Film: Identification & Risk Assessment

Howard Besser
NYU Moving Image Archiving & Preservation Program
http://besser.nyu.edu/howard
http://www.nyu.edu/tsch/preservation/

Sample collections, facilities, functions

Cinemateca Brasileira (film storage)

Cinemateca Brasileira (video storage)
Cinemateca Brasileira (nitrate storage)

Cinemateca Brasileira (documentation)

Cinemateca Brasileira (shortage of storage)

Cinemateca Brasileira (restoration lab)

Cinemateca Brasileira (inspection & repair)

Cinemateca Brasileira (film cleaning)
Cinematheca Brasileira (film copying)

Hampton Collection (1)

Hampton Collection (2)

Hampton Collection (3)

Hampton Collection (interviews)
Moving Images are highly unstable, and an enormous # have already disappeared

• 50% of all titles produced before 1950 have vanished (approximate number as of late 1970s)
• This reflects full-length features; survival rates are much lower for other types (studio-newsreels, shorts, docs, independent, ...), and these “orphans” are particularly in peril
• Fewer than 20% of features from 1920s survive in complete form; survival rates of 1910s is <10% (& none of these are negatives)

Projector

Projection Path

Physical examination of carriers

• Hand around and discuss examples

Film Production Steps
Old Film Formats

News Film

News Film

Handling

Edge Codes

Edge Codes

- [http://www.filmforever.org/edgecodes.html](http://www.filmforever.org/edgecodes.html)
Non-Invasive Nitrate Test-Smithsonian

Hot Splicer (Archives of Ontario)

Sync Block

Sync Block & Film

Film Viewer

Film Viewer
Steenbeck

Splicing

Inspecting & Splicing

Inspecting & Splicing

Inspecting & Splicing

Film Cleaning & Repair

Film Cleaning Machine

Chemistry, Deterioration examples & understanding underlying causes

Film Layers
Image Permanence Institute

Film Layers
ScreenSound Film Preservation Handbook

- Topcoat
- Emulsion (content)
- Subbing Layer (adhere)
- Base (cellulose triacetate, cellulose diacetate, cellulose nitrate, or polyester)
- Backing Layer

Surface Physical Damage
- Perforation
- Scratches
- Water droplet damage to emulsion

Mold Damage
ScreenSound Film Preservation Handbook

- Usually in gelatin part of emulsion layer
- Interesting patterns
Shrinkage
ScreenSound Film Preservation Handbook

Vinegar Syndrome Deterioration
Image Permanence Institute

Signs of Vinegar Syndrome
- sour smell
- Shrinkage
- buckling of the emulsion
- the appearance of crystals that obscure the image

Film--Acetate Decomposition
cupping--Home Film Preservation Guide--filmforever.org

Film--Acetate Decomposition
emulsion cracks--Home Film Preservation Guide--filmforever.org

Film Decay
(Lawrence)
Some reasons why Moving Images are disappearing

- Most pre-sound films weren’t saved at all
- Nitrates hazard
- Eastman color fading
- Video—changing formats, magnetic particles not adhering to backing, little recognition of importance of saving
- Who should be responsible for saving works without lucrative financial value
A/D Strips at NYU Library (present)

De-Acidification (Vietnam Film Archive)

Molecular Sieves

Improving storage inside the Can
Jean-Louis Bigourdan, AMIA 1998
- zeolites, silica gel, and low relative humidity preconditioning help mostly by reducing moisture content
- acid adsorbents retard further decay
- acid adsorbents do not reduce the acid content of degraded film
- the use of cardboard disks is not recommended

In Talk later today-
- For Both Film & Tape
  - Macro environment
  - Setting Priorities