Why Media Preservation Can’t Wait
The Gathering Storm

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Slide design by Mike Lee
“...it is alarming to realize that nearly all recorded sound is in peril of disappearing or becoming inaccessible within a few generations.”

--National Recording Preservation Board in “Capturing Analog Sound”
“in the mid- to long-term there is a major risk that carrier degradation combined with playback obsolescence will defeat the efforts of archivists...”

--International Association of Sound and Audiovisual Archives
“Audiovisual materials are the fastest growing segment of our nation’s archives and special collections.”

--The Library of Congress National Recording Preservation Plan, page 6
What is the problem?

- Large numbers
- Degradation
- Obsolescence
- High research value
- Short time window
Indiana Numbers

• More than 560,000 audio, video, film objects
  – 364,000 audio (64%)
  – 125,000 video (22%)
  – 78,000 film (14%)

• 80 units

• 50+ formats
Degradation

- All analog and physical digital media objects actively degrading
  - some catastrophically

- Vinegar Syndrome
- Sticky Shed Syndrome
- Delamination
- Hydrolysis
- Color Fading
- Efflorescence
- Shrinkage
- Binder Breakdown
- Breaking
- Oxidation
- Scratches
- Curling
- Undiagnosed
- Unplayability
- Fungus
- Plasticizer Exudation
- Windowing
- Shedding
- Crystalline Residue
- Mechanical Issues
- Shredding
- Breaking
- Cupping
THE SCARIEST MONSTER IN MEDIA PRESERVATION...

degraalescence
Obsolescence

- Media formats
- Equipment (playback machines, test devices)
- Repair parts
- Playback expertise
- Repair expertise
- Tools
- Supplies
Obsolescence

• Technics SP-15 turntable main bearing unavailable at any price
• Sony PCM-70x0 series DAT machine capstan motors unavailable at any price
• Audio alignment tapes—one company
• Last run of playback heads for Studer tape machines
• 1” video machines, parts, playback expertise scarce
  – Type C head assembly $16,000
Obsolescence

- Quad (video) machines, parts, playback expertise very scarce
- Standard industry professional format
- Estimated 100-200 machines left worldwide
- Ampex AVR-1 (1970s) compressed air diaphragm unavailable at any cost
- Playback heads must be replaced every three months
Obsolescence

- One supplier – technician is age 65
- Company appealing for money to continue refurbishing program
- Trouble getting supplies
- 2009 cost for new head = $3500
- 2012 cost = $5200

--information courtesy of George Blood
Obsolescence

All analog audio and video formats are at different points on a similar obsolescence slope.
Obsolescence

• Not enough working audio and video playback machines to digitize everything currently in vaults
• Audio equipment doubling/quadrupling in price on eBay
Degradation/Obsolescence

“For video the problem is even sharper: complete disappearance of an (affordable) ability to transfer.”

--Richard Wright, AMIA list, 2/17/2013
Degradation/Obsolescence

“75% of the analogue video held in Europe in 2006 will be lost by 2023 when video digitisation will simply have "ceased to be."”

--Richard Wright, PrestoCentre Answers, 2/5/2013
Degradation/Obsolescence

“There is a massive disaster happening here.”

-- Clifford Lynch, Coalition for Networked Information, 2011
Degradation/Obsolescence

How much time do we have?

• 15-20 years
Degradation/Obsolescence

“...many analog audio recordings must be digitized within the next 15 to 20 years – before sound carrier degradation and the challenges of acquiring and maintaining playback equipment make the success of these efforts too expensive or unattainable.”

--The Library of Congress National Recording Preservation Plan, page 7
Degradation/Obsolescence

How much time do we have?

- 15-20 years
- Less for some formats
- Degradation + Obsolescence = Impossible/
  Too Expensive
- Vendors and a few institutions stockpiling
Degradation/Obsolescence

How much time do we have?

10-15 Years
Film

• Cold storage current primary strategy
  – Library and Film Archivist leadership
  – This is helpful—it buys time, but...
• Still degrading, just more slowly (IPI)
• Future digitization uses film in worse condition
• Researcher access is not robust or efficient
• Obsolescence issues will not be better in the future
Film

In 50 or 100 years...
Will digitization be cheaper, faster, or even possible?
Will we be able to play them back?
Will there be machines? Supplies? Tools?
Will all of the above work for large collections?
Film

High-end scanners...

• Made by only a few companies
• Small market
• Motion picture industry no longer needs scanning for new productions
• Archival market is very small
• May not be available in 10 years
Film

Cold storage is not a preservation solution

It is a short-term partial preservation strategy

(and it may be putting the problem off to a time when it may not be solvable)
Strategies

Audio and Video

How long will it take?

At our current pace...

Archives of Traditional Music: 58 years
Music Library: 120 years

*Key Words: Massive, rapid, considered*
What is Indiana University Doing to Weather this Storm?
Strategies

Planning Project

• July 1, 2010—June 30, 2011
• Funded by Provost, OVPR, UITS, Libraries, COAS
• Creation of Media Preservation Task Force
• Consultant—AudioVisual Preservation Solutions (AVPS)
• Charge from Provost
Meeting the Challenge of Media Preservation:
Strategies and Solutions
Research Value

MediaRIVERS

- Media Research and Instructional Value Evaluation and Ranking System
- Developed by NEH-funded Sound Directions Project and MPI and AVPS
- Campus stakeholder group: Music Library, University Archives, Lilly Library, Archives of Traditional Music, AAAMC, Digital Library Program
**PrimaryID:** SC 39 series 3  
**Title:** Smithsonian Black Radio Collection, Interview Series

**Characteristics:**

**Project Title:** Test Runs  
**IUB Unit:** AAAMC  
**IUB Worker:** Michael T Casey

**Date Completed:** 4/20/2012

<table>
<thead>
<tr>
<th>Score</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Interviews with African American artists and music/radio executives who were instrumental in the field.</td>
</tr>
<tr>
<td>5</td>
<td>Duration and quality of interviews is substantial and provides very thorough documentation of the history.</td>
</tr>
<tr>
<td>3.8</td>
<td>Many of these famous figures did do frequent interviews (some of which are represented by other AAAMC interviews).</td>
</tr>
<tr>
<td>5</td>
<td>Includes production materials, publicity for radio series, subject files, release forms, clippings about radio programs, and related memorabilia.</td>
</tr>
<tr>
<td>4</td>
<td>Some quality lost during transfer to cassette, but interviews were recorded by a professional product.</td>
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</tbody>
</table>

**Collection Score:** 4.6

**Generation Statement:** First copy

**Notes:** First generation copies. Originals are DAT tapes recorded in 1995. DATs are in the possession of the producer, who has proven unwilling to deposit them to either Smithsonian or the AAAMC because of a falling out she had with Smithsonian when they closed.

**IP Statement:**

**Notes:** Co-own rights with Smithsonian Institution and generally ask them to grant permission on their end to create and distribute research copies as a courtesy. They often honor these requests, but not always. NOTE: Smithsonian does not possess its own copies.

**General Notes:**
MediaSCORE

- Media Selection: Condition, Obsolescence, and Risk Evaluation
- Developed by MPI with AudioVisual Preservation Solutions (AVPS)
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<th>Updated On</th>
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<td>Mike Casey</td>
<td>1458:07:00</td>
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</table>
• Digitization of all significant audio and video recordings
• IU digitization master plan for all research collections
• 5-year plan
• IU Bicentenary Initiative

“We got five years, my brain hurts a lot. Five years, that’s all we’ve got”

» David Bowie
• Funded by:
  – Office of the President
  – Office of the Provost
  – Office of the Vice President for Research
• University-wide initiative
• Other IU campuses
• Preliminary survey
  – ~76,000 objects
  – ~22,000 unique objects
• Film
  – Develop separate proposal
  – Longer than five years?
• Partnership
Memnon Archiving Services
Brussels & Liège facilities
Video Digitization / encoding facility
Over 10 years experience in large scale digitization

Over 1,000,000 hours digitized

- Partnership for improved efficiency
- R&D Projects
- Automated content enrichment
- Expertise in metadata management
- Multiple client references
- Dedicated I.T. team
- Large scale digitization services

Memnon Belgium facilities
• Strategy
  – Memnon – parallel transfer workflows
  – IU – 1:1 workflows for fragile formats and items
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