Video At Risk

- Video At Risk Project: Background & Overview
- Scarcity & Replacement Research Initial Findings
- Intellectual Property & §108(c) Guidelines
- Reformating: technical issues, RFPs to vendors
- Further Issues

Sample VHS Titles

- "Strawberry Fields: Dolores Huerta & the United Farm Workers" (People’s Video Network, 1997)
- "Live from Europe: the Blind Boys of Mississippi" (Gospel Jubilee Video, 1999)
- "Ice Cream in Glym" (Pyramid for Cinema and Video, 1992)
- "Fabulous Rio & Carnival" (Rio Productions, 1987)

NYU Mellon Video At Risk Grant:

- Expands on our “Preserving Digital Public Television” grant findings that public television distribution rights often expire after 6 or 12 years, either reverting to another distributor, or rendering the work legally undistributable (the “Eyes on the Prize” problem)
- Expands on our previous Mellon grant findings that many distributed VHS tapes had become both rare and difficult to replace (Circulating collections become preservation collections)
- It’s almost always more efficient to replace than to treat or reformat
- Examine routine maintenance, preservation, and © issues in circulating video collections
NYU Mellon Video At Risk Grant:
Examine routine maintenance, preservation, and © issues in circulating videocollections
- Research “scarcity” of videos originally purchased by libraries in commercial market (examine OCLC records)
- Research “replaceability” of videos (test several procedures for determining out-of-printness)
- Develop checklist procedures for determining whether replacement copy can be legally obtained (Orphan Works type procedure), and explore legal justification for digitizing without prior permission (section 108)
- Develop a model procedure to follow and identify trade-offs in preservation reformatting of library videos into digital (quality, file format, CODECs, QA/QC, line 21, …)

How to help librarians make decisions
- When to look for a replacement video, and how to prioritize those “at risk”
- Where to go to find a replacement video
- How to legally rationalize reformatting/digitizing “at risk” videos
- What file formats, compression schemes, file size, metadata, etc. to use for reformatted video files
- How to deal with vendor outsourcing for reformating and technical metadata

Partners and Origin of Partnerships
- Don Waters @ Mellon
- Laurie Phillips @ Loyola-NO
- Gary Handman @ Berkeley (& later Barclay Ogden)
- OCLC—from top of Research down to Eric Childress
- Academic Librarians w/circulating video collections (VRT members) and their Conservators

Leveraging w/IMLS grant
- We already had an IMLS grant to examine job impediments for managers of academic library media collections (primarily aimed at improving training)
- Leveraged focus groups convened for that grant in 2010 to engage in discussions of VAR
- One interesting discovery—universities were rapidly removing video players from classrooms, causing serious problems for viewing anything in videotape collections

Confronting a campus wide VHS Deadline [Videolib], Oct 10, 2012
- “…I certainly understand the IT department’s point of view, especially considering our cash-strapped state of late. They are looking for ways to not pay for or maintain “unnecessary” equipment. VHS is a likely target.”
- “However, you can imagine the effect this announcement has had on our faculty when they were suddenly told that if you have VHS tapes that you show in your classes, you will need to find replacements by May 6, 2013.” It also mentioned the coming “analog sunset,” which has evoked memories of the dreaded Y2K of earlier times (remember that apocalypse?). VHS death went from a lingering, gradual one (to which we seem to be slowly adapting) to a quick bullet to the head. Actually, it’s more like a bomb tossed into a crowd at the moment.”

Scarcity and Replacement Research Initial Findings
Scarcity—initial Methodology

- OCLC delivers cataloging/holding records
- We load them into our own system and do further de-duping
- We take holdings from each of the 3 partners (NYU, UCB, Loyola) and match them against the OCLC corpus, looking for our holdings that are only held by few (or no) other libraries
- For each video on our 3 collections, we can determine how narrowly-held it is

Scarcity – Duplicate Records

With media, duplicate records for the same material are very common.

Scarcity – Cataloging Display Issues

Confusing and ambiguous display of format information without delving into the actual MARC fields. What are these? Why do these appear as different items?

Scarcity – Cataloging Issues

When trying to copy-catalog, some catalogers find it easier to create a new record rather than correct an existing bad record. But if the multiple records don’t get de-duped, this can cause commonly-held titles to appear as ‘scarce.’ OCLC’s data pull told us that the following NYU titles were ‘scarce’:

- Seven Samurai
- Breathless
- Last Year at Marienbad
- Simon of the Desert
- Birth of a Nation

Scarcity–Problems with Foreign Language Titles

Translation, transliteration, and region-coding differences create multiple records for the same title.

Scarcity—Institutional Holding Code Problems

WorldCat institutional codes are imprecise.

- CUY code includes titles held by MRC, but also many titles held by Bancroft
- ZYU code includes titles held by Bobst Library (AFC titles and Special Coll. titles), as well as titles held by consortium partners like The New School and Fashion Institute of Technology
OCLC’s own indexes vs search criteria for VHS/Beta/Umatic/laserdisc

- OCLC--2,201,725
- Normal search criteria--1,157,736

“we think it's likely there's a presence of older-practice records, terse/spartan records, and other cases that will either lack a 007 or have $e$ coded as "n" (it took a while to get $e$ defined for the various formats) might reasonably account for this magnitude of difference”

Interesting Replaceability Issues

- How to handle replaceability of works that usually appear only in anthologies/compilations (shorts, silents, animation, ...)
- Many works that are unavailable in the US are available from other countries. How do we deal with a variety of issues those raise:
  - Legal to import and use? (Costco decision)
  - Often not viewable without foreign equipment (PAL)
  - How do we tell whether or not they’re bootlegs?
  - If replacement is DVD, what about region coding?

Replacement Initial Methodology

- Step 1: Searching for new, unused replacement copies at a “fair price” via:
  * Amazon.com (Amazon.co.uk; Amazon.ca; etc.)
  * Web searches (Google; etc.)
- Step 2: Direct email & registered mail inquiry to original distributor:
  * available online contact information;
  * forwarding info from catalog purchaser/company;
  * via Secretary of State registry of business address
- Step 3: List serv database & community inquiries
  * VideosLib

Replacement Methodology—Issues & Problems

- Market availability is ever-shifting
- Will courts of law approve of merely searching Amazon.com? (US only, or other countries?) Should we also check E-Bay for unused copies? What is the “marketplace”?
- As Gary Handman pointed out, there are years of poorly-documented replacement research already done. How do we determine legal “due diligence” in attempting replacement?

Replacement Methodology—Issues & Problems

- As Gary Handman pointed out—in spite of the project’s focus on the metric of ‘scarcity’ for discovering important material—is a title necessarily in-need of preservation if it is uniquely-held but no one has ever checked it out?
- Eg, Ready Maid: Joseph Normal Presents a Film by E.H.F. (1972; Umatic)
Handman already knew that lots of Distributors were out of business
- Films Incorporated
- Time-Life Film and Video
- Coronet Films
- Carousel Films
- Churchill Films
- CRM Films
- National Latino Communications Center (NLCC)
- Drift Distribution
- International Film Bureau
- International Media Resource Exchange (IMRE)
- University of California Center for Media and Independent Learning (though some are now distributed by Berkeley Media LLC)

Handman suspected that these other Distributors were out of business
- PBS Home Video/PBS Video with release dates before 2000
- Pre-200 Annenberg/CPB Project
- New Yorker Film and Video

Clusters of Distribution
- U.S.-Based Minor Imprint/Distrib.
- Foreign Minor Imprint/Distrib.
- No Cataloging Information
- U.S.-Based Major Imprints/Distrib
- University Publications/Documentation
- Other Provenances

1,397 Videocassettes

U.S.-Based Minor
- Institution holds ≤ 2 titles from Imprint/Distrib.
- 336 of 1,397 [24% of NYU “unique” VHSS]
  - Only 35.4% of 336 actually uniquely-held and Irreplaceable
  - 30.6% of 336 held by other institutions
  - 31.8% of 336 had marketplace replacements available on VHS or DVD
  - 2% of 336 had Transliteration Issues

U.S.-Based Major Imprints/Distributors
- §108(c) “Unused replacement...obtained at a fair price”
- Electronic Arts Intermix (76 titles)
- Museum of Modern Art (35 titles)
- Video Data Bank (35 titles)
- Labor Institute of Public Affairs (30 titles)
- Shokus (29 titles)
- First Run/Icarus (21 titles)

U.S.-Based Major Imprints/Distributors
- Contact with U.S. Distributors did yield significant replaceability results beyond marketplace searching. To what extent should research progress? Email? Registered Mail?
- Acceptability of subscription as replacement? Interchange for physical replacements with streaming paradigm in library media centers?
- Long-term sustainability of DVD as replacement?
Other Provenances

• Broadcast News outlets (BBC, NBC, ABC)
  — Topical news segments no longer individually available for purchase, and journalistic documentary with expired distribution agreements
• PBS-distributed works
  — Finite distribution agreements provoke difficult issues with underlying rights (e.g., footage licensing), and necessitate deeper replacement research in contacting original (often defunct) original producers and production companies
• Music Videos and Promotions
  — Rare and unavailable, yet rights-wrought miasmas in litigious new music marketplace

Intellectual Property & §108(c) Guidelines

A Basic Problem

• To invoke Section 108(c) copying, the work must already be deteriorating (“damaged, deteriorating, lost or stolen”). For digital or video works, that’s already too late!

IP Issues Work Plan

• Identify basic Section 108 issues
• Hire legal counsel to write White Paper analyzing what can and can’t be done for video collections under 108
• Circulate White Paper among video collection managers and university legal counselors
• Bring together video collection managers and conservators to meet in a forum w/legal counsel
• Legal counsel revises White Paper
• We create Section 108 Guidelines for reformating created specifically for video collection managers, including consideration of risks

Questions to Video Collection Managers

• Does your institution already have, in-place, a written policy with regards to re-formatting circulating video collections? If so, how does the ‘VAR Draft White Paper’ compare, in terms of both risk tolerance and comprehensiveness?
• Does your institution’s legal counsel feel that this document is something which could be formally adopted as library policy? Why, or why not?
• What specific areas and topics would you like to see developed further, or scaled back? Are there specific changes or amendments that you would like to see made?

Questions to Legal Counsels

• Does your institution already have, in-place, a written policy with regards to re-formatting circulating video collections? If so, how does the ‘VAR Draft White Paper’ compare, in terms of both risk tolerance and comprehensiveness?
• Do you feel that this document is something which could be formally adopted as library policy, by library legal counsel(s)? Why, or why not?
• What specific areas and topics would you like to see developed further, or scaled back? Are there specific changes or amendments that you would like to see made?
• In light of recent court rulings on “first sale” doctrine, what specific impacts do you foresee Wiley v. Kirtsaeng having on libraries’ rights to reformat foreign-manufactured video materials, and circulate them, under Section 108? Furthermore, what steps might be taken in future drafts of this White Paper to mitigate institutional risk, for those institutions engaging in this practice?
**IP Issues Work Plan**

- Identify basic Section 108 issues
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**Nov 2010 Forum**

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**108 teleconferences**

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**Section 108 Guideline 1:**

*When is a copy of a work “Damaged, Deteriorating, Lost, or Stolen”?

- With no standard metrics for “damaged” or “deteriorating”, signal problems such as: visual dropout, audio dropout, other distortion, should be seen as acceptable justification. Damage to physical carrier is a less safe rationale.
- While safest to wait until “damage” or “deterioration” is perceptible, libraries may decide to make §108(c) copies when such harm is imminent.
- Preemptive creation of copies to avert “damage” or “deterioration” to original may be prudent under rights guaranteed by §107.
- In the case of “lost” or “stolen” copies, borrowed copies may be used to facilitate the creation of §108(c) copies.
### Section 108 Guideline 2: When is a format “obsolete”?

- A work or format is “obsolete” when it is no longer manufactured, or new playback equipment for that format can no longer be obtained in the commercial market at a fair price.
- The following non-exhaustive list of formats can be considered obsolete:
  - 2” Quadruple videotape, Hi-8 videotape, 1” Type A videotape, M format, 1” Type B videotape, M II format, 1” Type C videotape, S-VHS, all ¼” open-reel videotape formats, LaserDisc, ¾” U-matic videotape, wire recordings, Betamax videotape, MiniDisc, 8mm videotape (aka “Video8”).
- The following can be considered currently available:
  - Beta SP, DVD, LP, MiniDV, Blu-Ray.
- The following can be considered currently available, however soon-to-be-obsolete:
  - VHS, compact audiotape

### Section 108 Guideline 3: What constitutes a “replacement”? 

- A “replacement” is a copy that can serve the same educational and scholarly purposes as the original: materially the same content, and equally easy for patrons to access and use.
- Burned-on-demand copies are as valid as “replacements” as those mass-produced.
- Region-restricted formats may make §108(c)-made copies a safer strategy, in lieu of running afoul of DMCA anti-circumvention prohibition.
- Circulating bootlegged copies is less safe than creating §108(c)-made copies.
- Subscriptions must be perpetually-guaranteed, otherwise they do not serve the same functionality of the original.
- Special Editions, Restorations, etc. may be deemed not adequate replacements due to changes in content and form.

### Section 108 Guideline 4: Can copies made under §108(c) be digital?

- Copies of a work made under §108(c) may be either analog or digital.

### Section 108 Guideline 5: Can copies made under §108(c) be circulated?

- If the work being replaced by the creation of a §108(c) copy is originally a circulating copy, then the replacement for that copy should be a circulating copy as well.
- Analog copies may be circulated to the same extent as original materials.
- Digital copies may be circulated insofar as circulation does not involve making the digital copy available to the public outside the premises of the library.

### Section 108 Guideline 6: In locating a “replacement” copy, what qualifies as “reasonable effort”?

- Consult commonly-know trade sources in the United States: IMDB, Amazon.com, web search engine.
- “Reasonable effort” means different things in different circumstances.
- Documenting all replacement research will ensure more proof of due diligence, in case of any litigation, than not.

### Section 108 Guideline 7: In locating a “replacement” copy, what qualifies as “fair price”?

- An unused replacement copy should presumably be at, or near, the retail price of the work when new
- Any additional collector’s-item value the work may have accrued by reason of its scarcity should not necessarily be deemed “fair” just because there is a market participant willing to pay it.
- Remember that “replacement” copies available in the marketplace must be “new, unused.”
Signal deterioration
“proof of concept” test
• Because we can only invoke 108(c) if a work is already deteriorating, can we say that a work of a certain age is already deteriorating?
• We set up an empirical test, comparing a highly circulated copy with an uncirculated copy (Larry Clark’s Kids) using the tape stock manufacturers’ quality metric of dropout
• With this n=1, we found inverse relationship between high # of playbacks and high # of dropouts

Signal deterioration
Proof of Concept test: Kids
• Sony MQST blank tape (-15dB, 20µ sec): 5 dropouts / min
• NYU Kids copy with 203 circulations (-15dB, 20µ sec): 1756 dropouts / minute

• New, unused Kids copy (-15dB, 20µ sec): 4190 dropouts / minute

Signal deterioration
Proof of Concept suggests:
• Counter-intuitively, an unplayed tape has more drop-out than a highly-circulated tape. (likely because the packing is never loosened through “exercising”)
• Tape with high-circulation stats has more dropout (our metric for “degradation”) near the beginning and end of the videotape than the new and unused tape.
• There is a phenomenon of “smoothing” or “polishing” in the mid-point of highly-circulated tapes. In this mid-section dropout proves higher for new, unused tapes—this has to do with the uneven way that videotape’s magnetic binder is applied to the polyester base: over time, uneven ridges are “smoothed out” by repeated contact with video heads.
• For some reason, minute 51 of the highly circulated AFC copy of the KIDS title showed a spike in dropout, suggesting increased damage resulting from playback of that particular section—perhaps an appealing scene that people keep repeating (eg. “How to roll a blunt” scene)?

Further signal deterioration testing
• Now resuming the test with 4 additional tape-pairs for larger data set
• Employing THX-certified works, and lower-budget duplicated works (Snow White; Bambi; and a parental training video series)
• Checking deterioration by the criteria of dropout is cost prohibitive ($150/hour @ 4-6 hours for comparison of two feature films)

Reformatting:
technical issues, RFPs to vendors
Reformatting—Initial Plan:

Technical issues, RFPs to vendors

- What file formats, compression schemes, file size, metadata, workflow, etc. to use for reformatted video files
- How to deal with vendor outsourcing for reformating and technical metadata
- Develop clarity on needs specific to our community that vendors may not have seen in other communities

Reformatting—Initial Plan:

Issues for our preservation community that vendors might not have previously faced

- Calibrating to each tape by bars and tones & vectorscope/waveform
- Don’t clean up the tape! Keep artifacts and disable noise reduction on playback machines
- Tapes recorded outside of SMPTE broadcast standards
- Content before/after blank at header or tail
- Closed captioning
- 2nd audio track
- Specific file-naming conventions

Reformatting—Initial Plan:

Types of reformatted files

- Uncompressed preservation Master file: [such as, YUV 10 bit uncompressed]
- Intermediate visually lossless Mezzanine file: [such as, DVCPro50, or DV50]
- Access file [varies with infrastructure, time]

Reformatting—Initial Plan:

Technical Metadata needed

- Non-embedded technical metadata
- Embedded technical metadata (file size, resolution, codec, date of creation)
- Metadata describing the transfer
- Check-sums

Reformatting—Initial Plan:

Initial Project Plan

- Create a Model RFP
- Lessons from age of Microfilm reformating: once guidelines were adopted, large-scale reformating projects took off
- But some of us quickly realized that this analogy didn't work; the vastly different infrastructures for managing and delivering digital works require different file formats, metadata, and workflow that affect both guidelines and RFPs
  - Continue struggling around this
  - Likely solution will involve both “Model RFP” and 2nd “guidelines for thinking through video digitizing” (like we did w/108)

Reformatting—Initial Plan:

Model RFP asks vendor capabilities

- Company info (environmental controls, insurance for material held on site)
- Staffing
- Equipment on hand, calibration schedules
- Tracking through workflow
- Default metadata and file-naming, and ability to conform to different requests
- How are different quality files (master, mezzanine, streaming) made (all from original, or smaller ones from master)
- Ability to handle and monitor color balance, aspect ratios
Reformatting—Initial Plan:
Model RFP asks vendor capabilities:

• How is QA/QC done? Are videos viewed? Spot-checked (and what parts)? When in the workflow cycle?
• Audio and video digitized together?

Reformatting—Initial Plan:
Model RFP organizes project description:

• Project name
• Format of originals
• Source recording standard (NTSC, PAL, SECAM)
• Number of videos to be digitized
• Number of hours of video to be digitized (if known)
• Dates of recordings (if known)
• Condition (include a condition assessment if possible)
• Content information (raw or edited footage, performance, spoken words, music)
• Estimated project start date
• Estimated project end date
• If the project is submitted in batches, specify the requested timeline for each batch
• Clarify insurance liability while materials are at the vendor

Reformatting—Initial Plan:
Model RFP Vendor reproduction:

• Calibration
• Pre-roll requirements
• Signal path requirements
• Time-code requirements
• Maintenance

Reformatting—What Conservation Dept did:
Request for Proposal (RFP) Template

• Background
• Contributors
• Components
• Development
• Next Steps

Reformatting—What Conservation Dept did:
RFP Template Authored by NYU RFP Team
With input from:

• Vendors
• Engineers
• Preservation Administrators
• Librarians managing video collections

Reformatting—What Conservation Dept did:
RFP Components

• Essential steps & specs needed to outsource video reformatting process
  * Standardize language, outline technical characteristics of analogue video w/r/t A-D reformatting
  * Recommend file formats & suggest A-D workflows
  * Preservation master best practices
  * Highlight partner delivery platforms & mechanisms
• Appendices
  * Quality control protocol
  * Video glossary
  * User manual & annotated resources guide
In Development

Pilot Digitization Project

Future Issues

• Share your comments; keep in touch:

>> kimberlytam@nyu.edu
Need for Metadata extraction tool

- When we get all these digital video files back from the vendor, need a tool for extracting technical metadata, adding it to our own metadata tracking systems, & managing them
- Would like to build an open-source well-documented tool with a friendly user interface to
  - Extract technical MediaInfo library metadata from AV files in batch mode
  - Generate & verify checksum fixity for AV files
  - Export results in various formats & SIP compliances needed by repositories (ie. CSV and XML)

Further Issues to Explore

- Indicators to show whether the content of a DVD replacement is close to that of the original VHS copy
- Concepts for determining which of these works are worth preserving (scarcity? circulation? others?)
- Analyzing video publishing/distribution market
  - Find predictors for longevity, going out-of-print
  - Tracing which backlists are bought up by which new distributors

Further Issues to Explore

- Expand and hone the due diligence search for Orphan works; develop metrics of success for various methods/procedures
- Investigating other metrics for tape degradation.
  - We are currently testing both the Fourier-Transform InfraRed (FTIR) and DART-MS spectrometry approaches at measurement of tape binder and degradation. Testing is being performed in collaboration with Eric Breitung, Preservation Scientist at the Library of Congress and IMLS.

Reformaking:

Still need “guidelines for thinking through video digitizing”

- Discussion of Preservation-level
  - Signal (YUV 4:2:2 10-bit), file formats, compression issues, Mbps, wrappers
  - technical metadata
  - check-sum and fixity issues
  - file-naming conventions
  - packaging groups of files for transfer/ingest
  - internal workflow issues
  - managing digital repositories for media
  - video issues such as signal calibration, bars, tones, timecode, where closed captioning lies, ...

Video At Risk timeline

- Section 108 Guidelines
  - (already on website)
- Model RFP
  - Test copies to participants in early Feb 2013
  - Further updates to PAIG at Chicago Annual (kimberlytarr@nyu.edu)
  - Publicly available early 2014
- Project concludes Sept. 30, 2013

NYU’s Video At Risk

- http://besser.tsoa.nyu.edu/howard/talks/
- http://www.nyu.edu/tisch/preservation/research/video-risk/

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