

Case Study: Pathé Baby

Reto Kromer • AV Preservation by reto.ch

Deterioration and conservation of photochemical material

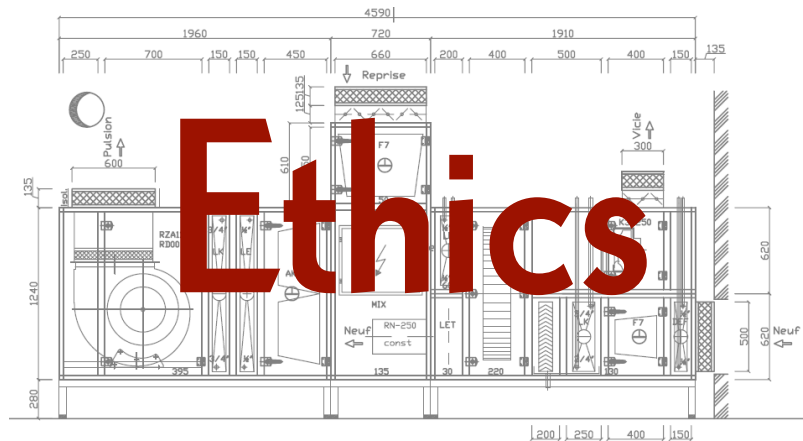
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Summary

- An Ounce of Ethics
- Photochemical and/or Digital
- The Digital Tsunami
- A very sharp future, yet frozen and plastic looking one?

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Archival Tasks

- collecting
- cataloguing
- conservation (and restoration)
- access

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An Ounce of Ethics

- The probability that a work is available in its integrity in the future is increased.
- All the options that existed before taking an action remain open after the action.
- Every step is carefully documented.

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Common Small Gauge

- 9.5 mm («Pathé Baby»)
- 16 mm
- various flavours of 8 mm
- Super 8

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Image

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Emulsion

- negative-positive process
- reversal process
- black and white emulsion:
 - orthochromatic
 - panchromatic
- colours

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Applied Colour

- hand coloured
- stencil

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«Symbolic» Colours

- toning
- tinting

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«Natural» Colours

additive systems:

- lenticular («Kodacolor», «Agfacolor»)
- «Dufaycolor»

subtractive systems:

- «Kodachrome»
- film stock like «Agfacolor»
- film stock like «Eastman Color»

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Common Image Issues

- flicker
- sharpness
- stability
- splices
- over-exposed, under-exposed
- projection speed
- scratches

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Sound

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On Stage

- film narrator
- singer
- musician
- musical ensemble
- orchestra

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Reproduced

- sound on disc
- sound on music cassettes
- commag
- sepmag
- comopt

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Sound Systems

- mono (1.0)
- stereo (2.0)
- 5.1

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Common Sound Issues

- on the wrong side
- recorded from tail to head
- not synchrone
- volume too loud
- distorsion
- hiss
- background noise

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Duplication

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Photochemical Workflow

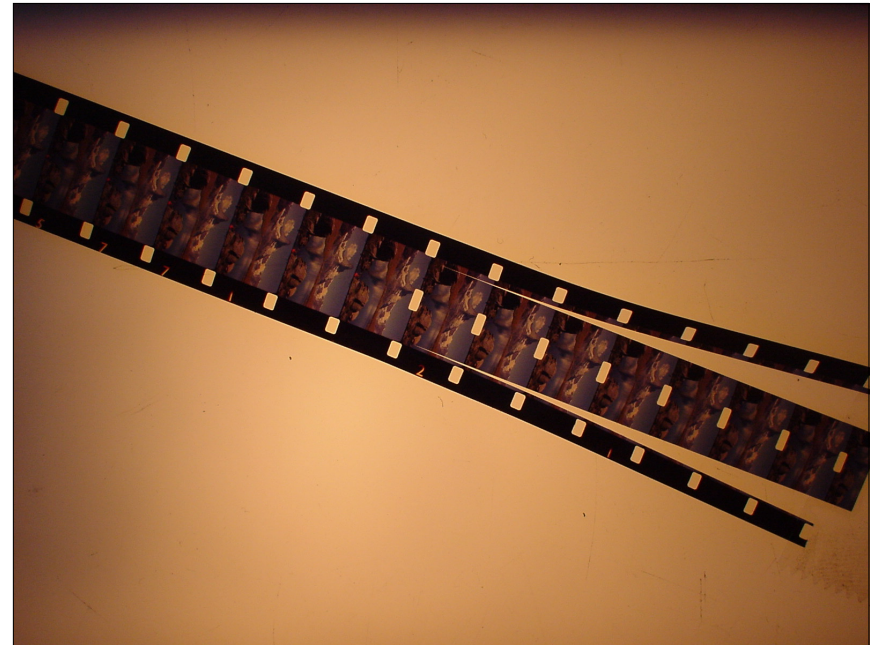
- 8 mm reduction
- Super 8 reduction
- 9.5 mm duplication
- 16 mm blow-up
- 35 mm blow-up

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Combined Photochemical and Digital Workflow

- 8 mm reduction
- Super 8 reduction
- 9.5 mm duplication
- 16 mm blow-up
- 35 mm blow-up

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Digital Workflow

- SD digitisation
- HD digitisation
- 2K digitisation
- «Super 2K» digitisation
- 4K digitisation
- 8K digitisation

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Our personal preferences...

photochemical workflow

- 16 mm blow-up

combined photochemical and digital workflow

- 16 mm – or even 9.5 mm – duplication

digital workflow

- 2K digitisation and SD access

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Files

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Tera, Peta, Exa... and beyond

- access
- conservation
- «digital born»
- «compressed born»
- restauration
- cataloguing

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Aesthetics

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Less is more

- image is over-sharp
- image is frozen
- image is too perfect
- sound is too perfect

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Classic Projection

Cinema was an entertainment from the 20th Century characterised by:

- the correct projection
- of film reels
- in a «cinema theatre»
- on a screen
- in front of an audience.

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Modern Projection

2K DCP:

- flat (1998 x 1080 pixel) pillar-boxed
- correct image ratio
- correct projection speed
- correct sound channels (e.g. use only mono 1.0 or stereo 2.0 from Dolby Digital 5.1)

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Viewing on Modern Screens

- HD (1920 x 1080 pixel) pillar-boxed
- Y'CbCr 4:2:2 lossy compression
- correct projection speed
- correct sound channels

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An Alternative

- SD (768 x 576 pixel)
- Y'CbCr 4:2:2 uncompressed
- correct projection speed
- correct sound channels

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Live in the real world!

There is only one efficient way:

- keep the source elements
- more prevention:
 - better insulation
 - more efficient air conditioning
- less handling of the source elements
- make digital dissemination copies

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