■ **Howard Besser**

Audiovisual Patrimonie for Libraries

Much of our important cultural patrimony does not involve the written word. Audiovisual recordings of interviews, dance, ceremonies and rituals, and even of daily life can be important patrimonial works that will let future generations see what life was like today. They also allow young people today to hear what their grandparents sounded like, what environment they lived in, and what their daily life looked like. These recordings also let young people see what life was like previously in neighboring cultures, and can encourage young people to become more active in both consuming and creating their own cultural works. Libraries need to be responsible for saving these photographic, audio, and video recordings of daily life for purposes of education and for preserving the cultural record. This article discusses why a library should be interested in collecting, preserving, and making this type of material available. And it gives some helpful hints on how a library could go about doing this.

1. Why Audiovisual is important

Our audio and video recordings give important insights into our historic and cultural past. Usually an image is much better at describing a past event than even an entire paragraph of words. Photos or videos of a celebration of national independence help one understand how people celebrated, and accompanying audio helps us understand their exuberance. Personal photographs or home movies help capture what a kitchen looked like in the 1960s, what birthday celebrations or weddings were like, even showing us what mourning at a funeral looked like.

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Often works made for an entirely different purpose illuminate past cultures and histories (Besser 2011). Even narrative fiction films or documentaries shot locally show background images and sound of city life at an earlier time period, clothing worn by people, what buildings looked like, etc. Even photos or movies taken by colonizers for propaganda purposes show us what the streets looked like in a small village, what agriculture production looked like in certain locales, how certain buildings were constructed, and how peoples' ways of speaking or accents were different in the past.

In many ways, our media recordings (audio, video, film) are closer to oral traditions. Viewing or listening to them does not require learning to read. And many films and videos still are comprehensible across linguistic groups that may not understand the language spoken in the film, but will understand both the images and the vocal intonations (happiness, sadness, anger).

Some of these audiovisual works serve as bridges between the factors we associate with oral versus written cultures. When a ceremony or ritual such as a wedding is recorded, one slice of immaterial culture is captured on film or video and can be transmitted to future generations without alteration. Essentially the recording is a piece of material culture that captures one aspect of a piece of immaterial culture. It is not as full or rich as the original because it only captures a small part of the ceremony, but an outsider will have a far better conception of the ceremony from watching the recording than from reading a written account.

2. Collection Development of Audiovisual material

Libraries really should be collecting the type of audiovisual material that reflects local culture. There are a variety of methods for collecting works that show the past.

Some libraries have tried to aggressively solicit photos and any other home recordings by directly contacting important individuals such as politicians or cultural figures. Others have contacted anthropologists, linguists, historians, and other scholars who have worked in their region in order to obtain audio and film recordings that were part of their research. Still others have developed arrangements with television stations to obtain copies of older television shows, particularly news. Other options include contacting cultural organizations and entertainment companies in neighboring countries, and asking colonial powers to repatriate audio and film images recording in their country.

Very interesting collections have been built by collecting normal everyday images from normal people. Photographs and home movies recorded by relatives or visitors can show local scenery, clothing, and habits from 50 years in the past. Some libraries have sponsored special days, including participating in Home Movie Day (Center for Home Movies), where they encourage people

to come in, show their material to both librarians and others, and frequently the library asks to make a copy of the work for their collection.

But a library also needs to think about how future generations will be able to see how we live today. The library can purchase cheap recording equipment and begin to record local heritage itself. It is simple to use audio recording equipment to interview elders about how things have changed since they were young, and these recordings become valuable ways of transmitting how culture changes over time.

Libraries can learn from other groups that have handed cameras to young people, and asked them to record interesting parts of their lives. One such project (Bridges to Understanding) gave young people cameras to take still digital photographs, and had them compose and record a narration of what these photos illustrate about their daily lives. Another project (Rev- 2012) used a creative video and the character "Bibliobandido" to encourage young people in rural villages to visit the library, learn to read, and learn to create stories that have more meaning to their lives than the childrens' books mass-produced in the large cities of other countries.

It may be useful for a library planning to shoot their own digital video to consult the guidelines developed for a course in Ghana teaching good preservation practices to people shooting their own digital videos (van Malssen and Jimenez).

3. Why keeping audiovisual is more difficult than keeping paper

Audio and video recordings are much more fragile than works on paper. Paper works require nothing more than a light source to read them; audio and video works require a complex machine. With only a minimum of care, most works on paper last more than 100 years. But most audio and video works are recorded on tapes that tend to have problems after fewer than 20 years.

A very worrisome problem with audio and video recordings is technological obsolescence. Because a newer format becomes important, manufacturers stop making the equipment required to play back an older format, and they also stop making blank tapes that a library would need to use to copy an older tape that is deteriorating. In the 57-year history of videotape, we have had more than 50 different types of video formats (including U-Matic, Beta, Beta SP, VHS), and no manufacturer currently produces library-grade playback machines for any of these[1]. For audio recordings we have had fewer format changes in the last 50 years (¼ inch reel-to-reel, 8-track cassette, audiocassette, mini-cassette, micro-cassette, audio CDs), but our formats continue to become obsolete after about 10 years. From a very strict legal definition of "obsolete", U-Matic, S-VHS, and Betamax videotapes are currently considered obsolete in the United States (Besser et. al. 2012).

Still another problem is the deterioration of the storage medium itself. Tape is very fragile. A single fold in a cassette tape can cause the entire tape to wind out of the cassette when it is played. The chemistry of tape requires a dry climate for storage, and storage in humid air causes a chemical reaction (hydrolysis) that can make a tape unplayable. And tapes contain organic materials that attract mold.

Though optical laser storage (such as CDs or DVDs) are not so subject to hydrolysis or mold, many CDs and DVDs (particularly those not recorded in a factory) have failed to play at all less than 10 years after they were recorded. And the file formats and security used for encoding commercial CDs and DVDs (.cda and css) will not be supported on future devices, so not only the physical support but the contents of our CDs and DVDs will also have to be reformatted.

Because of all of these factors, audio and video formats are very fragile. Most recommendations suggest that reformatting be done at least once every 10 years.

4. Managing a collection of Audiovisual material

How does a library manage a collection of media recordings? Most important is management and a long-term plan. Record-keeping is essential.

Each piece of media needs to be well-labeled, and a record needs to be kept for each work. The record needs more information than a bibliographic record; it needs to indicate the format (not which is currently in VHS, audiocassette, DVD), whether the work is beginning to deteriorate, and needs to maintain a history of any reformatting that was previously done. And the library needs to be able to systematically review these records in order to locate all the works in a format that is close to becoming obsolete. (For example, if the library's last audiocassette player is nearing the end of its life, the library will need to find all audiocassettes in its collection, and try to reformat them before their audiocassette player finally dies.)

The library should have a plan for re-formatting before a format becomes obsolete. Once a format becomes obsolete it may be too late to save the work. To develop the plan, the library needs to regularly maintain and monitor the conditions of its playback equipment, as well as monitor how quickly formats become obsolete in the world outside the library. Ideally, the library should clean the heads of every tape playback machine at least twice a month (using a Q-Tip swab dipped in isopropyl alcohol). A technician should inspect the machine every two or three years, or when there is a problem. Someone in the library should keep track of how difficult it may be to obtain blank tape or a playback machine for the formats in the library. This is often done by participating in a listserv discussion involving people in the region who have

older audiovisual equipment. The listserv may also include discussion of repair issues and people who do repair work on playback machines. Another very valuable resource is to build cooperation and relationships with other local organizations that have more of a focus on audiovisual materials. Organizations like national film archives and public television stations can offer great advice on dealing with your audiovisual materials, often have technicians who could repair your broken equipment, and are likely to be following issues of technological obsolescence.

The library should store its audiovisual works in a climate that is as cool and dry as possible. But most important is that the temperature of the works should not vacillate too much. So, for example, a set of tapes should not be put close to an air conditioner that regularly cycles on and off; the frequent movement between hot and cold harms the material structure of the tape.

The library should periodically monitor the audiovisual material for signs of deterioration. Perhaps once every few years the library should pull out one item from every bookcase and physically inspect it for signs of deterioration. If it is a tape, they should look for little bits of metal powder that have fallen off the tape into the box. The smell of vinegar is another sign of deterioration. Because most problems come from age or storage conditions, if a problem is found in one item on a bookcase, other items that are the same format from a similar time period and other items stored in the same bookcase should also be inspected. If one finds a widespread deterioration problem (a storage location problem or an older format problem), the library needs to begin a serious project to reformat all the deteriorating material.

A list of good practices for storage of audiovisual materials is in (Jimenez and van Malssen) and a large amount of related information can be found in (MIAP).

5. Reformatting

We need to reformat the works in our collection both because the support that each work is stored on deteriorates, and also because the format becomes obsolete (and we can no longer obtain the necessary playback equipment). To prevent obsolescence it is good practice to reformat each type of material once every decade.

The digital preservation world has defined two concepts that we use in reformatting. *Refreshing* is designed to respond to the problem of physical deterioration, and *Migrating* is designed to respond to the problem of obsolete formats. *Refreshing* means copying to a new support without changing anything; *Migrating* means changing the actual format when you copy the work. So, in a digital text world, *refreshing* would mean taking a file on a 5.25 inch floppy disk and first moving it to a 3.5 inch diskette, then later to a CD-ROM, then

later to a DVD. *Migrating* would mean reformatting a file in Microsoft Word for Windows 95 and re-encoding it for Microsoft Office Word 2003, then later re-encoding it for Microsoft Office Word 2011.

Good practice for an audiovisual collection usually means doing a combined refreshing/migration once per decade. This means changing both the type of support and the format at the same time. Reformatting a U-Matic to a VHS, then reformatting a VHS to a digital MPEG-2 file would be examples of video reformatting.

Once we have a work in a digital format, we no longer face the problem of obsolete playback *equipment*, but we still face the problem of obsolete *formats*. Videos encoded in Apple's QuickTime just 15 years ago can no longer be played. But once our works are in digital form and stored on a hard disk, a computer can do a combined refreshing/migration without a human having to sit over the machine constantly changing tapes and punching buttons.

To make our works as preservable as possible, and to minimize the frequency of migrations, audiovisual groups have adopted standards that identify high-quality, long-lasting formats and guidelines. The most important published guidelines for audio recordings was produced by the International Association of Sound and Audiovisual Archives (Bradley 2009). The 2009 edition of these guidelines contains recommendations for preservation metadata, preservation repositories, and an entire preservation infrastructure that likely require more resources than those available in a local library. But these guidelines to ensure long-term preservation are still important to read and think about. Most audio preservation guidelines recommend that audio recordings be stored in the Broadcast Wave Format (BWF) with Pulse Code Modulation (PCM) at 96 kHz sampling frequency and 24 bits per sample. But it is important to note that your long-term storage format will likely not be the same format that you show users; if you use BWF for your preservation format, you may want to have the computer automatically generate MP3 format files for you to deliver to users. As much as possible, you should use non-proprietary formats that are used by many organizations and individuals.

6. Summary

Our audiovisual heritage is important to help convey a rich sense of our cultural past to current and future generations. Audiovisual works can record portions of oral and performative traditions and can make slices of immaterial culture survive in relatively unaltered form. And audiovisual recordings made today can convey a sense of our current culture to people in the future. Libraries need to become more aggressive about collecting and preserving audio, video, and film recordings that convey a sense of local history and culture. Libraries can find creative ways to help produce this type of recording of the present. And some of those ways can encourage creativity and literacy in young people.

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NOTES

1.   Some consumer models of combined DVD/VHS players are currently manufactured, but these are of very poor quality, and wear out very quickly. They are designed for consumer habits, like playing only one tape per day.