a group, they would like to see ATRA's authority increased to enable the Library of Congress to record programs off-air completely at its discretion. Others also believe that the "fair use" provisions of the copyright law are too restrictive, and should therefore be revised to allow more non-profit educational usage. The Vanderbilt University Television News Archive and the network news departments or archives appear locked into an adversarial relationship that may be unwarranted. Broadcast organizations like NBC News are not registering their news programs for copyright, leaving a gap in the public record for some of the most important and influential news broadcasts.

2. The television and video heritage represents an important part of the collective experience and memory of the American people, yet much of the public record--as it were--is retained in the custody of private corporations whose policies are subject to the ebb and flow of the market place. For the last few years the growth of broadcasting and media markets has been the driving force behind preservation projects in

corporate archives. Unlike in past horror stories, virtually no programs are now deliberately destroyed. Television titles have also benefitted from film preservation projects at the major studios. Given the huge quantity of film and videotape in network archives and the growing demand for educational access, a partnership with public archives seems requisite and inevitable. Corporate and public archives share responsibility for television and video preservation. Yet the likelihood that corporate let alone public archives will transfer news film to film for preservation is remote, to say the least. The alternative to not copying the film at all is certain destruction, although proper storage can delay the outcome.

3. Television archives are typically a mixture of film and videotape holdings. One of the virtues of the Library of Congress' report on the status of American film preservation was that its recommendations addressed not only theatrical films but film documents in all forms, fiction and nonfiction. But aside from the major studios and several public archives, most public and corporate archives have not implemented the report's recommendations. In some ways the future of television film is even more doubtful than videotape's.

4. Considering the extensive amount of television film, particularly news and documentary, including field footage, to what extent can videotape offer a practical and cost-effective substitute for film-to-film copies? Supervised film transfers made on modern scanners yield excellent results. The main disadvantages of film-to-videotape copying are a reduced life expectancy of the new copy, compared to film, and the inadequacy of such transfers to meet the future needs of advanced television systems.

5. The accumulated practical experience of videotape technicians as it relates to the longevity of videotape seems fairly inconclusive. Many 30-year-old 2-inch tapes are still playable, and thus, in theory, capable of being re-formatted. The scientific literature, however, indicates an inherent potential for deterioration, something already observed in television or video collections or in the work that passes through videotape laboratories. In view of the deleterious effects of elevated temperature and humidity and pollutant gasses, archives have expressed a renewed interest in improving storage conditions and in the possibility of shared or regional storage. There is insufficient experience with the new digital formats. Many variables such as compression, miniaturization, tape thinness, and almost microscopic recording tracks suggest that digital formats may not be a complete panacea. The use of disk-based technology, however promising, is viewed by archives as only experimental. A general consensus exists, however, that the preservation of videotape is less a question of preserving an artifact and more one of possessing the resources to transfer videotapes due to format obsolescence. Equipment, requisite technical skills, and copying capacity are therefore central to any discussion of videotape preservation. Public archives cannot be self-sufficient; they need the cooperation of equipment and videotape manufacturers and of video laboratories.

The preservation of videotape itself may not be the real archival issue compared to that of format obsolescence. In this context video preservation is not an end product but a process of archival management that requires re-formatting and copies, and quality control. Based on this system, a tentative definition of video preservation may be ventured.

Video preservation, regardless of image source, is 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.

"Videotape possesses a special challenge to archivists, librarians, historians, and preservationists. As an information storage medium, videotape is not as stable as photographic paper film or paper. Properly cared for, film and paper can last for centuries, whereas most videotapes will only last a few decades." Dr. John Van Bogart

6. The creation of numerous local television news archives during the 1980's, including the off-air recording of news, assures that some programming will be saved despite enormous losses brought about by the disposal of many news film libraries and the recycling of videotapes. Less than 10% of the local news film libraries still survive--in an uneven patchwork across the United States that excludes many major metropolitan areas.

7. Media artists and community activists were in the late 1960's and the 1970's among the first to use 1/2-inch EIAJ tapes and other formats for experimental artistic expression and for documentary production outside mainstream media. The tapes are now held in a variety of places and circumstances--in archives, in non-profit distribution services, and in garages, closets, and attics. Their continued existence has reached a critical stage due to format obsolescence and tape deterioration. With the notable exception of highly capitalized programs like the Andy Warhol Foundation, few resources are being made available to restore and re-format these tapes. Works by media artists and community activists attract interest across the United States although many videotapes have not been cataloged nor described in union lists or on-line finding aids.

CHAPTER TWO:

THE MATERIALS AND THEIR PRESERVATION NEEDS

2. THE MATERIALS AND THEIR PRESERVATION NEEDS

A. FILMS MADE FOR TELEVISION AND KINESCOPE RECORDINGS

(1) Extent of use of film-based materials

Motion picture film plays a key supporting role in the preservation of television materials. In the first place, videotape as a technology was not available commercially until the end of 1956, yet by 1950 107 television stations were already broadcasting throughout the nation.(7) Broadcasters used film in several critical areas. First, cameramen used 16mm footage to cover news events in the field, and subsequently editors selected and cut the footage for use as clips or inserts in newscasts. Something akin to this process was also used for the production of documentaries. Major documentary productions like CBS's Air Power and NBC's Victory At Sea were produced on 35mm film. In addition, broadcasters also purchased news film from newsreel companies and news film services.

Second, broadcasters used motion picture film to make copies of television programs. Called kinescopes, these recordings were made from a bright television image on to 16mm film, negative or positive, with composite or separate optical and magnetic sound. The kinescope process, first made available in 1947-48, enabled a film camera to record a television image in synchronization; the image, however, had a flat, low contrast appearance which was never quite satisfactory when compared to the television broadcast. Color kinescopes, available in the 1970's, were even less satisfactory for broadcasting. The kinescopes surviving today are for the most part 16mm black and white. Broadcasters took advantage of kinescopes for repeat broadcasts, in particular, time-delay broadcasts to the west coast. Television producers or sponsors took advantage of them to syndicate programs in other broadcast markets.

Third, even to this day the major studio producers for prime-time television entertainment programs like miniseries, sitcoms, television feature films continue to shoot on 35mm film or super 16mm film, edit on computer systems, and transfer the final copy to videotape. In more and more cases the film originals are not "conformed" but "edit decision lists" are retained so that in theory at least the films can be subsequently edited to match the final production; in practice, the television producers rarely edit the original film. A gradual shift to original videotape production for prime-time programs is taking place.

Ampex's introduction of a practical videotape system in 1956 should not be taken too literally as a clear demarcation between the era of film and that of videotape. Film as kinescopes continued to play a vital role until the early 1970's when the cheaper, more convenient 3/4-inch video cassette sparked the real beginning of the end of film in the world of television. The Bluem report indicated that for the period 1948-1951, NBC had accumulated 1,270 kinescopes and by 1970 there were almost 17,000. NBC later donated these programs to the Library of Congress. 2-inch tape was used relatively sparingly to record programs permanently and was often then erased and recycled for broadcast.

Film continued to be used in news and documentary production. The most popular format from about 1950 to the mid-sixties was 16mm black-and-white news films in an original negative composite sound format. 16mm color reversal film was used in news production well into the 1970's, primarily, Ektachrome in combination with magnetic sound stripe or a separate full-coat magnetic sound track.

Film as an original recording medium is still the format of

choice in many instances where it is necessary to reproduce scenes with high contrast ratios and render greater detail than is possible with video.(8) In sum, film continued to be used as a regular part of television production side by side with videotape, and thus much of the early period that survives, above all in news, has been recorded on film.

(2) Preservation problems

The archival issues central to the preservation of American motion picture film have been discussed in the Library of Congress's earlier report, *Film Preservation 1993: A Study of the Current State of American Film Preservation*, 4 vols. (Washington: Government Printing Office, 1993). This report described three overriding preservation concerns: nitrocellulose film, cellulose acetate film deterioration, and the impermanence of color film. The first major preservation concern can be dismissed, because, happily, nitrate film, a chemically unstable and highly inflammable film stock last manufactured by Eastman Kodak in 1951, had little or no impact on television. Nevertheless, acetate deterioration and the impermanence of color film are germane to any discussion about the preservation of television film materials.

a. Acetate film deterioration

Extant television film consists primarily of safety-based cellulose triacetate or earlier forms of cellulose acetate with lower acetyl content that continued to be manufactured in a 16mm format into the 1960's. Film workers often confused hypo staining or the result of excessive sodium thiosulfate with film deterioration. But film archives have been aware of the potential deterioration of this class of acetate-based film since 1987, and subsequent studies have clarified the roles of temperature, moisture or humidity, air pollutants, and various types of containers in causing or accelerating acetate deterioration. In archival parlance, this deterioration has become known as the "vinegar syndrome," due to the emanation of acetic gases that produce the familiar odor of household vinegar. Film with a history of poor storage conditions is especially vulnerable to the onset of vinegar syndrome.(9) As a support base material, polyester or PET (which not incidentally is the substrate for videotape) has proven to be more impervious to adverse ambient storage conditions.

b. Color film

The Library of Congress report also discussed the instability or dye-fading of color film emulsions.(10) This is pertinent to television news film primarily from the late 1960's through the 1970's, even later for documentary production, and to prime-time programs made by the major studios. Whereas the major studios used Eastman color negative, starting in 1966-67, news broadcasters used Kodak's Ektachrome film, a color reversal film even less stable than the Eastman color which was the main target of Martin Scorsese's criticism toward the end of the 1970's. In response to this very public criticism from directors and archivists, Kodak in the early 1980's introduced its line of "low fade" emulsions with improved color-dye stability, but there is no evidence that broadcasters took advantage of this more expensive stock. Color film from the 1960's and 1970's that has not been placed in cold storage is probably already faded beyond 30%. As the least stable, yellow dye is first to fade beyond recovery.

(3) Cold Storage

What acetate film deterioration and color-dye fading have in common is the need for cool and dry storage conditions that decelerate the chemical changes that ultimately destroy the film base and image. Accordingly, the Library of Congress in a subsequent report recommended "the improvement of storage conditions as the cornerstone of national film preservation policy and an integral part of federal funding programs."(11) The American National Standards Institute (ANSI) maximum extended-term storage standards for silver-gelatin black-and-white and color film are: 70°F/20-30% RH; and 35°F/20-30% RH, respectively.(12) Yet few of the public archives that responded to the storage survey carried out in conjunction with this report have long-term storage facilities that meet this standard. For the most part, the networks have inadequate cold storage facilities for their color film. The major studios and several public archives have storage facilities meeting or exceeding this standard, with some exceptions.

Even if these goals are not met, research by the Image Permanence Institute and Eastman Kodak demonstrates that lowering temperature and relative humidity by as little as ten degrees and 10% RH can increase film life expectancy and color stability by many years.(13) Providing good storage conditions, while not entirely a panacea, is the single most important step an archives can undertake to protect its holdings.

(4) Other Preservation Problems

There are other preservation problems associated with television film archives that make the prospect of long-term survival problematic at best.

Black-and-white and Ektachrome reversal emulsions, rarely employed by the major studios, were widely used in television news and documentary production, and they are less stable than negative/positive emulsions. Moreover, due to the immediacy of broadcast deadlines, the chemical processing of these films was seldom carried out according to the manufacturer's specifications; film was improperly washed leaving excess amounts of residual hypo, which stains the film's surface and increases the rate of color-dye fading.

Film sound poses a problem for television preservation because of the widespread use of magnetic sound on film, which was never copied to optical sound. Many television documentaries shot and edited on film were directly transferred to videotape for broadcast; the preprint exists as film negative or original reversal accompanied by a separate magnetic sound track, unfortunately often stored in the same can. A magnetic stripe sound track on Ektachrome is essentially a thin coating of ferrous oxide. Over the years the oxide peels or separates from the film base. In separate tracks, striped or full coat, the same process can be observed. Moreover, a study by Manchester Polytechnic in the United Kingdom indicates that as the film sound track ages, the oxide gases act as a catalyst in the process of acetate deterioration.(14) Copying separate magnetic sound tracks has understandably become a priority at the major studios, but not at other archives that cannot afford to make the transfers. The existence of separate sound tracks poses an extra equipment burden on the smaller archives, because working with them requires the purchase of more expensive and technically

sophisticated double-system editing machines.

In addition to the above concerns, television news film collections invariably consist of poorly arranged numerous short rolls of 16mm film. For broadcasters, films in this state of disrepair were too difficult to access and certainly too difficult to integrate with ENG techniques and procedures. This is one of the main reasons why broadcasters decided to dump their news film files or donate them to a public archives. To bring these rolls under archival control it is necessary to devote thousands of work hours to such activities as arrangement, inspection, splicing, repairing, and cleaning. Few local television news archives are sufficiently staffed to carry out this necessary but painstaking work.(15)

For these reasons, then, motion picture film represents an integral part of the television and video heritage with its own array of physical vulnerabilities and preservation priorities. Whether in public or corporate archives, most television collections consist of film and videotape which have little in common physically and technically save for their ability to record moving images and sound.

(B) VIDEOTAPE RECORDINGS

(1) General Introduction

Videotape, as Librarian of Congress James H. Billington said at the first public hearing, has proved to be both a blessing and a curse. Unfortunately there isn't enough space in this report to describe all the ways videotape has benefited American civilization in science, education, entertainment, industry, government, and culture. Film served as video's predecessor since the turn of the century, leaving a enormous legacy of American life and culture despite extensive losses in the wake of deterioration, disasters, neglect, and indifference; regrettably, a continuing process to this day. In comparison with video, though, the use of the film camera or projector was always a special event. Film never achieved the ubiquity of videotape, the ever-present ability to record almost every facet our society in a fixed and tangible form, cheaply and conveniently if one desired, or as extravagantly as the latest technology allowed. The possibilities are essentially without limit.

Whether by design or default, the collective memory of our precious images has been entrusted to videotape for some forty years, 1956-1996. But videotape was never engineered to be a permanent record, and no professional society recognizes it as a permanent recording medium. Next to nitrocellulose film, videotape is probably the next best medium for a society which did not wish to be reminded of its past. Prolonging the life of videotape is a complex task dependent upon numerous variables, some of which are beyond the archives's control.

Having completed several intermittent years of research and development, Ampex in 1956 demonstrated its Mark series of videotape recorders for CBS broadcast executives, and in less than one year Ampex was overwhelmed with orders. The first broadcast utilizing videotape occurred on November 30, 1956, when CBS Television City in Los Angeles re-broadcast "Douglas Edwards and the News" from New York.(16)

Well before the years of the silicon chip, the first recorders were free-standing boxes about the size of a washer and

dryer. The player/recorders were designed to transport large open reels of 2-inch-wide magnetic tape that weighed as much as 25 pounds and operated at speeds of 15 inches per second. Due to its expense and technical complexity, 2-inch recording had little impact outside the broadcast industry. For the first few years, players were not even compatible with one another, further localizing use.

(2) Basic composition

Videotape is a layered product composed of a number of different elements.⁽¹⁷⁾ Although the first audio tapes were acetate-based, the underlying support of videotapes consists of a fairly durable polyester film (polyethylene terephthalate (PET)). A back coating added to professional tapes eases transport through the tape drives and improves overall reliability. The magnetic particles, iron oxide or chromium dioxide, are contained in a polyurethane binder coated to the film substrate. The binder is a complex compound including many different elements such as lubricants, dispersing agents, resin-type materials, plasticizers, anti-static agents, protective additives, wetting agents, polymers, and adhesives.⁽¹⁸⁾ The exact formulations are closely guarded secrets which vary from one manufacturer to another. Moreover, since there are no industry standards for the formulation of videotape the chemical composition of newly manufactured tape is subject to change at any time.

With the introduction of digital videotape in 1987, the industry has shifted to a metal particle tape because it can retain far more data than oxide tape.⁽¹⁹⁾ Barrium ferrite is also available for some advanced applications.

(3) Deterioration and obsolescence

Many things can go wrong with videotape that will prevent completely successful playback or, in the worst case, result in catastrophic failure. Causes are often traced to careless or indifferent handling or poorly maintained equipment, in other words, problems that can be corrected through training and implementing more appropriate procedures.

These problems, however, pale in comparison to the overarching issues of inherent deterioration and technological obsolescence of video formats and their related equipment. These are fundamental concerns for archives that make the preservation of videotape far into the next century a difficult and perhaps unattainable goal; however, a carefully managed plan with sufficient financial support can minimize potential losses to the American television and video heritage.

Although an electronic medium, videotape possesses a physical dimension that makes it vulnerable to deterioration. Its physical properties consist of organic materials that degrade under the influences of heat, moisture, and pollutant gases. In archives, control of storage conditions has, rightfully, become a core strategy to prolong the life of videotape. As an electronic medium, the manufacture of videotape follows the dictates of the market place with its demands for cost-effective, smaller, and higher performance formats, improvements that may lack any relationship to longevity. As video production formats, 2-inch quadraplex and 3/4-inch U-matic were viable for about 15 years; now formats seem to change every four or five years with a bewildering array of

incompatible options. Given the rate of technological evolution since 1956, a clear consensus exists among archivists and technical experts that the real problem of video preservation is how to cope with technological obsolescence. This phenomenon has reached acute proportions in respect of the copying of 2-inch tapes and open-reel 1/2-inch EIAJ tapes, for which it is already difficult to locate and maintain appropriate equipment and technicians experienced with these formats.

(4) Longevity of the magnetic signal

From an archival standpoint one of the comforting features of videotape is its relatively stable magnetic signal. Most problems attributed to videotape are physical rather than electronic. Modern magnetic coatings, according to guidance from the 3M Company, can retain the recorded information for an indefinite period of time unless altered by erasure or re-recording or removed by a magnetic field.(20) The coating's coercivity or its power to resist demagnetization has steadily increased with the introduction of new formats. Extreme heat, however, basically from a fire, can demagnetize tape.(21) Magnetic performance is not really an issue under most storage conditions.

Factored over many years, however, the particles will begin to demagnetize. Referring to metal particle videotape, one Ampex vice president estimated it would take some 90 years under normal storage conditions before losing sufficient magnetization that would create noticeable degradation.(22)

Destruction from stray magnetic fields on the order of magnitude needed to alter videotapes is unlikely to be found in archives. The gauss output of most electric motors is too small to pose a danger.(23) Nonetheless, as a precaution it is advisable not to store tapes near motors.

Tape's ability to be erased and re-recorded is a genuine concern. This can happen accidentally or deliberately by the flip of a switch unless procedural safeguards are enforced.

(5) Chemical stability of videotape

As videotape ages, it begins to break down chemically until it reaches a point where it is no longer capable of being tracked for satisfactory playback and transfer to another format. How and when this occurs depend on several factors, the most important being time in storage and exposure to heat, atmospheric moisture, and pollutant gases. The earliest videotapes, lacking protective cassette housings, are the most vulnerable to damage and deterioration.

The chemical breakdown of videotape binders due to hydrolysis has been well documented.(24) The binder's hygroscopic tendency to absorb atmospheric moisture releases acids and alcohol, products or catalysts that hasten the tape's destruction. Aged tapes are more hygroscopic than newer tapes. Elevated humidity in combination with warm temperatures accelerates the process while drier and cooler conditions slow it down. Videotapes kept in hot and humid climates have little chance of long-term survival unless placed in carefully controlled storage conditions. Hydrolysis weakens the binder causing oxide shedding, dropouts, and the eventual loss of the tape through severe degradation.(25) Peeling oxide and the

evaporation and migration of lubricants in the form of white crystal powder causes tracking problems and leads to magnetic head clogging. The National Media Lab's work on instrumentation data tape, 1978-1981, for EROS (Earth Resources Observations Systems) is a good illustration of the sticky tape syndrome. All tapes were capable of being reproduced after very slow baking at 130 degrees F, however.

When the tape was run on a tape transport or winder/cleaner, the heat of friction melted the tape coating components. Adhesive in nature, these components collected on the stationary elements in the tape path, such as magnetic tape drive heads, tape guides, and wiping stations. When the tape motion stopped the material cooled and "stuck" to the stationary elements, stopping the ply of tape and damaging the tape and the tape transport.(26)

High humidity--besides increasing the rate of moisture absorption and binder deterioration--has other deleterious consequences. It can cause further damage by increasing tape pack stresses, distortion, tightness, and dropouts from debris and exudations.(27) High humidity results in clogging, sticky shed syndrome or "stiction," scoring, and head wear. One tape can contaminate another if machines are not carefully cleaned between plays. In combination with warm temperatures, high humidity will encourage the growth of fungus which attacks the organic compounds in the tape's binder.

Condensation on the tape edge causes "spot hydrolysis," gluing the edges together and causing the tape to tear if played in this condition without treatment, especially in the newer and thinner tapes.(28)

High temperatures can also cause damage such as increased tape tightness, pressure, distortion, dropouts from wound in debris, layer to layer adhesion, changes in dimensions, all of which promote tracking errors. High temperatures will also have a tendency to separate the substrate from the backing since they shrink at different rates.(29)

(6) Air pollutants

Traces of acid produced by air pollution accelerate hydrolysis. Sulphur dioxide, according to NIST, forms strong acids in humid air.(30) Other common gases are nitrogen dioxide, ozone, acetic acid, and formaldehyde. Videotape restorers see the worst damage stemming from hostile storage environments

(7) Common magnetic pigments and tape longevity

The most common magnetic pigments are iron oxide, metal particle, and evaporated metal, each differing in stability; chromium dioxide has been used less frequently. Iron oxide and cobalt-modified iron oxide are the most stable, but metal tapes have the ability to record a higher signal output, a capability which makes them desirable for improved professional performance and greater packing or concentration of data. The single homogenous metal alloy evaporated on to the substrate in 8mm formats consists of a very thin magnetic coating that is not very durable.(31)

In 1991 Sony's best estimate of longevity for these materials

was about 15 years. 3M indicated that its research was consistent with Sony's. Maxell declined to predict any life expectancy for its tape products, and a TDK representative indicated he knew of no published data on tape life expectancy by his company, BASF, and that 15 years was a good guess.(32) Evidently manufacturers have been reluctant to provide any assurance for the extended life expectancy of their videotape products. Since the first metal particle pigments were unsatisfactory, several tape manufacturers collaborated in laying to rest nagging concerns about the durability of D-2, a metal particle tape that has become the principal recording format for the broadcast industry since its introduction in 1988. Tests indicated a 14-year minimum durability of the pigment before serious signal loss could occur under average conditions; basically, a computer environment.(33) Sony plotted much longer durability for the pigment; 24 years for one type and 96 years for another.(34) It is important to note that these tests relate to the pigment or coating stability, and do not solve the problem of binder hydrolysis. Any tape, regardless of coating, can potentially turn into a sticky goo in extended storage at elevated temperatures and humidities.(35) In recent years most manufacturers have changed to more stable binders, but comparisons remain difficult if not impossible. Tape manufacturers will not divulge the composition of binders or pigments.(36)

(8) Other problems

Videotape is associated with a host of other problems that can interfere with playback and result in the tape's utter destruction.

a. Edge Damage

One of the most common problems is tape edge damage typically caused by misaligned transports. Physical damage (stretching, nicks, and dents, etc.) cause mistracking as the tape moves through the guide paths.

b. Shedding

In addition to the shedding that results from chemical breakdown, shedding can be caused by poorly maintained equipment. Many tapes manufactured up to the early 1970's are notorious for their shedding due to difficulties inherent in the relatively weak bond between the binder and the substrate. By 1970 3M, Ampex, and Memorex had developed more reliable techniques for binding the magnetic layer to the polyester base.(37) The shedding seen in later tapes is the result of binder breakdown or poor operating conditions. Nonetheless, the older tapes are larger and they shed more. A one-hour 2-inch Quad tape has 108,000 square inches; a one hour 1/2 inch VHS at standard speed has only 2,360 square inches.(38) The older tapes were designed for more tape-to-head contact and thus produced more friction.

c. Fungus

Contamination of videotape by fungus or mildew is fairly common. Warm and humid conditions encourage fungus, which attacks the organic materials in the binder. Tapes or cassettes exposed to water or moisture from floods or sprinklers are prone to fungus, especially if moisture becomes trapped inside the cassette.

d. Dirt

Dirt and other debris can destroy a tape or impede its ability to be tracked. Dirt from any source can become embedded in the binder emulsion. Static electricity will attract dirt. Evidently dirt is all pervasive, and like motion pictures, restorers recommend cleaning all tapes before re-mastering if they have a history of poor storage conditions or have detectable signs of deterioration. Foreign broadcast archives that have done a lot of 2-inch copying, routinely clean all 2-inch tapes before copying rather than risk damage to expensive and hard-to-replace magnetic heads.

e. Containers

Little research has been conducted on containers or cassettes for videotape, but they are also a factor in longevity. Open-reel recordings are far more vulnerable to damage than those protected by cassettes. Some cassette housings are not dust proof in the locked position. Many are made from relatively inert polyethylene, but some are fabricated from recycled plastics with high acid content which can distort at high temperatures. Interior components can degrade, such as springs and rubber materials from the moisture trapped inside. Hinges can wear out. Standard VHS cassettes contain more than 30 parts in assembly. In a pilot study, NIST observed that many cassettes showed mechanical problems after accelerated aging or after five years of natural aging.(39) As for the worst cases, sleeves and cassettes can be changed but not without increasing the cost of preservation and processing.(40) A damaged cassette, if not detected, can result in irreparable tape damage.

(9) Storage

As John Van Bogart has pointed out, earlier storage guidelines for videotape were a compromise to allow playback, and not ideal for preservation.(41) Significant differences between playback and storage areas require videotape to acclimate before it can be played, but complete re-humidification or re-moisturizing can take days or even weeks depending upon the size of the tape, though such extreme measures are rarely employed. Temperature equilibration can take place after several hours. Failure to allow sufficient warm up time can result in undetected condensation on the tape edge, while failure to re-moisturize causes stress in the tape backcoat. Recommendations for the long-term storage of videotape are moving toward cooler and drier conditions, which although not unreasonably low, are unavailable to many archives.

The storage issue represents something of a dichotomy between broadcasters and archives. On one side, broadcasters who need fairly quick access to the materials have said low-humidity storage is a waste of money because the technology that supports the videotape format will be obsolete in only a few years, and that the money would be better spent on re-formatting rather than constructing and maintaining expensive storage conditions. On the other side, archivists have argued that we have insufficient funding for re-formatting, we are uncertain about the new formats, and our goal is to safeguard and preserve the original videotape as long as possible because it is all that exists. Unfortunately there are no easy answers for the questions this issue raises. Few dispute the likelihood that videotape will outlast the equipment intended for playback. Archivists can only compromise based on an understanding of the benefits of storage at specific stages, measured against format obsolescence and projected resources for re-formatting copies. Film archivists can consult the

Image Permanence Institute Storage Guide, but no comparable guide is yet available for videotape.

Table 1: Videotape Storage Recommendations

| Source | Temperature (F) | Relative Humidity(RH) |
|--|-----------------|----------------------------|
| National Archives and Records Administration (NARA) | 65 | 30% |
| National Institute of Standards and Technology Report (for NARA) | | 30-40% |
| SMPTE RP103 (draft version) | 63+/-4 | 30%+/-5 |
| ANSI, IT/9, 1996 version | 68 59 50 | 20-30% 20-40% 20-50% |
| Ampex(42) | 68 | 30% |
| Peter Adelstein, IPI(43) | 50 | 20-30% |

(10) Shelving

Metal shelving, widely used for storing videotape, does not appear to be a problem provided the shelves are properly grounded. Certain paints and finishes may be a problem if they continue to off gas after tapes have been shelved. Wood is not acceptable for archival storage of videotape because of acid vapors emitted from wood or wood finishes. In addition, wood shelves are a factor in spreading flames in a fire emergency.

(11) Security and Fire Protection

Security is the first line of defense for the protection of archival holdings--as a means to safeguard against theft and other unauthorized access. Almost all the respondents to the survey reported the availability of secure vaults or buildings; some even had 24-hour guards.

Like most archival materials, videotapes are susceptible to water damage from fire emergencies and sprinkler accidents. Many fire protection systems, therefore, have dry-pipe sprinklers with heat-activated sensors that provide good fire protection but localize the effects of water spray. Some fire protection systems employ Halon gas or other gaseous agents which at least eliminate potential water damage from sprinkler accidents.(44) Water damage frequently occurs from basement floods and from storage areas located in a flood plain. Additional security protection can be obtained by storing multiple copies in different locations. However, only the major studios and very few public archives have been able to practice a policy of "strategic dispersal" on a geographic scale.

(12) Copying, Transferring and Restoration

It bears repeating that imperfections develop in magnetic tape primarily from inherent deficiencies such as poor layer adhesion in the early formulations, from the ravages of poor storage conditions, and from physical problems such as creases, edge damage, poor winds, and embedded dirt. Dirt is all pervasive, observed one video restorer. "There is

sufficient debris on every single tape we have examined to interfere with some degree of signal retrieval."(45) To a great extent and depending upon the degree of damage, a certain amount of recovery is possible. To be sure, the techniques used for recovery, some of which are proprietary, are designed to allow successful playback in order to be able to re-record the damaged original. They do not necessarily extend the life of the original videotape. Some techniques even accelerate its destruction.

It is important to distinguish between copying, transferring and restoration. Copying is the straightforward dubbing or duplication of a tape, as in making a reference copy for routine use or to service another format. Transferring, re-mastering, or re-formatting involves converting the original to an updated format. Restoration implies a deliberate effort to make a complete and error-free copy from the best available original, minimizing all imperfections, while transferring the tape to a new copy. Cleaning the tape beforehand is part of restoration. In theory, digital technology allows some improvement even beyond the original through error-correction and signal enhancement. Generally restoration entails time-consuming and painstaking steps, which drive up the cost of preservation.

A system of triage is necessary in order to establish priorities for copying, restoration, and maintenance. The overall priorities in common use are (1) obsolete formats, which will be discussed in more detail below; and (2) unique or single copies. For other archives, priorities might be determined from a physical examination of representative tapes.

Physical inspection includes a more or less automated or manual evaluation of the tape, examining for imperfections visible to the laboratory technician such as exudations of white crystal powder, shedding, stiction, scratches, or fungus and deformities in the tape pack such as creases, cracking, stretching, uneven wind, or edge damage. Some of the physical defects such as edge damage, wrinkles, and creases can be identified through the use of electronic cleaning/inspection machines. These machines will also measure dropout according to preset standards. In reality these machines are both inspectors and cleaners, designed for use with pre-recorded tape. They are designed to remove dirt, dust and loose particles that cause dropouts. Most of the machinery is aimed at the video cassette rental industry or at broadcasters who recycle and re-record tapes. The value in an archival setting is not apparent. Indeed the wrong application of an automatic cleaning or burnishing device to remove loose oxide, particularly to a creased tape, can have disastrous consequences.(46)

Video restoration labs have developed sophisticated techniques for removing or minimizing the effects of tape faults. Archives have little objective guidance on the evaluation of these techniques and equipment since they are proprietary. In comparison to film archives where basic repairs and cleaning can be done within the archives, public archives depend on outside vendors if they have sufficient funding.

Before transferring, the cleaning of the tape's loose oxide and other debris is necessary. Most of this is accomplished with cleaning blades or burnishing points or dry paper wipes or even washing with water. One innovative archives devised its own 1/2-inch cleaner by attaching a microscreen shaver and vacuum pump to clean the recording as it played for re-

recording.(47) Another technique used in the worst circumstances is that of baking the tape at relatively low baking temperatures for several hours or longer; the temperature of the tape must be ramped up and down at a slow rate. This serves the purpose of fixing the loose oxide so that successful playback can be accomplished. None of these techniques yields permanent results; tape deterioration will still continue.

The use of Time Base Correctors (TBC) will tend to compensate for many of the video signal problems in transferring or re-formatting tapes. Unfortunately some of the earliest open-reel tapes had nonstandard signals where TBC's will not provide much assistance.(48) In such cases copying from the earliest generation will be extremely important.

For the foreseeable future copying of videotape for re-formatting or re-mastering will be done in "real time"--i.e., the recording time--plus the time for set up and quality assurance. A ratio of 1.5 to 2.0 work hours to every 1.0 hour of recorded time is not unreasonable. Two or three recording stations could be operated simultaneously though it implies some reduction in quality assurance. For 1-hour, 2-inch tapes, 2.0 to 3.0 hours are generally needed.(49) On such conversion projects both digital and analog copies have been made. High speed video duplicators--four brands available at last count--were engineered for the video duplication industry and not the studio or broadcast industry. The copies are accomplished by means of "contact printing," in which the oxides are placed in contact and a transfer takes place from a mirror master.(50) Archives having thousands of hours of original video recordings can only be discouraged by the overwhelming prospect of re-formatting obsolete videotape formats.

Another dimension of restoration is aesthetic or ethical. Digital technology allows such an extensive manipulation of original images in terms of content, image and sound values, colorization, and signal enhancement that the archivist's ideal of preserving the aesthetic or documentary integrity of originals can be lost if sufficient safeguards and standards are not implemented. In addition, converting an analog tape to digital can modify the original image in unexpected ways, such as toning and softening details and the appearance of image artifacts.

(13) Rewinding

The periodic rewinding of videotape as part of an archival maintenance program (although accepted in principle) is generally ignored in practice as too time consuming and labor intensive. The reasons for rewinding are basically to relieve stress in the tape pack in order to prevent deformities such as layer-to-layer adhesion ("blocking"), and pack slippage ("wavy pack"), and print through. The backcoating helps to minimize such deformities in storage. Cooler temperatures and lower RH help to reduce the need for period rewinding. Thus backcoated tapes in good storage conditions, according to Jim Wheeler, should be rewound every ten years.(51)

(14) Major Formats for Archives

From 1956 to the present more than 100 fundamentally incompatible video formats have been introduced into the market place.(52) (See Appendix J) From an archival viewpoint, it is fortunate that only about a dozen were or

continue to be viable commercially.

More than a dozen formats alone were introduced for the industrial and educational markets such as CBS's short-lived Electron Video Recording system which utilized a filmed-based color video cartridge. Other failed formats include Cartrivision or Cartridge Television, Selectavision, Kodak Supermatic Video, and, though a well engineered product, the infamous Betamax.(53) Except in very specialized collections, these short-lived formats are not expected to have much of an impact on archives.

The formats of greatest archival concern are those that were the most popular from 1956 to 1996 in broadcasting, industry/education, government, and the consumer markets. These formats are listed below.

Table 3: Selected Analog Videotape Formats*

| Format | Coating | Nominal | Width | Major Market |
|-----------------------|--|----------|----------|---|
| 2-inch | Iron oxide | 1.4 mil | 2-inch | Broadcasters/Studios |
| 1/2-inch open reel | Iron oxide | | 1/2-inch | Independent Production |
| 1-inch Type A | Iron oxide | | 1-inch | Government/Studios |
| 3/4-inch U-matic | Cobalt- modified iron oxide | 1.1 mil | 3/4-inch | ENG/Independent Production |
| 3/4- Umatic SP | Cobalt- modified iron oxide | 1.5 mil | 3/4-inch | ENG/Independent Production |
| Beta | | | 1/2-inch | Consumer |
| Betacam | Cobalt- modified iron oxide, chromium dioxide | 0.8 mil | 1/2-inch | ENG/Independent Production/Government |
| Betacam SP | Metal particle | 0.55 mil | 1/2-inch | ENG/Independent Production |
| M-II | Metal particle | 0.55 mil | 1/2-inch | ENG/Broadcasting |
| 1-inch Type C | Cobalt- modified oxide | 1.1 mil | 1-inch | Broadcasting/Studios |
| 8mm, Hi8 | Metal particle, Evaporated metal | 0.8 mil | 8mm | Consumers/ENG/Government/ Independent Production |
| VHS | Cobalt- modified oxide, chromium dioxide | 0.8 mil | 1/2-inch | Consumers/Government |

S-VHS Cobalt- 0.8 mil 1/2-inch Independent Production/ENG
 modified
 oxide

*In addition to the NTSC versions, there are also PAL and Secam versions, though these are less likely to be found in American public archives.

Granted this listing may be considered arbitrary, but these formats represent the most commonly used gauges and probably represent more than 95% of the analog videotapes recorded in the last 40 years that need to be preserved. Each was manufactured for a particular segment of the market place. It wasn't the format itself that limited its use but the cost, complexity, and size of its ancillary equipment.

Since two-inch tape was designed for broadcasters, there was little use of 2-inch tape outside the broadcast industry. Even the Department of the Defense and the U.S. Information Agency employed it on a relatively limited basis for original video productions. Moreover, 2-inch was basically a studio format rather than one that could be used conveniently for shooting in the field. Cameras still had to be tethered to relatively large recorders.

Sony's 1/2-inch EIAJ open-reel videotape introduced in 1969 was marketed as a consumer format. However, it quickly found a niche in education and among community activist groups and video artists. It was the first time that such groups had cheap and convenient access to video recording technology. Using port-a-packs, they pioneered the use of portable video for news and documentary production and paved the way to ENG (Electronic News Gathering).

The 3/4-inch, U-matic format, made available in the early 1970's, spread the video revolution even further by making professional quality videotape recording economically accessible to a wide spectrum of users, including broadcasters who used it for ENG and for recording complete programs; it was used by industry and government for a myriad of purposes; and by documentary groups and video artists. Refinements in tape composition, cameras, recorders, and editing equipment helped to maintain the format's viability as a production medium for almost 15 years. Although no longer used as a production medium, there are hundreds of thousands of U-matic cassettes stored in a variety of organizations throughout the nation. The continued availability of players seems assured for some years to come, though much of the ancillary production equipment is no longer manufactured.

As the first high-quality videotape recorder, one-inch Type C developed jointly by Ampex and Sony and marketed in 1978 became the mainstay of the studio recording industry, replacing the two-inch format and several other short-lived one-inch formats. This format was used as a studio format to record complete programs for later broadcast or reuse.

Sony's Betacam, and its subsequent SP version, has grown in popularity since the late 1980's. They essentially replaced 3/4-inch U-matic in ENG and documentary production because of their comparatively superior resolution. However, the relatively high cost of Betacam equipment discouraged use outside the broadcast industry. CBS News and ABC News adopted Betacam as a uniform format as did many local television stations throughout the United States. NBC News adopted Matsushita's M-II format, which was Betacam's main competitor,

but subsequently switched to Betacam SP. NBC has recently adopted the use of Panasonic's D-3 format, also developed by Matsushita.

The dominant consumer format since the late 1970's was 1/2-inch VHS, and since 1990 it has had competition from 8mm or Hi-8 formats composed of metal particle or evaporated metal pigments. VHS and Hi-8 nonetheless gave individuals the opportunity to record the world around them, including the most important events in their lives such as weddings, family vacations, and the occasional unanticipated news event. VHS and Hi-8 have also been used for scientific and ethnographic research. It is difficult to describe all the potential uses just as it is difficult if not impossible to estimate their number or how many consumer-produced videotapes might possess sufficient value to warrant preservation in an archives. Never intended as a production format, VHS is satisfactory for viewing purposes but the image resolution significantly degrades when copied to another generation. S-VHS format and its equipment at three or four times the price provide superior resolution thanks to its fine grain ferrous oxide binder. It is worth noting that S-VHS and Hi-8 have obliterated distinctions between consumer and professional formats, chiefly because they deliver high resolution with relatively moderate equipment costs. For example, military camera operators routinely use S-VHS and Hi-8 in their activities. CNN and CBS News employed the Hi-8 format in their coverage of the Gulf War. Further, in 1992 the Fox Broadcasting Company made a policy decision to use S-VHS for its ENG operations, affecting some 150 stations.(54) For many professional uses Hi-8 is typically "bumped" up to a standard professional copy for editing and retention.(55) Television news organizations that had previously used Hi-8 (e.g., Video News International) are now beginning to switch to professional/consumer digital formats.

Until now in this survey of common formats, 1956-96, the video signal systems all have been analog. The television industry is presently in the process of converting to digital recording and production systems. Among the advantages of digital recording are higher resolutions, error measurement and correction, the ability to record--or clone, as it were--copies without generational loss, and, for postproduction, nonlinear editing. Two digital recording formats have been available to the industry since the late 1980's, D-1 and D-2. D-1, an iron oxide tape, has been primarily used for postproduction; major studios retain long-form programs in D-1, an expensive format beyond the means of public archives. The D-2 format was an appropriate vehicle to ease the transition from analog to digital, because it is compatible with some analog systems and thus did not require a complete and expensive studio equipment change. D-2 has been used extensively to record and save completed programs by producers and studios.(56) First generations of Sony's D-1 and D-2 equipment are already obsolete in production environments. Matsushita's D-3, based on a 1/2-inch format, lends itself to studio recording, because its resolution exceeds D-2's and is portable for ENG.(57)

The last few years have seen the introduction of a plethora of new video formats, including D-5, D-6, DCT, Digital Betacam, DV, DVC, and Digital-S, and probably several more in the offing.(58) One hopeful sign is the introduction of some compatibility between Panasonic and Sony "prosumer" formats, DVPRO and DVCAM.(59)

Table 4: Digital Videotape Formats

| Format | Signal | Coating | Nominal | Width | Major Users |
|--------------------------|-------------------------|----------------|----------|----------|---|
| D-1 | Component (Sony) | Iron oxide | 0.5-0.6 | 3/4-inch | Studios |
| D-2 | Composite | Metal Particle | 0.5 | 3/4-inch | Studios/ Broadcasting/ Government |
| D-3 | Composite | Metal Particle | 0.4-0.55 | 1/2-inch | Broadcasting/ENG |
| D-5 | Component | Metal Particle | 0.43 | 1/2-inch | Studios/Production |
| D-6* | Component | Metal Particle | 0.54 | 1-inch | HDTV |
| DCT | Component compressed | Metal Particle | 0.5 | 3/4-inch | Studios |
| BetacamSX | Component compressed | Metal Particle | 0.57 | 1/2-inch | Broadcasting |
| Digital Betacam | Component compressed | Metal Particle | 0.54 | 1/2-inch | Broadcasting/ENG |
| Digital-S | Component compressed | Metal Particle | 0.57 | 1/2-inch | ENG/ Independent Prod. |
| DVCAM | Component compressed | Metal Particle | 0.33 | 1/4-inch | Consumers/ENG/ Independent Prod. |
| DVC/ DVCPRO (D-7*) | Compressed | Metal Particle | 0.33 | 1/4-inch | Consumers-DVC/ ENG/Ind. Prod. |

* Not yet SMPTE official designations

This overview of videotape formats suggests several trends taking place. One is the move toward compactness and reduced tape consumption in newer formats.(60) Another is the use of thinner tapes. For example, D-2 videotape is about half the thickness of 1-inch type C. Thinner tape is more vulnerable to physical damage. There is also a trend toward more densely packed recording tracks. Video compression is also a hallmark of some of the newer formats, e.g. DCT, Digital Betacam, and DVC. New formats are being introduced with more frequency and presumably will have a shorter period of commercial viability. Cheaper products as measured by performance and equipment costs are driving out the more expensive ones following a time-honored law of the market place. Since preservation is not a market-driven issue, industry provides little guidance to archives on the suitability of new formats; some are definitely inappropriate for archiving.

The aging properties of magnetic tape is a field that requires more research. There is no agreed upon system for evaluating tape formats. Adhesion, friction, and hydrolysis have been proposed as physical tests for standard evaluation and accelerated age testing, but Japanese tape manufacturers would not cooperate with industry efforts to create and implement standardized tests. Three American companies who were participating have all but ceased their activities in this area. There are currently no standard methods for determining life expectancies of videotape, making it

difficult if not impossible to compare data from different manufacturers. (61)

(15) Obsolescence as the Key Technical Issue

To ensure retrieval of recorded information in the future, a 3M product memo advised users to pack a tape player, manuals, and schematics along with the tape(62), a theme repeated by several witnesses at the public hearings. Such advice may have been given tongue in cheek, but begs the question of how to cope with evolving technologies and the obsolescence of others, surely a strategic question for industry and archives. For industry it means a considerable investment in re-equipping production and broadcast facilities and re-formatting programs retained for re-broadcast or sale to other markets. These changes closely parallel the choices faced by public archives in their need to ensure that their videotapes can be transferred to new video systems. Although archives are not a leading force in the video market place, they are deeply influenced by trends in format sales and video technology. Archives have no control over the formats they accession or inherit that become problems for the future. But they can exercise some judgment about the formats they use for off-air recording and for re-formatting projects.

The video manufacturers will not support a specific technology beyond its commercial viability. U-matic, a format more than 25 years old, is something of an anomaly due to the sheer number of recorded cassettes that remain in public and private inventories. As the era of 2-inch and 1/2-inch EIAJ has been over for some years, machine parts are no longer manufactured. Transferring these formats has become an understandable priority in archives because the technology is on the verge of extinction. It is difficult to locate players in working condition. Parts must be cannibalized. Transferring has become increasingly a specialized skill.

In order to complete a large 2-inch transfer project, CBS Television City found it necessary to induce some of its retirees to return to work to help in re-formatting. CBS achieved an excellent transfer rate with thousands of tapes that had been stored in less than desirable conditions. They had as many as ten 2-inch players in operation with six others set aside for parts replacement, probably the largest concentration of such equipment available in the United States. Nonetheless, as the project manager observed, the machines are dying, and in three to five years even CBS will not have the capability to transfer large amounts of 2-inch tape. (63)

Some of the short-lived formats from the 1970's and 1980's have been hopelessly beyond recovery for years due to lack of players in working condition. It is important to look at these changes not in isolation but as part of an inevitable trend that will characterize video evolution with more and more frequency.

Re-formatting as a means of converting obsolete videotape holdings poses two major dilemmas for the archival world: the lack of an ideal video format and the growing volume of material to be copied. Beyond the need to go to a digital format to avoid generational loss, absent from the archival field is anything remotely approaching what might be called an ideal format or a "preservation copy." Until an ideal or universal preservation format is introduced, video preservation should be viewed not as a tangible product but a

continuing process aimed at protecting information that can migrate from one technology to another as the need arises. The current merger of video technology and computers suggests that the ideal format in the future may not be videotape but bitstreams of compressed data recorded on disks. It is probable that video programs will have to be copied several times over the next twenty or thirty years if current technological trends continue.

Hovering over obsolescence as a preservation issue is the more prosaic need of large archives to be able to copy tens of thousands of hours of videotape before the supporting technology disappears from the market place. The federal repositories of the Library of Congress and the National Archives and Records Administration have original analog video holdings exceeding 200,000 hours, which will have to be copied to another format early in the next century if the program content is to survive. Other large collections like the Vanderbilt University's Television News Archive and New York Public Library's Dance Collection will face a similar dilemma. Additionally, these are not static collections but growing dramatically in direct proportion to the expansion of video programming brought about by the increase of broadcasting outlets and the other uses of videotape as a form of documentation. If the volume of material continues to exceed archival resources, re-formatting will no doubt become a highly selective process which implicitly risks additional losses to the American television and video heritage.

CHAPTER THREE:

TELEVISION AND VIDEO PRESERVATION

IN CORPORATE AND PUBLIC ARCHIVES

TELEVISION AND VIDEO PRESERVATION IN PRACTICE IN CORPORATE AND PUBLIC ARCHIVES

Corporate:

A. Major Studios

Introduction

Hollywood major studios have produced the vast majority of entertainment programs for the first 45 years of American television history. Seven or eight studios by themselves or in partnership with other companies have produced most prime-time entertainment programs as well as daytime drama series known as "soaps" or "soap operas." To cite a few familiar examples, Sony/Columbia has produced Days of Our Lives, The Young and the Restless, and Maude; Disney has produced numerous television programs directed at children as well as sitcoms such as Home Improvement and Golden Girls; Paramount has been responsible for successful series like All in the Family, Star Trek, and Entertainment Tonight. Through its acquisitions, Turner controls Medical Center, The Man from U.N.C.L.E., C.H.I.P.S., and Gilligan's Island; through subsidiaries, it produces Seinfeld and original feature films for television. While the general public identifies these programs with the networks that broadcast them, the studios in fact produced them, own the underlying rights, and ultimately are responsible for their preservation.

Each of the eight major studios has an assets protection program aimed at preserving extensive inventories of television titles which, like theatrical films, are a continuing source of potential income. Past programs remain the life blood of these corporations. New productions alone are insufficient for economic survival. The studios must be able to recycle their products in syndication and in ever-expanding markets represented by cable outlets, video cassettes sales, and foreign sales. All genres--dramas, sitcoms, thrillers, even old game shows--have sales potential domestically and internationally. Past programs are protected rather than destroyed since they represent the essential underlying and future value of the corporations for forecasting income and for insurance, taxes, and potential sale to another studio or conglomerate. These activities are the driving force behind their efforts to provide good storage conditions, geographical separation of copies for security, and preservation copying. William Humphrey, representing Sony at the Los Angeles public hearings, outlined a position that all the studios could accept--basically, that preservation makes good economic sense.

With the emergence of pay cable, home video, and the demand of programming for international territories, including our new

Sony Entertainment television network in Latin America and India, the ability to service clients is dependent not only on the quality of the product but also on the care and handling of the assets used to create the product. Continued accessibility and exploitation of the library helps us fuel our preservation efforts.

The major studios have preservation/protection programs other organizations might emulate if they had comparable resources and could expect a significant financial return on their investment. For many of the nation's television archives whose value stems from their historical and cultural content, the notion of financial returns is not only remote but tangential to the educational value of their holdings.

Production practices

The use of motion picture film as original source material for entertainment television production occurs frequently owing to film's superior resolution and its ability to capture shades and tones under a variety of lighting conditions. Today 35mm film is primarily used in the production of long-form programs like telefeatures and mini-series. Super 16mm is also employed to save on equipment and film stock costs. Sony/Columbia, for example, requires producers to deliver an original negative, plus a D-1 videotape; for series, it requires an original negative plus a tape with a 16:9 wide screen aspect ratio. Shorter programs, including those produced on speculation, are originated increasingly on videotape.

Regardless of image source, productions are pieced together or created on nonlinear editing systems and then output back to digital videotape. Nonlinear editing systems, such as Avid Technology's, form the basis for electronic editing. Described briefly, nonlinear editing occurs in post-production in which digital videotape is downloaded in increments, commensurate with hard-drive storage capacities; through the use of a computer, images are rapidly and efficiently intermixed or edited along with graphics, optical effects, and sound elements in any order, limited only by one's creativity. Electronic editing has made manual or traditional film editing--with its cumbersome array of splicers, blades, film cement, and bins--a dying art.

The use of videotape for originals and nonlinear editing come to the industry at a time when tremendous pressure exists to keep production costs low. Television advertisers, who basically pay the networks for programs through the purchase of air time for their ads, cannot be taken for granted; there are more outlets than ever fiercely competing for their ad accounts. The economics of television production will therefore gradually minimize the use of motion picture film as the original element in favor of videotape, a more cost-effective production format.

This shift in technology will have profound implications for preserving American entertainment programs originated on film, because, after the video transfers have been made, technology relegates the film original to secondary importance if it does not make it entirely superfluous. The film original is not always edited or conformed to the finished version, something which only exists as a videotape; graphics and optical effects exist only as a datafile output to videotape. In theory, a film version can be reconstructed based upon data contained in the Edit Decision Lists (EDL). But several studios have found that it is too expensive to conform all film originals as a

general practice, especially if the videotape version satisfies future broadcasting and syndication needs. Studios nonetheless plan to store film originals indefinitely in anticipation of a future need to conform them for re-broadcast on advanced television systems. The lynchpin in this strategy is the EDL, a proprietary software-dependent datafile whose physical preservation and future readability cannot be presumed. The studios now seems divided if not ambivalent on the issue of conforming film originals made for television programming.

Preservation policies

The preservation policies from one major studio to another follow similar principles, operations, and standards. The following describes the strategy in general; major digressions or variations are noted.

a. No programs are destroyed as the result of a deliberate decision. In the studios' view, all program formats potentially represent some future revenue source. Accordingly, programs are copied and protected by additional copies but not necessarily to the same degree, as will be explained below.

b. Film-originated programs whose negatives are conformed are protected at a minimum by master positives (b/w) or interpositives (color). In comparison, color feature films made for theaters are also protected by black-and-white silver separations, three separate reels commonly termed YCM's--i.e, for the yellow, cyan, and magenta tints in each separation. A YCM separation costs about \$25,000 for each feature film. The television mini-series *Roots*, produced by Warner Brothers, is probably the only television program protected by YCM's. Studios as a general rule do not make YCM's for television programs. In addition, Color Reversal Internegatives, formerly regarded as protection copies for some television programs, are being converted to interpositives due to doubts about the long-term stability of CRI's. Matching sound track elements are usually protected on multi-track magnetic tape.

c. Film-originated programs whose negatives are not conformed exist as single film copies. The finished version exists as a master videotape and multiple video copies. Along with the EDL, the unconformed negatives are retained indefinitely.

d. Videotape-originated programs are protected by additional videotape copies. MGM's standard policy is to make a D-1 copy and two digital clones; the studio assumes ten years viability for the tapes and plans to recopy them in seven years. D-1 appears to be the format of choice for the most important productions. As for obsolete 2-inch videotapes, the studios combined reported only a relatively small number of uncopied items (approx. 900). Since most 2-inch videotapes were copied some years ago, they were transferred to 1-inch type C, a then state-of-the-art analog videotape. More typical in the last few years as protection copies are D-1, D-2, and Digital Betacam. Fox is using DCT. Turner Entertainment's approach to re-mastering may be the most representative: prior to 1988, 1-inch type C; 1988-1994, D-2; and in recent years D-1, which has been reserved for long-form programs and Digital Betacam for the rest. Turner plans to re-master all tapes older than seven years.

e. Though an analog videotape, 1-inch type C is not

exactly viewed as an obsolete format for a priority conversion program, but such tapes are monitored, evaluated, and copied as necessary for programming reasons or for deficiencies in the original transfers.(64)

f. No studio reported a policy of disposing of originals after copying; they are held indefinitely.

g. Only one studio reported a policy of periodic rewinding of master videotapes for preservation maintenance; as for the rest, the sheer number of items remains too daunting even to contemplate such a policy. Rather, emphasis is placed on periodic re-mastering, good quality control of copies, and appropriate storage conditions.

h. In addition to fairly extensive copying programs, the studios have placed a great deal of emphasis on improved storage conditions as a key part of their preservation strategies and, in the last ten years, have invested considerable funding in building new vaults, refurbishing studio properties for storage, and using contract storage facilities in other parts of the country. Both theatrical films and television materials benefit from proper storage conditions.

Table 5: Studios' Average Storage Conditions

| Company | Film Temp F/RH% | Video Temp F/RH% |
|----------------------|---|--|
| Disney | 55/50% | 65/50% |
| Fox | 34/25% | 65/55% |
| MCA/Universal | 48/45% | 67/40% |
| Paramount | 40/25% | 70/50% |
| | | 50/40% (mine) |
| Sony/Columbia | 40/25-30% (originals) 45/30%(intermediates) | 68/40-50% (originals) 60-70/40-60% (intermediates) |
| Turner Entertainment | 45/40% (originals) 40/40% (interpositives) 68/50% (b/w) | 65/50% |
| Warner Brothers | 35/30% | 68/50% |

I. Another aspect of storage is the geographical dispersal of copies for reasons of security. Originals and protection copies are stored in separate parts of the country. The studios utilize their west coast and east coast facilities, including contract storage in the Los Angeles area like the advanced Pro-tek system operated by Eastman Kodak, and commercial underground storage in Kansas and Pennsylvania. A natural or other disaster in Los Angeles should not catastrophically affect their ability to retrieve high quality copies for continuing commercial use.

Table 6: Some Studio Statistics for Television Materials

Disney 6,500 television programs on 80,000 reels and tapes

| | |
|----------------------|--|
| Fox | 54,000 television programs on 780,000 reels and tapes |
| MCA/Universal | 18,000 (through 1994) television programs on 217,000 reels and tapes |
| Paramount (Viacom) | 8,000 television programs on 1,200,000 reels and tapes |
| Sony/Columbia | 35,000 television programs on 600,000 reels and tapes |
| Turner Entertainment | 20,000 television programs on 337,000 reels and tapes |
| Warner Brothers | 28,000 television programs on 1,000,000 reels and tapes |

Deposit of copies in other archives is not an integral part of their preservation strategy; rather their goal is to remain self-sufficient in controlling quality copies and in their ability to reproduce new ones despite changes in technology. However, copies of programs registered for copyright are deposited in the Library of Congress. Usually these copies consist of 3/4-inch and, even, 1/2-inch video cassettes. Sony deposited 1-inch type C for television features, Disney deposited some air prints if available, and Fox deposited Betacam SP, also if available as an extra.

Studios have retained most of their television script files, some of which have been microfilmed; in the last few years some exist only as computer diskettes, a precarious record format. In addition, Turner Entertainment has created an extensive photo database of production still picture images. Only Disney, however, has a formal research archives, the Walt Disney Archives, where research materials such as publications, stills, annual reports, photographs, and publicity materials, are available to outside researchers.

Supported by their own main-frame computers, the studios have fairly comprehensive database inventories for film and television materials. The title--individual, series, or episode--is the primary point of access. Elaborate data screens describe the myriad components that back up each production. Shelving and movement to and from laboratories are tracked through bar code interfaces. Unfortunately these databases are not too helpful for facilitating subject-matter research such as formal titles and variants, dates, production credits, synopses, etc. The sales and marketing staff have access to this data through lists, old catalogs, and a variety of other finding aids.

Cooperation with Public Archives

The major studios have good records of cooperation with public archives, and, despite periodic changes in ownership and management, there is no reason to doubt that this basic relationship will change. They are usually obliging when archives request copies of particular television programs or permission to exhibit. Studios have noted, however, that public archives have not actively sought many television materials from them or financial assistance for preservation projects, with the exception of the Library of Congress and the Museum of Television and Radio. Sony/Columbia's financial support of the University of Wisconsin's project to convert 2-inch tapes in the David Susskind Collection is a good example of cooperation. Studios recognize and appreciate the research interest in their programs and are content to have those interests served through a public archives rather than through the studios. In fact, research requests received from

individuals are initially referred to the legal departments and responses, if any, are ad hoc.

Concerns have been expressed over the extra costs that may be incurred in making a copy for a public archives if one is not readily available. Copyright is another concern, but not in the sense of copyright abuse or infringement, for the public archives have a good record of enforcement and studios trust public archives to respect their ownership of underlying rights. It follows that transactions based on poor judgment or bad faith will reduce the cooperation public archives receive. Nonetheless, studios are concerned about loss of control of high-quality copies even in public archives for fear that they will be used as masters for broadcast or commercial distribution. Asking for a 1/2-inch videotape or 3/4-inch copy is one thing, while D-1 or D-2 is something else indeed. In the long run, studios will be concerned about quality copies in public archives when the oldest syndicated television programs start to lapse into the public domain several decades from now. On the other hand, a high-quality copy in a public archives offers the studios an additional dimension of protection of their assets. However, the loss of control of broadcast-quality or master material raises questions and is perceived as threatening to the studios as copyright owners.

General Assessment

The preservation of entertainment television programs produced by the major studios has benefitted from its association with the theatrical film industry. Intermixed with theatrical films, they receive the same benefits of comprehensive inventory control, appropriate storage conditions, and strategic dispersal of copies in different geographic locations. In addition, they are a highly visible part of the assets protection programs which aim at securing high-quality protection copies and at updating or re-mastering videotape formats before they become obsolete or difficult to restore. Few organizations outside the major studios could afford to preserve programs in the D-1 format.

The nation's archives and television organizations would do well to be able to emulate the studios' preservation strategies if they were in a financial position to do so. But the studios have a unique economic paradigm that is irrelevant to the nation's public archives and only applicable in part to other television organizations like the networks and public broadcasting. Preservation programs managed by the studios, though relatively recent in origin, are not likely to change because of new owners or management. Absorption of the nation's media organizations into large conglomerates should not adversely affect on-going preservation operations.

The growing trend to retain but leave film originals unconformed to the finished videotape version should be viewed with some concern, because it represents a missed opportunity to conserve a longer lasting, universal copy. The commercial introduction of advanced television now in the offing may place renewed value on film originals.

Studios lack a comprehensive descriptive database of their productions, including traditional cataloging information based upon established national and international standards for the description of moving images, though the advantages of such a catalog should be manifest. Availability of catalogs can only stimulate more research interest in past television programming. At the same time, comprehensive catalogs would

enable sales and marketing staffs--not to mention new owners--to achieve a better understanding and familiarity of their corporate assets for commercial exploitation. It is likely that a public archives would be interested in preparing such a descriptive database under the terms of a grant from a studio. If each studio prepared or sponsored a database and subsequent published catalog, together they would constitute an impressive historical record of American television production, comparable in research value to the American Film Institute's multi-volume catalog of American cinema. In the archival field, there is probably no better example of how corporate interests could yield a significant public benefit.

Studio preservation personnel interact with the archival community, for example, through the Association of Moving Image Archivists, which provides a useful means for the exchange of information on preservation issues. In aggregate, studios have a great deal of experience and expertise that can be immensely helpful to the public archives if studio staff are allowed to share their knowledge in a professional forum. Important precedents have been established between the studios and the nitrate film archives, and this spirit of cooperation should continue with respect to the preservation of television materials.

Public archives have an opportunity to formulate their policies based upon the assumption that the major studios will be primarily responsible for the preservation of their own productions. It would be extremely wasteful for public archives to attempt to replicate the work carried out by studios. As long as the studios are providing protection copies, proper storage, and re-mastering of obsolete videotape formats, public archives can treat their television films or videotapes as primarily study copies that can be replaced if damaged or destroyed. Archives can re-direct their preservation efforts to other priorities. By the same token, studios should accommodate public archives when they request study copies for their collections since this helps to facilitate public access for the outside researchers who can only receive limited studio assistance.

B. TELEVISION NETWORKS

Introduction

The major television networks ABC, CBS, Fox and NBC, joined by CNN in the areas of news and public affairs, have been responsible for producing most of American television programming over the years in entertainment, sports, and news and public affairs. In addition to their own productions, the news divisions possess extensive audiovisual documentation of historic public events like Congressional committee hearings that were not recorded elsewhere. CBS News, for example, was the only network to retain a fairly complete kinescope record of the 1954 Army-McCarthy hearings, a seminal event in American history during the television era.

Vying for audience ratings and the same commercial sponsors, the networks are competitors in every sense of the word. They have similar responsibilities and interests, they operate parallel organizations with comparable administrative divisions. What has worked well as programming by one network has been frequently imitated by the others.

Their news divisions face precisely the same problems, challenges, and priorities every day. Their archives and libraries exist to support the production needs of the corporation. Though the network management recognizes the value of their work as a record of American history, it is only a secondary consideration, a byproduct of their obligation to broadcast the news. Perry Wolf, a CBS News documentary producer, once said: "The name of the organization is CBS News. It's not the CBS Public Library,"(65) aptly alluding to the role of archives within the network news divisions. The news archives and libraries operate 24 hours a day; their holdings are in great demand, with thousands of tapes in circulation within the company at any given time. Videotape's compactness, moderate cost, and convenience have produced an avalanche of cassettes which challenges the networks' best management skills.

They all share similar percentages of television film and major video formats, and thus face the same problems of film and tape deterioration and format obsolescence. NBC News, however, is unique in its adoption of the M-II format.(66) The increased emphasis on video preservation is a fairly recent phenomenon for all the networks, prompted by the recognition of the asset value of their holdings and by the declining availability of 2-inch players and necessary operational expertise. Finally, NBC has started a 24-hour news channel, and ABC has a plan in abeyance for now; should these ventures prove successful, CBS no doubt will follow suit at some point. Such an ambitious production schedule will place extraordinary demands on the corporate archives while at the same time underscoring their continuing value.

Management of entertainment programs seems much less concentrated. In the first place, unlike the news programs many prime time programs are not owned by the networks. Responsibility and ownership rest with the major studios or independent producers. (See the earlier section on the major studios.) In principle, the networks return the physical copies of these programs to the owners after their broadcast license has expired. In practice, copies of many entertainment productions remain in limbo in a network storage facility long after license expiration. These copies tend to be film prints or tapes for broadcast. In past years, networks produced far more of their own entertainment programs than they do today. CBS produced the popular Gunsmoke series for twenty years, 1955-1975, as well as numerous plays, telefeatures, and variety shows. In such cases ownership and copyright generally have remained with the networks.

All the networks and CNN are owned by larger media conglomerates. The changes in ownership are relatively new and it remains to be seen what impact the new owners will have on the archival programs in each company. Disney's impact on its Capital Cities/ABC subsidiary may benefit preservation in view of Disney's excellent experience in preserving motion picture film. Occasional changes in ownership prompt managerial discussions about the fundamental value and place of archives in a commercial enterprise. Are the archives a liability or an asset? Do the large news film holdings still have value in an electronic environment? What is the purpose of keeping obsolete videotapes that will never be broadcast again? Does any of the unedited footage represent potential legal liabilities? While questions such as these have not resulted in the wholesale destruction of network films and videotapes, they have had devastating consequences at the affiliate level, where many local station managers and owners across the United States have allowed the destruction of the

American television heritage to take place.

The networks and CNN have shown several signs of cooperating with public repositories to permit the educational use of their programs. The networks have a strong record of cooperation with the Library of Congress, the National Archives (including its Presidential Libraries), UCLA, and the Museum of Television and Radio, founded by William Paley, former owner of CBS, and there is little reason to doubt that such cooperation cannot continue, based on the relationship of trust and goodwill that has already been established.

ABC

ABC is working toward a unified film and videotape archive for news, sports, and entertainment. The company's massive holdings of film and videotape include more than one million items, 80% of which consist of news field cassettes. These materials, according to Michael Lang, "were balkanized into different collections, located in different places, operated by different divisions or departments, catalogued in different ways and to different standards, and stored with different levels of care."

Table 7: ABC Film and Videotape Inventory

| | |
|---------------|--|
| Entertainment | 64,000 films/tapes |
| News | 850,000 "" (includes 100,000,000 feet of film) |
| | 60,000 "" (off-air records) |
| Sports | 63,000 tapes, including 10,000 uncopied 2" tapes |

N.B. In addition, ABC News holds some 15,000 cartons of film and tape representing outtakes and trims and other production materials from television magazine series and documentaries produced by ABC News. These materials are generally controlled by the production units and are not intermixed with the general news holdings because of restrictions, including broadcast rights limitations.

ABC News has had a film or videotape library since 1963 although the physical custody was delegated to Sherman Grinberg Film Libraries, Inc., which handled all outside stock footage sales in a contractual relationship that lasted about thirty years. ABC News has now taken back custody of all its film and tapes and operates its own research and sales department. Like NBC and CBS, ABC uses a great deal of file film in many of its productions. The file copies are so interwoven with daily research and production activities that as many as 90,000 "archived" cassettes from the library can be in circulation at any one time even before any preservation or security copies are made, and ensuring their return is sometimes very difficult amidst the exigencies of the the broadcast world.

The field cassettes undergo an initial screening process to determine which ones should be recycled or retained. As they prepare descriptions, staff catalogers attempt to identify potentially useful footage and its significance. Most of the time this work is prepared on the basis of reviewing a written description, not by actually reviewing the cassette. At the present time ABC News library staff reviews about 4,000 cassettes each month. In an election year like 1996, the rate

could exceed 5,000 monthly. Descriptions are entered into ABC's Stairs database system available to the company through a wide area network. ABC News made this database available on a CD-ROM in 1989, and in 1996 made it available on Internet, located at the FootageNet website.

Although the materials have a history of poor storage conditions, in its new facility there are separate vaults for news film and videotape; film is stored at 62 degrees (F) with 50% RH; tape, 67 degrees (F), also 50% RH. ABC's worldwide bureaus, in such far away places as Beijing, Moscow, Tel Aviv, and Tokyo, eventually send all their tapes to the New York headquarters for centralized storage and administration. ABC entertainment materials are housed in the Los Angeles area, broken down into three large administrative categories: Distribution, Production, and ABC Circle Films. Aside from vault security and fire protection, no special storage conditions were evident.

ABC's Media Conservation Facility is the most prominent feature of the network's unified archive program. Basically, the MCF consists of screening areas and dubbing facilities for the most endangered videotapes. It will be stocked with video equipment capable of playing back all formats that ABC has worked with over the years (2-inch Quad, 1-inch Type B and C, 3/4-inch U-Matic, Betacam/SP, D-2 (Digital)). If the current plan is carried out, the MCF will have as many as 41 players. The ability to perform physical restoration on videotapes that have started to deteriorate will also be incorporated into the MCF's basic design.

ABC's plan of work emphasizes the most endangered tapes due to format obsolescence (e.g., 2-inch Quad) and tape deterioration. Tapes from any of its divisions can be sent to the MCF. Another goal is to reduce the gargantuan copying workload which the field cassettes represent. Each cassette contains 20-30 minutes of running time, or in their entirety several hundred thousand hours of running time for all the field cassettes.(67) Through a series of editorial decisions, ABC will eliminate some extraneous footage in transferring originals to the new formats:

- Empty podium shots. Often cameras are set up and tested before the speaker's entrance.
- "Standuppers." These consist of shots or retakes of on-camera reporters who rehearse their presentations but don't get it right the first time.
- Graphic builds. These consist of title information and other graphic content.
- Multiple camera set ups. Footage of the same subject from different cameras.

These editorial criteria will be applied during a screening review process during which the tapes will be scanned at normal and faster than normal speeds. The edit information file will be placed in a database for use during the dubbing. ABC believes in principle that original tapes can be disposed of after copying, but plans to retain them as long as the availability of shelf space is not a problem.

The new copies will be made on two 60-minute video cassettes: one Betacam-SP (analog) and the other D-2. The former will constitute the working copy while the D-2 will be stored off site. For ABC D-2 is only an initial choice as the "long-term archival storage copy." D-2 was chosen because it is digital and, in ABC's opinion, not ridiculously expensive. Also, D-2 can render additional copies without generational loss. Endangered tapes from any part of ABC are eligible for

conversion.

As for television film materials, other than air conditioned storage in New York and Los Angeles, there is no special preservation or assets protection program at the present time. ABC deposited its collection of early kinescopes with UCLA's Film and Television Archive; as the donor, ABC has retained its rights to the intellectual property.

CBS

CBS has the largest holdings of television film and videotape, well over one million items. Administratively, they fall under three separate major divisions: Entertainment, News, and Sports. The entertainment materials have been recently consolidated in Los Angeles and news film and tapes in New York.

Table 8: CBS Film and Videotape Inventory

| | |
|---------------|--|
| Entertainment | 45,000 videotapes 100,000 reels of film |
| News | 1,000,000 videotapes 150,000,000 feet of film |
| Sports | 10,000 2-inch tapes (Balance:NA) |

N.B. In addition, the News Division holds some 80,000 cartons of mixed film and tape which represent the outtakes and trims from documentary productions and television news magazines.

Like ABC, CBS has only recently initiated its archival program for entertainment materials. It was prompted by the closing of its contract storage facility in Fort Lee, New Jersey. CBS managers decided to consolidate all of their entertainment materials on the west coast under the supervision of the videotape operations staff located in CBS Television City. Copies are geographically dispersed, with prints separated from preprint and tapes separated from film. Some films are kept in cold storage with low relative humidity at a vendor facility. Videotape is stored at 66°F and 50% RH. Films, however, have a mixed storage history, most very poor. CBS plans to employ molecular sieves(68) in combination with good storage conditions to retard deterioration in films showing signs of vinegar syndrome. Many older programs have been copied in recent years due to home video sales through Columbia House, a CBS subsidiary.

CBS is in an advantageous position since it possesses the largest 2-inch copying facility in the country. It has ten working 2-inch players with six additional machines that may be used for spare parts to keep the other ten running. CBS Entertainment has about 20,000 uncopied 2-inch tapes. The Sports Division has about 10,000. In addition, CBS will perform transfer work for outside organizations. A recent large customer, Martin-Goodson Productions, ordered the transfer of about 32,000 kinescopes and 2-inch tapes to Digital Betacam. "Eventually," as CBS's Dan Sullivan reported, "it will not be financially possible for CBS to keep these machines running and when that point is reached large scale transfer projects will no longer be possible simply because there will be no machines to do them on."

CBS is the only network that still retains its kinescopes, which are divided between the News and Entertainment Divisions. ABC and NBC have donated their kinescopes to UCLA's Film and Television Archive and to the Library of Congress, respectively.

CBS News has had a combined audiovisual archives department since 1969 when it was established under the management of Sam Suratt, who, with a doctorate in American history, was not unsympathetic to the interests of scholars in obtaining research access to past news programs. CBS News' current preservation strategy, as set out by Suratt, now retired, consists of (1) consolidated storage in a newly refurbished facility at the CBS Broadcast Center in New York, (2) employment of professional archivists, and (3) since 1975 the placement of security copies of CBS daily news and special events broadcasts at the Library of Congress and the National Archives and Records Administration. These 3/4-inch video cassettes were also originally intended to serve as access copies for educational use throughout the United States through inter-library loans.

The deposit agreement with NARA (then, NARS) occurred around the same time CBS was conducting a legal suit against Vanderbilt University's Television News Archive for the off-air taping and distributing of CBS evening newscasts without a license or permission. Faced with a barrage of criticism, some from politically conservative groups, that the networks were exercising a kind of tyrannical control over news broadcasts that were not subject to review and analysis, CBS News decided to make copies of its future newscasts available for public scrutiny. The availability of U-matic cassettes made this economically possible. CBS's adamant refusal to allow excerpting and its restriction on use to library or archives premises irritated some scholars, who found Vanderbilt's liberal access policy much more convenient. In any event, the issue was settled in Congress instead of a court room with passage of the Copyright Act of 1976, which clearly affirmed the right of archives and libraries to make and retain videotape recordings of daily news broadcasts. These events have colored CBS's relationship with public archives ever since. In principle, CBS still remains opposed to off-air taping and excerpting and complains each time its footage appears on air without authorization.(69)

CBS News' more immediate preservation priorities are focused on 2-inch and 3/4-inch formats, which they plan to copy to D-2 and Betacam SP. There are approximately 20,000 2-inch tapes half of which have yet to be remastered or copied. The plan calls for copying them at the Broadcast Center; however, CBS News has a limited number of machines and a dwindling supply of experienced technicians. The staff at CBS News sees 3/4-inch U-matic as the next problem because of tape deterioration and the sheer volume of cassettes.

They have not begun to screen field cassettes to reduce volume, nor have they donated their kinescopes to any repository. The archives holds everything CBS has ever done, aired and unaired, including audio, film, tapes, scripts, etc. Only last year a CBS manager was pessimistic about their ability to copy the 2-inch tapes and expressed the feeling that if they are not already copied they may be beyond recovery.(70) The successful completion of the Martin-Goodson game show project, however, has suggested a larger window of opportunity for copying 2-inch, and some CBS News may be shipped to Los Angeles for copying.

NBC

On the occasion of its 60th anniversary in 1986, NBC donated to the Library of Congress some 20,000 kinescopes of primarily entertainment programs, 1948-1977, nearly half which were from the era of "live TV", 1948-1960. This transaction represents the largest single donation of television programs to an American archives or library. The NBC News Archives remains responsible for the preservation of news film and videotape, archival databases, film and tape libraries and warehouses worldwide. Most of its holdings are consolidated in the New York area.

NBC Film and Videotape Inventory

| | |
|---------------|--|
| News | 600,000 film reels (currently estimated at 100,000,000 feet) (71) 1,600,000 videotapes |
| Entertainment | included in above figure |
| Sports | included in above figure |

N.B. They did not indicate any separate figures for long-form documentaries and screen magazines; the outtakes and trims that survive are incorporated into the above number for NBC News.

The preservation program aims at providing good storage conditions and the large scale transfer of 2-inch and 3/4-inch tapes. In its facilities in New York, NBC stores its film at 50 degrees F and 50% RH and its tape at 65 degrees and 50% RH. For reformatting, NBC is also going to analog and digital copies in Betacam SP and D-3. NBC News distinguishes itself from ABC and CBS by its continuing loyalty to Matsushita formats. Thus, NBC News has large quantities of M-II and a growing number of D-3 video cassettes, both marketed under the Panasonic brand name. NBC's operation of the NBC Super Channel in Europe, its joint venture with MicroSoft, and its decision to establish a 24-hour news channel will place increased demands on the archives since the requirement for program footage will significantly increase.

NBC News plans to upgrade its database system to improve access to the archival holdings. The new system will use digitized sounds and images to accelerate access to the audiovisual content of the footage. The plans also call for an improved storage facility with cooler storage conditions as well as the ability to separate multiple copies to prevent catastrophic loss. By the end of 1996 NBC expects to complete transferring all of its uncopied 2-inch tapes using an outside videotape restoration laboratory as well as its own facilities. Consistent with reports from the other networks, NBC News has observed that the 3/4-inch tapes have shown the most dramatic deterioration and they too believe the volume of 3/4-inch will be the next greatest challenge to the preservation of television news. Notwithstanding, NBC News plans to preserve all of its footage. In 1996 NBC began a program to transfer 70,000 hours to a digital format.(72)

CNN

CNN, established in 1980, has amassed more than 600,000 video cassettes, mostly housed at the CNN headquarters in Atlanta. As byproducts of CNN's electronic news gathering, the tapes

are used in support of the company production needs for CNN, Headline News, CNN International, and other programs. CNN is too young to have inherited the problems of the older tapes, and so the archives consists of 1-inch type C, 3/4-inch U-matic, and Betacam/SP, all analog formats. Since these formats are still viable no large scale transfer program has been undertaken. The tapes themselves are stored in an air conditioned environment with office-like settings. Many cassettes are held in CNN bureau libraries which share inventory information through a central library computer system. Approximately 5% of the database is available on the FootageNet website; like ABC's, the entries are primarily tailored for production use.

Copies of featured shows such as Crossfire, Inside Politics, and Larry King Live, are recorded and saved. However, completed or anchored news broadcasts are not recorded and saved as separate entities, only the video from the news stories covered in the broadcasts. All stories from CNN reporters and all field cassettes are retained. All broadcast programming on major news stories like the dismantling of the Berlin Wall, the Oklahoma City bombing, and the six weeks of the Gulf War are saved.

Like NBC News, CNN does not register its newscasts for copyright, and as a result, few copyright deposit copies have found their way to the Library of Congress. Virtually none of the featured news programs have been registered. Recently, however, CNN agreed to make for the Library of Congress copies of its six weeks of 24-hour coverage of the Gulf War, including its satellite feeds, and selected Larry King Live programs.(73)

General assessment of network programs

Despite several recent positive steps to advance preservation within the corporate environment, film preservation as practiced by the larger film archives and the major studios scarcely exists in the world of network television. The resources allocated to the preservation of television film are meager, matched against the footage's potential historical value. Though the networks have impressive resources, including outstanding technical expertise, for the preservation of videotape, they are awash in an ocean of cassettes that will potentially lead to great losses. Under present circumstances, film and videotape are too much a part of the production process. Few fundamental changes are in the offing. A strategic plan for the future of television film and videotape seems lacking. This failure is rooted in a certain reluctance to establish a formal archival program that requires some tough decisions about appraisal criteria, disposition, and preservation.

None of the networks really has an archival program in any traditional sense. They have "archives," to be sure, that are the unique records of a corporation, film and videotape included, produced and accumulated during the course of its business or day-to-day activities. The records have a consistent form and character depending upon when they were made, and they have an organic quality which makes them part of a larger entity. Two other features traditionally distinguish archives in a corporate environment. One is the records must be noncurrent in nature, i.e., not needed for current business operations. The other is that they have some permanent or enduring value to warrant the continuing expense of long-term retention whether for research or production

purposes. Once appraised or otherwise identified as archives the records, regardless of form, are physically separated and afforded special status in order that they can be safeguarded and prioritized for preservation work. Most importantly, because they are corporate archives, their historical integrity as records must be protected and they must be safeguarded from loss, theft, physical damage, erasure, or alteration. These are fundamental concepts in any records management program.

Many of the preservation problems which the networks face stem from their apparent inability to apply records management principles to their film and videotape holdings, perpetually treated as stock footage and not as part of the records of America's greatest corporations. For all practical purposes all their holdings are considered current since they are potentially needed for re-broadcast or, more frequently, as inserts or stock footage. In considering news films and field cassettes few distinctions are made between originals and copies. In extreme cases, film originals have been cut and excised. Thousands of items may be in circulation, essentially beyond the control of the archives staff, for any length of time since everything is subservient to the always compelling needs of producers. Under current patterns of use all footage, however culturally or historically valuable, recent or vintage, is subject to loss or abuse.(74)

The failure to identify the real archives in manageable increments has been detrimental for the corporation as well as for the public, which needs to be reassured that the most important items will be preserved. The benefits of cold storage for color film have been widely known among the public film archives since the early 1970's. Yet the networks have only recently started to use cooler conditions, and even now none meets the ANSI standard of 35°F., the maximum recommended temperature setting for the long-term storage of color film. For this reason, it is easy to predict that network color film will eventually fade beyond reasonable recovery. NBC now stores its film at 50 degrees/50% RH and CBS Entertainment at 40 degrees/20% RH, important steps in the right direction. But no component of ABC, including ABC Circle Films, nor of CBS News is using cold storage facilities for color film holdings. There is no systematic film preservation program in place for either the television features or the news film, no making of interpositives, no copying of magnetic sound tracks, no transfers to improved color emulsions or even to videotape, and none of the other steps necessary to ensure that the film's subject matter will survive in a quality form. The networks are light years behind the major studios in setting up systematic preservation programs to protect their motion picture film assets. As the news divisions do not at the present time seem capable of taking film preservation too seriously, one can envision crash programs in the not too distant future to transfer large quantities of their film to videotape.

The networks have fared better with video preservation and all have rightfully singled out their 2-inch tapes for action, copying them to analog and digital formats. NBC will have copied all of its tapes by the end of 1996. ABC has completed theirs except for 10,000 hours from the Sports Division. CBS, however, has about 20,000 left to copy in Los Angeles and the facilities to accomplish this work in the next two or three years. CBS News has 10,000 2-inch tapes in New York, but given the priorities at the CBS Broadcast Center, it remains to be seen whether they can be copied using CBS's internal resources. A CBS official once opined it may already be too

late, but is now more optimistic based on the successful completion of the Martin-Goodson transfer project.

Network news departments face many similar challenges and preservation problems. Among the most important are the tens of thousands of unprocessed cartons of films and tapes from long-form documentary, public affairs, and screen magazine programs. As the outtakes and trims and other production elements, they contain much more footage of interviews and events than could be shown in the final cuts. Some years ago the National Archives received the outtakes from two excellent NBC News documentaries on the decision to drop the first atomic bomb on Japan during World War II and the Japanese surrender. The outtakes contained lengthy and remarkable interviews with many of the principals, including Robert Oppenheimer and General Leslie Groves. As American Experience producer Judy Crichton noted at the New York hearing, "Where I'm concerned about what was said earlier is that as a former television journalist, I know that the single most valuable material is often in the outtakes, that the compression of time--yes, you'll have minutes of emptiness at a podium, but that isn't what we're talking about. We're talking about the attitudes of people before they make public pronouncements. Their asides, the things that strip away the facade and let you begin to understand what is real and what is contrived." Yet at CBS and ABC materials such as these outtakes and trims remain boxed with no provision for preservation. NBC News does not maintain separate files of film and tape from the long-form documentaries and screen magazines but integrates them into the larger files.

Another major problem which they share is that of the millions of video field cassettes, already approaching unmanageable proportions. All networks agree that 3/4-inch video cassettes pose the next challenge due to noticeable deterioration on some tapes and the massive quantity they represent; conservatively estimated as 3-4,000,000 for ABC, CBS, NBC, and CNN combined. The cassettes possess the same potential historical value as outtakes and trims from the documentary productions for similar reasons. All the networks have stated in principle their desire to retain all cassettes. CBS maintains it still has all of theirs, but some large-scale disposal has already taken place by ABC.

In fact all networks initially review field cassettes to determine what should be "archived" or erased and recycled. The initial screening criteria are of a very general nature, emphasizing potential production values and leaving much to the discretion of staff who may or may not have appropriate training or research experience outside the field of broadcast communications. This poses the danger that research needs beyond television production may go unrecognized.

However well intentioned, the networks tend to keep too much of the unedited news film and the field cassettes. On the positive side, it is less likely that important materials will be discarded because it didn't match the corporate criteria or some whimsical notion of what constitutes historical value. But failure to refine these inventories can also have dire consequences in this contemporary era of abundant documentation. The huge volume of materials makes the acquisition of a facility for long-term storage too expensive, and so it just isn't done. Important items are intermixed with ephemera. Prioritization and preservation planning become impracticable. The risk of loss or damage to unique copies is ever present. Associated costs such as contract storage,

cataloging, research time, etc., are all increased. Any expectation that several million 3/4-inch field cassettes, only the first such format, will be re-formatted even in the next century is naive or unduly optimistic. The economic resources will not be available under any foreseeable circumstances. What is foreseen is a helter-skelter pattern of survival that will serve neither the corporate nor public interests.

The networks should implement a self-imposed moratorium on destruction of film and tape until a comprehensive records management plan has been formulated which takes into account the corporate needs, the interests of public archives, and future research by scholars. While the networks may be well equipped to forecast the commercial value of their programs and potential production usefulness and while they can identify award-winning programs or other programs of merit, it is unfair to ask them to judge what may be useful for the future research needs of historians and other scholars. From the viewpoint of scholars, the networks are least equipped to deal with questions of historical or cultural value, yet this is the area where scholars feel so powerless and isolated. Accordingly, the networks should establish advisory committees, composed of representatives from public archives and the scholarly community, to assist in developing disposition policies, including retention, disposal, or donation.

The networks should begin to identify and set aside the real film and videotape archives and allocate to them the special status they merit as the permanent archives of a great corporation. In order to accomplish this they will need to draw up a set of appraisal criteria that should include at a minimum all programs produced by the news divisions as aired and special events coverage.⁽⁷⁵⁾ CNN, in particular, should record and retain at least one "anchored news broadcast" every day in addition to all featured programs. Suitable cutoff dates need to be established for retirement of programs to the corporate archives or, preferably, to a public repository where they can be made available for research and study. For example, there is little reason for any program dated prior to 1980 to remain in active use.

The application of appraisal criteria will present the greatest difficulty in the areas of news film and field cassettes and unprocessed cartons of documentary/magazine materials. Managing these materials en masse risks the loss of the most historically valuable subjects, because there is no system of triage to ensure their survival. Under the present systems, something as important as the kinescope recordings of Army-McCarthy hearings are not singled out for special treatment. No transcript can ever convey the intense drama of this event captured on film, and snippets in subsequent productions just will not suffice. Any loss or damage would be unconscionable. Sampling as a method of selection would not be acceptable because it does not take into account future research needs but dictates them.

For commercial reasons, the networks aim to save all sports and entertainment programs, which is all well and good. However, their efforts may be derailed if the basic film stock preprint elements are not identified and placed in proper storage, particularly for color film. In addition, they need to follow the major studios' programs for making interpositives for protection and security, copying disintegrating magnetic sound tracks, and storing copies in separate geographic locations.

Although the networks contribute generously to the activities of the Museum of Television and Radio, whose acquisitions document the history of broadcasting in the United States, it is in their interests to enlarge the flow of copies into public archives where they can be housed and serviced to scholars consistent with the protection afforded under copyright law. NBC News should be encouraged to register its evening news broadcasts for copyright, joining ABC and CBS. CNN has registered a very small number of programs, but its recent agreement to transfer a copy of its entire Gulf War broadcasts to the Library of Congress is a good precedent. They should continue with other donations as well as registration. CBS still retains all of its kinescopes of programs or coverage that was broadcast, while ABC and NBC have deposited theirs with public archives. CBS should be encouraged to follow this example.

Only through periodic transfers or donations and through continuing dialogue with public archives and scholars can the networks demonstrate their commitment to preservation. Public archives can help the networks by offering security of copies, preservation, cataloging, and public access, including fulfillment of scholarly requests which are too expensive for the networks to handle. Public archives benefit by enhancing their holdings, which attract more researchers; by fulfilling their mission or institutional objectives; by positioning their institution for grants and additional donations; and, overall, by justifying their existence as research institutions. Close cooperation between the networks and public archives is therefore mutually beneficial.

C. PUBLIC TELEVISION

General Introduction

Despite historically small audiences, public television has been responsible for the production, broadcast, and dissemination of some of the most important programs which in aggregate form the richest audiovisual source of cultural history in the United States. In an age where the multiplicity of cable television program outlets has shifted the paradigm to noncommercial/public television, it is still not easy to overstate the immense cultural value of this unique audiovisual legacy, whose loss would symbolize one of the great conflagrations of our age, tantamount to the burning of Alexandria's library in the age of antiquity.

The history of public television in the United States has always been one of financial uncertainty that has discouraged long-range planning, leaving few resources for the development of archives or preservation projects. Furthermore, public television's administrative complexity has fragmented and diluted preservation to such an extent that extensive duplication of effort and serious losses seem almost inevitable.

Three key events in the history of public broadcasting may, however, provide a reason for optimism. First, the Public Broadcasting Act of 1967, which created the Corporation for Public Broadcasting, mandated the CPB "to establish and maintain a library and archives of noncommercial educational television or radio programs and related programs." Second, the National Public Broadcasting Archives was established in 1990, with very modest startup money from CPB. Third, in 1993 the Public Broadcasting Service and the Library of Congress entered into an agreement providing for the periodic transfer (after their rights have expired) of virtually all television programs that pass through the PBS system.

Corporation for Public Broadcasting

The public television system (leaving aside the radio dimension, though it is also an important component) consists of the Corporation for Public Broadcasting, the Public Broadcasting Service, and PBS affiliate stations around the nation.(76) There were only eleven public or noncommercial television stations in 1955, broadcasting several hours a day. They increased very slowly at first until federal funding for television was introduced in 1962; by 1985 290 were operating;(77) and today there are 345.

As recommended by the Carnegie Commission on Educational Television, Congress created the Corporation for Public Broadcasting in 1967 under the provisions of the Public Broadcasting Act.(78) Under this law Congress intended to promote the growth of nonpolitical and noncommercial educational broadcasting and programming diversity responding to the needs and interests in particular locations throughout the United States. Congress intended to promote public television as a means of expression of diversity and excellence nationally and locally. Under this legislation CPB acts as a federally funded grant-making organization that issues grants or contracts to program makers and distributors, particularly public broadcasting stations. CPB receives virtually all of its funding from the federal government. This infrastructure consisting of CPB, PBS affiliates, and other grantees has resulted in extensive programming directed at

viewers with cultural and intellectual interests and at those having an interest in documentaries, children's programming and subjects relating to ethnic minorities. Performing arts programming has been the hallmark of public television.

Since 1981 the CPB has collaborated with the Annenberg Foundation to develop educational programs based on a grant from publisher Walter Annenberg of 150 million dollars.(79) The Annenberg Foundation retains distribution rights for any programs developed under this project. Over 1700 programs have been produced since 1983. As a rule CPB has no copyright or distribution rights to any of the programs that it helps develop or support. Such rights usually reside with the affiliate or independent producer.

Among the responsibilities Congress mandated to CPB is "to establish and maintain a library and archives of noncommercial educational television or radio programs and related materials..." a requirement never fulfilled. Overall CPB believes that preservation is effected through the work of PBS and its affiliates, and therefore has never maintained an archives of past programming. CPB requires grantees to furnish video copies for review; those for the period 1969-87 have been donated to the National Public Broadcasting Archives, established at the University of Maryland in 1990. Cassettes from 1987 onward, about 2,800, are still maintained by CPB, but there is no provision for public access by researchers.(80) Periodically additional cassettes along with noncurrent CPB paper records will be transferred to the NPBA, where they will be accessible to researchers.

CPB's other major activity relating to the preservation of the history of public broadcasting has been an annual donation to the Museum of Television and Radio that has resulted in the acquisition of about 30 hours of programming per year and the cataloging, maintenance, and preservation of 60 hours per year from earlier acquisitions.(81)

Public Broadcasting Service

CPB established the Public Broadcasting Service in 1969 as a national broadcaster and distributor of the programs produced with CPB funds or by PBS affiliates. Like CPB, PBS is neither a producer nor a copyright holder of the programs it broadcasts or distributes. But it is the essential organization that provides the network and a sense of unity within the public broadcasting family. PBS derives its income from a pro-rated system of fees charged to affiliate stations for different kinds of programming; from corporate donations; and from CPB itself. In 1986, for example, the breakdown was estimated at 27%, 37%, and 15%, respectively.(82)

An internal report in January 1977 concluded that after 24 years of noncommercial television, "there is no program archive or aural-visual history of public television in the United States.... There is no full-time staff member at any national public broadcasting organization who devotes his time exclusively to archive planning--let alone implementation." The report held out some hope with the passage of the American Television and Radio Archives Act as part of the Copyright Act of 1976 that the Library of Congress would develop a comprehensive plan "to preserve the nation's radio and television history, both commercial and non-commercial."(83) The expectation that the Library of Congress would eventually assume responsibility for the preservation and access of past programs broadcast by PBS was reinforced by the 1976 agreement that National Public Radio made with the Library and the National Archives for the transfer of cultural programs and

news and public affairs programs, respectively, to each repository.

From 1979 to 1983 PBS operated a Public Television Library and Broadcast Archive Services for internal use. During this time, assisted by an earmarked CPB grant, PBS relocated the NET programs from Michigan to an off-site facility in Virginia with improved storage conditions. In response to a lowered budget forecast, archival operations ceased in 1983, the director of the program was terminated, an action that prompted public criticism by the archival community. PBS retains custody of a staggering amount of past broadcasts, estimated at over 100,000 items, virtually every PBS broadcast.(84) Only some 7,000 programs are current in the sense that PBS still has either re-broadcast or distribution rights. Rights to the bulk of the holdings have expired. The copies on file represent everything that went on the air since 1970, often with two copies of each program since producers or suppliers were required to submit a master or backup copy. The formats are varied but include 1-inch, 2-inch, D-2 and D-3 videotapes. Currently PBS requires producers to supply a D-3 master and backup copy which PBS keeps indefinitely. Finding aids are partial or incomplete, there is no comprehensive database inventory, and researchers do not have any access privileges. Researchers are referred to the NPBA, which has 2,000 3/4-inch PBS viewing cassettes on file, or to the Library of Congress.

After several years of negotiations in September 1993 PBS and the Library of Congress signed a major agreement for the transfer of the "best copy" of "all PBS programs that have been or will be broadcast, whether on film, videotape, or other broadcast format yet to be developed..."(85) In effect, this agreement makes the Library of Congress the ultimate custodian and public repository for virtually all programs broadcast on PBS, past, present, and future. When fulfilled just for the past programs alone, the agreement will represent the largest single donation of television materials to any one institution. Estimated noncurrent broadcasts exceed more than 90,000 items. Unfortunately neither PBS nor the Library is in a position to accept or prepare all the materials for transfer. So far the Library has received about 9,000 National Educational Television films and tapes from the 1950s-1970s, and 16,000 2-inch videotapes and kinescopes. PBS needs assistance to inventory and prepare the balance of materials for transfer. The Library requires additional storage space and processing staff to handle them. As PBS requires fairly quick access to the donated materials for on-going operations, the time frame needed to make copies has been a matter of concern between the two organizations.(86) PBS no longer has the resources to re-format 2-inch videotape and depends upon the Library for this service.

National Public Broadcasting Archives

At this juncture it is important to understand the relationship of CPB and PBS to the National Public Broadcasting Archives established in 1990 at the University of Maryland by the late Dr. Donald R. McNeil. His interests focused primarily on the paper records of public broadcasting organizations which he believed, justifiably so, have great research value in documenting the development of public broadcasting organizations in the United States. Prior to the establishment of the NPBA "nothing existed in the way of systematic archive activity within public broadcasting,"

according to the current director.(87) Accordingly, McNeil arranged for the deposit of the records from CPB, PBS, and NPR, assuming the Library of Congress and the National Archives would eventually take care of the audiovisual collections.

Subsequently collections policies were modified to allow acceptance of audiovisual materials with the argument (1) that some program material was in danger of being overlooked, and (2) that the NPBA could enhance the research value of the archives by having video reference copies available for consultation along with the paper records. The acquisition, however, of 1-inch and 2-inch tapes goes beyond the concept of reference or study copies.

Table 10: National Public Broadcasting Archives
Videotape/Kinescope Inventory

| | |
|-------|---|
| 2,000 | 3/4-inch study copies from PBS |
| 100 | 1-inch tapes from Maryland Public Broadcasting (MPB) |
| 500 | 3/4-inch and 1/2-inch tapes from MPB |
| 500 | kinescopes from American Instructional Technology (AIT) |
| 200 | 2-inch tapes from AIT |

The holdings also include coverage of town meetings, concerts, and professional tennis matches from the 1970's. The archives expects to receive additional materials from PBS, MPT, and WETA.

The NPBA is making a deliberate effort to save and document some representative examples of educational or instructional television, and it is developing a system of selection to prioritize materials for re-mastering. But it also assumes that some materials will be left as is with little opportunity for converting them to modern formats.

PBS Affiliate Stations

Currently there are 345 PBS affiliate stations throughout the

United States and its territories. Some fall under the control of state or municipal governments. Others are part of universities or public school systems. And others are independent community-based organizations whose major sources of income depend upon CPB and foundation grants, donations, and solicitations.

Two public television stations, WNET in New York and WGBH in Boston, produce the majority of programming broadcast on PBS. Broadcasting since 1962 (then WNDT), WNET reaches the largest audience since it is licensed in densely populated New York and New Jersey. It has presented programs on arts, history, nature, science, public affairs and is the premier performing arts station through its long-running Great Performances series. Like most stations WNET has acquired a large inventory of program materials even though it has donated unedited film and tapes and other materials such as film inserts to specialized performing arts collections. Nonetheless, WNET occasionally relies upon the "master" collection at PBS and the Library of Congress, in cases where copies have already gone to them. Programs that originated on film, such as numerous documentaries, only exist as videotapes. WNET had no means to maintain film versions. Many programs are endangered because the means to identify them are not available. Changes or nuances from program to program will be oblivious due to lack of adequate documentation. Two-inch tapes lack viewing cassettes, making them virtually unavailable for staff use. Public television has created a unique video record, according to a WNET spokesman, but "but public television is far too financially vulnerable to salvage what it has created."(88)

WGBH in Boston produces about a third of the programs broadcast on PBS, including such well known series as NOVA, This Old House, The French Chef: Julia Child, Frontline, and The American Experience. Among all public broadcasting stations, WGBH is unique because it has established a formal records management and archives programs staffed by fulltime professional archivists. Founded in 1979 and intended as a model for other PBS stations, the Media Archives and Preservation Center operates under the auspices of the WGBH Educational Foundation. The television archives probably has the largest holdings among all the affiliates.

Table 11: WGBH Media Archives and Preservation Center Inventory

37,000 reels of film

131,000 videotapes

14,000 cartons of outtakes and related production documentation

N.B. Includes approximately 6,000 hours of masters of WGBH programming.

Unlike the other stations, WGBH retains outtakes and other materials relating to documentary productions, develops finding aids, and makes them available to outside researchers and scholars. Producers are required to turn in outtakes at the project's completion. The outtakes to *The Promise of the American Negro*, for example, contain lengthy interviews with James Baldwin, Malcolm X, and Martin Luther King.(89) As an indication of their continuing research value, the outtakes and production files relating to WGBH's production of *Vietnam: A Television History*, were donated to the University of Massachusetts, where they are available for study.(90) WGBH retains the

rights to the documentaries produced for The American Experience.

Another unique aspect of WGBH's preservation program is the use of barium ferrite videotape for archival masters, one of the most stable forms of videotape designed for special applications.

Nonetheless, WGBH lacks facilities for the long-term storage of color film; 85% of their film is color. Almost 6,000 reels of obsolete 2-inch tape and 1200 hours of open-reel 1/2-inch tape remain uncopied. Assisted by a Bentley Library grant, they are in the process of developing selection criteria to assist in determining the priority of tapes to be copied.

WETA is the third largest producer for public television, well known for such programs as The Newshour with Jim Lehrer, Washington Week in Review, The Kennedy Center Presents, In Performance at the White House, and The Civil War. It has already transferred some videotapes, 1966-1977, to the NPBA and some copies to the National Archives and the Library of Congress (Watergate hearings). It has about 10,000 hours on hand representing program materials from 1978 to the present, and anticipates increases at the rate of about 400 hours per year. WETA does try to assist outside researchers when possible despite cataloging and staffing limitations. The rights to the materials are very complex to administer and in recognition of this problem WETA keeps a "pedigree" file on each program to document ownership. (91)

Assessment

1. From the 1950s to 1962 the Ford Foundation was the main sponsor of educational television, contributing 82 million dollars for the productions and operations of NET. Yet there is little evidence that the Foundation has tried to assist in saving any record of early educational television.
2. CPB has never fulfilled the Congressional mandate to establish an audiovisual archives, assuming the work was being carried out through PBS and its affiliates. The traditional meaning of archives in the United States, particularly those based on tax-supported funding, implies public access and preservation activities taking place. CPB has never taken these responsibilities for itself but assumed they were being carried out by other organizations. Since production and transmission remain the most important priorities, little is left over for preservation. Therefore, CPB cannot carry out Congress' other mandate at a meaningful level.
3. Probably the greatest need to shore up the preservation activities of public broadcasting is simply coordination, which can be brought about by the sharing of information. A multiplicity of copies exist throughout the PBS system. Any program that goes out on the air could have been videotaped and retained. Theoretically as many as 345 copies of one program for which PBS no longer holds broadcast rights can be dispersed among PBS affiliates. In the absence of coordination these duplicates will adversely affect preservation storage and re-mastering plans.

A. Affiliates should identify their own indigenous programs and make them a priority for preservation. Programs that no longer have any potential for re-broadcast should be offered to local area archives or to specialized archives

before outright destruction. Outtakes from documentary productions should also be considered for transfer rather than disposal.

B. The creation and sharing of comprehensive inventory databases seem essential for achieving any real success in coordinating the efforts of affiliates.

C. The PBS-Library of Congress agreement should be viewed as complementary to the individual preservation efforts of affiliates. There are many affiliate productions that were never broadcast on PBS.

D. PBS should take a leading role in communicating vital preservation information to its affiliates through mailings or through its electronic communications system.

4. Since the Library of Congress has assumed responsibility for storing, processing, re-formatting and servicing all past, present, and future PBS transmissions, the Library will ultimately require additional funding which should come from CPB.

5. Like the networks, none of the public broadcasting organizations is taking the preservation of color film very seriously. Color originals, negatives, or masters are not placed in cold storage meeting ANSI's minimum specifications. Their color film will therefore fade at a rapid rate, and much valuable historical information, particularly interviews, will be lost. Their magnetic, double system sound elements are also at risk of loss. As recommended elsewhere in this report, their most important film elements should be copied to videotape if they do not intend to carry out a color film and sound track preservation program.

6. Affiliates that are part of state or municipal entities should seek local or regional funding for preservation activities: some funding from NHPRC may also be available.

7. Affiliates should take a close look at the WGBH Media Archives and Preservation Center as a model for some of the larger producers of programming material.

LARGEST PUBLIC ARCHIVES

A. Library of Congress

Soon to have custody of almost 300,000 television items, the Library of Congress is the largest public archives in the United States. The Library's extensive television holdings, not to mention other audiovisual collections, stem from copyright registrations as required by law; and, from donations received through the generosity and cooperation of private individuals and organizations. The Library received its first television program in 1949 as a copyright registration. The Copyright Act of 1976 rapidly accelerated the registration and receipt of television programs.

Among the largest donations are the NET, PBS, and NBC Collections. Under a 1993 transfer agreement, the Library is scheduled to receive all programs aired and retained by PBS, in the past, present, and future, which in the next few years could exceed over 100,000 items. Like the National Archives, the Library also receives videotapes of Congressional floor proceedings. The Motion Picture, Broadcasting, and Recorded Sound Division is responsible for the management of the television collections and provides services to researchers.

The Copyright Act of 1976 established the American Television and Radio Archives within the Library of Congress. This has resulted in the creation of a broadcasting preservation activity rather than a separate administrative unit or collections maintained as separate entities under ATRA. One activity, for example, is the Library's cooperative arrangement with the Vanderbilt University's Television News Archive for the acquisition of videotapes of network television newscasts. For administrative efficiency, archival processing and reference services for television materials are combined with similar work for motion pictures.

The Library's television preservation strategy relies upon beneficial storage conditions, in particular, cold or cool storage, with fairly low relative humidity, for its archival or master copies of film and videotape. Much to the envy of other public archives, the Library maintains a large laboratory, capable of working with many different video formats, although much of the 2-inch transfer work is contracted to a commercial vendor. The Library currently reformats videotapes to 1-inch type C as a master and to 3/4-inch U-matic for access, both of which use analog signal systems. The Library considers 1-inch to have a continuing viability for at least another ten years, in terms of the availability of equipment. Because of security concerns, the Library uses U-matic tapes (not VHS) for reference services because U-matic is not suitable for home use. Original videotapes accessioned as Betacam SP or D2 are considered masters in their own right.

B. UCLA's Film and Television Archive

UCLA's Film and Television Archive maintains the second largest television collection in the country accessible to scholars and other researchers. From its vantage point in the Los Angeles area as a center of production, the archives has been able to interact with the Academy of Television Arts and Sciences, the creative and production communities, independent producers and the major studios, even widows and heirs of

television personages, to amass a huge and eclectic inventory of television programs dating from the start of broadcast history. Current estimates are 60,000 television titles, and almost 200,000 including news and public affairs. The holdings include a broad range of American commercial and public television programming both regional and local, with special strengths in the 1950's. The archives's origin stemmed from an agreement with the National Academy of Television Arts and Sciences in 1965, resulting in the creation of a National Television Library, subsequently combined with the university's growing collection of American cinema. Among UCLA's most important collections are the Emmy nominees and winners, early broadcasts from the Dumont Network, Hallmark Hall of Fame programs, and the ABC kinescopes for 24,000 programs.

The archival program closely supports and supplements the academic curriculum, especially at the university's film and television school. Therefore the archive has properly emphasized cataloging access as a very high priority. Accordingly, almost 95% of the holdings, though not fully cataloged, are retrievable through the university's computer network, ORION, also accessible through the Internet. The university has recently constructed a new storage facility to house this important collection.

SPECIALIZED PUBLIC ARCHIVES: A SELECTION

A. National Archives and Records Administration

A federal repository for the permanently valuable records of the United States Government, NARA has accessioned extensive quantities of broadcast television programs as well as videotape records used for documentation. Current estimates include 75,000 reels of film made for televised use and 42,000 videotapes. Within the federal establishment videotape has supplanted motion picture film as the prime recording medium for moving images for both civilian and military agencies. Public information programs, research and development footage like NASA's, the Office of Economic Opportunity's experiments with community programs, and USIA WorldNet programs intended for overseas audiences, to mention a few examples, exist as videotape recordings. Military operations, including the invasions of Grenada and Panama and the Gulf War, are documented on videotape. The House and Senate floor proceedings are another important source of video documentation, amounting to more than 2,000 recorded hours each year.⁽⁹²⁾ Even some federal courts have required videotape recordings of proceedings on an experimental basis. In view of all this activity, it is clear that the primary moving image record of American heritage at the national level of experience will depend upon the successful management of large inventories of videotape recordings.

Among NARA's holdings are kinescopes of the important Chronoscope television interview series broadcast by CBS, 1951-55, donated by the sponsor, Longines-Wittnauer, without restriction. NARA has also received videotapes of the MacNeil-Lehrer News Hour, C-SPAN original programming, and CBS News daily newscasts and special events coverage dating from 1974 to the present. During the Vietnam War the Defense Department made kinescopes of network newscast coverage of the war, 1965-74, from the three major networks and circulated copies to military posts overseas. Now in NARA's custody, the kinescopes

for the first three years, 1965-1968, including newscasts of the Tet Offensive, are unique because the Vanderbilt Television News Archive only started operating in August 1968 and the networks themselves did not save copies of entire newscasts until the 1970's, when they could do so using 3/4-inch cassettes.

The presidential library system, managed nationwide by NARA, contains extensive holdings of television and video materials pertaining to individual presidential administrations from Herbert Hoover to George Bush. Altogether there are approximately 36,000 television subjects on 10,000 reels of film and 53,000 videotapes. The majority of them stem from White House coverage of official public appearances and acts, solicited and unsolicited donated materials, and programs copied off the air.

Technically, NARA's holdings reflect a variety of video formats although the 2-inch format failed to make much of an impact among federal agencies, except in the White House itself during the Lyndon Johnson and Richard Nixon administrations. NARA's video preservation strategy centers on providing good storage conditions for the long-term storage of videotape originals as exemplified in Archives II at College Park, Maryland, and on making reference copies upon request. Presidential Libraries have generally made excellent progress in copying obsolete formats.

B. Public Affairs Video Archives

The Public Affairs Video Archives located at Purdue University has a cooperative arrangement with C-SPAN, the public affairs video network supported by cable television companies.⁽⁹³⁾ Started in 1987, PAVA records all C-SPAN programming off-air, including Congressional floor proceedings and selected committee hearings, catalogues them, and distributes them to scholars and researchers. All events are covered in their entirety without commercial breaks. Approximately 5,000 programs totalling 7,000 hours each year are recorded on 6,000 S-VHS videotapes. For the first few years of operations, PAVA used VHS as the master recording. PAVA holdings also include about 3,000 3/4-inch cassettes deposited by C-SPAN. C-SPAN transfers its program originals to the National Archives and Records Administration under a separate deposit agreement. Excluded from the agreement with NARA are video recordings of Congressional proceedings, since NARA already receives copies directly from the House and Senate.

As a unique feature, C-SPAN licenses PAVA to sell videotapes, in their entirety or as compilations; the income returns to PAVA to help defray the cost of operations. An estimated 12,000 videotapes will be distributed in 1996. In order to stimulate interest in use of the programs, C-SPAN issues grants to teachers or scholars which are redeemed at PAVA for the purchase of video cassettes. This unusual arrangement between a public archives and a broadcaster may serve as useful model for the development of additional public-private partnerships to safeguard American television and make it available for use.

C. Political Commercial Archive

Another institution worth a special mention is the Political

Commercial Archive of the University of Oklahoma, which houses about 37,000 television political commercials produced from the 1950 to the present, illustrating many facets of American political life at every level of government, including elections, ballot issues, and advocacy on public policy issues.(94) By a large measure, the archives owes its success to its integration into the communications and political science faculty where its holdings support the educational objectives of the university. In fact, the archives is extensively used by scholars and individuals from a variety of institutions and backgrounds, further attesting to the research value of these television materials. In recognition of this value, the U.S. Department of Education over nine years awarded the university \$750,000 under Title II-2C of the Higher Education Act, Strengthening Research Library Resources, for use in cataloging the holdings, providing a local database, and collections-level description for OCLC.(95) The grant also enabled the archives to prepare 3/4-inch and 1/2-inch video cassette access copies. The archives has been the only television recipient of this award, and this recognition encouraged the university to install a climate-controlled vault for the long-term storage of the collection. In addition, the National Endowment for the Humanities announced a substantial grant for the archives's use only this year.

D. New York Public Library Collections

Original documentation of the performing arts represents still another kind of television or video genre, the largest collections of which are held under the administrative umbrella of the New York Public Library.(96) Such recordings represent unique audiovisual documents of past performances, something for which no written record can ever substitute. When the recording deteriorates beyond use or succumbs to format obsolescence, the researcher will never be able to judge the performance for himself or herself. New York's Library for the Performing Arts contains one of the world's foremost collections of film and videotape of live theater performances. The Dance Collection contains more than 8,000 videotapes that in aggregate have encouraged revolutionary changes in the study of dance choreography since the collection was established over thirty years ago. In addition to acquisitions, both collections contain original video recordings shot under the supervision of the archives to document important performances. The archives also contains a great deal of collateral documentation such as manuscripts, memorabilia, clipping files and so on. The library funds the operations of the collection, but must rely on outside support for preservation activities. The collections receive frequent use, aided by their ideal location at Lincoln Center, but lack access copies and adequate storage conditions. Converting obsolete formats has been done very selectively.

E. Awards Associations and Archives

Broadcasting awards associations have been important over the years for identifying programs that have been recognized by broadcasting professionals as superior productions based on performances by actors, or on writing, directing, or some other aspects of production by which the programs are judged. Entertainment programs as well as documentaries, news, and public affairs programs have received numerous awards and comprise an important historical record of American broadcasting. As a side benefit of the awards process, copies

of some program winners and nominees have been placed in archives for safekeeping and public access. As noted above, the Academy of Television Arts and Sciences regularly deposits in UCLA its Emmy-award winning programs, plus the nominated ones. The Leonard Library of San Francisco State University receives Emmy winners from the local chapter of the National Academy of Television Arts and Sciences. The Dupont Award-winning programs in broadcast journalism are housed at the Department of Communications at Columbia University.

The largest award collection is the Peabody Award Archive maintained at the University of Georgia. Although the archives was founded in 1976, its television holdings date from 1948 and consist of 2800 reels of film and about 21,000 videotapes, including entries and winners. The collection grows by more than 1,000 items yearly. Scholars and other researchers benefit from these collections because of their wide range of subject matter and because they represent all television genres in national and local broadcasting, public broadcasting, and even children's programming. Columbia University does not have an archival program for its copies. San Francisco State lacks the means to duplicate its collection. UCLA can only make selective preservation copies, and the Peabody Archive is limited to analog-to-analog copying. All in all, there is no assurance that the content of these collections will survive into the next century.

BROADCASTING MUSEUMS

A. Museum of Television and Radio

As an institution dedicated to promoting public access to the audiovisual history of American broadcasting, the Museum of Television and Radio has perhaps the nation's most visible television collection. (97) The basis for its success started with a handsome endowment from William S. Paley, who from his vantage point as founder of CBS, persuaded the other networks to contribute programming to the museum's collections. First established in 1975, the museum moved into a newly designed building in midtown Manhattan in 1991, and, as another milestone, opened a sister museum in Los Angeles in March 1996; it is now described as "one museum with two locations."

Approximately 50,000 television programs are included among its holdings as well as some 10,000 television commercials. Originals consist of videotape except for 5,000 film-based subjects. The growth rate is estimated at 6% a year.

MTR has established a protection program based on the principle of making a consistent or systematic master tape of each program. This suited the museum objectives because in many instances donors did not deed originals to the museum, only copies made by the donor or by MTR itself. During the 1970's, when MTR first started operating, its master format of choice was 3/4-inch U-matic; today it is mostly D-2, a digital format. MTR uses Hi-8 for its reference copies and D-3 to support its exhibits and other outreach activities. The entire television holdings have been replicated in D-3 for the Los Angeles site. MTR's preservation strategy assumes replacing the U-matic masters, either by retrieving the originals and re-copying them or by reproducing from the 3/4-inch cassettes. Additionally, another feature of its strategy is to store masters off site in a climate-controlled storage facility.

MTR complements the work of television archives primarily through its efforts to interpret the history of American

broadcasting to the general public. Paley himself saw museum interpretation as one of the greatest benefits for the general public. MTR has carried out his vision by providing a user-friendly research environment in attractive surroundings, open to all visitors regardless of purpose or credentials, with special accommodations for scholars, school groups, and seminars. Altogether, the museum's outreach programs have done much to raise the level of public awareness of the importance of broadcasting in our history and culture. The museum obtains funding from its endowment, from cash donations, through in-kind donations from manufacturers of television equipment and videotape, through voluntary contributions at admission, marketing of museum products, and through other sources.

In addition to exhibits and a variety of special programs, the act of interpretation manifests itself in the collections. The materials are acquired through contractual arrangements with the networks, studios, and other producers, and through solicited and unsolicited offers. Regardless of source, the selections are governed by a desire "to establish a balanced collection of significant programming that represents all important genres." Selections are made of national and local programming, including some representation of international programming. Evaluation criteria include historic significance, social relevance, and artistic excellence, evidenced by awards. Scholars and the creative community have an opportunity to influence staff selections. Rarely does MTR keep entire runs of series, only what represents the most important episodes or issues. Truly a collection, with each item carefully selected according to the staff's working criteria, the museum's holdings tend to stimulate research in some areas while precluding it others, and although its holdings may represent highlights of materials held in television archives around the country, by virtue of its selective policy, they do not duplicate other holdings, in particular, in the area of television news.

B. Museum of Broadcast Communications

Founded in 1986, the Museum of Broadcast Communications is the second largest broadcast museum program in the United States; its collections document broadcasting history on a national level with special emphasis on the Chicago metropolitan area and the midwest. Currently it holds approximately 10,000 television programs and 8,000 commercials. The museum tends to acquire originals and prepares master recordings on 3/4-inch cassettes. Faced with significant arrearage in cataloging and transferring originals, MBC has undertaken several innovative steps to raise funds to support its work. It developed a partnership with NBC for the transfer of 2-inch tapes of Tomorrow interview shows featuring Tom Snyder in the 1960's and 1970's. Though directed at its radio holdings, MBC negotiated a donation to accompany the acquisition of radio programs sponsored by the Wrigley Company of Chicago. It has also experimented with grass roots campaigns to raise money.(98)

CHAPTER FOUR:

LOCAL TELEVISION NEWS ARCHIVES

LOCAL TELEVISION NEWS ARCHIVES

Introduction

The most devastating losses have already occurred among files of news film and videotape produced by local television stations throughout the United States, devastation that has taken place because station owners and executives, often remote from daily broadcasting operations, failed to see much cost-benefit value in keeping recordings of old news. In the mid-1970's, a period marked by the transition from 16mm news film to 3/4-inch U-matic cassettes, about 700 commercial television stations were operating in the United States. Less than 10% of the stations transferred their news film to public archives. The rest was mostly destroyed.

Converting broadcast operations to Electronic News Gathering (ENG) prompted the wholesale destruction of entire film libraries, some of which had spanned 25 years of local and regional history, from the fifties to the seventies. From management's point of view, news film files were unwieldy, difficult to access, took up costly storage space, and, in an industry that rarely looked toward its past, offered little potential for rebroadcast. Some managers felt the files represented legal liability if placed in the wrong hands. Copies of complete newscasts were never saved because very few were recorded; only the film inserts and millions and millions of feet of field footage in small rolls were left over. Over the years camera operators and archivists have traded ironic stories of how entire libraries were discarded in dumpsters, deliberately burned, or just given away. News film cameramen frequently took what they wanted assuming it would only be destroyed in the end.

Devastation of local news film libraries still continues. Earlier in 1996 the U.S. Assassination Records Review Board transferred local news footage to the National Archives showing events in Dallas just before and after the assassination of President Kennedy. A station employee had kept the original footage for years as a personal possession and later entrusted a copy to a friend. Last year a projectionist noticed several cartons at a local Washington, DC, station about to be discarded and casually asked for them. The cartons contained rare local news film from the 1960's and 1970's, in a capital city where no news film libraries survive. An on-camera interview with Sirhan Sirhan at a protest against the United Nations taken before his assassination of Senator Robert Kennedy was destroyed. (99) At least one local station in New York has under consideration a plan to destroy its news film, in a city where no commercial

footage has been placed in a public archives.

Widespread indifference toward the historical value of local news footage has also continued into the era of videotape. Like the network national news there is no FCC requirement that local newscasts be saved. Video cassettes are mostly erased and recycled. Stations rarely keep copies of complete news programs more than a week. One journalist reported that the video coverage of Jerry Brown's governorship in California was expunged. "Untold wholesale destruction has taken place through the erasure and recycling of \$20 video cassettes."(100)

Harry Sweet, a local news cameraman who worked in the Sacramento area, is one of the genuine rescuers of this heritage. He persuaded KCRA to donate nine million feet to the Sacramento History Center. Upon learning that KQVR's news film was scheduled to be thrown out when their station moved to new facilities, he rescued six million feet, 1967-81, for the California State University at Sacramento. Among other historic subjects, it contained coverage of the Robert Kennedy presidential campaign in California and his assassination in Los Angeles, the Symbionese Liberation Army's kidnapping of Patty Hearst, and Ronald Reagan's inauguration as governor.(101) Among his recollections, Sweet remembered talking to someone who worked in a Pittsburgh station that had just burned three million feet of news film.

A survey presented to the National Center for Film and Video Preservation of the American Film Institute in 1986 sketched out the devastation taking place to our television heritage across the nation. The survey included 107 of the oldest television stations in the United States, which tended to be in the larger broadcasting markets. Of the 69 stations which responded, only 22% kept news film; if one assumes stations not responding likely did not retain news film either, then only 14% of the surveyed 107 stations kept news film. This confirmed the destruction of the vast majority of America's earliest news film. The report further concluded that station employees were generally not well informed about their film holdings or about the voluntary moratorium on destruction the Center was trying to promote.(102)

Currently almost 1700 commercial stations are broadcasting in the United States.(103) In 1980, pretty much the end of the news film era, 706 commercial stations were operating in the United States. By any measure less than 10% of the news film libraries survive.

A variety of institutions throughout the United States have indicated custody of daily collections of television news. (See Appendix C.)

--There are about 48 local television news collections in the United States.(104)

--The total footage nationwide is estimated at over 100 million feet.

--Most have acquired local television news collections by donation or solicitation.

--Only a very small number of local television news archives acquire collections by recording off-air.

--At the present time local television archives have over 11,000 obsolete videotapes to copy.

--Organizationally local television archives can be described as follows:

- a. Historical societies: 13
- b. Universities, public and private: 20
- c. State and municipal organizations, including public

libraries, state archives,
and museums: 11

d. Other categories: 4

--Only 31 states have at least one local television news collection.

--19 states have none.

--Many large metropolitan areas have no commercial local television news collections in public archives, including Boston, New York (public television news only), and Washington.

--The number of local television news archives by region is as follows:

| | |
|--------------|----|
| Northeast | 03 |
| Mid-Atlantic | 08 |
| South | 12 |
| Central | 14 |
| West | 11 |

At best these organizations maintain a loose professional affinity, some through the Association of Moving Image Archivists or the Society of American Archivists, and, due to budgetary reasons or lack of interest, some not at all. In 1987 the National Center for Film and Video Preservation and the State Historical Society of Wisconsin hosted the first local television news conference, held in Madison and sponsored by a grant from the National Historical Records and Publications Commission (NHPRC). Representatives of 30 local collections attended. Subsequent meetings have taken place within AMIA's annual conference, and local television news archivists have a means of communicating within AMIA's News and Documentary Working Group. They represent the largest constituency within AMIA. Nonetheless, this community needs to define itself and improve communications between local archives. The need for a second major local television news archives conference is imperative. Ten years since the first major conference is too long.

As it happens, the NHPRC has become the major financial supporter of local television news collections. In 1991 the Commission gave a grant to the National Center for Film and Video Preservation to prepare a curatorial manual for the management of television news film and videotape collections.(105) In addition, the Commission has granted about a half-million dollars to 11 local television news projects to improve preservation and access.(106) Where other major funding organizations have failed to take notice, the Commission early recognized the historical value of these collections. "From New York to California," Gerald George testified, "from North Dakota to Mississippi, future scholars and the public are going to be able to get at least some glimpses of what life was like in 20th century America and what our history looked like as it happened, thanks to the work of NHPRC grantees with news film and video collections." The Commission realizes, however, that its contributions can scarcely address the full work load if "we are to assure the people of this nation something more than a haphazard visual record of its remarkable history...."

Regardless of NHPRC's very helpful support, the state of the nation's local television news collections remains in reality extremely desperate. Local archives have acquired television collections without the necessary resources to care for them. As result, several deplorable conditions typify the state of most of these collections.

Insufficient staff for processing thousands of small film clips or rolls, thus inhibiting access and preservation

work.

Nonexistent or idiosyncratic finding aids compiled at local stations usually without the benefit of professional librarians, again inhibiting research access.

Use of originals and lack of reference copies, risking permanent damage.

Lack of intermediate copies or protection copies.

Lack of a sufficient number of film viewers.

Lack of appropriate video playback and recording equipment for anything but 3/4-inch and 1/2-inch formats.

Use of low resolution 1/2-inch for off-air copies as an economy measure.

Lack of shelving space and other storage facilities, which discourages dispersed storage.

Lack of professionally trained technical staff.

Lack of staff to devote exclusively to the management of the television news collections.

No local television news archives indicated the availability of cold storage facilities for color film originals, and only small number indicated low humidity storage, below 40%, for film and videotape.

Most local archives did not receive underlying rights and title along with the physical property, a condition that has prevented them from earning preservation funds from the potentially lucrative sale of stock footage.

Two case models: San Francisco State University and the Louis Wolfson II Media History Center.

These two archives are worth discussing in some detail not because they represent two extremes but because their problems are symptomatic of the entire field, and yet they have achieved a certain measure of success while working with limited resources.

Established in 1981, the archival program at the Leonard Library of San Francisco State University centers around news film from KPIX and KQED, both local affiliates. The holdings document the rich and colorful history of San Francisco. Altogether there are about ten million feet. Not having received a transfer of copyright, the archives earns no income from the sale of stock footage but does charge a \$35 per hour research fee to reimburse the archives for some of the staff time.

Since 1981, the archives has received \$135,000 in grants, including \$55,000 from the NHPRC to organize, repair, and transfer part of the collection. Interns and volunteers, for lack of permanent staff, perform essential roles in reducing the arrearage in examining, repairing, logging, compiling small reels on to uniform size reels, and re-housing. Only a small portion of the collection is catalogued and indexed. Searching is difficult for the bulk of the collection because a great deal is still stored in huge cartons.

Following the archives' own established procedures, it takes one person to process 50,000 feet each month. At this rate, a backlog of about 17 work years exists; not an unmanageable number if two or three staff positions were made available. In addition, there is an acute equipment shortage with no backup players and no players for basic formats like Betacam. Little or no preservation copying has taken place and in most instances originals must be used for reference. Storage conditions are also inadequate. Faced with overcrowding and underfunding, the university must increasingly focus on its

basic educational mission, leaving few resources for audiovisual archives.

Founded in 1986, the Louis Wolfson Media History Center has been able to succeed because its frequent educational programs have promoted public awareness of the value of preserving local television news and have brought recognition to and support of the Wolfson Center's work. Established jointly by the Miami-Dade Public Library and Community College, the University of Miami, and the Wolfson Foundation, the Center was set up in 1986 to receive the first transfer of the news film from WTUV dated as early as 1949, some three million feet, the only news film collection to survive in South Florida. This collection now amounts to more than ten million feet in addition to the other Florida-related collections donated to the center by a variety of donors. Also, the Center records sixty hours a week off-air since the local stations only keep their broadcasts about one week. Most importantly, the Center received the transfer of copyright from WTUV, thus allowing earnings from the sale of stock footage to be used to fund preservation and other archival activities.

The Center has a fairly active stock footage sales program that attracts research requests worldwide. The collection richly documents the entire transformation of Miami and South Florida, profoundly influenced by the consequences of the Cuban Revolution. The impact of the Bay of Pigs invasion in 1961 and the Missile Crisis of 1962 on Floridians is shown. But the value does not have to relate to compelling national topics to be important to the state or locality. The collection shows the ethnic transformation of the region with its new human dynamics and interrelationships. In recognition of the importance of the Center's work the Florida legislature gave it an official designation in 1989 as a statewide repository for film and television materials relating to the history of Florida.

Nicely situated in the Miami-Dade Public Library, which covers overhead costs, the Center emphasizes public outreach and education. The Center conducts numerous seminars and screenings each year, often inviting guest television producers. Among the seminars are, "Historical Images: Ethnic Diversity in Miami," "Eyewitness Television: Moving Archives and Regional History," "Eyewitness Television: The Cuban Missile Crisis," "Eyewitness Television: 1968," and "Witness to History: with Congressman Dante Fascell"; the latter, conducted on the occasion of Fascell's retirement presented issues, events, and legislation that related to Fascell's career, 1954-1993, as reflected in the collection. In addition, there have been numerous retrospective screenings and film and television seminars connected with the Miami International Film Festival, all of which have increased public awareness.

Elizabeth Drew, born and raised in South Florida, who has produced a number of award-winning documentaries for public television, spoke at one Wolfson seminar:

The Wolfson Center's facility at the Miami-Dade Public Library may not look anything like Jules Verne's time machine, but it's much better. Real pictures of what life was like from all kinds of sources, all kinds of people, all kinds of perspectives. And that is pure gold to historians and to filmmakers like me and really to all of us. Because it's a way of preserving our stories, the place where the raw materials of history are kept safe for the future, visions of the Florida community not only for us and our children, but for

everyone everywhere....

The Wolfson Center has made good progress in cleaning repairing, splicing and copying its film to 3/4-inch and 1/2-inch tapes. Still the Center lacks storage space, equipment, and staff to accomplish some of its major objectives. Nevertheless, the historical value of the holdings combined with public visibility in an educational context has given the Center useful leverage for obtaining grants from state, local, and national sources.

General Assessment

For most local television news footage from the late 1940's to the 1970's it is already too late to do anything. Programs were just not recorded and millions of feet of film clips and outtakes were destroyed. Television stations still erase and recycle their video cassettes. Extant collections scattered around the nation in public archives are in a kind of hold pattern. While they may not be destroyed, it is far from certain by any means that they will be preserved. A consistent refrain from the archival community points to a uniformity of needs for greater operational resources. Without sufficient resources (staff, supplies, equipment, facilities) the local television archives cannot hope to accomplish even rudimentary preservation steps. Acetate film will succumb to vinegar syndrome, color film will fade, and originals will deteriorate from abusive handling. Inexorably a unique record of contemporary American history will be lost forever.

The states, localities, and regions, must take primary responsibility for contributing the resources that document their own history. However, local news television projects that have broad positive results (such as establishing model programs that can be shared with other archives, encourage consistent procedures, or encourage sharing of information for the benefit of a wider archival or educational community) are also appropriate for funding at a national level. Further, local archives should negotiate for the transfer of copyright before accepting television news collections, perhaps even re-opening negotiations on past transactions. Archives should seek donations of equipment from stations, and while it may be too late to seek the donation of film equipment, video players/recorders and ancillary equipment may be available from time to time.

The idea of a moratorium on further destruction proposed by the National Center for Film and Video Preservation should be re-introduced, specifically aimed at commercial television stations and conveyed through the National Association of Broadcasters. These stations should be encouraged to seek the cooperation of local archives to discuss donations or transfers. In addition, in view of the unconscionable practice of recycling news tapes, local archives should be encouraged to set up off-air taping programs of news programs as permitted under the Copyright Act of 1976.

VIDEO ART AND INDEPENDENT VIDEO
VIDEO ART AND INDEPENDENT VIDEO

Introduction

So far this discussion has addressed the preservation of television and video materials in terms of established or mainstream media. Yet another universe of culturally and historically significant videotape exists on the fringes of established broadcast media where preservation is the most difficult to accomplish. To be specific, the works of video artists and independent video producers face a precarious existence. Researchers find it difficult to determine what was produced and what still exists. Many of the earliest tapes have already decayed.

Important video collections, maintained on the east and west coasts and in such cities as New Orleans, Chicago, and Minneapolis, are held by museums, libraries, media centers, college audiovisual departments, nonprofit distribution outlets, community organizations, and production units; individual titles are held by original producers or artists in closets, basements, and other unsuitable places. Many titles are located in collections in New York state as a result of the New York State Council on the Arts's early interest in the development of video as an art form beginning as early as 1969 and 1970. By the 1980's NYSCA, joined by other funders, was supporting over 80 organizations involved with video.(107) Few of these productions have found their way to traditional archives. Virtually none have been registered for copyright, and consequently the Library of Congress has had little opportunity to acquire them.

The Experimental Television Center, whose collection shows contemporary technology-based art practices since 1969, confronts problems symptomatic of a larger video culture. Their staff has observed severe sticking on open-reel tapes, which are gummy, jam in players, and cause heads to clog. Playback equipment for obsolete formats is difficult to maintain and almost impossible to repair. Similar problems have been observed with 3/4-inch U-matic tapes recorded only 10-15 years ago. The record of the Center's past is inextricably linked to the future of 1/2-inch open-reel tape, a medium on verge of total extinction.

Born out of the social and political turmoil of the 1960's, these video works were among the first tangible artistic and documentary productions made with Sony's lightweight portable video system known as the "port-a-pack," originally marketed for the consumer but adopted by artists and activists. In contrast to the networks whose large video cameras were tethered like umbilical cords to relatively immobile 2-inch videotape recorders in studios or equipment trucks, artists and activists adopted port-a-packs as a new means of documentation and expression. With unencumbered mobility, they were free to experiment, to explore new relationships between light, space, and objects, still or in motion, and outward and inner personal experiences. Others, more focused on their own political and social environments, chose to document aspects of society they perceived were rarely treated by the mainstream media or which needed to be presented in a different perspective, and thus they challenged the often monolithic world of network television. They found outlets in community centers, libraries, college campuses, public access channels, and public television. Video as original art and video as social and political commentary were two identifiable

trends of production, occasionally overlapping in style and content. According to one assessment,

The collections reflect a unique period in the American social history, where the boundaries between art and community development were blurred; in many cases artists became community activists and activists experimented with creative uses of the new medium of video to interact with and energize community members.(108)

Many programs, originated by experimental television workshops, were carried out in conjunction with public television; some were aired on public television; others were synthesized for network television and, arguably, influenced networks' future production in content and style. Nonetheless, their enduring significance is not so much their innovative use of a new communications technology as it is their rich documentation of an era that goes well beyond the broadcast media's then-prevailing attitudes and concerns.(109) Because these genres are not as well known as the broadcast media, some review of their production may provide helpful background information.

Two movements emerged out of independent video; one had a kind of engag, confrontational style and the other represented a process of self-discovery in which communities could identify for themselves the underlying dynamics that militated against social change and economic improvement in their lives. What the movements both had in common was their ability to make television transcend the limitations of mere entertainment. As Deirdre Boyle has observed,

Hundred of hours of documentary tapes were shot by underground groups, tapes on New Left polemics and the drama of political confrontation as well as video erotica. Video offered an opportunity to challenge the boob tube's authority, to replace television's often negative images of youthful protest and rebellion with the counterculture's own values and televised reality.

TV/TV covered the 1972 Democratic and Republican Conventions with port-a-packs producing documentaries that had a sense of irreverence and verve. Downtown Community Television (DCTV) produced programs on social issues at the local level like The Police Tapes (1976) and occasionally on international ones, like Cuba: The People (1974).(110) Started in 1986, Deep Dish Television, the nation's first grassroots satellite television network, downlinks to over 300 public access stations and some PBS stations. Given broadcast media's emphasis on New York and Los Angeles, one of the Deep Dish's aims is to cover other parts of the country, for example, Native Americans and Chicanos in the southwest. The Peoples Video Theater and the April Video Co-op are still other examples. Paper Tiger produces critiques of mainstream media which are shown on public access channels and universities; for example, they produced programs that were critical of the television news coverage of the Gulf War. Many of these groups participate in an organization called the Alliance for Community Media.

Independent video includes community video, an innovative genre used to assist in the ameliorating the lives of people who lived in poverty and were victims of racial discrimination. During the 1960's and 1970's community video appeared all over the United States modelled on Canada's "Challenge for Change" project which employed film and video

to involve communities in their economic and social development. In the United States, the Office of Economic Opportunity, a federal agency, sponsored film and video projects aimed at urban and rural groups, prompting them to speak on and off camera in dialogues on poverty and racism in their own communities.(111) The tapes were shown to the same groups to prompt further discussion and they were used in other communities.

As another example, Broadside TV originated local cable programming produced by community video activists in Appalachia during the 1970's. As Boyle has observed, "they helped extend the concept of oral history to video and gave isolated people living in the hills and hollows of Appalachia a tool to confront strip miners, state legislators, and future generations."(112)

Community-based video production grew out of these democratic traditions and the idea was a free speech of equal opportunity, of active participation in government and government responsiveness to local needs that are so vital. When artists and community producers picked up the first open reel half-inch video port-a-packs in the late sixties, the relationship of regular ordinary folks to the telecommunications industry changed dramatically.(113)

As far as can be determined, no comprehensive effort has been made to list, catalog, or document let alone preserve this remarkable record of the use of video as a two-way street of communications, especially for the era of the Vietnam war when many Americans raised fundamental questions about the credibility of our institutions and the direction of our social policies. Tragically, for lack of preservation funding, the remaining audiovisual evidence hangs on the edge of the abyss.

Advocates of video art look with envy at the programs established for film preservation, an indication of their impoverished state of funding.(114) Many early works, 1965-1975, have been lost or left to decay.(115) With more and more frequency, debates about the origin, character, form, and meaning of video art are becoming theoretical and abstract, because of a nationwide inability to identify sources, consult original materials, and make them available to a wider public.

The preservation of video art faces severe difficulties. For example, multiple or multi-channel video has been described more like a work of environmental or light sculpture that must be "installed" by the artist because it often requires several cameras, monitors, and players that interact with objects and viewers. Arguably, no two installations can ever be alike, and the task of fixing this artistic experience may be unattainable. Video art works consisting of single channel or conventional videotape have their own set of typical preservation problems, among them the critical importance of working from an original in an era of analog recording now in decline.

Fortunately, under MoMA's video art acquisition requirements, the museum obtains three copies: a submaster, 3/4-inch and later 1-inch (the artist retains the original), an exhibition copy, and a study copy. MoMA has about 800 titles in its video art collection, and it too has been a beneficiary of NYSCA. MoMA has had some success in raising preservation money from exhibition of video art. Like film preservation, MoMA is a leader in this field, but few other organizations are in a position to emulate their policies without additional funding.

Established 25 years ago, Electronic Arts Intermix has a library of about 2,000 titles representing work by over 200 artists. EAI is primarily a distribution center but tries to transfer early tapes upon request. Among its most frequent requestors are curators, writers, and artists who would not, presumably, support higher fees even for EIA's preservation activities.

One exceptional bright spot in this litany of generally underfunded arts projects is the Andy Warhol Preservation Project, which receives the support of the Warhol Estate and Foundation. When he died in 1987, the artist Warhol left some 1,000 hours of videotapes which he and his associates had made since 1965, including about 100 hours of port-a-pack video, 1-inch helical, 3/4-inch, and Betacam. The Estate and Foundation supported the copying of the tapes primarily to 1-inch Type C and 3/4-inch. Provisions have also been made for cataloging.

The earliest video art works were recorded on the 1/2-inch open-reel format, a far less stable videotape than anything used by the networks.(116) Accelerated by generally poor storage conditions, videotapes are decaying due to fundamental deficiencies in the product's engineering--after all, it was only designed for consumers--to the destruction of video heads, and to the scarcity of playback equipment last manufactured more than twenty years ago. As a group, these collections and the organizations that work with them are more concerned with salvaging 1/2-inch open-reel videotape than any other groups or organizations.(117)

A Media Alliance grant application submitted to NEH for funds to catalog this video genre was rejected in 1995 and in 1996. As the grant points out, many media arts groups are unfamiliar with professional cataloging practices and lack computers and training facilities, making the development of shared data fairly difficult.

"Within the media arts field we are acutely aware that access to most media arts collections is extremely limited, and in some cases impossible. Outside the catalogs of a few distributors, organizational and funder records, and a loose network of contacts within the field, there is no way to locate early works."(118)

Fortunately several organizations have been aided by cataloging support from the American Film Institute's National Center for Film and Video Preservation and have entered their descriptions into the NAMID MARC-compatible database maintained by the Center. Notwithstanding, an overall intellectual framework based on cataloging is sorely lacking. It is difficult for researchers to ascertain what was made and what may still exist on a nationwide basis.

The interests of the diverse organizations that maintain collections of these videotapes have been well served by arts advocacy groups such as the Media Alliance in New York and the National Alliance of Media Arts and Culture in Oakland, and also through the production facilities and technical assistance of the Bay Area Video Coalition in San Francisco. In 1991 Media Alliance held a Video Preservation Symposium which brought together more than 60 representatives of arts and independent video groups, who were given an overview of problems of preserving early videotapes.(119) BAVAC held a similar conference in March 1996 as a way of advocating and advancing preservation efforts. BAVAC, though primarily a production center for nonprofit organizations, has performed low-cost transfer work for such groups as the Minnesota

Historical Society, the Gay and Lesbian Archive of the San Francisco Public Library, the Video Data Bank, and Electronic Arts Intermix.

In addition to those already mentioned, there are important collections held at the Long Beach Museum, Video Free America, University Community Video, Art Institute of Chicago's Video Data Bank (120), Appalachian Archives, New Orleans Video Access Center, Media Bus, Videofreex, Global Village, and the Kitchen, Buffalo's Media Study Center, among others.

Assessment

These video materials represent a unique body of work, "a major investment of both public and private funds into a historical and cultural legacy that unfortunately remains largely out of reach of both scholars and the public." (121) There appears to be little awareness of their value outside specialized arts circles. Many of the organizations having custody of these materials lack preservation expertise, appropriate facilities, and even the staff to catalog or describe them.

Media arts tend to be the most underfunded of all the arts, and any available funds usually go to production and not preservation, a state of affairs that closely parallels the situation in public broadcasting. Current and proposed cuts in NEA's grant allocations are perceived as very threatening to video art, not only to its past record as a genuine art movement but also to its future.

None of the community video organizations have funding to archive their programs, and no major nationally oriented repository has collected them. However, it is easy to see that in the future these programs will take on comparable historical importance to the films from the 1930's made by the labor activists of the Film and Photo League now housed in the Museum of Modern Art. Only the videotapes in current distribution have a chance of survival. This gap will distort the history of several decades.

The persons who produce or work with these materials are uncompromising advocates of the historical and cultural value these collections represent, such as Robert Haller of Anthology Archives:

Decades from now the videotapes made by independent and experimental artists will be at least important if not more so as the product made by the networks and seen by millions. Though the audience for independents is small, they speak with an uncompromised authenticity less frequently found in the mass media. (122)

Barbara London of MoMA has described video art as the "true art of the 20th century":
Video is a major art of our time. There are a significant number of international artists who have concentrated on video and installation throughout their distinguished careers. They have developed distinctive themes and stylistic vocabularies. (123) Video art has already merged with computer art and through digital imagery will no doubt emerge in other forms and permutations.

The needs of the independent media arts community merit an on-going task force devoted to preservation and access issues, a task force linking the expertise of local groups with that of

nationally recognized centers for video preservation. One place to begin is to conduct a nationwide survey to determine where and how these collections are stored and whether collaborative strategies are possible. In addition, it is necessary to conserve, catalog, and bring these works to the attention of a wider public and to scholars and educators. Public television, cable television, and other broadcast outlets should be explored for this purpose.

Collaborative preservation efforts are needed such as the shared use of storage facilities, technical expertise, and access to proper equipment. Because it may not always be possible to place these collections in major repositories, shared or regional storage facilities may be more appropriate. As a nonprofit production center, BAVAC has re-formatted some early tapes at relatively low cost to other nonprofit groups, but more nonprofit facilities, services, and equipment are needed.

CHAPTER SIX:

ACCESS

ACCESS

A. Educational Value

By passing the American Television and Radio Archives Act, Congress demonstrated that it recognized the research and educational value of broadcast programming and therefore mandated the Library of Congress "to preserve a permanent record of the television and radio programs which are the heritage of the people of the United States and to provide access to such programs to historians and scholars without encouraging or causing copyright right infringement." Further, defining this area of interest very broadly, Congress included programs of present or potential public or cultural interest, historical significance, cognitive value or otherwise worthy of preservation. The mandate included published and unpublished works, which, in terms, of television have their own meanings.(124) Congress also defined its interests to include television programming in other countries as categories appropriate for preservation in the Library of Congress.

The law's origin was based, in part, on an increased recognition of the growing importance of television in contemporary American society and, that to achieve an understanding of our civilization in any scholarly manner, it would be necessary to have access to past television programming. To be sure, the history of television as a discipline is a legitimate academic area of inquiry, but Congress also envisaged multidisciplinary values, in safeguarding and preserving the television heritage; in history, political science, cultural studies, sociology, ethnography, and so on almost without limit. Television has become the primary form of entertainment and information. By 1960 almost 90% of the public had a television set and watched about five hours each day.(125) Since the early 1970's trends in university curriculum and research and publishing interests have more than justified Congress's expectation.

Television programs used as part of classroom instruction allow teachers to introduce many aspects of modern American history and a wide range of social issues. All television subjects have some educational value. "It is the total television experience," as media historian Tom Cripps observed, "that will teach our offspring what our culture was like."(126) Whether its politics, gender relations, racial and ethnic issues, or national psychoses or anxieties, all genres have something worthy of academic analysis. Rather than dismiss it as a vast wasteland, Thomas Doherty observed that television shapes our imagination and colors our existence; it reflects the values Americans esteem and the values by which they live; and even the leaders we elect are transmitted and mediated by television.

"But in tracing a half century of American life via television, I--and most of my students, I really believe--found the material rich, complex, and demanding: the death of presidents, the immediacy of war, the constitution in action. The chronology alone tracks a whole range of cultural transformations, many impossible to imagine without the influence--salutary and baleful--of television. Would the civil rights movement have finally penetrated the American conscience without television? Would crime and illegitimacy have exploded without the commercial drumbeat of self-gratification and instant gratification? Surely, these are subjects and questions to be pondered in an undergraduate education."(127)

One witness compared the study of television to the value of the 19th-century American novel in a different historical context. "To talk about politics business, and domestic life," Michael Curtin argued, "to talk about these and many other issues in the latter half of this century without making reference to television is to delude oneself with the notion that television doesn't really matter because it's just cheap entertainment. On the contrary, a growing number of prominent scholars would now suggest that inscribed in these texts are the aspirations, fantasies, and power relations of this society. They are as much a part of our social and cultural heritage as the billions of printed pages in archives and research libraries across the country."(128)

Numerous scholars have been acutely interested in the role television plays in defining social relationships among groups, with local communities and national leaders, and the world at large. "These interests," stated Lynn Spigel, "necessitate the preservation of our televisual past as a source of understanding a major component of the nation's history and life."(129) Without the preservation of television and video materials, said Janet Bergstrom, representing the thousand-member Society of Cinema Studies (SCS), "we would be prevented from carrying out our primary mission as educators and researchers. Our academic field, which is central to charting the history and culture of the United States, would cease to exist."(130)

Researchers generally favor broad and comprehensive collection policies. However well intentioned, artful selections preclude research possibilities rather than facilitate them. Preserving a few popular hits, special episodes of series, highlights, and anthologies of programs tend to dictate research trends to the next generation. Selections cannot, they argue, accommodate the multidisciplinary interests of researchers and scholars. As described by Spigel, scholars place significant emphasis on the close analysis of television series as a way to understand how these series have both shaped and been

shaped by larger, social economic, cultural, and artistic trends." They need to understand the rhetorical and aesthetic forms, and in order to do this entire series are necessary.(131) John Caldwell argued that skewed samples falsely "totalized" the early 1950's as a "golden age" of live anthology drama when Hollywood telefilms were just as important from the start.(132)

Scholars who impart their knowledge and understanding to their students also influence future television production. Producers and writers, Caldwell has observed, use insights from television and cultural studies because they have reviewed and analyzed them at universities. Good studies, therefore, are in the production industry's interest.(133)

Television News and Documentaries

Television news and documentaries are also an important part of this audiovisual legacy. Scholars continually debate the role of television network news in American life and politics. The number of viewers for evening news for all three networks in 1980 was 56 million, contrasting with a steady decline in newspaper circulation. The popularity of programs like Sixty Minutes and other television magazines attest to television's influence in the news arena. Would the civil rights movement and the peace movement against the Vietnam War have entered so many American lives without television news? Perhaps, but certainly not as fast and as not as dramatically and persuasively, day after day, with images and words that only television can convey. Was television news just a neutral observer in these momentous changes in American political and social attitudes or did it act as a catalyst hastening events and steering them toward an underlying agenda consistent with the political beliefs of the broadcasters themselves? As media historian Erik Barnouw has suggested, television news has been used by many different persons and groups for different reasons: "Thus television news is seldom a record of events that would in any case have happened. It is rather the dramaturgy of current history, in which many, with diverse motives collaborate."(134) It is easy to predict that scholars will continually debate the role of television news coverage in areas that have been critical in our collective history such as international conflicts, presidential election campaigns, gender, race, poverty, crime, and the environment.(135)

If the visual record does not survive, such debates can only lead to frustration. The Federal Communications Commission never required an audiovisual or written record of television news broadcasts, only logs, until 1984 (when even this modest requirement was removed). Speaking to the National Association of Broadcasters on April 1, 1968, President Johnson said,

Unlike the printed media, television writes on the wind. There is no accumulated record which the historian can examine later with 20-20 vision of hindsight, asking questions: "How fair was he tonight? How impartial was he today? How honest was he all along?(136)

The Copyright Act of 1976 provided a persuasive incentive for the networks to record and retain fixed copies of their newscasts, because federal copyright protection extends only to works fixed in a tangible medium of expression, e.g., videotape. However, the law does not require that the videotape be preserved to enjoy copyright protection.(137) Since the mid-seventies the networks have tended to record and

retain copies of newscasts. As part of the Copyright Act, the American Television and Radio Archives (ATRA) legislation authorized the Library of Congress to record off-air regularly scheduled newscasts and on-the-spot coverage of news events. The Television News Archive of Vanderbilt University has worked cooperatively with the Library to help fulfill ATRA's mandate.

Systematic retention of televised network news broadcasts did not begin until August 1968 when Vanderbilt University, encouraged by Paul Simpson, a Nashville area businessman and alumnus, established the Television News Archive. As an acute observer of American politics, Simpson was nothing short of outraged by the public's inability to review and scrutinize television news coverage of the bitterly contested presidential election campaign of 1968. The networks themselves did not keep a videotape record of their nightly news broadcasts until well into the 1970's when the advent of 3/4-inch U-matic video cassettes made it cost-effective to do so. Since the networks are not required by law to retain audiovisual copies, it is fair to ask whether they will in fact maintain and re-format some of the early cassettes which are now almost twenty years old and well past their normal life expectancy. Nor are the networks required to register their programs for copyright although CBS and ABC have done so since the 1970s, depositing U-matic cassettes at the Library of Congress. In addition since 1976 CBS News has deposited as a gift to the National Archives 3/4-inch copies of its hard news and special events coverage.

Like the 35mm theatrical newsreels before them, television news broadcasts have many shortcomings as scholars are wont to point out. The format doesn't exactly lend itself to full explanations: reports are necessarily superficial, transitory, and often inaccurate; cause and effect relationships from one story to another are often elusive. Nevertheless, viewed collectively as a daily accumulation of audiovisual information, the news broadcasts constitute a tremendous record of American history in all its political and social manifestations.

Local television news represents this same research potential on a regional scale. As Lisa Wood put it, "People trust and respect their local news stations for information gathering on issues that effect them directly. Local stations act as filters through which Americans get their world and national news, shape their political opinions, their sense of culture and their measurement of the quality of life."(138) The accumulated audiovisual record of local television news broadcasts, potentially, represents a treasure trove of information about the history of states, cities, towns, and regions throughout the United States, including its leaders and residents, the architecture and look of buildings and places, crises and disasters, ceremonies and parades, trades and crafts, and other social phenomena that in their entirety document the routines and processes of daily life as they have evolved over the last fifty years. What would be the value of a comparable visual record from Europe in the Middle Ages or from the United States in the 19th century?

Regrettably, the preservation of local television news is precarious. Most of the local television news film libraries, many of which dated from the late 1940's, were destroyed at the direction of station managers or owners concerned with bottom line profits and losses and cost-benefit values. Such deliberate and willful destruction, arguably, stems from the failure of the archival and educational communities to create

a sense of awareness of the value of local news film collections. Fortunately some collections have survived. (See Chapter 4 for a discussion of local television news archives.)

Public Television

Scholars benefit from the study of commercial television because of its broad audience appeal and its influence on political and social life in the United States. Although historically not as popular, public television deserves special recognition as a unique record of American arts, ideas, history, nature, and sciences whose enduring educational value is magnificently evident.

Among the dramatic works, for example, are the first television productions of the early plays of Sam Shepard and Edward Albee recorded for NET's Playhouse and Theater in America as well as the television debuts of numerous American actors such as Dustin Hoffman, Meryl Streep, and Kevin Kline. The long-running series Great Performances is a unique record of American opera and dramatic works throughout the United States. Public television broadcasts contain programs about or performances of America's greatest musical artists: Aaron Copeland, Leonard Bernstein, George Gershwin, Duke Ellington, Itzak Perlman, Beverly Sills, and Kathleen Battle, to name only a few. The programs also constitute a record of American dance since the 1960's, made with the collaboration of the choreographers. Many artists, interviewed and recorded on camera, described the ideas and events that influenced and shaped their works.

Taken together, the performances and interviews provide an incredibly rich and comprehensive record of American cultural life, arguably, at its best.

Past public television also includes coverage of news and public affairs in the MacNeil-Lehrer Newshour and Frontline. Because their formats are longer than commercial newscasts, they can report topics in depth and explore relationships and causes and effects. This is in contrast to network reporting which can often be cryptic in its brief presentation. Public television news programs represent a unique record of American political life for the last 25 years.

Other programs like the American Experience consist of documentaries that provide a record of American civilization, its history, institutions, portrayals of life in the United States, emphasizing ethnic minorities. Many of these productions represent years of research by determined documentarians, usually funded by government and foundation grants and donations, from patrons, friends, and relatives, and even by second mortgages.

B. Obstacles to Educational Use

From the viewpoint of scholars numerous difficulties make the use of television materials for research and teaching an arduous task. These obstacles range from fairly mundane problems such as not having the right playback equipment to complex legal questions incorporated in copyright law and issues of fair use. There are economic, institutional, and legal obstacles to educational use that do not always arise in the world of printed materials.

Despite the apparent surfeit of older television programs on

cable broadcast channels like Nick at Nite, SciFi Channel, Arts and Entertainment, the History Channel, and The Family Channel, scholars argue that access to older programs is one of the main problems. Few old television programs are in distribution via video cassettes. Certainly very few older news programs are in distribution except as recycled into new documentaries. The available programs tend to be the popular hits and not the mundane and ordinary. The public identifies popular programs with the network that broadcasts them without realizing that most of the entertainment programs are produced and owned by major Hollywood studios or independent producers. Networks do not usually retain file copies if re-broadcast is not anticipated and return the programs to the producers or studios that made them. Networks cannot accommodate scholars, nor can studios or independent producers, who frequently sell off their rights. Service for scholars just does not fit within the corporate mission of production or syndication companies.

Scholars with easy access to cities like Washington, Los Angeles, and New York, which house the largest television collections, have a great advantage over those who live in other parts of the country. The cost of travel for research and on-site visits has become increasingly prohibitive as the number of grants has declined. For small colleges not only travel but the cost of equipment and off-air licenses makes it difficult for libraries to service research interests. "And so," concluded Thomas Cripps, who teaches at Morgan State, a historically black university, "our distance from the mainstream of American intellectual life remains the subject of constant struggle."(139)

The scarcity of regional access has increased the demand for on-line cataloging information available through the Internet and for the greater circulation of programs through rentals or inter-library loan. Scholars point to UCLA as a good model because the television holdings are described in the university library's database, available on the campus network and through the Internet.

Due to the generally poor funding situation among the nation's television archives, scholars often encounter unprocessed collections that are effectively inaccessible. Lack of descriptions, unarranged film and videotape materials, and staff shortages militate against real access. Left unprocessed, the materials cannot be prioritized for preservation work, and in the end may inexorably, deteriorate beyond recovery.

In an era of declining library purchasing power, universities have more restrictions on purchasing copies of television footage for classroom use. If a program is not in retail distribution, the one-time purchase cost of a copy from the copyright owner is often prohibitive. The proliferation of educational CD-ROM's, while opening up a number of possibilities for creating texts and audiovisual files, together with the expansion of the television industry, has had the chilling effect of increasing the monetary value of old television programs.

Scholars realize that archives can't save every television program. But selections are often incomplete and unrepresentative. Scholars feel excluded from the selection process. Critical decisions about what to save are being made without the benefit of those best equipped to understand historical and cultural value.

Frame enlargements from television programs intended for publication in books or articles are always difficult to obtain. Enlargements are often poor in quality, and the rights are always uncertain. The problem of frame enlargements from television film and tape for use in scholarly publications is no different from the situation described in the Library of Congress/NFPB national plan for film preservation.(140) Archives have inconsistent policies about providing enlargements. To protect themselves against liability, publishers usually require a copyright authorization. The resulting fee often exceeds \$100 per frame. Scholars, on the other hand, tend to view the publication of frame enlargements as "fair use," something akin to citing quotations from another work. They consider the fees excessive, especially in the context of academic publications, with limited circulation. Even when scholars are willing to obtain clearances, ownership is often difficult to establish for many older programs and referrals to legal departments in large corporations result in long delays and excessive minimum changes.

Access to television news coverage is a difficult case. Past television news programs are not available like newspapers on microfilm. The earliest systematic collection of television news did not begin until August 1968 at Vanderbilt University and, though it continues to the present, the archives and distribution program has only started to include some of the influential CNN daily news broadcasts. CNN and NBC News broadcasts are not registered for copyright, so not even the Library of Congress has copies. Some scholars feel that Vanderbilt's rental costs are high and therefore discourage scholarly use. Many of Vanderbilt's requests are actually business-related rather than educational. The networks themselves do not encourage scholarly research; they are not set up to accommodate individual researchers. Sometimes they can cooperate, but it is not their main line of business. To obtain copies may take as long as six weeks. Union rates are charged where applicable. One network library contractor charges hourly research fees. The networks will not sell the face and voice of a broadcast journalist. Networks will not sell unedited footage based on any consistent policy, only what was broadcast. Scholars believe that extensive amounts of unedited footage and field cassettes are being destroyed according to corporate criteria that preclude future scholarly research. Scholars would like the networks to state publicly that they will preserve these materials.

On the other side, it can be said that the ABC, NBC, and CBS have done an excellent job in making transcripts available, and since the mid-1970's ABC and CBS have made 3/4-inch video cassettes available at the Library of Congress and the National Archives. ABC News and CNN have made their descriptive databases partially available on the Internet.(141) Nonetheless there is no low cost access to television news and public affairs. David Culbert, editor of the Historical Journal of Film, Radio, and Television, noticed that he has received few monographs about television news. He believes that television news has hardly been studied in comparison to print journalism because of the difficulties of accessing older programs.(142)

The most recurring theme in the discussion of obstacles encumbering research and teaching is that of copyright and fair use of all television programming. Michael Curtin, for example, said "that in an era when television is the preeminent mode of popular communication, much of what the medium circulates is unavailable for legitimate scholarly

scrutiny. It is as if we have blanked out an important part of our cultural heritage because commercial interest and copyright concerns had overridden public interest and free scholarly inquiry."(143)

Scholars believe that the Copyright Act of 1976, including its provisions for "fair use," are much too restrictive and effectively thwart and discourage educational use of television materials. Scholars would like to see all nonprofit educational use be considered fair use of copyrighted work. Media producers from public or commercial television, on the other hand, see education as a large market for many of their productions whose use must be controlled and licensed through compensatory fees. The production industry has conceded little to educators. Fair use standards as defined by a Negotiating Committee, which worked under the auspices of the House Subcommittee on Courts, Civil Liberties, and Administration of Justice, limit retention of off-air videotapes made for classroom use to 45 calendar days. Further retention would require the acquisition or purchase of a license from the copyright owner or distributor and payment of requisite fees.(144) Despite the publication of these guidelines, educators feel the question of fair use is still unresolved and that current practices are detrimental to scholarship. Accurate copyright information on older programs is often difficult to obtain despite good faith efforts. There is no copyright clearing house for television materials comparable to ASCAP, which through collective license arrangements makes it possible to streamline clearance procedures and payments. Teachers, librarians, audiovisual technicians, and the university as an institution are working under threats of litigation.

Scholars have noted that the authority given to the Library of Congress under the Copyright Act for off-air taping of programs has been limited to news and noncommercial broadcasts, to the exclusion of entertainment programs.(145) This restriction places all other genres off limits, including documentaries and soft news, which may be acquired only if they are formally registered for copyright. In addition, owing to copyright restrictions, the Library of Congress cannot circulate its television materials. A few other libraries and archives, especially at regional and local levels, are taking advantage of the so-called Vanderbilt provision of the Copyright Act by taping hard news off air. Scholars are fearful that current restrictions will make it impossible or difficult to access older programs through the new technologies.

Research and access to past public television programs are extremely difficult, primarily limited to programs placed in commercial distribution via the sale of video cassettes. Neither the Corporation for Public Broadcasting nor the Public Broadcasting Service maintains a public research facility. However, some programs are available at the Library of Congress and the newly established National Public Broadcasting Archives.

CURRENT FUNDING FOR PRESERVATION

CHAPTER SEVEN: PAST AND CURRENT FUNDING

Funding television and video preservation in public archives has been, in a word, inadequate, though there have been several important exceptions (noted below). Unlike the former National Endowment for the Arts/American Film Institute "pass through" program devoted exclusively for film preservation, no clear pattern has emerged for television and video. However insufficient film preservation funding may appear, television archivists look with envy at the past NEA/AFI preservation program, The Film Foundation, and other recent initiatives to preserve American film.

Federal funds have been awarded to libraries and archives for television projects, but there has been little or no coordination and communication among funding agencies; and thus areas of interest and agreements on responsibility remain vague.

Federal agencies awarded funding to public archives primarily to improve access. The NHPRC contributed a total of approximately \$500,000 in the past decade to ten local television news archives. The NEH awarded \$220,000 to Vanderbilt University's Television News Archive. The Department of Education awarded \$750,000 over nine years to the Political Commercial Archive of the University of Oklahoma under the Higher Education Act of 1965. The J. Paul Leonard Library of San Francisco State University received \$50,000 for the preservation of local television news under the Library Construction and Services Act. The Library of Congress has received about \$500,000 from Congress each year since 1978 to fund ATRA activities.

In the private sector, only the Museum of Television and Radio in New York, which emphasizes research and public education about the American broadcast heritage, has had an outstanding record of success for raising funds to support its activities and to achieve its long-range objectives, including the opening of a second museum site in Los Angeles. The Museum derives its income from an endowment, individual donations, donations at admission, and in-kind contributions from manufacturers. The Corporation for Public Broadcasting contributes \$50,000 each year to the Museum for cataloging and preservation work on public broadcasting materials. Around the country other foundations, corporations, and individuals have provided some support to local television news collections. For example, the Louis Wolfson II Foundation established the Wolfson Media History Center in Miami for the preservation of local television news (WTVJ).

One of the major problems has been the inability of public archives having custody of television and video materials to compete for funding on a fair and equitable basis with other audiovisual preservation projects. Foundations have rejected many grant applications because of the perceived inadequacy of videotape as a preservation medium. Projects proposing film-to-tape or tape-to-tape transfers have also been categorically rejected or given low priority. Foundations can hardly be faulted for their past reactions because public archives had yet to establish the principles for video preservation.

Several state councils on the arts have been vital sources for funding independent television production, public television,

and video artists. In recent years, their budgets have generally been cut or have stagnated. Only limited funds have been made available for re-formatting the early work of their grantees, now endangered by format obsolescence or videotape deterioration.

Lack of official state recognition has weakened local and regional funding efforts for most local television and video archives. Preservation programs that are part of state universities have only implicit recognition. Some archival programs are part of the state governments, and some legislatures have recognized the statewide responsibility of local television archives. Still others have no recognition for the efforts of archives to preserve television or video materials that are highly relevant to state and local history.

No single arrangement can best describe how public archives holding television or video collections receive their funding. In the worst case, often too typical, television materials are accessioned without any additional resources in sight. Some public archives have received the underlying rights and title along with the physical materials, thus offering a potential source of income through stock footage license fees. At least one model arrangement has been identified between a public archives and a broadcaster: Public Affairs Video Archives (PAVA) and C-SPAN (see pp. 79). Even more encouraging is the success of the Museum of Television and Radio.

CHAPTER EIGHT: A NATIONAL PLAN

RECOMMENDATIONS FOR

SAFEGUARDING AND PRESERVING THE

AMERICAN TELEVISION AND VIDEO HERITAGE

A National Plan: Recommendations for Safeguarding and Preserving

the American Television and Video Heritage

Introduction

The American television and video heritage is a heritage at risk. Early television was broadcast live, kinescope copies were used selectively, other programs were deliberately destroyed, and tapes were erased and recycled, still unfortunately the frequent practice in the production of local television news. Film and videotape vulnerability to deterioration further imperils this rich heritage, and videotape recordings may be lost to posterity if archival programs do not address format obsolescence.

That this heritage is one worth preserving has been a major

theme of this report. The passage of the American Television and Radio Archives Act as part of the Copyright Act of 1976 officially recognized the historical and cultural value of American broadcasting materials as a key to understanding our civilization. Educators who participated in the hearings eloquently and convincingly defined these values in terms of their own curriculum, research and writing. Moreover, every group or committee that has ever examined the role of television news in American political and social processes--so conspicuous during the 1996 presidential campaign--has never failed to recognize the critical importance of saving all news as aired. Our heritage would be diminished if the vast record of our history and culture, above all in the performing arts as shown on public television, were allowed to vanish. So too, the works of video art that have enhanced our museums and galleries, expanding our imagination and sensibility, and the independent video productions that have taught Americans to see their lives from a different point of view. Inaction will eventually take its toll.

Appropriately, the final part of this report contains recommendations that form an action plan in the following critical areas: preservation, access, funding, and public awareness. While the Library of Congress will exercise strong leadership in these areas, the plan can succeed only with the active participation of public and corporate archives throughout the United States and the organizations they represent. The participation of the educational community, professional associations, and members of the industry is also needed for continuing guidance and for ensuring that initiatives to preserve American television and video reflect a broad consensus of views and interests similar to the process that produced this report.

This report marks only the beginning of a process to safeguard and preserve the American television and video heritage. Developing an implementation plan is the next crucial step, a plan that will assign lead responsibility for each recommendation to individuals, institutions and organizations. The Library of Congress will do this after it has had an opportunity to ascertain the interests and willingness of other institutions and organizations to join in a partnership to preserve this heritage and to remove as many obstacles to access as practicable within the guidelines of copyright law.

A. DEFINING THE PRESERVATION OF TELEVISION AND VIDEO MATERIALS

RECOMMENDATIONS

GENERAL

The American television and video heritage is now at a crossroads. One direction leads toward catastrophic losses of film and videotape, with the likely exception of studio and network programs in corporate archives that can be recycled for new income. Another direction leads toward the managed preservation of extant television and video materials that bear an important relationship to American history and culture regardless of their reuse potential or monetary value. Preserving this heritage is enormously complicated by the sheer size of the American television and video industries, the explosive growth of cable broadcasting, the decentralized and fragmentary nature of broadcasting in the United States, and its competitiveness. Further, important parts of the American television heritage are already divided among public

archives, libraries, historical societies, museums, universities, and a variety of other nonprofit institutions, all seeking preservation funding from limited sources.

Although this report tries to identify film and videotape as separate preservation activities in the history of television and video, in the future this separation will become more artificial and abstract, as television breaks down the boundaries, indeed as communications technology merges all forms of information into one giant bitstream like the Internet.

1. All organizations having custody of American television and video materials, whether private or public bodies, should recognize their responsibilities for preserving a part of the historical and cultural heritage.

The national collection of television and video materials is not a single collection in one institution but a vast network of audiovisual holdings dispersed in public and corporate archives throughout the United States. Television and video preservation is, therefore, necessarily a shared responsibility. These holdings should be held in trust for the American people, for the research community and the general public, who treasure the unique audiovisual dimension of television and its significance in American history, art, and culture. The custodians of the national collection should share a common bond in 1) recognizing their responsibilities under this trust and 2) their cooperative and separate efforts to safeguard and preserve television and video for the use and enjoyment of future generations.

2. Under the concept of shared responsibility, archives should carefully consider the preservation status of materials in other archives before embarking on costly restoration or re-formatting programs. For example, public archives should evaluate the uniqueness of their materials before beginning these costly programs. Duplication to allow or improve access, however, may be an over-riding consideration. This concept cannot succeed without open communications between public and corporate archives.

Providing for the preservation of American television and video is the responsibility of public and corporate archives, which, despite their diversity in mission and purpose, need to cooperate with one another to ensure that their preservation efforts are complementary and that no significant portion of our television and video heritage is in danger of destruction or loss. This cooperation should be based upon the publicly stated commitments of corporate archives to safeguard and preserve television materials they created or acquired and on the public archives' commitment to fulfill their own missions of preservation and access. To achieve these goals corporate and public archives should communicate openly and frequently about their holdings and on-going preservation programs. Given this framework of cooperation, public archives can direct their preservation efforts to other important preservation priorities, thus avoiding redundant and costly duplication.

PART ONE: TELEVISION FILM

Film-based materials represent an integral part of the American television heritage because producers frequently used 35mm and 16mm film to originate or record telefeatures, miniseries, weekly comedies and dramas, documentaries, and

other kinds of programs. In reality, the holdings of public and corporate archives consist of film and videotape, especially those archives whose holdings date from the earliest days of television history when selected programs were recorded on 16mm kinescopes. The networks, for example, hold several hundred million feet of news and documentary film, and local television news archives hold over one hundred million feet nationwide. As photographic records, these films are vulnerable to deterioration from elevated levels of storage temperatures, relative humidity, and pollutant gases not to mention physical abuse. In recognition of the extensive losses that have already taken place, the Library of Congress published a film preservation study in 1993: *Film Preservation 1993: A Study of the Current State of American Film Preservation*, Volume 1, Report, and one year later, *Redefining Film Preservation: A National Plan: Recommendations of the Library of Congress in consultation with the National Film Preservation Board*. The preservation recommendations and guidance in this report and the national plan are equally pertinent to television film, particularly with respect to the need for improved storage conditions. The national plan for film described seven recommendations relating to preservation that are equally germane to the preservation of television and video.

Recommendation 3.1: Storage

Establish the improvement of storage conditions as the cornerstone of preservation policy and an integral part of federal funding programs.

Recommendation 3.2: Saving Original Film

Recognize the importance of saving the original film, even after copying, unless it has deteriorated beyond any use.

Recommendation 3.3: Archival Laboratory Copying

Convene a working group to screen and discuss archival-quality laboratory duplication work.

Recommendation 3.4: Technical Guidelines

Encourage development and acceptance of standardized technical guidelines for the laboratory duplication of black-and-white and color film of archival quality.

Recommendation 3.5: Substitutes for Harmful Chemicals

Encourage the development of substitutes for environmentally dangerous chemicals vital for film preservation.

Recommendation 3.6: Sharing Preservation Information

Lay the groundwork for sharing information on the surviving preservation elements.

Recommendation 3.7: Digital Preservation

Encourage a "two-path" approach that (1) actively explores the preservation potential of digital and other copying technologies while also remembering that (2) it remains essential to save original films for as long as possible.

Television archives will eventually experience extensive film losses due to deterioration, exacerbated by a history of poor storage conditions. Foremost as a problem is "vinegar syndrome," a chemical process that releases acetic acid and other gases, slowly causing utter destruction of base and image. Color fading is the other major source of deterioration, leaving images a washed-out or pale magenta version of their original color values. Improved storage conditions generally consisting of cooler temperatures and drier air are effective against chemical deterioration in film. Detailed storage specifications for the storage of black-and-white and color film may be found in ANSI, IT9.11-

1991, Processed Safety Photographic Film-Storage, though many archives have chosen even cooler conditions. The Image Permanence Institute provides guidance for plotting life expectancies of acetate film (James M. Reilly, The IPI Storage Guide for Acetate Film (Image Permanence Institute: Rochester, 1993).

1. Recognize the importance of saving the original film even after copying unless it has deteriorated beyond any use.

There is a temptation to discard the original film after its has been transferred to videotape. If nothing else, the original should be viewed as a security copy to be set aside, in a different location, as insurance against damage to or loss of the new copies. In addition, the original film may have some intrinsic value, an associated or commemorative value derived from its provenance. But probably the most important reasons for keeping the original film after copying are its image resolution and life expectancy compared to that of videotape. Even copying film to film produces generational loss. The best film-to-tape transfers made on modern-day scanners, though quite acceptable for broadcasting, capture less than half the resolution of 16mm film. Future installation of advanced television systems will create a need to transfer film images at much higher levels of resolution. Destruction of the original film will preclude this possibility.

2. Deaccessioning of original film by public or corporate archives should be made in consultation with the archival community.

This recommendation is offered as an alternative to outright disposal. Consultations will help to ascertain the interests of other archives in taking custody of deaccessioned films, under a deposit agreement or instrument of gift.

3. Monitor the chemical stability of the following films and schedule them for copying as quickly as resources permit:

A. Reversal film, especially early color reversal film used for television news and film with composite magnetic stripe sound tracks.

B. Poorly developed film, characterized by staining from excessive amounts of residual hypo (sodium thiosulfate) left on the film's surface during hasty processing.

Television news and documentary film, especially in the period before Electronic News Gathering, pose several preservation problems that make television film particularly vulnerable. Accordingly, the following technical recommendations attempt to draw attention to troublesome areas that may suggest a re-ordering of television film preservation priorities. Magnetic-coated sound film, widely used in television news and documentary production is far less stable than optical sound. Another fragile format for television sound is synchronized 1/4-inch audiotape recordings, typically found among outtakes and trims from television documentaries. To make matters even worse from the standpoint of preservation, films and magnetic tracks, and sometimes audiotapes, are often all stored in the same container, much to their detriment, because the metal ions act as a catalyst in the deterioration process of vinegar syndrome.

4. The following recommendations are addressed to problems identified with sound elements for television film:

A. Monitor the peel force or iron oxide shedding of

magnetic stripe or full-coat sound tracks and, depending upon results, schedule the tracks for copying.

B. Transfer 1/4-inch synchronized sound tracks, also highly susceptible to deterioration, to archival recording tape as defined by the Association of Recorded Sound Collections (ARSC):namely, analog, backcoated 1.5 mil tape recorded at 7 or 15 ips, full track.

C. Store magnetic tracks in separate containers and never in the same container with the original film.

5. Arrange, inspect, and repair small rolls of news footage or outtakes and assemble them into larger reels to promote efficient preservation, management and access.

Small reels or rolls squeezed into a large can pose a problem for local television news archives, a problem which makes preservation management and access extremely difficult and labor intensive. This prevalent condition represents one of the reasons why in the 1970's local stations decided to destroy their news film libraries or give them to a public archives. Local television news archives generally lack the resources for the archival processing of news footage. Yet internal arrangement is critical for archival control. Preservation management, description, and research access all assume some archival control. Two approaches to the problem may be ventured. One is to conduct the internal arrangement first and then make copies. Another is to make new copies first and then subsequently perform the internal arrangement. This seemed preferable because the separate rolls may have been shot under different circumstances and therefore require different grading. Internal arrangement should take into account the "winds" or emulsion position of the rolls, negative and positive elements, separate tracks, chronological order, and any captioning usually indicated on adhesive tape.

6. The archival considerations governing the copying of television film are both technical and philosophical. Films are routinely transferred to videotape for production and broadcasting. Public archives regularly transfer films to tape in order to make access copies. Outside the major studios, few television films are being copied to new film for preservation. Local television news archives, to be sure, have traditionally lacked the resources to make film copies. Even the news divisions of the major networks with all of their resources have no current plans to make film copies of their extensive news footage. The preservation of local and network television news film seems to be in a hold pattern, with no strategic plan for the future. The recommendations below describe two avenues of approach that, in the final analysis, may be complementary.

A. It is recommended that television film should be preserved as film and that any new copies should meet the highest standards within laboratory capabilities, so as to replicate the picture and sound quality and character of the original. Film-to-film copying is especially recommended for films or footage of exceptional historical or other value. Except for high-end production, video transfers cannot match film's resolution or its life expectancy when placed in proper storage. Nor can videotape formats match film's technological stability.(146) For a realistic comparison between film and videotape as alternatives, it is necessary to consider long-term costs for periodic re-formatting compared to one-time costs for duplication as film.

B. Film-to-videotape transfers may serve as preservation copies in situations that require the copying of extensive

quantities of unedited news or documentary footage showing signs of deterioration and for which it appears impracticable to accomplish film-to-film copying in a time frame that will prevent significant losses. Such copies should be made on modern telecine scanners; the copying should be "supervised" rather than "unsupervised"; and the copies should be broadcast quality as judged by the most current standards.

Where time is an essential consideration, scanning may be a cost-effective means for copying extensive news footage, outtakes, and other kinds of film documentation yet achieving high quality reproductions. Due to improvements in the design of modern telecine scanners, excellent results are often achieved, especially in combination with supervised transfers that provide for color and contrast correction scene to scene. Inexpensive video study copies can also be made simultaneously with the new video master. Among the disadvantages of scanning is a reduction in resolution from the film copy. However, this loss becomes moot if the only intended use is broadcast or the production of video study copies. This method of approach assumes that the new video masters will be managed like original videotape recordings. The main disadvantages of scanning are the reduced life expectancy of the new copy, compared to film; and, the inadequacy of copies made under current NTSC standards to meet the future needs of advanced television systems. If the original film is still extant, re-scanning would be needed to take advantage of higher resolution capability of advanced systems; a further argument for not only retaining film originals as long as possible but also making film preservation copies for the start.

These technical considerations aside, the recommendations on copying television film for preservation offer public archives, in particular, local television news archives, a dual strategy for preservation planning and funding. Ideally all television film having permanent value should be copied to film, and, if plotted over the next hundred years, the film choice may be the most economical one. However, when this option is not available, public archives can still act responsibly by converting to broadcast-quality video.

7. Encourage television producers to re-examine their policies with respect to "conforming" film originals.

This recommendation is directed at a growing trend in the production industry that has alarming archival ramifications. Nonlinear editing systems have relegated the film original to a virtual obsolete status. Because film-originated programs can be edited on a computer harddrive, together with graphics and opticals from a separate source, and output to a videotape master, all subsequent editing, duplication, and broadcast are based upon the videotape copies. As an economy measure, the film originals are not fully edited to match the finished version but only placed in storage along with an Edit Decision List (EDL), on the basis of which an edited version might be reconstructed. This practice allows producers to reduce production costs; however, the tradeoff is the potential loss of the most stable version. The EDL's also represent a long-term risk when they are maintained as disks or computer files outside the control of records programs for the management of electronic records. For these reasons it is imperative to treat the video master as an original to be managed in accordance with the principles of video preservation as described in the next part.

PART TWO: VIDEOTAPE RECORDINGS

General

Most of America's television and video heritage has been recorded on videotape. Due to the technical limitations of past and current manufacturing processes and recording technology, no videotape copy by itself reasonably constitutes an archival copy. Rather, video preservation is a continuing process similar to the archival management of any electronic data that migrates from one storage technology to another to avoid loss through obsolescence. Fundamentally, format obsolescence and the videotape's tendency to deteriorate in long-term storage pose equal risks to America's audiovisual heritage. Nonetheless, given sufficient funding, archives can minimize these risks by following guidelines identified in this report.

It is important to understand that the parameters of video preservation as defined below, in terms of current technologies, avoid specifying either analog or digital systems. To be sure, there are persuasive arguments for each. For example, analog 1-inch type C, widely used in the industry since the late 1970's, has proven to be fairly reliable, and, as an analog signal system, its deterioration is measurable, occurring in progressive stages that allow sufficient time for recopying. The technical viability of 1-inch Type C systems may be assumed for another ten years. As relatively new recording media, digital tape systems offer higher performance because their coatings are able to record more data, but their most attractive archival feature is an ability to clone new copies. Among some aspects giving cause for concern are the proliferation of digital formats and early obsolescence, miniaturization of tape width and thickness, densely packed recording tracks, vulnerabilities of metal coatings, and a potential for catastrophic failure of the recording without any warning. In some instances a digital copy of an analog recording does not yield the best results. In the future the issue of analog versus digital will become moot as industry phases out the production of analog recorders and parts. Currently, archives have a choice.

Working Definition of Video Preservation

Video preservation, regardless of image source, is 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.

1. Storage

The storage of videotape is a complex issue because of the continuing debate about whether to save the artifact as long as possible or only long enough so that it can be migrated to another format. Proponents of the former position, usually public archives, tend to favor cooler and drier storage conditions. The reason is to prolong the life-expectancy of videotapes as long as possible, because the resources to reformat them do not seem to be available in the foreseeable future. Those who take the other position, usually broadcasters, tend to favor storage climates that approximate

conditions of actual use. In reality the life expectancy of videotape as measured in various storage conditions cannot be plotted with much accuracy. Much more research and guidance are needed in this area.(147) Nonetheless, the improvement of storage conditions remains one of the most important strategies for maintaining tapes in good condition.

1.1 Depending upon an institution's mission and objectives, the following standards are applicable to extended-term storage of videotape:

A. American National Standards Institute IT9.23 Polyester-based Magnetic Tape: Storage (1996, approved in draft). See the published version of this document for additional details on storage conditions.

| Temperature F | RH% |
|---------------|-------|
| 68 | 20-30 |
| 59 | 20-40 |
| 50 | 20-50 |

B. Society of Motion Picture and Television Engineers, Recommended Practice 103. See SMPTE, RP 103, "Proposed SMPTE Recommended Practice: Care, Storage, Operation, Handling and Shipping of Magnetic Recording Tape for Television," SMPTE Journal (October 1994), pp. 693-695, for a detailed discussion of storage practices. RP103, published in draft, may not be fully accepted in all its provisions.

| Temperature F | RH% |
|---------------|-----|
| 63 +/-4 | 30% |

These recommended storage standards represent relatively cool temperatures and less humid conditions. Reductions in temperature and humidity will slow down the chemical aging of videotape and may therefore be beneficial; freezing videotape, however, generates harmful effects, and conditions below 50°/20% should be avoided. Utilizing cooler and drier storage conditions requires appropriate periods of acclimation before use.

1.2 Create regional or shared storage facilities for public archives that cannot afford to install or maintain climate-controlled vaults; encourage public and corporate archives to use commercial facilities if their own storage areas are inadequate; and, establish national standards for videotape storage facilities.

The administrative and financial complexities of creating regional or shared storage are no doubt manifest, but at minimum such storage can be accomplished informally between institutions. Commercial storage may be suitable if the facilities meet established archival guidelines in terms of security, fire protection, and protection from flood damage, temperature, humidity, and air quality. Temperature and relative humidity should be documented electronically or through the use of a hygrothermograph. Archives using commercial storage should inspect the facilities at least once each year.

1.3 Encourage the dispersal of copies in separate geographic storage sites to guard against complete loss in the event of a major catastrophe at one site.

Production organizations with a significant economic investment in television materials have already sensed the critical importance of placing copies in different locations for security. Catastrophic loss at one location should not affect their ability to conduct business or generate new

copies and thus secure their creation for posterity. Relying on one central storage location assumes a certain amount of risk. Budget limitations often prevent public archives from practicing strategic dispersal. Storing all copies in the same building but in different vaults or in different parts of the same vaults often represents a form of compromise. In its effect, this recommendation promotes the duplication of multiple new copies as a security measure against possible loss. All archives should ask themselves whether they possess collections or individual titles of exceptional importance whose total loss to the national heritage would be tragic and unconscionable. This question may provide some guidance on what copies should be stored at multiple sites.

1.4 Sponsor storage studies aimed at providing archives with information that will enable them to plot life expectancies for videotape maintained under a variety of conditions, in order that this information may be used in designing videotape storage facilities and in planning duplication programs.

Television archives lack guidance for estimating the life expectancies of videotapes under various storage conditions. Compared to data for film storage, for which excellent studies exist, current storage information on videotape provides insufficient guidance for the design and construction of vaults. Archives need to know in more precise terms the effects of storage histories. Also, archives need cost-effective options, especially the requirements for storage at different intervals, from ten to twenty years and beyond. Realistic assumptions about life expectancies in storage form the basis of preservation duplication programs to counter the effects of deterioration and format obsolescence.

2. Maintenance of Videotape Holdings

2.1 Disseminate information on the life-cycle management of videotape.

Life-cycle management of videotapes runs from their creation or acquisition, through maintenance and use, and their ultimate disposition or retention in an archives. Life-cycle management can include such features as the initial purchase of videotape stock, its utilization by producers and others, handling and storage, aging characteristics, and disposition alternatives, including transfer to a public archives. Manufacturers could help considerably by attaching an advisory notice on each cassette to the effect that the product should be handled with care and stored properly. (See Appendix H for a suggested advisory label.) Preservation can start with the first day of the videotape's use. An indication of the date of manufacture would also be immensely helpful.

2.2 Provide archives with a standardized set of procedures and evaluation criteria for the initial inspection and examination of videotape.

The archival field lacks a common vocabulary and standards for documenting the physical and electronic condition of videotapes newly accessioned or acquired by an archives. Most videotapes are placed in long-term storage without an initial examination or inspection. Inspection records or reports are rare. This stands in sharp comparison to the care and treatment of films whose physical condition is carefully documented.

2.3 Sponsor research for evaluating the surface contaminants on videotape and for determining appropriate cleaning techniques.

The products of videotape contamination are not fully understood or easily identifiable. There is strong disagreement among experts concerning the identification of contaminants. Effective cleaning techniques for one kind of contaminant can be disastrous for another.

2.4 Sponsor or prepare a manual on the preservation management of videotape collections and an anthology of previously published articles and other writings relating to the history and preservation of videotape.

There is no single publication that may be regarded as a complete manual for the preservation management of videotape archives. Although studios and networks have impressive technical expertise on their staffs, most public archives must rely on published sources. Many useful articles and other publications have appeared over the years on specific and general aspects of video preservation, but they are widely scattered in journals, newsletters, conference papers and other sources now difficult to obtain. (148) Compilation of such an anthology assumes copyright permission can be negotiated. Both the manual and anthology should include essential information on all aspects of the technical management of videotape archives, including topics such as the history of videotape formats, arrangement, storage, container housings, inspection, rewinding, handling, maintenance and use, duplication, restoration and cleaning, and re-mastering. Similarly, workshops, lectures, symposia, and university curricula can enlarge the knowledge baseline in the management of video archives. Without this knowledge baseline, it is difficult for archivists to understand the important issues, pose the right questions to laboratories, and make informed choices.

3. Duplicating, Transferring, and Restoration

3.1 Encourage archives and other interested organizations to transfer obsolete videotapes to new formats well before the commercial demise of the support technology.

This recommendation encourages a managed approach to re-formatting which aims at the incremental and systematic copying of obsolete formats while experienced technicians, playback equipment, and spare parts are still reasonably available. Collections of already obsolete recordings should receive the highest priority for conversion. Excessive deferral of this work can only lead to unwieldy conversion projects with questionable, even impossible standards and high costs.

3.2 Encourage public and corporate archives to rationalize or apportion their priorities for re-mastering or transferring.

Public archives should avoid replicating the preservation work carried out in corporate archives but should instead build upon it as part of an overall strategy. In other words, public archives should adjust their resources for re-mastering to accommodate videotapes not likely to be copied in corporate archives---assuming that corporate archives are willing to provide information about their collections. Public archives have a legitimate need to identify the location of master copies; therefore, open and continuing dialogue between public and corporate archives is necessary.

3.3 Select a video host format for re-mastering guided by the following considerations: (1) its overall physical durability; (2) its general availability and non-proprietary nature of the support technology, i.e., videotapes and playback equipment;

(3) its ability to replicate the maximum informational content and aesthetic appearance of the original as closely as possible; and (4) its ability to reproduce new copies with the least amount of signal loss.

This recommendation cautions archives against adoption of the latest or cutting edge video technology for its own sake. Such choices limit the chances for long-term survival of collections if archives are committed to a format that may prove to be nondurable, used only in a restricted market, and dependent upon only one manufacturer who faces no competition and whose supply policies are subject to change. Also, some analog-to-digital conversions can change the character of the image in the new copy to such an extent that it cannot constitute an accurate copy of the original. Video art often exceeds broadcast standards, which causes reduced luminance in new copies, altering the look of light and shadows. Despite the extraordinary manipulative or creative techniques that can be employed in making a digital copy of an analog recording, archives must still strive to preserve the content and character of the original recording without creating doubts about its integrity or authenticity as a historical record or cultural artifact.

The following recommendations will help to ensure the technical adequacy of archival copies.

3.4 Transfer analog videotapes from the earliest generation or best surviving copy.

As a guiding principle for all analog video copying, this is especially critical for works of video art and recordings made on consumer formats where there is little tolerance for generational loss. Consultations with the original video artists, if possible, on the quality or adequacy of transfers are also advisable.

3.5 Clean videotape originals before transferring or re-mastering to a new format.

This recommendation is especially critical for tapes stored under poor conditions or if they possess any detectable contamination. Several organizations, having conducted large-scale 2-inch transfer programs, found it cost-effective to clean all tapes beforehand rather than risk damage to expensive magnetic heads from deteriorating tapes. Valuable tapes should be cleaned only by laboratories that use equipment proven to be safe and effective. Since there are few pertinent industry standards governing such work, conducting tests and restricting work to laboratories of known reliability are prudent measures.

3.6 Record new copies on previously unrecorded blank videotape made by well-established brand-name manufacturers.

The purpose of this recommendation is to ensure the best possible recording and to use tapes of a known reliability in terms of manufacturing processes and warranties. As another precaution, new videotapes should be evaluated for dropouts before being used to carry preservation masters.

3.7 Re-record consumer and miniature formats to durable professional format videotape.

Formats like EIAJ, VHS, 8mm, and Hi8, or their digital successors may have been very effective in recording images for viewing and study and for some aspects of documentary

production and ENG, but they may not be the best formats for preservation. Choices for preservation should be guided by the considerations identified in Recommendation 3.3 of this part. (See also Tables 3 and 4, Chapter 2.)

3.8 Record programs off-air through an off-line connection and use professional format videotape.

This recommendation pertains to archives and libraries that take advantage of the federal authority to copy and retain newscasts or, through license agreements, other television programs. If the intention is to create a permanent record, the use of a professional tape format is essential. More format options are available for making study copies.

4. Laboratory Services

4.1 Encourage commercial vendors to offer services for obsolete video formats at a reasonable cost to accommodate the needs of public archives as well as those of the industry.

The crisis represented by obsolete EIAJ and 2-inch recordings underscores dependence upon commercial vendors. The acquisition, maintenance, and operation of obsolete machines lie beyond the technical capabilities of most public and corporate archives. Under the present circumstances, such laboratory work must be carried out in the private sector. Until now a lack of funding for television preservation limits what can be sent to a vendor laboratory. It is also conceivable that the vendors will significantly reduce or eliminate 2-inch service after industry needs have been met. If this occurs, the remaining uncopied 2-inch tapes in public archives will be useless. Finally, public archives can encourage vendors to lower costs through flexible time-delivery frames, group purchases of services and long-term commitments and, possibly, through other less tangible means such as referrals. Vendors can also lower costs to public archives by offering grants and subsidies.

4.2 Establish nonprofit video preservation centers.

The Bay Area Video Coalition (BAVC) in San Francisco serves as an example of a nonprofit media production center that can provide critical services for restoration of obsolete formats, such as EIAJ open-reel tapes and U-matic cassettes, to arts groups and nonprofit communities. Similar facilities are needed in other parts of the country, in particular in those regions not adequately served by vendor facilities, so that historic video programs sponsored by federal, state and private funders can be restored and re-formatted as part of preservation programs. Without access to such facilities and their services, the higher costs of commercial laboratories may effectively consign historic video collections held by arts groups and independent video organizations to oblivion. Improved preservation funding, however, would make commercial services more affordable.

4.3 Establish a Study Center For Video Preservation.

A compelling national need exists for a Study Center for Video Preservation. Resources allocated to the study of video preservation have been meager relative to the widespread importance of television and video in so many facets of American life. It is as if there were little concern with saving a moving-image record of our history and culture in all their manifestations. Yet concerns about the transience of videotape and the threat of technological obsolescence are genuine and pervasive, having been expressed by scholars,

archivists, and representatives from industry. The purpose of a study center, therefore, would be to collect all relevant resources relating to the technological history of television and video, and to make these resources available to any individual or organization in need of them, including public archives and other nonprofit organizations as well as private industry. The resources should include, at a minimum, a library of publications such as books, journals, manuals, equipment catalogs, manufacturers's literature, newsletters, and related ephemera. Second, the center should maintain a comprehensive inventory of obsolete videotape playback equipment in good working order, plus spare parts. Equipment could also include a museum of historically significant obsolete video production equipment, such as the first stand-alone time base corrector and artist-built video colorizers and synthesizers, and a representative selection of obsolete television sets retained to replicate broadcasts from a given era. Most equipment could come from donations. Third, the center should work closely with restoration laboratories and television engineers and other experts in order to commission tests of videotape binders in an empirical setting outside the considerations or influence of manufacturers, and to maintain a list of referrals for the benefit of the archival community and all others who may have need of guidance and expertise in video preservation. Fourth, the center should develop and offer a variety of training programs about video preservation techniques. In conclusion, dividing these responsibilities over a number of institutions may be wasteful and would not take into account the required level of skills and expertise that would be needed for effective operations. Yet one facility, properly staffed and equipped, could perform a great national service.

B. ACCESS TO TELEVISION AND VIDEO ARCHIVES

Recommendations

Educators who testified in the public hearings strongly and consistently indicated that access to television and video archives for educational purposes is limited for a variety of reasons, the most vexing of which they attribute to copyright. Accordingly, the purpose of these recommendations is to suggest methods or policies that remove obstacles or at least mitigate their impact on research and education. The careful preservation work of an archives is only validated when it provides public access. The most thorough and painstaking preservation work on television and video materials is incomplete without improving public access in some way.

What does it mean to define access in an archival context? "Access" is the freedom or ability to obtain and make use of something. Archival access means a researcher's ability to consult records or documents together with the ability to reproduce them. Broadly speaking, many archival policies directly or indirectly affect access. First, appraisal and selection policies determine what materials will be housed in an archives. Second, archival accessions or acquisition agreements make it possible for the donor to control use of materials above and beyond the normal protection of copyright law. Third, preservation policies determine what copies will be available for consultation, loans, or exhibition. Fourth, description policies determine what will be cataloged first and the degree of subject detail. They also determine what will be made available through the Internet. These policies are especially pertinent to public archives, which exist to serve the needs of researchers. Corporate archives exist to serve the needs of their own organizations. In their view, public access is not a primary issue, yet it has become increasingly clear that the commercial value of these holdings actually increases as the public becomes more aware of their contents. Consequently, the interests of corporate archives may be served by increased scholarly and public access.

Access to television and video materials may be divided into four broad areas: description, consultation, reproduction, and use. Description includes general guides, catalogs, or other finding aids. A modern assumption is that these materials should be searchable on the Internet. Consultation refers to a researcher's ability to view and study the audiovisual document. Reproduction refers to a researcher's ability to obtain a copy. Finally, use refers to the ability to reproduce the audiovisual document for such purposes as public exhibition, display in a classroom, documentary production, and re-broadcast.

1. Appraisal and Selection

Public and corporate archives should act in concert to ensure that no significant part of the national collection is destroyed, and they should seek the advice and opinions of scholars, educators and other interested parties to determine appropriate appraisal and selection guidelines.

Appraisal and selection of television materials should be viewed as a process leading toward the accumulation of a national collection essential for documenting the audiovisual heritage of the American people. This process is not necessarily limited to public archives, since corporate archives also make decisions on what will be saved or destroyed. For example, the huge inventories of 3/4-inch U-

matic cassettes in corporate archives will require a system of triage to distinguish between tapes that can be re-formatted and those that can be left to deteriorate or donated to a public archives. In the world of videotape, local television news stations tend to erase everything. Decisions to retain or destroy television or video materials should be based upon broadly determined criteria. To do otherwise makes it impossible to document the American intellectual heritage. Yet the expertise for identifying the materials most important to this heritage is often found outside public and corporate archives. When appraisal decisions are made in isolation, without any reference to users, to scholarly publications, research trends, and lacunae, they tend to be arbitrary, mistaken, and presumptuous. Archives located at universities have an advantage in their ability to seek guidance from historians, political scientists, sociologists, and other scholars. To increase their ability to make informed decisions, other archives should organize outside advisory groups comprising scholars from different disciplines. The following actions may be viewed as part of an effort to take advantage of the expertise and interests of educators who represent the research community.

- 1.1 Develop recommended standards or appraisal criteria for selection and preservation of television programming. The draft standards circulated by the International Federation of Television Archives (IFTA/FIAT) serve as a useful model. (See Appendix F.) We should make the earliest surviving television materials a major national and local priority because so much has already been lost and extant materials continue to deteriorate.
- 1.2 Create an inter-disciplinary advisory board to identify the most important programs and events televised each year to ensure that appropriate copies are safeguarded and to encourage prompt availability in public archives.
- 1.3 Develop recommended standards or appraisal criteria specifically for television news in a 24-hour environment and for unedited news and documentary materials.
- 1.4 Identify broadcasts of national television news, news magazines, and documentaries, past, present, and future, as important historical records of the American people that should be preserved in their entirety.
- 1.5 Encourage local television news stations to work closely with advisory boards and local public archives (1) to halt further destruction of extant film news libraries; and (2) to identify videotape coverage of enduring significance to the history and culture of the locality or region.
- 1.6 Recognize the importance of video art and independent documentary production, especially those works that offer an alternative perspective, and stimulate their collection.
- 1.7 Support the acquisition of selected advertising commercials and educational and industrial videos dealing with public and private concerns, including political commercials and campaigns for public awareness of social issues.
- 1.8 Identify home video as a potentially valuable source of social documentation.
- 1.9 Develop collaborative methods for deaccessioning unwanted materials so that other repositories can review them before destruction takes place.

1.10 Survey foreign archives and other sources to repatriate copies of American television and video programs neither preserved nor accessible in the United States.

2. Description: Cataloging, Documentation, and Data Exchange. Support public policies that encourage the widespread dissemination of information through the Internet and other networked sources.

Access to information about television and video materials is essential (1) to foster the interests of the research community, and (2) to rationalize descriptive and preservation priorities among archives with overlapping collections. Archivists need to develop the same ardor for television and video materials that librarians have for bibliographic control and dissemination of book-related information throughout the United States. The need for information is acute on many levels. What particularly impedes research is the absence of a national union listing of television and video holdings in public and corporate archives. Beginning a research project results in much wasted effort through trial and error, and this at a time when researchers have rising expectations about quality of information that can be found on the Internet. Happily, more databases, selective though they may be, are beginning to appear on-line, but television archives typically have extensive backlogs of uncataloged materials.(149) Video art and independent video holdings are even more difficult to identify because of a history of insufficient funds for cataloging or descriptive programs and because most are not held in traditional archives. Corporate databases, to the extent they exist, have barely moved beyond title and audiovisual components. Corporate marketing staffs could more fully exploit their extensive television assets with better automated subject control. A shared need for cataloging may form the basis for partnerships between public and corporate archives. Ways need to be found so that cataloging benefits corporate, scholarly and educational use. At a minimum, public archives should coordinate their own cataloging efforts; repositories should be encouraged to contribute descriptive information and make it known to researchers.

2.1 Take steps to increase the amount of descriptive information about television and video holdings, past and present, in public and corporate archives across the country to order to create an easily shared knowledge baseline of what programs existed, what still survives, and where it is located. This knowledge baseline should include the following:

A. A national union listing of public and corporate archives and any other relevant collections.

B. A network of publicly shared databases, including the National Moving Image Database (NAMID), and other databases created by public and corporate archives. This recommendation recognizes the likelihood that organizations may want to restrict some information for only staff use, and that editorial standards will vary.

C. A comprehensive catalog of American television and video by decade.

2.2 Underscore the importance and necessity for funding standardized cataloging to improve subject access. Funding of television and video preservation programs should include provisions for cataloging. Description of minimum data elements should be viewed as a temporary but highly useful first alternative step to cataloging.

2.3 Encourage the collection and preservation of the informational content of scripts, camera notes, promotional items, and other documentation that provide historical context to television and video materials.

3. Physical Availability of Television and Video Materials
Increase the physical and electronic availability of television materials, minimizing regional and economic barriers.

Using television and video materials effectively for research and teaching depends upon having physical access to copies on premises and off site. Improvements in technology suggest that increasingly access will be provided through electronic communications systems. At the present time researchers having access to cities like New York, Washington, and Los Angeles are usually well served by the archives, libraries, and museums located there. But there are great disparities in availability throughout the rest of the country. Public archives are typically set up to accommodate individual researchers, but poor funding impedes research, particularly the lack of appropriate playback equipment, reference copies and poorly arranged collections. Excessive donor restrictions on study access and reproductions over unreasonably long periods of time can also hamper access. Corporate archives, including the networks and studios, cannot typically accommodate scholars. Yet, by working through public archives, corporations can provide access, minimizing their burdens of time and cost. The following recommendations will help to increase the availability of copies for study on a nationwide basis:

3.1 Secure funding to enable public archives to carry out basic archival processing, which includes making reference copies.

3.2 Seek the opinions of scholars and educators in developing priorities for making access copies.

3.3 Promote the use of inter-archival or library loans on a cost basis.

3.4 Negotiate "pre-agreements" between public and corporate archives so that scholars will have an ability to request individual titles from corporate archives. For example, a public archives would make a request on a scholar's behalf, secure a copy from the corporate archives, and retain it for future research needs. The terms and conditions of such acquisitions and deposits should be worked out in advance and not left to ad hoc agreements.

3.5 Encourage corporate archives or the video distribution industry to increase the commercial availability of vintage programs on video cassettes at reasonable prices.

3.6 Encourage the Library of Congress to use its current authority under the Copyright Act to the fullest extent possible for off-air taping of "published" and "unpublished" television programs so that they will be promptly available for on-premises research. (For a possible solution, see Recommendation 10 under the funding section later in this chapter.)

3.7 Encourage libraries and archives throughout the nation to establish off-air taping projects for local and national newscasts as authorized by the Copyright Act; and, through, license arrangements, entertainment and other programs that

may be needed for research.

4. Reproduction and Use

Take steps to make it easier for scholars and educators to use television and video materials in their research, writing and teaching.

A basic requirement of access is the researcher's ability to reproduce and use copies of television and video materials in a classroom or lecture. Yet the ability to use the reproduction for such scholarly purposes is governed by the Copyright Act, which reserves these rights to the owner. Congress has limited these rights to exclusive use through the concept of "fair use," though in practice, it is rarely applied to television and video materials. Researchers feel they are confronted with two sets of contradictory fair use standards, one set that permits some fair use in publishing and another for audiovisual materials which effectively discourages use. Teachers and scholars do not wish to work under a constant threat of litigation. Nevertheless, such fears are always among the concerns of archives and researchers.

4.1 Simplify the process of rights clearances for television and video materials along the lines of ASCAP for the music industry or the Copyright Clearance Center for publishing and take other steps to streamline procedures for obtaining rights for classroom exhibition or other exhibitions in a nonprofit, academic setting.

4.2 Make a strong case for price-breaks or moderate licensing fees for noncommercial, educational use, including documentary production and digital publishing formats such as CD-ROM, above all in cases where there will be no adverse impact on the market value of the audiovisual materials.

4.3 Encourage university administrators to allocate sufficient funding for the creation of resources and the acquisition and distribution of appropriate teaching materials relating to media studies and to other academic disciplines which make use of television as a subject matter.

Media resources, including descriptive information, should be commensurate with the curriculum. Printed materials alone will not suffice. In view of copyright or license restrictions, universities may have to provide closed-circuit delivery systems.

5. Copyright and Fair Use

Intensify formal and informal discussions (through conferences, working groups, etc.) among educators, archivists and industry officials as a means to seek workable solutions on issues relating to copyright and educational access to television and video archives.

In the view of scholars, the current effects of the Copyright Act of 1976 and Congressional fair use guidelines discourage research, writing and teaching with respect to the use of television materials and impede the flow of programs into public archives. At the same time, these materials are becoming increasingly critical to the study of contemporary American society, educators find that their efforts to obtain access are inefficient, prohibitively expensive, or fruitless. Copyright owners, on the other hand, see educational use as a primary or ancillary sales market for audiovisual products. Current off-air taping guidelines are inefficient for the educational use of television materials. Especially

frustrating is the absence of fair use guidelines for the publication of frame enlargements. Scholars view the enlargements as critical to illustrate their research and writing, and believe that publication of enlargements represents an inconsequential part of the total program, and that doing so in scholarly works with limited readership has little or no adverse impact on the program's market value. Some publishers accept this premise while others do not; in the latter case, excessive copyright fees are often required. Publication aside, archives should routinely provide frame enlargements and make this right a standard clause in a deed of gift or instrument of deposit.

Among the proposed issues for discussion by interested parties are:

- p The fair use of film and video frame enlargements for publication in scholarly works.
- p Current off-air taping practices by archives and libraries throughout the United States.
- p Possible revision of fair use guidelines and policies for off-air recording television programs for use in classroom teaching and for retention by public archives and libraries.
- p Inter-archival and educational dissemination of television programs through new technologies.
- p The adequacy of the Library of Congress off-air taping authority for the American Television and Radio Archives (ATRA).
- p The reproduction and use of television and video materials whose owners can no longer be identified.

These discussions should be widely based, drawing upon scholars and educators, archivists, legislators, copyright and broadcast attorneys, and industry representatives.

C. FUNDING PRESERVATION AND ACCESS AND INCREASING PUBLIC AWARENESS

Recommendations

Part One: Funding

Historically, television has existed in the shadow of Hollywood's film industry. The glamour of the film industry's stars, intensive publicity campaigns, megadeals, and huge box office grosses draw public attention away from the programs created for commercial and public television that are equally important and often more creative than the output of contemporary American cinema. Television has been responsive to and reflective of societal issues and concerns. Cinema may have been the common bonding experience of this century's first half, but television has taken over the major part of that role. Yet, because of its constant appearance in American homes, television has been seen as a less special medium.

This difference between film and television serves as a useful introduction to understanding why funding for television and video preservation has been so limited in comparison to what has been made available for film preservation, most notably through the National Endowment for the Arts/American Film Institute grant program.(150) The urgency to rescue nitrocellulose film, a much older medium than television film or videotape, has overshadowed the needs of television and

video preservation. Respect for the age of documents is usually a good maxim for archives to follow, but when applied to audiovisual documents like photographs, film, and videotape age is only relative. Thus some materials dating from the early history of television have more historical or cultural value than some silent-era nitrate films that have already been preserved, even though the television records are less than half as old. Public policies have tended to favor film over television preservation.

As discussed earlier in this report, there are other reasons that have tended to discourage funding for television and video. Film preservation techniques and processes, having been practiced for decades, are fairly well defined, and the major practitioners in the United States are concentrated in a relatively small number of organizations. Until now the preservation of television and video has not been well defined; building a consensus on preservation issues among many and varied organizations has been a slow process. Left unaddressed, genuine concerns over the transience of videotape as a recording medium and video format obsolescence will continue to discourage public or private funding for preservation.

1. Establish in the private sector a permanent, nonprofit entity dedicated to the cause of television preservation and access. The organization's main duties will include: 1) recognizing and demonstrating the continuing vital importance of television and video to America's cultural heritage, 2) raising private funds on a national basis for preservation of this heritage, 3) providing grants to support preservation and access projects at nonprofit institutions with television and video collections throughout the United States. 4) recognize in a public manner individuals, companies, or other organizations for outstanding achievements in safeguarding and preserving the television and video heritage or for their other contributions to this endeavor; and, otherwise using every opportunity to keep television and video preservation and access issues at the forefront of the national archival agenda.

A compelling need exists for a separate organization that can devote its energies to promote the needs of television and video archives and to secure commitments for their support. The Library of Congress, working closely with the Association of Moving Image Archivists, industry representatives, professional associations and other interested organizations, will take the lead in developing the formal structure of this institution, including its mission and responsibilities, governance, etc.

2. Public archives should build a consensus around the techniques of television and video preservation and make them known to funding organizations. Foundations and other funders should in turn review grant applications from television and video archives on an equitable basis with those from film and photographic archives. All funding sources should be more responsive to the needs of television and video archives.

In the past television archives could not successfully compete for grants based on the need for preservation because of a bias favoring cinema and because the archival community had not yet already defined preservation techniques for television and video materials. The basic procedures and techniques for video preservation are known and have been put into practice at least partly by the major studios and other industry organizations. Public archives by and large have not had much

of an opportunity to implement them due to a lack of funds.

3. Public archives should continue to expect federal agencies to serve as vital sources for funding meritorious projects and should therefore apply for every grant award for which they feel qualified. Federal agencies should establish a subcommittee of the Federal Funders Committee to improve coordination of their policies with respect to funding projects that involve videotape, film, photograph, and sound recordings preservation and access.

During the last ten years three federal agencies awarded approximately 1.5 million dollars for television preservation and access projects. The agencies are the National Historical Publications and Records Commission of the National Archives and Records Administration, the Department of Education, and the National Endowment for the Humanities. Under its most recent guidelines, the National Endowment for the Arts would seem to welcome preservation and access grant applications relating to television and video materials having strong artistic merit--indeed some past NEA media grants have included a preservation provision. Declining budget resources have restricted grant levels, particularly in the endowment agencies. Yet these agencies still represent a source of significant funding that could benefit television preservation and access. Preservation has indirectly benefited since access copies made under grants provide an additional dimension of protection as a second copy, thereby eliminating the need to handle the originals for routine use.

4. Pursue new avenues of financing of television and video preservation should the opportunity occur to share in dedicated tax programs.

The issue of a special tax has surfaced in past discussions about alternative methods to funding public television, but the approach has never been implemented owing in part to objections from the industry and from the Department of Treasury, traditionally opposed to dedicated taxes. Nevertheless, this issue should be re-visited in consultation with appropriate governmental and industry representatives. Over the years, individuals have proposed at least, four practical categories for the imposition of sales taxes to benefit public archives: (1) on the purchase of new television sets, VCR's, or blank videotape; (2) on the purchase of television programs by a broadcaster; (3) on the sale of air time for commercial ads; and (4) on the purchase of satellite time. On balance, the additional costs to an individual consumer or to a broadcaster could be negligible and still raise three or four million dollars annually for public archives. Rigorous economic analysis of the pros and cons of various options is needed. To stand any chance for success in this area, any proposal must be a consensus plan developed with the participation of all affected parties.

5. Make a case for public archives to receive a benefit from the FCC auction of broadcast spectrum.

No less controversial than dedicated taxes is the FCC auction of broadcast spectrum to the industry, a public policy steadfastly opposed by the National Association of Broadcasters. The FCC has already auctioned spectrum to the telecommunications industry, including Direct Broadcast Services (DBS), raising almost twenty billion dollars for the national treasury. A bill in the 104th Congress (H.R.2979) proposed use of spectrum sales to establish a trust fund for the Corporation of Public Broadcasting. A readjustment of

spectrum allocation is necessary to accommodate a shift from analog to digital transmission. President Clinton has directed the FCC to auction additional channels. The point is for the archival community not to become engaged in the debate on spectrum policy-- though some archives may wish to do so-- but only to advocate the principle that broadcasters or telecommunications companies which receive such lucrative privileges should be obligated in some way to return a service to the public archives that provide preservation of and access to television materials. This service should take the form of a percentage of auction sales of channels or, at a minimum, a voluntary donation. Conversely, government could be asked to consider making available a percentage of income from auction sales to the proposed nonprofit organization (described earlier) which will benefit all television and video archives.

These approaches to the public financing of television and video preservation are worth pursuing. In conjunction with their partners in production and in the broadcast industry, public archives should consider presenting to Congress a unified public-private request to initiate suitable legislation. Broad industry support is a prerequisite for the success of these initiatives.

6. The Corporation for Public Broadcasting should establish a preservation grants program pursuant to the Public Broadcasting Act of 1967.

Throughout its existence the CPB has failed to provide funds for the preservation of the programs it finances although this responsibility is stated in its own enabling legislation. It finances a small program at the Museum of Television and Radio which allows the Museum to acquire access copies of a small selection of each year's PBS output. Nor have PBS affiliates, due to a constant shortage of funds, been able to accept responsibility for preservation because production and transmission are their main priorities. As the major custodian of public television, PBS ended a short-lived archival program several years ago, and in 1993 signed an agreement with the Library of Congress which in effect makes the Library the ultimate preservation custodian of PBS's extensive holdings. WGBH in Boston is the only public television station with a formal archival program. The PBS holdings are so extensive, about 100,000 items and growing, that the Library of Congress, which can provide proper storage, will need significant assistance to ensure the preservation of the materials. Accordingly, CPB should allocate funding for the establishment of a grants program for which organizations like the Library of Congress, the Museum of Television and Radio, and the National Public Broadcasting Archives can apply. Finally, the Ford Foundation, which was the mainstay of educational television before CPB, spending more than \$82 million, should be asked to consider assisting public archives to preserve early educational programs.

7. Identify one or more broadcast companies willing to host a direct public appeal for the benefit of television and video preservation, an appeal to be accompanied by programs and compilations from materials held in public archives.

In conjunction with the Film Foundation and the nitrate film archives, American Movie Classics (AMC) has conducted at least four public appeals for donations to support the preservation of the American film heritage. These campaigns have succeeded in raising several hundred thousand dollars for the benefit of film archives.(151) A comparable broad-based campaign should be conducted emphasizing the rich cultural value of the

American television and video heritage.

8. Although grants will be available from time to time from national agencies, local television news archives should approach regional, state, local, or municipal sources for the primary funding of their activities.

To begin, local archives may need assignment of copyright so that they can earn income to support archival activities. Donors should weigh the benefits of donating rights for tax purposes compared to potential earnings from the sale of stock footage. Failing transfer of rights, local archives should negotiate a share in any license or royalties from the sale of stock footage and provide other services to commercial users on a cost-plus basis. Second, local archives should ask for stipends from broadcasters to support preservation and other activities that benefit broadcast operations such as cataloging and indexing. Such gifts may qualify as charitable donations under tax codes. Third, local archives should ask for donations of in-kind equipment and services from broadcasters in their locality. Fourth, the National Association of Broadcasters and state broadcasting associations, preferably with corporate sponsorship, should establish preservation funds for the benefit of the most outstanding materials held by local television archives. Fifth, since several state lotteries generate income to support public education, local archives should consult with their state governments to determine if they can be made eligible to receive part of lottery earnings to expand educational access to their holdings. Sixth, since almost ten years have elapsed since the first and last local television news archives conference, it is imperative that another be held to address funding issues, among other important topics relating to the management of local television news archives.

9. Public archives, producers, and broadcasters should explore partnerships which serve the interests of the nonprofit educational community.

The relationship between C-SPAN and the Public Affairs Video Archives of Purdue University may serve as a useful model of cooperation between a broadcasting organization and a public archives. C-SPAN licenses PAVA to duplicate and distribute C-SPAN programming for a fee which PAVA retains to support its activities, including its off-air taping, description, preservation, and reference. To stimulate usage, C-SPAN gives grants to educators for the purchase of programs from PAVA.

10. Use the off-air recording facilities of the Library of Congress to make copies of television programs for copyright registration and charge copyright owners an appropriate fee to cover the costs of this service.

Reduction in costs is an important incentive for broadcasters to support this service, because it would be less expensive for the Library of Congress to make copies automatically off-air than for broadcasters and/or copyright owners to make them as needed for copyright registration. The savings would derive from systematic recording of all output in one location. To cite an example, the National Film and Television Archive of the British Film Institute for some years has received substantial annual grants from commercial broadcasters to record their programs off-air, using professional and study quality formats. The BBC also provides a substantial grant to the archives for recording off-air on S-VHS only, for public access purposes. The Independent Television Authority, which

regulates commercial television, determines the amount of the grants. Though the BBC grants are voluntary, its new Charter obliges it to cooperate with the BFI/NFTA on archival issues. In this manner both the archives's interests and those of broadcasters are well served. (See Appendix J.)

Part Two: Increasing Public Awareness

Many early losses of television materials, including the destruction and continuing erasure of local television news, can be attributed to a lack of understanding of their historical and cultural value. With a few notable exceptions, it took the archival community too long to espouse a preservation philosophy for television and video materials. The urgency to save America's motion picture heritage, however justified, has long overshadowed the needs of television and video preservation. There are no television counterparts to the National Film Preservation Board, the American Film Institute, and the new National Film Preservation Foundation. Public awareness programs should redress this imbalance. Museum-based programs, though for the most part limited to Chicago, Los Angeles, and New York, have been fairly successful in demonstrating the artistic and educational value of materials in their custody through exhibits, seminars, lectures, and repertory showings. These activities enlarge and enrich public understanding of the need to preserve the television and video heritage, and they provide useful leverage for attracting financial assistance. In addition to supporting educational work of broadcast museums, the following initiatives are recommended.

1. Increase public awareness of the quality and broad range of America's television and video heritage by compiling a national registry of television and video treasures and conducting a nationwide tour of selected programs.
2. Promote the need for television preservation in meetings, newsletters, and journals of organizations like the NAB, ATAS, NATAS, and the Peabody Awards and encourage them to give periodic preservation awards, possibly supported by a corporate sponsor.
3. Work through NAB in order to convey the preservation message to local television news stations.
4. Produce a documentary on the problems of television and video preservation and air related public service announcements aimed at general audiences and potential funders, and have these shown on public television stations, cable television, and other outlets.
5. Include video art and independent video in public awareness campaigns.