

Retrieving the Past for a Creative Future: Archives, Repatriation, and the Challenges Ahead

Anthony Seeger

Paper presented in Denpasar, Bali 12 July 2015 (Unpublished)

Introduction

It is a pleasure and a great honor to have been invited to participate in this celebratory event marking a milestone in the return of rare and often unique recordings of music and dance in Bali to the people who can most benefit from them. I thank the organizers of this event for the invitation to be part of it. I also thank you for attending. For those of you having difficulty understanding my English, a copy of what I am about to say has been translated so that you can follow along if you wish. Please be aware that I may change the wording as I go because I am never satisfied with what I have written.

I will begin my comments today with some observations about the potential uses of the past in the present for shaping the future. Then I shall highlight some of the challenges of what is often called repatriation and the potential for new and productive collaborations among archivists, music enthusiasts, artists, and the general public. I will briefly describe the Music of Indonesia Collection of 20 CDs published by Smithsonian Folkways Recordings in the United States but conceived and recorded through a multiyear collaboration with some of the people in this room, and initiated in another technological era, before the appearance of the World Wide Web (Internet). I will then turn to the coming disaster of recording deterioration and obsolescence that threatens to wipe out a good portion of the music, dance, and spoken wisdom stored on audiovisual media around the world today. In discussing how we all might address the challenges ahead, I will suggest the need for new partnerships and important roles for the general public, scholars, established archives, and performing artists. I will conclude this presentation with some thoughts about where we might go from here— here in Bali, here in technological time, and here in this moment of unprecedented potential collaboration.

Let me start, though with a storyⁱ

Once, not very long ago or far away, the Kingdom of Analog, located off the coast of Java, was a happy place. Its analog citizens lived long lives being played and exchanged or stored on shelves in archives, studios, and collectors homes. Its citizens, all recordings, were happy in the knowledge that would survive even after whatever was recorded on them would cease to be. In fact, the older they were, and the more likely the people recorded on them were dead, the more prestige they had. On hot afternoons they would sit around and comment on their fate. Some of them wondered, however, if any humans would ever listen to them. “I’ve been on the shelf at UCLA for forty years and no one has played me yet” said one disc. “I think I sound too awful for anyone to want to play me,” said an old wax cylinder (predating records and digital). “And I’m recorded in

a language no one speaks anymore; who will listen to me?” said another. “I’m a silent film, and humans are used to video; no one will use me” said a film by Colin McPhee. “People want to listen to me, but the lawyers won’t let them” said an illegal bootleg of a Beatles pop music concert. “We are like ghosts,” they agreed. “I wonder who will listen to us?” “Who will know enough to understand us?” “What will they do after they have heard us?” This was what life was like in the Kingdom of Analog before the terrible events I will describe later.

Archives, the Past and the Future

Archives have a bad reputation as dusty and boring places where old useless stuff sits on shelves where no one can find or use it. But they can be exciting places of discovery, inspiration, and creativity.ⁱⁱ Archives are places where the past, present, and the future intersect. Not everyone thinks that attention to the past is a good thing, however. Here is what Karl Marx, furious at the failure of the 1848 revolution in France, wrote about the past:

The tradition of all dead generations weighs like a nightmare on the brains of the living. And just when they seem to be occupied with revolutionizing themselves and things, creating something that did not exist before, precisely in such epochs of revolutionary crisis they anxiously conjure up the spirits of the past to their service, borrowing from the names, battle slogans, and costumes in order to present this new scene in world history in time-honored disguise and borrowed language. (Marx 1852: Part I paragraph 2).

The revolution of 1848 aside (Marx’s analysis is detailed and scathing), I think he is wrong about the role of looking to the past in transformative times. He is right that in moments of profound change people frequently look to the past. But they often do so to create a future different from the present, one that may include aspects of their past but arranged in new ways for new purposes, not to reproduce it. Written histories are usually created by the powerful and victorious. But the original audiovisual documents in archives often include the voices and images of the less powerful and often oppressed. It is their wisdom, language, and artistry that can be used to create a future that is not based on the story of the victors and powerful alone.

South African archivist Verne Harris, in a moving keynote address at an international archiving conference in South Africa last year, spoke about how ghosts in the archive lead us to the work of liberation. “The archive is full of ghosts.ⁱⁱⁱ South Africa is full of ghosts (. . .) [Mandela’s] ghost speaks loudly to me” He ends the first paragraph of his address saying “So my address this morning is about the ghosts of archive[s] and the call to the work of liberation” (Harris 2015:8). He doesn’t mean violent liberation, but the use of the ghostly ancestors found in archives to reach new understandings and initiate actions that influence the future. In the case of music, an encounter with the ghostly past stored on discs, tapes, and computer files often leads to new musical or dance creations and perspectives on the past that can fashion an altered future. Archives contain with their collections the tools for artistic understanding and cultural self-determination. Their collections become particularly important in times of rapid transformation. The challenge is finding the right collections and figuring out how to use them. Doing so was one of the great contributions of the project we are discussing today.

Repatriation and New Collaborations

“Restoration, Dissemination, and Repatriation of the Earliest Music Recordings and Films in Bali” is the best-conceived project for making audio and visual recordings available in the country of their origin that I know about. It is an elaborate and extremely stimulating example of what scholars call “repatriation”, the return of materials held in archives and museums to their home communities. One of the early steps in the project was to locate the remaining early recordings, a number of which were housed in the UCLA Ethnomusicology Archives, of which I was the director. We were delighted to assist in their inclusion in the project, but also concerned that the originals not be damaged in the process. Like most archives with a large number of collections from different parts of the world, the UCLA Ethnomusicology archives lacked the language expertise, contacts with scholars in the country of origin, and understanding of their significance to repatriate the collections ourselves. That required the determined actions of Ed Herbst and his colleagues and supporters in Indonesia as well as financial support from the Mellon and Ford Foundations in addition to Fulbright and AMINEF.

“Repatriation” is the return of objects and documents to the country or community from which they were obtained. Repatriation is very much on the minds of archivists and museum specialists today because they hope the collections they have worked hard to organize and preserve will prove useful to individuals and communities seeking to create a new future. We are living in an era of large political, economic, technological, and cultural changes. The colonialism that persisted into the second half of the 20th Century is largely ended. Its end has been accompanied by a shift in economic power and political as well as cultural self-determination back to the former European colonies and local regions within them. But reversing the cultural impacts of colonialism is not a simple task. Millions of recordings and artifacts from former colonies and conquered peoples are held in archives and museums in Europe and North America. These are potentially of great interest to local communities where they were collected and they should be returned to them. But how should they be returned? The citizens of the Kingdom of Analog, as you recall, were wondering exactly that—who would listen to them and what would they do afterward?

Several different approaches have been undertaken to repatriation.^{iv} In India, a group of U.S. scholars, with the support of the Ford Foundation, established the Archives and Research Centre in Ethnomusicology, called ARCE, in 1983. One of its objectives was to repatriate recordings held in overseas archives and to ensure that a copy of new recordings made by U.S and other foreign researchers would be left in India and made available to Indian scholars. Over thirty years later ARCE continues to be one of the few truly professional audiovisual archives in South and Southeast Asia. It contains many collections made by foreigners. But Indian collectors have entrusted their collections to it as well. Its director, Shubha Chaudhuri, has been involved in training programs in Indonesia as well as other parts of the world, and is co-editor of a useful book on archiving (Seeger and Chaudhuri 2004). ARCE also collaborates with local archives through training programs and by holding copies of their collections.^v

One of the earliest large institutional repatriation efforts was the Federal Cylinder Project at the U.S. Library of Congress in the 1980s. Its objective was to return copies of the 8,000 wax cylinder recordings of American Indians made at the beginning of the 20th century to their tribes

of origin. The staff made copies and sent them to the tribal councils of each group, with very mixed results (J. Gray 1996). Sometimes the returned recordings sat on a shelf somewhere or were thrown away. Sometimes community members were discouraged by the poor sound quality of the early recordings; sometimes what they hoped to hear had not been recorded; sometimes the individuals who might have made use of them never heard about them. In a few cases the recordings were used to recall and strengthen local musical traditions. The results of this repatriation project made other archives realize that it is not enough just to copy recordings and put them in the mail.

Sometimes repatriated collections are put to use, but in unexpected ways^{vi} Sometimes access to collections in community culture centers is no easier than access to archives abroad.^{vii} Experience shows that recordings returned to communities can be ignored, hidden and used to amass personal power, or continue to be inaccessible to members of the community. This is one reason the process through which the earliest recordings of Balinese music are being returned to Bali is so important. Instead of locating the originals and making a single copy for an institution, the project was seen as collaboration from the very start and enlisted the participation of eminent Indonesian and Balinese scholars and performers with the object of making the recordings available to everyone. Edward Herbst and others on the program today have described the project in detail. I just want to congratulate them on its conceptualization and execution. Just as the ARCE in India is a model archive, so "Restoration Dissemination and Repatriation of the Earliest Music Recordings and Films in Bali" is a world model for a sensitive and productive way to reintroduce old and unique recordings in the 21st century.

There have been other collaborative projects on the music of Indonesia. One in the 1980s with which I was deeply involved when I was director of Smithsonian Folkways Recordings was a project to record some of the lesser-known music of Indonesia, funded also by the Ford Foundation. Among its many objectives were to train Indonesian scholars in recording techniques, produce a 20-CD set of some of the many traditions of music in Indonesia that could be released by Smithsonian Folkways Recordings and in Indonesia, and to deposit copies of all the recordings in both the Smithsonian Institution and at an Indonesian institution. Spearheaded by the Smithsonian and Philip Yampolsky in partnership with the Masyarakat Seni Pertunjukan Indonesia (MSPI), the series focused on new recordings of lesser known regional contemporary traditions. The series did not even include recordings from Bali because so much traditional Balinese music was already widely available. The project, though successful in many respects, was conceived before the World Wide Web had made us aware of its usefulness for making recordings available to the public. We might have planned it differently had we known the opportunities the Internet would provide us.

Audiovisual Archives, New Technology, and New Possibilities

About fifteen years ago I was frustrated by articles and dissertations that seemed to be repeatedly restating ideas that had been around for decades. I envied fields like genetics, where technology and new research had opened up interesting new theoretical challenges and completely settled some old debates. Genetic research was also having some very satisfying practical uses as well, among them the release of prisoners from jails around the United States when DNA evidence

proved their innocence. Why, I wondered, wasn't my field so fortunately theoretically refocused and practically applicable? Then I realized that a part of ethnomusicology in which I was working had already been refocused by technological changes and rendered practically applicable in ways never before possible. This area had long considered to be one of the most old-fashioned and nineteenth-century of our activities: the storage and dissemination of the byproducts of our research collecting—audiovisual archiving (Seeger 2006). Far from being old-fashioned, archives are once again a center of activity in ethnomusicology. The opening essay of a recent special issue on archiving of the journal *Ethnomusicology Forum* is titled “We [ethnomusicologists] are all Archivists Now: Towards a More Equitable Ethnomusicology” (Fargion and Landau 2012:125).

Digital technology (in the form of compact high quality audio and video recorders, easily copied file-based recording formats, and CD, DVD, and internet-based music and video), internet communication, increased literacy, and recognition of the importance of early audiovisual recordings have transformed archiving. They have opened the way for new collaborations among scholars, among archival institutions, and between archives, musicians, the general public, and the recordings long silent in archival storage. It is now possible to undertake repatriation on a scale, and using a collaborative approach, never before possible. It is also possible to make recordings available to large audiences through internet distribution of audio and video files.^{viii}

In spite of the technical achievements that make it easy to share archival recordings, important ethical issues remain to be considered in every repatriation project. These include the right of the confidentiality of sensitive interview material and of secret or sacred rituals. Also important are the rights of performers and creators to their material. Internet enthusiasts may proclaim that “knowledge wants to be free” but that sentiment is often not shared by local communities and artists. Not everything in an archive can be made publically available because some of it was originally recorded for private use only. The Suyá/Kisêdjê do not want any of their recordings available on the Internet without their permission. Because of new concerns about the rights of other indigenous groups, they have asked me to remove some songs from a recordings we co-produced long ago because they don't have the other tribe's permission to sing them. Collaboration and communication are not always easy among neighboring communities either.

The Coming Preservation Disaster:

It is time to return to our story about the kingdom of Analog.

Life in the Kingdom of Analog went on peacefully for decades. Then, after years of rumors about them, two terrifying dragons appeared at the gates of the kingdom. The dragons were named Deterioration and Obsolescence. These dragons threatened to destroy the entire Kingdom of Analog and eat all of its inhabitants. The people of Analog were powerless to stop them. A newly founded neighboring kingdom, Digitization, offered to help keep the dragons away. But the Kingdom of Digitization was poor and its defense budget was very small. The analog citizens were numerous. In spite of the efforts of the Kingdom of Digitization, the dragons devoured the people of Analog. In spite of UNESCO's appeals, Deterioration and Obsolescence ate all the Analogs except for some that escaped to the Kingdom of Digitization. In a few years the Kingdom of Analog was

just a memory, as were all its citizens. Certainly not immortal and no longer even ghosts or ancestors, the unplayable analog recordings weren't anything at all. And then the hungry dragon Obsolescence began to attack the Kingdom of Digitization.

This story might make a nice shadow play, dance, or musical composition, but it isn't fiction. It is fact. Audio engineers have been calling our attention to the end of the analog era for some time, but in a 2015 article Mike Casey (from whom I have borrowed the idea of turning the process into a story) has documented in alarming detail the crisis that threatens to render our analog recordings unplayable if they are not digitized in the next 20 years or so (M. Casey 2015). The problems are twofold. First, most media on which analog recordings are stored are degrading and coming to the end of their playability. No format is immune from this—1/4-inch reel-to-reel audio recordings, audio cassettes, VHS video recordings, Hi-8, Betacam, and digital tapes are all steadily degrading and will become unplayable. Archivists expect recordable CDs and DVDs to decay also. Second, there are not enough playback machines to copy some of the obsolete media formats. We are not only lacking analog machines, but some digital formats on discontinued platforms will be unplayable. The potential loss of millions of hours of audio and video recordings will undermine the intention of those who made them and those who were counting on using them in the future.

Analog recordings on almost all kinds of media are coming to the end of their playability. This is because internal chemical reactions are deteriorating audio tape of all kinds—including digital tape.^{ix} In fact, Digital Audio Tape (DAT) seems to have the shortest shelf life—as little as 10 years. But in addition to their chemical degradation we struggle with the obsolescence of analog media. We increasingly lack the machines to play them on and the former manufacturers are discontinuing even the manufacture of spare parts. We lack the equipment to digitize them and we lack the funding to digitize them. I find it contradictory that nations around the world are making huge UNESCO-supported efforts to survey and safeguard their intangible cultural heritage but give so little attention and funding to ensure that the previous documentation work and the new survey materials will be available in the future.

The transfer from analog to digital format is not easy—it is difficult and time consuming. There are some good guides to doing it, however.^x To do it on the scale required to rescue the valuable recordings in private collections in Indonesia would require a carefully designed plan, like that developed by Indiana University to digitize the 750,000 hours of recordings on all the campuses of that large university (Indiana University 2011).

Exactly how the digitization should be done depends on the size of the collection and the skills of the staff. In the United States, a number of for-profit preservation labs have been built and are being used for small collections. They are expensive, but they do professional work and archives raise the money to pay them from grants. In the case of collectors or archives with larger collections, it is sometimes less expensive to buy the equipment and digitize the collection under the supervision (actual or virtual) of a knowledgeable audio engineer. Most larger archives, including the UCLA Ethnomusicology Archive, have their own digitization studios, though they may send out the most difficult materials to the for-profit specialists. But preservation is never completed. The dragon called Obsolescence is feeding itself in the digital domain.

Even when recordings have been transferred from analog to digital formats, the preservation work is not done. Digital formats and computer operating systems are constantly changing. The future for audiovisual preservation is a continuous migration of data to new media and new platforms. Fortunately, this migration is fairly rapid once the materials are in a digital format. But if it is not done regularly, the time and money of the original digitization can be lost along with the sound and images. Other dangers to digitized materials include faulty backups and the usual threats from earthquakes, wars, and purposeful destruction.^{xi}

The best kind of collaboration between small archives and collectors is to deposit their digital collections in an archive that will manage their backup and migration while keeping copies for local use. This is increasingly the case in the United States. A central repository staffed by information specialists with a network of backup servers has to be part of any preservation strategy. With the right contract, the depositor does not lose control over the material, but it ensures its survival into the future.

Conclusion:

The “Restoration, Dissemination, and Repatriation of the Earliest Music Recordings and Films in Bali” project is a model project for repatriation and the digitization of analog content. But the number of recordings preserved and returned through it is tiny compared to the number of somewhat later recordings that are in private hands, sitting on the shelf in some artist’s, scholar’s, or collector’s home. Indonesia has many active artists and scholars who have amassed really important recordings and many other scholars would love to make their recordings available here. But most of them lack the facilities, the funds, and a secure institutional archive to put them into. There is a need to mobilize efforts and support for a digitization project on a very large scale. This could be done through a massive government project.^{xii} It might be possible to establish some large crowd-sourced project where, under rigid requirements and quality control, large numbers of people could each do a small part of the corpus. The challenge, of course, is not just technical. A key feature of this project has been to take the recordings to the original artists and to learn from them. That is an even larger project—but one that can be best done when digitization is complete, multiple copies can be shared, and all of us can learn from the past and consider what to employ in the future. I congratulate all those involved in this repatriation project, and wish you all the best of luck with the projects their work may inform.

Thank you.

References Cited

Bendrups, Dan. 2005. "Returning Borrowed Goods: The Motive for Establishing a Rapanui Music Archive." *The 1st international Small Islands Cultures Conference, Kagoshima University Centre for the Pacific Islands*. Online under <http://sicri-network.org/ISIC1/e.%20ISIC1P%20Bendrups.pdf>.

Berlin, Gabriele and Artur Simon. 2002. *Music Archiving in the World: Papers Presented at the Conference on the Occasion of the 100th Anniversary of the Berliner Phonogramm-Archiv*. Berlin: VWB.

Casey, Mike. 2015. "Why Media Preservation Can't Wait: the Gathering Storm." *IASA Journal* no. 44 (January 2015): 14-22.

Graham, Laura. 1998. *Performing Drams: Discoveries of Immortality among the Xavante Indians of Central Brazil*. Austin: University of Texas Press.

Gray, Judith. 1996. "Returning Music to the Makers: The Library of Congress, American Indians, and the Federal Cylinder Project." *Cultural Survival Quarterly*: 20.4 (Winter 1996) Traditional Music in Community Life. <http://www.culturalsurvival.org/ourpublications/csq/article/returning-music-makers-the-library-congress-american-indians-and-federal> (consulted 06/20/2015).

Harris, Verne. 2015. "Spectres of Archive and Liberation." *IASA Journal* no. 44 (January 2015):8-13.

Indiana University Media Preservation Task Force. 2011. *Meeting the Challenge of Media Preservation: Strategies and Solutions* (public version). http://www.indiana.edu/~medpres/documents/iu_mpi_report_public.pdf

Lancefield, Robert C. 1998. "Musical Traces' Retraceable Paths: The Repatriation of Recorded Sound." *Journal of Folklore Research*, 35(1):47-68.

Landau and Topp-Fargion (guest editors) *Ethnomusicology, Archives, and Communities: Methodologies for an Equitable Discipline*. IN *Ethnomusicology Forum* folume 21 no. 2. Their introductory essay is excellent, and some of the cases will give you some things to think about.

Nannyonga-Tamusuza, Sylvia & Andrew N. Weintraub.2012. The Audible Future: Reimagining the Role of Sound Archives and Sound Repatriation in Uganda." *Ethnomusicology* 56(2):206–33.

Seeger, Anthony. 1986. "The Role of Sound Archives in Ethnomusicology Today." In *Ethnomusicology* 30:261-276.

_____, 1999. “Happy Birthday, ATM! Ethnographic Futures of the Archives of the 21st Century.” IN *Resound, A Quarterly of the Archives of Traditional Music* January 1999, pp 1-3.

_____. 2006. “New Technology Requires New Collaborations: Changing Ourselves to Better Shape the Future.” *Musicology Australia, Journal of the Musicological Society of Australia* 27 (2004-2005): 94-111.

_____.2012. “Who Should Control Which Rights to Music?” In *Current Issues in Music Research: Copyright, Power, and Transnational Music Processes*. Edited by Susana Moreno Fernández, Salwa El-Shawan Castelo-Branco, Pedro Roxo, and Iván Iglesias. Lisbon: Edições Colibri pp. 27-49 (it is also to be found on a DVD published at the same time).

Seeger, Anthony and Shubha Chaudhuri (editors). 2004. *Archives for the Future: Global Perspectives on Audiovisual Archives in the 21st Century*. Calcutta: Seagull Press. Free downloads from: <http://www.seagullindia.com/archive/download.html>

ⁱ The idea of using a story format to engage the audience and make the point that all analog recordings are endangered and that fast, coordinated action is required I credit to Mike Casey (2015). This story is different, but it is used for the same purpose.

ⁱⁱ The pace of writing on audiovisual archives has increased. Some good initial sources are Seeger 1986, Seeger and Chaudhuri 2004, Berlin and Simon (2002), Landau and Fargion 2012, and the journals of the Association of Recorded Sound Collections (*ARSC Journal*) and the International Association of Sound and Audiovisual Archives (*IASA Journal*). The latter two professional organizations are also very good sources of technical information.

ⁱⁱⁱ When I became director of the Indiana University Archives of Traditional Music in the early 1980s I would go there at night to be sure everything was safe. As I walked along the darkened hallway through the rows of shelves filled with tapes I sometimes felt I was hearing their sounds all at once, crying out to be heard in the silence of the night. Archives are indeed filled with ghosts—voices of the insubstantial dead.

^{iv} There is a small but growing literature on the repatriation of audiovisual materials, including Lancefield 1998, Bendrups 2012, Nannyonga-Tamusuza and Weintraub 2012, and most of the case studies in Landau and Fargion 2012. A much larger literature about museum collections also exists, but I cannot list them here.

^v The recent earthquake in Nepal destroyed the small ethnomusicology archive there, but copies of its early recordings are at the ARCE. ARCE is also holding collections for an archive in Rajasthan and another in Kutch. The collaboration between established central archives and small ones that serve a particular community is an important part of the collective work we can do today.

^{vi} . In 1998 the anthropologist and linguist Laura Graham described her attempt to return copies of her recordings to the Xavante indigenous group in Brazil. After her dissertation fieldwork she sent copies of the speeches of a deceased Xavante leader famous for the eloquence of his oratory and the wisdom of his thinking back to the village. Years later, when she returned to the village, she asked how they had liked the tapes she had sent. “What tapes?” they replied. No one admitted to knowing anything about the tapes she had sent. But something else had happened: one of the sons of the late leader claimed to be speaking with the ghost of his father. As proof he would recite what his father had said. And, yes, the words and cadences sounded just like his father! It turned out

that he had received the tapes but had not told anyone. He was using them to learn his father's speeches and to promote his own claims to political leadership. Talking with ancestor spirits is an old Xavante tradition; no one suspected that the chief's son might be using a new technology to facilitate the process—further proof that archives are filled with ghosts (Graham 1998:227-236).

^{vii} In 2003 I returned digitized copies of my own field recordings from the 1970s, stored at the Indiana University Archives of Traditional Music, to the Suyá/Kisêdjê indigenous group, also in Brazil. I sent the 53 recordable CDs and notes to the community center they were establishing for recordings and photos made by outsiders in the past. On my next visit a young woman asked me for copies of some of those recordings. I told her they were already on a computer only three hundred meters away. But she said she couldn't ask the man who operated the computer for copies. She was no more able to listen to recordings 300 meters away than she was to listen to them at the Indiana University Archives of Traditional Music in the United States, ten thousand kilometers away, where the originals are stored. Just giving the community center a copy was obviously not enough.

^{viii} It is hard for young (and some older) people today to imagine how difficult communication was not long very long ago. If I wanted to communicate with the Suyá/Kisêdjê in Brazil in the early 1980s I could send them a letter, but if it ever got delivered no one knew how to read. I could send them a cassette tape with a message, but there was no guarantee that anyone had a working cassette player. If someone did, they might not have batteries for it. It was impossible to communicate on short wave radio, because they had none. And if, by some unusual circumstance, my message did get through they had no way of responding to it. I would have to travel there in person to communicate, which was a very long trip. Today I can send them an email or a message on Facebook that they can read in either their own written language or Portuguese when the infirmary Wi-Fi is working, or I can telephone a village public telephone linked to the world by a satellite antenna if I want to talk interactively. A desire to collaborate is not enough. Collaboration requires two-way communication, which is much easier now than it used to be.

^{ix} The only medium that appears to be stable is the pressed plastic disc. 78 rpm, 45rpm and 33-1/3 rpm Long Play discs last indefinitely if stored safely in an upright position. Thus most recordings of popular music from the 20th century (up to CDs) are pretty safe. Any skilled person with a workshop could also probably make a simple playback machine for them as well. Acetate discs and instantaneous recording discs are a serious preservation problem, however.

^x Among the good sources in English are IASA Technical Committee report TC-04, *Guidelines on the Production and Preservation of Digital Audio Objects* (Bradley 2009) and Indiana University's *Meeting the Challenge of Media Preservation: Strategies and Solutions* (public version) (Indiana University Preservation Task Force 2011). They are good places to start.

^{xi} When the former Yugoslavia broke up, the Serbs purposefully bombarded the library and archive of Sarajevo in an effort to erase memory of the past when Muslims and Christians lived peaceably as neighbors.

^{xii} The Austrian archivist Dietrich Schüller thought that a way to improve the speed of digitization would be before the Austrian government to stop making payments to the unemployed but instead pay them to learn to digitize and to work at digitization until they found their next job. While idealistic, it will take large scale projects and investment to migrate the rest of the analog recordings of Balinese music.