

Interviewee: Madden, Jamie
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Modoux: First of all Jamie, what is your background in sound engineering?

Madden: Oh, let's see. Well, my background here is that I have been working on the digitization of the material, of the recordings in the Florida Folklife collection for about three years. The collection came to us in the early 1990s, from the Folklife Commission, and it consists of magnetic, open-face [??] reel-to-reel tapes, cassette tapes, DAT tapes. I don't think there is any analog disks in the collection that I have seen. So it is mostly just tape-based. So, I have been here doing that for a couple of years. Before that, I have done some work in radio; I worked in a couple of recording studios in Atlanta, that were for broadcast, kind of like corporate production studios, and then also music stuff up there in the R&B market. And, let's see.. .Before that, Philadelphia. I worked at recording studios that were affiliated with the school that I was at. And, I got all of my schooling at the Art Institute at Atlanta and Philadelphia. And, before that I have always been interested in recording stuff, messing with tape equipment. [laughs] This is weird to just talk about that! I've always messed around with audio stuff; I have always liked music, and I have always been interested in it, since I was really little. And I used to mess around with recording things when I was a kid. So I guess I have always been kind of fascinated by it.. . But, I have only been doing the work that I have been doing here for just a couple of years.

Modoux: With your background and what you have been doing at the Archives, can you give me a few basics about audio formats. For instance, what used to be most popular, what has changed; are there a lot of differences now from when you first started?

Madden: When I started in the early 1990s, most of the audio recording was done on tape. In the big professional recording studios that I worked at, it was all 3M 2-inch tapes, 996 was -I think -what most people used. Most of the stuff that you did in professional recording studios, that was creative, that was music-based, was all on 2-inch tapes. And what wasn't -you know, if you were still working with tapes -it was usually ¼ inch format, the same format that most of the stuff that we have here in the collection is. Almost everything was tape-based. There was some use of DAT-tape as well, for documenting live recording; you would have people that would operate a big mix board at a live concert, that they would mix that down to a stereo-track and then they would record that live to DAT tape. Which is still audio tape; it is digital audio tape. But, it was not used a lot; it was used mostly for kind of temporary masters; if somebody was going to master an album, they would master that down to DAT, and use that to allow people -because it was so small and portable -to kind of approve and review a master mix of a single of a record, or something like that. DAT was just really kind of finding its feet. But primarily, everything was on reel-to-reel. And, it is funny because it was not that long ago. That was, you

know, early 1990s; 1993, 1994, 1995, in there. Now, everything is really digitally based, in terms of recording. There are still some people that use magnetic tapes, but it is really rare. And the funny thing is, even though we are only talking about thirteen years or so, that is long enough that you don't have a lot of people working in audio right now that have a lot of familiarity with tape, and the kind of issues that you can run into with recording tapes. So, it is very interesting to see that in such a short time, things can really change so much. Now, a lot of stuff is done digitally, and so it makes the job -like what I do here at the Archives -kind of interesting to me, because I am kind of bridging both; I get to work in the digital sphere with the conversion and the transfer of these old tapes, and still have my hands on tape every day. Which, I am really comfortable with, because it is kind of what I did when I really got into the professional side of the business. That's what people were using, and that is what I worked with. So I was never really afraid of using it. It is not really scary to me to handle, magnetic tapes.

Modoux: When you talk about tapes, you are only talking about reel-to-reel, or do you include cassettes?

Madden: Cassettes for when I started? Well, cassette was more of a consumer-grade product. I should qualify that by saying that some people did really amazing creative things with cassette technology. You know, very independent things; artists that were in hip-hop, a lot of punk rock bands, would record stuff straight to a 4-track cassette and put their stuff on cassette. So, it has been something that people have used for creative application. But it really was intended to be a consumer product. Just for people who wanted to record a CD or something like that on cassette. But it was prominent. Now, it was also used in a lot of different ways as well. Oral historians used a lot of cassettes, as well. Because it was so portable. It was much easier than carrying a big reel-to-reel deck out into the field and try to record. And you also could kind of get the mechanism out of the face of the interviewee, or whoever you were talking to. He would be less nervous, or less conscious of the machine being there, if you had a cassette. So, it certainly had a lot of different applications and it was still a format that was used a lot when I first started doing recordings and things like that. But it was not used as much for real professional projects.

Modoux: When you were talking about oral historians, you always used the past tense talking about cassettes. Does it mean you think that oral historians are not using cassettes anymore, or that it is not reliable to use cassettes anymore?

Madden: Well.. . [ponders on it for a few seconds]. .. cassettes are really endangered. It is an endangered format. Probably by the end of this year it is going to be really difficult to walk into a store and buy a cassette deck. And, because of that, it is going hard to go and buy blank cassettes. You may be able to find cassettes in some places, but it is just a pattern of market trend in that people are really getting away from tape-based products across the board. So.. . I did not notice I was saying it in the past tense, but I think I do think of cassettes as kind of an archaic format, and that people are not using it as much and manufacturers are not really supporting that technology anymore. We have a lot of cassettes in this collection, because it came from the

Folklife collection. And they used those for both voice recording -if they would go out and record a subject in the field and do an oral history -and they also did it for other types of interviews -like just capturing just ambient sounds at a market or at an event, they would kind of capture what it sounded like, to give you kind of a thumbnail sketch sound of what an event was like maybe. And they would record music with it as well. It is kind of striking that some of those items in our collection are the most endangered items that we have, in that cassettes really do not stand up well to sitting on a shelf for years and years, not being played. It is just really unhealthy for them. And I would say to anyone who has large collections of cassettes, to get to transferring them, or migrating them, to a digital format as quickly as you can. Because I found several in our collections that.. .you know, to look at them, to do a visual inspection, they look fine. But until you throw them into the tape deck and play them, you will find that you get very strange fluctuation in speed, bogging the machine down, the housing will squeak. Just all kind of things. They are really prone to problems. And it is not just a problem for cassettes. It is a problem for DAT-tape as well. Pretty much, any format that you have in a collection that is not being supported in the consumer market, you are just going to have some issues with working with that material. It does not mean that you won't be able to find parts, or expertise, or material that you need. But it does mean that you will sometimes have to go to special providers to get that stuff, and whenever you have to do that, you are talking about.. . because of the exclusivity.. .you are talking more money for things like that. So, that's interesting. I did not realize I was saying cassettes in past tense. But, I would encourage people to explore some of the digital documentation devices that are out there; there is a lot of good products that you can get, that you can do really good work with, and make it really easy to migrate that recording, the material is born digital and you can use several different processes to make sure that the sound document is backed up properly and safe.

Modoux: Now, to come back to your job, can you explain in more details what you do here? What your responsibilities are?

Madden: Yes. Primarily, the collection that I deal with here at the Archives is the Florida Folklife collection. It consists of several thousands reels, of magnetic tapes, of cassette tapes. We have got thousands of cassettes; we probably have several hundreds DAT-tapes. We have other recorded items, recorded documents, in the Archives. But, I have been called away to work on them as needed from time to time. But the majority that I work with is just in the folklife collection. As that material sits on the shelves, you have a concern for degradation; media degradation. Basically, what that means is that the media does not get any healthier, by just sitting there. A reel-to-reel tape can undergo several different changes, depending on what type it is. If it is acetate tape, which is older -it was used more in the late 1940s and 1950s, and the early 1960s -it is susceptible to shrinkage, to curling, things of that nature. They make it very difficult to play. If it is later poly-based tapes, it can be susceptible to something called sticky-shed, where binders that are in the tape will kind of glue the tape pack together, which makes it difficult to work with. Cassettes and DAT-tapes have their own problems as well. In order to make sure.. . At the Archives, here, our job is really to collect, maintain and make available records of a lasting importance or that we see will have long term importance to Floridians or to

the history of the State of Florida. So, really, our job here is an access issue. We provide access, and we organize and make those things available. Well, if somebody comes in off the street and they want a reel-to-reel tape from 1958, and.. . it is on open face reel-to-reel tape, then you have a problem. Chances are, whoever comes in off of the street, will not know how to use the piece of equipment that it would take to play that reel-to-reel tape. And the other issue that we have is that none of the items up here, or very few of them, had ever been duplicated. So, you have someone coming in, a patron who is interested in hearing something, and that is a legitimate request, and we are mandated by the State of Florida, by law, to provide access to that item. But we are giving them the original of that recording. So, you have something that is the only one that is like that and that is there.. . That is a problem to an archivist. You want to not only provide access, you want to also maintain security and control, and see to the safety of the original. So, what we knew that we needed to do, was to take the material and to transfer them into a format that would make them more accessible to patrons, and to people that work here. And also, circumvent those issues of degradation, media obsolescence, or whatever that you run into. So what I do every day is that I take the old recordings that we have here in the collection; if they are on reel-to-reel tape, I load them here on the tascam machine [points to the machine on his right] that we have, and I use our signal flow change that we have set up -which I can explain more later if you want to know what the components and pieces are. And, basically, what we do is that we take it from the analog original or the digital original, DAT-tape is a digital format just stored to a tape base, we take it from the original format -whatever that may be, through a converter that basically transduces that energy from an analog type to a digital type and then we capture it through the sound card and the computer, using an audio program that we have loaded on the computer. And once we have done that, we basically have a digital visual snap shot of the recorded content of that item. We save it in two different resolutions, and that is consistent with standards that have been created by the Library of Congress, and several other organizations, both in this country and world-wide, and they have kind of identified how we needed to go about this work to make sure sounds were safe. So, the resolutions that we have decided upon were 96khz sampling rate, and 24 bit depth for the preservation layer copy. That format, things sampled at that resolution, cannot be played on CD players or consumer-grade audio. Basically, those sit there as a preservation master; they are just put on a shelf, on a harddrive, what have you, and wait. It is a very high resolution and it gives you a very accurate digital image of what the sound wave looks like. So you save it at that resolution, that is your preservation resolution. From that file format, you can bump down that sample rate to 44.1khz and 16 bit depth, which is consistent to what most CDs are, most -you know -professionally manufactured CDs, like any commercial artist, any recording artist, or what have you, that you would buy in a shop. And that is your access copy, that is the copy that researches in-house and patrons from outside can come and use for their research, or whatever it might be, any interest they might have in that item. So you save at those two resolutions.. . when you store those two files, you want to ensure that you set them up.. . you want to save those files so that they are safe. Because it takes a lot of effort, and it takes a lot of time to do the transfer. You can basically say that it is going to take you a one to three ratio for anything that you convert. So if you have something that, you know, its recorded output is half an hour long, it is going to take you at least an hour and a half to prepare that item for transfer, to digitize it, to edit it -if it needs to be edited

or tagged or what have you -and saved to a file. So when you consider all the time it takes you to do the work, you want to make sure that at the end of that, the work is safe. So, typically, what you want to do is save it on some kind of server system that is routinely backed up. What I do here is I save them on a server system that is backed up every couple of days, or I don't know how often they do it. That's not my part of the job; I kind of let the people who are the IT worry about all of that. What I do is save things on external harddrives as well, so that I have got external harddrives out there on the shelf that have my information on them, close at hand. So that if we ever have any kind of server issue, or the server is temporarily unavailable, or what have you, I can still access my items that way. And then the one that is truly safe is the one that sits on that server which is backed up on raid array, and it is there. They make sure that this material is soundly stored so that it will be safe for the long term. Then, once we have done that, we can burn the stuff to CDs; those CDs are the access copies for people who come into the reference room. If they want to hear it, they come in and they say: "My dad played at the 1967 Florida Folklife festival. I want to hear all the recordings from that year." Well, we can take those downstairs and they can listen to them, right down here in the ordinary CD players that we have in the reference room. While we burn those user-copies to CD, that is just for access. That is not for preservation. There is no optically written storage method that is archivally sound at all. Just.. . that's it. There is nothing. A lot of people will transfer something to CD, or will transfer it to DVD, and think they have a safe copy. Well, DVDs and CDs can fail; there can be any number of issues that you can have; you can have errors when you try to pull information back off from a CD or a DVD that you have burned. So, you want to ensure that your ultimate storage for your digitized items, in this case our tape reels, or DATs or cassettes, are backed up routinely. Don't use any kind of burn storage system at all. Or, if you do, think of it as a preservation backup. If you are on a smaller budget, say for instance you have somebody with a small oral history collection, a local library, or something like that, it is all on cassettes and you want to digitize it. I would recommend that an institution like that -you know, if they want to make access copies, go ahead and burn it to CD -but save those masters.. And in that case, they might not want to do a high resolution master. They might just say that 44 and 16 is perfect for them. I would put that on an external harddrive. I would duplicate it on at least two external harddrives by different manufacturers, get like a Western Digital and a Seagate. Make sure you have the same content on each different one. Rather than go to a store and buy two Seagates that are right next to the other and manufactured in the same the plant, in the same week perhaps, even on the same day, by the same person and have a failure -that could be something that happens -they could both fail. I mean, you would think that the chances of that would be rare, but it could happen. If you grab something from two different companies, you have a little extra protection. The basic message is: many copies keep things safe. The more copies of something you have, the safer the content is. So, I don't know.. .Did I answer your question about what I do? [laughs]

Modoux: Yes, you did. [laughs too] Now, can you explain in general terms what the actual process of the transfer is?

Madden: Yeah. What format would you want me to.. . like reel-to-reel tape?

Modoux: Yes, reel-to-reel.

Madden: Okay. I will talk about reel-to-reel and in the process I will talk about how I would handle it both if it were acetate and poly-based tape. The first thing I do, for any tape, is a visual inspection of the reel. So, I go to the shelf, and I pull off a new reel that I have never worked with before; I open the tape box and just look at the tape itself. And, I try to determine whether it is poly-based tape or if it is acetate tape. That is really easy to do actually, because if you hold a reel back up to light, and it is acetate, it becomes transparent; you can see through it. With poly-based tape that will not happen. So that is a real immediate method for telling what you have got in terms of tape styles. Usually, you can tell anyway; once you have done it for a while, you can just tell what the differences are. Usually, what I do is I look for any build-up dust, mold, or mildew that might be on the tape, whether it is on the tape, or the tape flange, the plastic carrier that the tape is wound on to; I will look at how healthy it looks; I will look to see if it is bend, or anything of that nature. And then I will try and look through the flange to see if there are any splice marks in the tape itself. Splices are basically just little pieces of tape, like scotch tape, that people would use to tape back together two segments of tape whether if it broke while it was being played, or if there was an edit point there, or what have you. You would use a little piece of splice tape to fix that. Splice tape does not damage the machine, theoretically. Because it is applied to the side of the tape that does not have recorded content on it. Usually. Now, you can find all kinds of crazy things, and I have had some where the splice tape is literally Scotch tape, or it is some weird thing you have never seen before, or sometimes it is on the wrong side -it is on the record side. The problem with splices is that when you play a tape, if it is really old tape, you know, it is just like if you go to an antique shop, or an old junk shop, or what have you, and you pick up a photo album and sometimes you see pictures that are taped in there. Really old tape kind of disintegrates. It kind of somehow still holds the items down, but the adhesive becomes really flaky and the adhesive carrier will flake off. And you will have the same kind of thing happen on a tape machine as well, or on a reel- to-reel tape. So, you can sometimes play a tape where that stuff will flake off, and stick to the tape head, or get into the tape parts in some other kinds of way and cause problems. So the first thing I do is just analyze the tape. I just look at it; I see if there is anything that looks like it is going to give me problems: is it curled really badly? Is it cupping or what have you? And then I will try to figure out how I can address those things. Polyester-based tape is susceptible to something that I mentioned earlier, which is called sticky shed. And sticky shed came about as a result of tape manufacturing companies changing the process by which they made recording tapes. In about the late 1970's through to the early 1980s.. . technically, it was corrected into the 1980s, and it should not be a problem after that anymore. But I have not found that to be the case at all. Really, any tape that was manufactured from the late 1970s up through even the 1990s, can be susceptible to sticky shed, depending upon how it was stored, and how it was kept, and what kind of different environments people have that material in, and during its life span. All kinds of things can still give that tape issues. If you have a tape that has sticky shed syndrome, you don't want to play it on your tape deck. So you have to really be able to identify if you have got a problem or not. The best way to do that is to take the tape reel, and just.. . what you want to do is turn the tape reel slowly to see if the tape falls off the reel or not. (Would you hand me one of those tapes over

there? [points to his left] because you are not supposed to know what I am talking about [laughs] So, basically, what you have.. . you see how the tape wraps on there? If you turn it over this way, see how the tape just falls off! It just.. ..It just winds right off [shows it on the tape reel]. If you had a tape that has got sticky shed, what would happen is, that stickiness would keep that tape from just winding off from there real naturally. So, what would happen is: I would try to turn it, and you would get a little adherence like that. And then you would say: "Oh, I wonder if this tape might have an issue." A lot of time, you can tell just like that, if you roll a little bit of tape off. Now, because you have a couple thousands feet of tape on that reel, you really cannot do it until you come to a spot where you have got some tape sticking, or you might have a whole mess of tape all over your floor. What you really kind of have to do with a tape that might have sticky shed, is load it on your tape machine, and play it slowly. Now, again, that could be a problem. Because what happens is, basically, with sticky shed, those adhesives, they get released by humidity getting into the tape pack, or really whatever causes.. . They are also called hydrolysis; it is the more technical term for sticky shed. And the thing is, basically, humidity, or some kind of heat, or moisture, affects the storage of the tape. When that tape will shed, why they call it shedding, is because it will actually pull off the glued portion.. .it will pull off the recorded magnetics; the back of the layer that lays against the magnetics, will pull recorded content right off of the tape. And once that happens, it is gone. There is nothing you can do about it. You can never restore it; there is no way to go back and fix it. So you want to be very careful about playing those tapes on a good tape machine, because that could really damage the heads of your machine. In this case, I have this old deck here, this old Tascam deck, that I took the heads off of right there [shows on the machine], so there is no heads on that machine. It is just a winder. And I will put a tape on there if I think that it might have sticky shed. I will just play it at a slow speed. And, typically, if it has sticky shed, you will hear it start to hear it, because you will hear like the tape pull loose. Or it will start to squeak. It will start to squeal. And that is just because what you have happening is magnetics that are on the tape, that are coming off, are loading up on the tape passengers, on the carriers, the transports. And so, it creates a real high frequency squeal that you will hear from the tape. You want to play it at really low speed.. . On that, I have a pitch control, so that I can pull that pitch control and slow down the playing speed of that machine really slow. So that I can play a tape without damaging if it might be shedding. The other thing that you get into when you work with a lot of tapes, is that you will recognize different formats of tapes that are more susceptible to sticky shed than others, Like, 3M is a manufacturer that has some problem with sticky shed; like Scotch 206, 207, 208 tape types, almost never. Even though they are poly-based tape that were created and manufactured during those years ranges that are problematic, you almost never run into a Scotch tape that has any problem with shedding. I just have not. So, you get to where you recognize the differences. So, once you have conducted a visual inspection of a tape, you want to prepare it to transfer. What I do, typically, is I will take some leader tape like this here [shows the roll of tape], and I will apply it to the head or the tail -whatever is showing -of the reel pack. Basically, you use that leader tape and you give yourself about a yard, three feet, or a meter of leader tape. So that, if for some reasons, when you hit play on your tape machine, and the machine acts up, or something, and would chew up that first couple of feet of tape, it would chew up leader tape, which is not valuable. It is there because that is its job; it is to provide like a safety-net once you start playing

the reel. So, I put leader tape on it, and I will just play the tape. And for the first couple of seconds, I will just listen to what I have got: what kind of format? Is it in mono, on a single channel? Is it standard stereo? Is it quarter track stereo? What is the format of the recording? Is it recorded at 15 inches per second? At 7.5? At 3¾? Those are all things that I will identify in the first couple of seconds. So usually, those first couples of seconds are just a wash. You are just playing to figure out what you have got. There is no way to know by looking at a reel what it is, other than tape stock. I mean, you can tell really fast if it is polyester based or if it is acetate -just by looking at it. But you cannot tell what format it is recorded in until you actually play it. So, once I have determined that, then I can go ahead and make adjustments on my board.. . I have a small board here that I can adjust volume and input gain and everything. So that I can transfer the content of the reel as hot as possible, without distortion. Hot as possible just means with the most volume, or the most amplitude, without saturating or causing digital distortions on our transfer copy. So, I will adjust this, and I can do that as well over there, on our AD converter [points at the converter on the desk]. And then, it goes right into the program. I have got two different types: I use Wavelab and Sound Forge. And I just start the process.. . I start the program's recording and just watch the tape. It is very important to babysit the tape. A lot of people will try to figure out ways that they can batch process stuff. And I suppose in some applications you can batch process. You know, again, it comes down to: what kind of collection you have? What is the original format? What have you. But in this case, we have originals that are one of a kind. And so, every tape that I play, I just sit here and listen for problems, as the tape is digitizing. I will listen for.. . you know, you can have a case where you will play.. . maybe it is a forty-five minutes tape, and you will play half an hour and you don't hear any squealing on the tape at all. And suddenly it will just start. Or, if you have an acetate tape, they are very susceptible to breakage. The tape gets very brittle. So you can play the tape, and it will suddenly just pop and break. And you have to stop the machine; you can or cannot stop the recording -it depends on if you want to just keep it going and glue it back together later. And then you have to repair that splice and scrub the reel back so that you can work back into that point unto the reel. And then, once we have done the transfer, we go ahead and we try to save all the tapes tails out. And basically, what it means is that the tape is the opposite of the video store, "be kind, please rewind". You do not do that. You leave it at the end of the tape. And that is to kind of help prevent a problem that tapes can have that is called "print-through", where the content that is on the previous layer of tape can print- through to the next layer of tape on the pack. If you have got the tape head out, what you have happening is.. . The way the tape lays, is you have got stuff that happens earlier in a recording ghost through to the next layer of tape on the stuff that happen afterwards. So you have stuff that is basically coming up in a recording print through to a place where it has not happened yet. It is something that is called "preverb". And, to help things last, or be healthier on the shelf for longer period, you know when you just store the tape on a shelf for a long period of time, if you pack it tail out, you get the opposite of that: you get a reverb effect. So, it sounds less strange to the ear if you hear reverb on the tape, than if you hear something that has not happened yet happen earlier. So, once I have finished digitizing something, I will go ahead and I will repack the reel as best as I can, tails out. And I try to get a really good wind on the tape, so that it is clean and it is packed tight. And that will help keep it healthier over time as well. Once we have got the stuff digitized, depending on what it is, we go in and put

track-markers down on it, to make the access copy easier to use. Say, if I am doing oral history with you, and it is just content -I am just talking to Valerie about whatever it might be -that is just one thing.. . So I can leave that as one track, so I can say: "here is the marker that indicates the beginning of our interview, and here is the marker that indicates the end." Voila, we are done. On the other hand, if it is something like the folk festival recording, you have several different performers, several different songs, story-tellers, what have you. Lots of different things going on. To make it easier for our patrons that come in the Archives to use the material, we put track markers down that can help them access certain points in an item that they want to get to. Just like a store-bought CD.

Modoux: You just talked about the user-copy. What about the Master copy? Do you ever touch the digital transfer?

Madden: The Master copy.. .No. And that is another thing. As an archivist, your entire transfer process aims to create as accurate a reproduction, a copy, a digital backup, of that item as you can get to the original. As archivist, we do not go in and apply any kind of personal aesthetic to anything to change it in anyway. We just capture what is there. So, on the preservation copy, basically, what you get is pure unadulterated copy of the original as best as you can. You don't want to get any kind of digital artifacts in there, or anything that is not true to what you actually have on the tape.. .within reason. If I record.. . Say, I grab a reel-to-reel tape that is a folk festival recording and, for whatever reason, the first twenty minutes of the tape is blank. And then, after twenty, twenty-two minutes, there is content there. Some people might argue that the twenty-two minutes of silence are original to the recording. Well, unless it is a mime-troop performing on the stage [laughs], it is not capturing anything.. . It is just blank tape; there is nothing there that is supposed to be there, that tells you something about that event. So, in order to save server space and what not, I would make the choice to just go ahead and cut that twenty- two minutes off from the beginning of the tape. Because, there is no information there that is useful to a patron, or to anybody in the institution. If I was really really concerned, I might say: "twenty-two minutes of blank tapes prefaced the beginning of the content on this reel". In case, for some reasons, it was supposed to be there. But, in any other case, I don't make any changes. The only changes that I would make in the body of a tape, is the same kind of thing if there was a.. . if I had recorded content and then I had like five minutes of dead air, you know where somebody just forgot to shut the tape off or shut the microphone down, or whatever, before the next act, or the next whatever performance, the next bit of content begins, I would probably cut that out. Because there is nothing that it can tell you. It is just dead air. So that is how I would treat that. But as archivists.. . no, we don't change anything. We try to really get as close to the original as we can. So on our preservation copy, basically, what we have.. . and this helps me for the work that I have to do, although I would not have to edit it twice anyway -because if I edited the first one, I could just bump down a copy down for our user copy. But, what we do is that we leave that original, that preservation layer completely.. . it is the unvarnished truth. It is just tagged. It says that it is reel whatever.. . T77214, and that is all what it says on it. The access copy, we will do a little bit more to it. Up to including, if necessary.. .you know, sometimes if we have got a performance that was recorded at really low volume, we

will go in and we will fix that. And I will do that on the preservation copy as well. Basically, what we do.. . this is the one instance that I would make changes other than just cutting out dead air. For performance that were recorded at such low volume that you almost cannot hear the material at all, I would work to make it audible so that you can hear what was there. You want to think that any recordist at an event, or an interview, or doing an oral history, or recording any type of situation, would not want to create a recording such as you could not hear the content that was there. You would assume that it is some kind of technical error. So, if I make changes of that nature, it is just to correct a technical problem that I think is clearly a technical problem. Bad eqing, or something like that, I cannot go in and fix it, because I do not know what the original performance sounded like; I do not know the pitch of somebody's voice; I do not know what they were going for. And it would be my personal aesthetic applied ... It would be what Jamie Madden thinks this singer should sound like. So I cannot do that, but I might go in and then adjust the volume so that the content is discernable to the ear. Basically, that is all we do. And we back them up to digital storage, and then I will burn the user copies. And that is pretty much the process. If I encounter something that is really sick, a reel-to-reel acetate tape that needs lots of help, breaks a lot of times, or just.. . any item can throw you a curve, and you are constantly learning how to deal with issues and problems along the way. But, thankfully, you do not encounter.. . I have not encountered many reels here that have been really problematic. Some acetate tapes have broken a lot of times.. . some of them have been so curled that they do not want to wind onto a flange, and I have to wait, and I have had to hand-wind a 7-inch reel of that size by hand. And it is the greatest shoulder workout you can ever imagine [smiles]. . . it just takes you an entire day to do it. And then, you go home and feel like Mr. Miyagi has made you do strange exercises all day. But, basically, you do not run into a lot of problems. I have not, with the material in this collection. I know that is a rarity. There are other people, the people who work in the sound lab at the Library of Congress.. . I have talked with Peggy Bulger, who is the director of the American Folklife Center there. She says they have recordings that are on paper, that are recorded on paper, that literally disintegrate as they are playing. So they have a situation where they have one shot to transfer and capture something that is on that paper disk, and that's it. If it does not work, then it is gone; they have lost it. Thankfully, I do not have those kind of challenges.. . I do not have that amount of stress here -I just work with reels that seem to be cooperative for the most part.

Modoux: Now, conclude this and bring together your experience as a sound engineer and as an archivist, would you consider digital as an actual preservation format? Or do you think it is just some sort of preservation tool, or users' tool?

Madden: [ponders on this for a few seconds] I think it is inevitable, Valerie. I really think that.. . And I have seen it written.. . some archivists are hesitant to embrace digital. And there is a favorite saying amongst archivists that digital is not archival. You will hear it all the time. But neither is format obsolescence, or media degradation. And, really, transferring audio material is what you are facing. You are facing formats that are obsolete, that are not being supported in the consumer market anymore, by the manufacturers. You are facing media that degrades as it just sits on a shelf, unplayed. So while people may be hesitant to embrace digital technologies as

preservation format, it is something that we have to face up to. Eventually, all audio and video collections will be maintained and preserved digitally. That is where it is going. And the question is not really whether it is going to happen or not. It is happening. The question is whether or not institutions, organizations and individuals are going to get with the program fast enough to preserve what they have. The only way we can really do that is by using the technology we have available now, and that is readily available, that is still supported in the consumer market, and those are digital formats. And there are a lot of people.. . and I will say this to you, as kind of a convincing note.. . There are a lot of people who really had this idea that digital is new, that it is something new. Well, it is not new. I mean, we have been surrounded by digital products for decades now. And digital recording is not new either. I mean, it started to emerge in the early 1990s, 1994- 1995. The first version of Sound Forge that I ever saw was around 1995. In some ways, it looks exactly the same as it did then. So, it is not new. It has been around now for almost a decade. And we have to get with the program. We have to transfer this stuff while it can still be transferred. And I will tell you what is a lot more important.. . Doing that than wasting any time bickering about whether or not it is safe, whether or not it is long term. Once stuff is digitized, it can be migrated to other formats more rapidly, and quickly and easily. There are sum checks that you can use that are digitally maintained, that can tell you if you have got corruption on a file, on a recording. If we walked over there and looked at this reels on the shelves over there, that I showed you earlier, there is no way that I could just point to a box from 1957 and say: "Oh, that one has got a problem!" There is no way you could do that. But if you have got a digital file on a server that is starting to go bad, you can have a sum checking program that can look at the digital characteristics of that file as compared to a week ago, and can identify that there is a problem starting to plague that file. And you can migrate it; you can go to exactly the reel that has an issue, or that originally was a reel and that is now a digital file, and you can listen to it, and you can identify what that problem is. And you can address it then, rather than losing content. That is the thing that you do not want to do. We want to save our sounds, and right now. We can argue, or we can get to work. And that is what we have to do.

End of Transcription