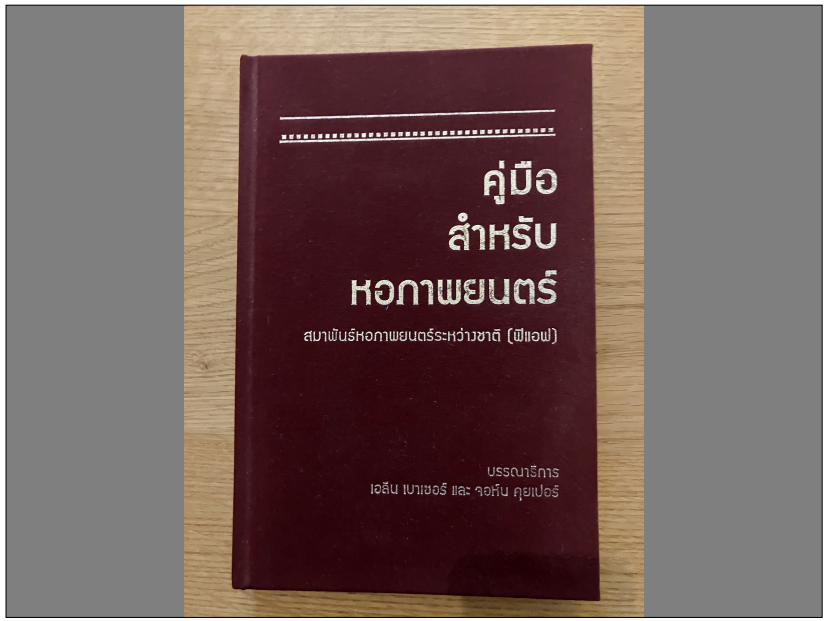
From Analogue to Digital #314159

Reto Kromer • AV Preservation by reto.ch

No Time to Wait 9
National Library of Ireland
in Dublin from 15 to 17 October 2025

1

2



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Statistical Method

The analyse of a randomly chosen subset of

164 items

of each type of material and in each storage vaults informs about the full collection with the precision of

80 % ± 5 %

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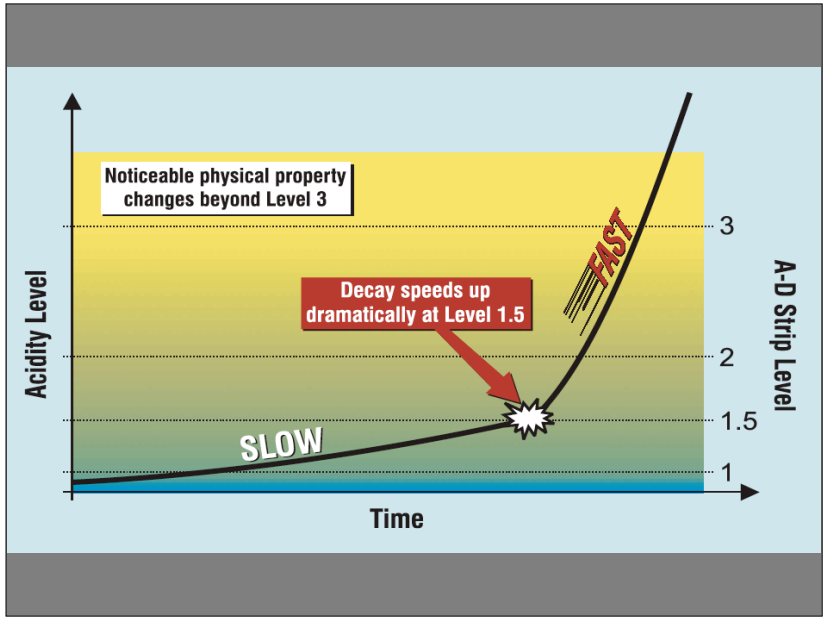

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TYPE of DECAY	MEDIA	RECOMMENDED ENVIRONMENT
SILVER IMAGE DECAY	Photographic glass plates Black-and-white film Black-and-white photographic prints	30% to 50% RH
COLOR IMAGE DECAY	Color film Color photographic prints Ink jet prints	Low temperature 30% to 50% RH
COLOR BLEEDING	Ink jet prints	30% to 50% RH
YELLOWING, STAINING	Color photographic prints Inkjet prints	Low temperature 30% to 50% RH
BINDER DEGRADATION	Magnetic tapes	Low temperature 30% to 50% RH
NITRATE DECAY	Nitrate-base film	Low temperature 30% to 50% RH
ACETATE DECAY	Acetate-base black-and-white film Acetate-base color film Acetate-base magnetic tape	Low temperature 30% to 50% RH
GLASS DETERIORATION	Photographic glass plates	30% to 50% RH
LAYER SEPARATION	Photographic glass plates CDs and DVDs	Minimal temperature and RH fluctuations 30% to 50% RH
MOLD	All media	30% to 50% RH

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@dericed, 2013-11-08

It's very important to keep your archival advocacy slogans cool … and dry.

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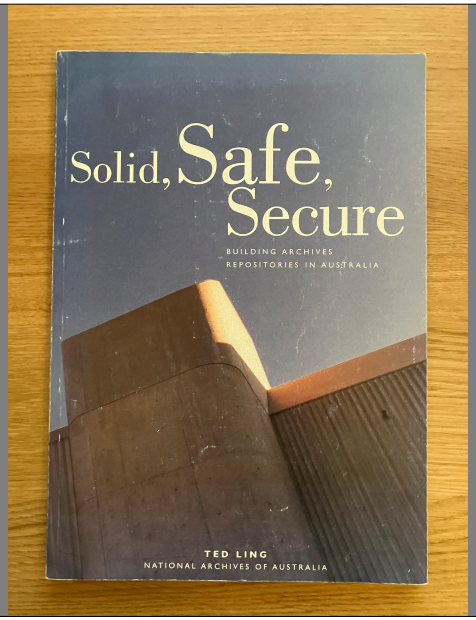

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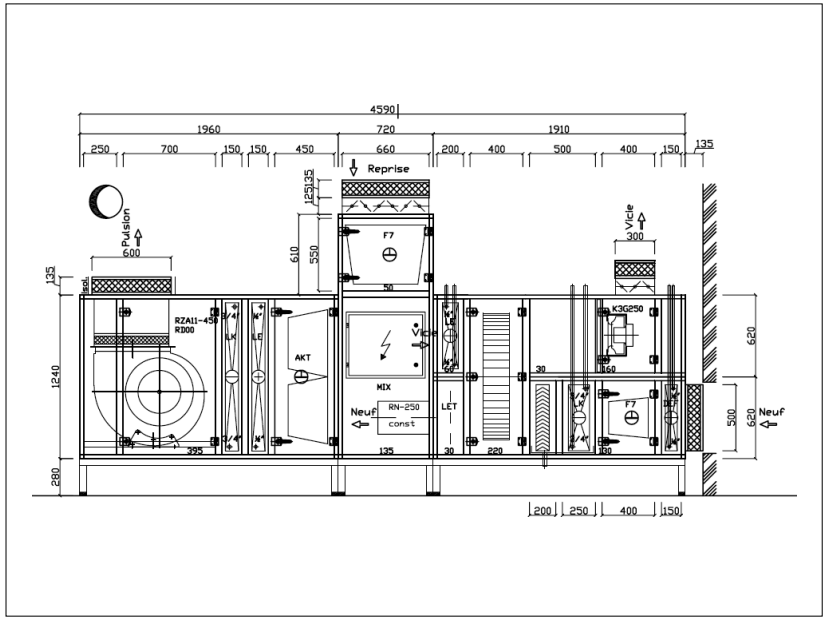

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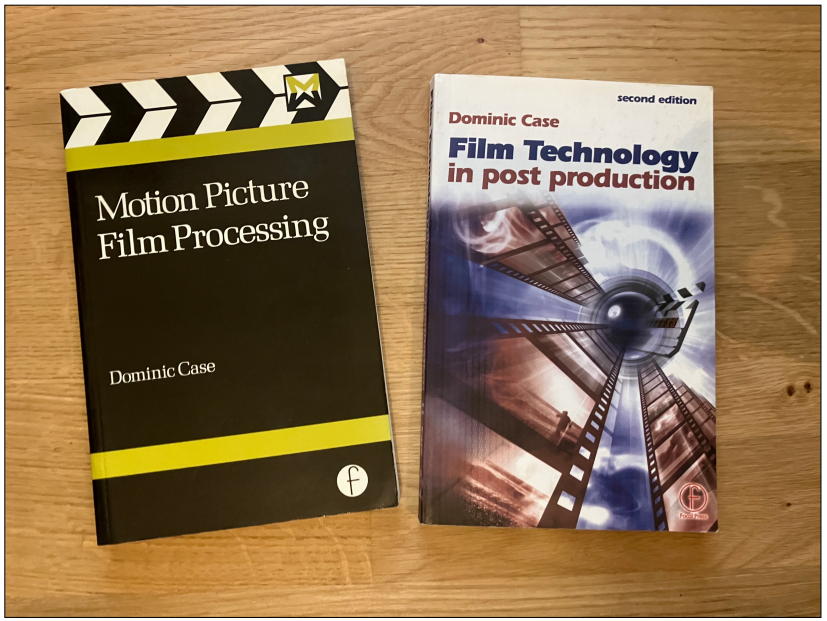
@dericed, 2014-01-23

I'm inventing the YUV color separation film for those preserving video tape to film. Consists on a 35 mm print with two 16 mm prints.

11



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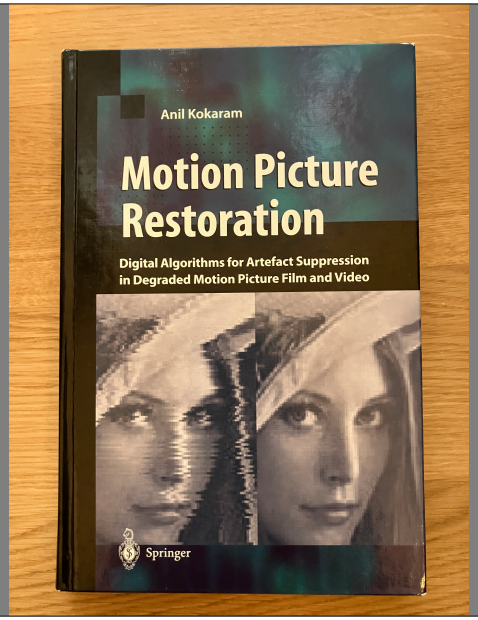

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London, 2004-01-22

- What is a film image? What resolution? What bit depth?

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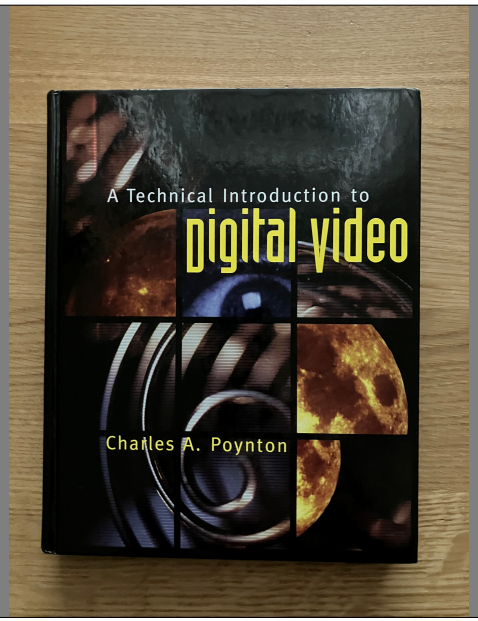

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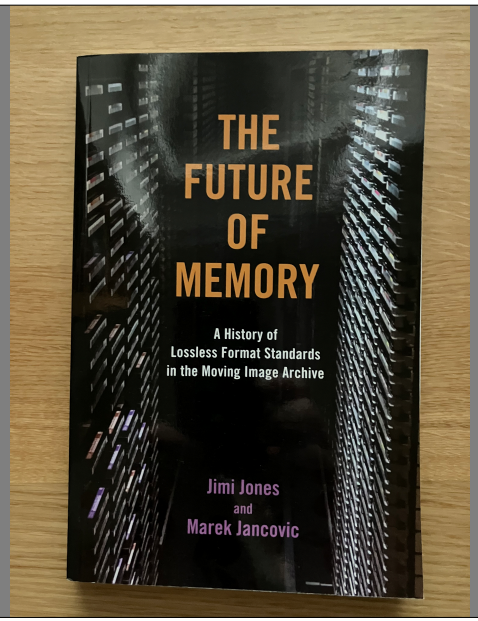

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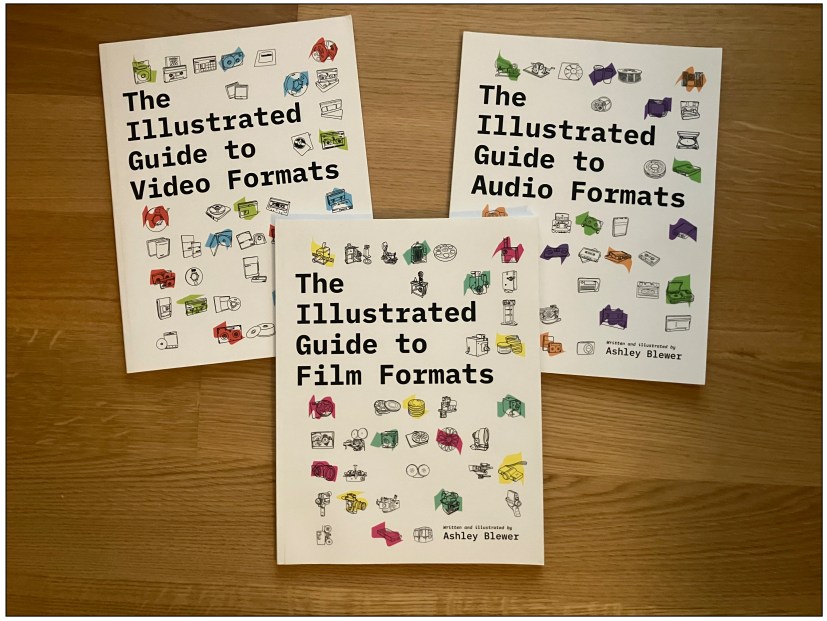


Preservation

analog elements

- digitise at the best possible quality
- further preserve the analog element
- bit depth is more important than resolution

digital elements

- preserve the native format if possible
- do not convert to a "higher" format
- native ProRes is suitable for archiving

Single-Image Archive Formats

- folder, TIFF, 2K or 4K, RGB, 16-bit
- MXF (OP 1a), DPX, 2K or 4K, R′G′B′, 12-bit

Image Stream Archive Formats

- Matroska, FFV1, 2K or 4K, R′G′B′, 12-bit
- Matroska, uncompressed, SD or HD, $Y'C_BC_R$ 4:2:2, 10-bit
- Matroska, FFV1, SD or HD, $Y'C_BC_R$ 4:2:2, 10-bit

Television Archive Formats

SD productions
- MXF (OP 1a), MPEG IMX, 50 Mbit/s

HD productions
- MXF (OP 1a), XDCAM HD 422, 50 Mbit/s

Tape Archive Formats

native digital formats
- Digital Betacam
- DV (Digital Video)

Recommendations (1)

digitisation
- **do not choose a higher quality than that of the starting analog element**
  except for rare exceptions duly justified in the accompanying documentation

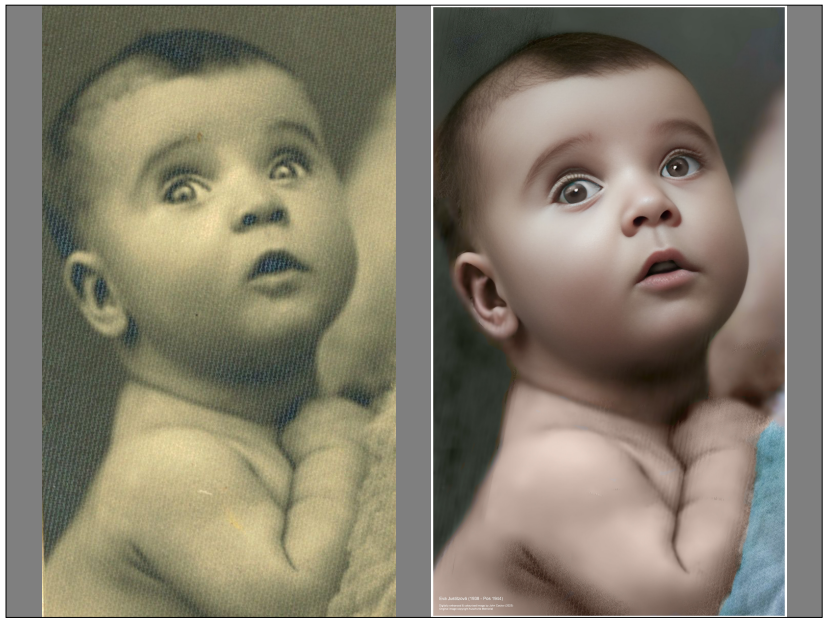
Recommendations (2)

digital conservation
- **choose the best quality that the archive can sustain in the long term**
  that means a quality that the archive can sustain even if funding is cut in the future

Recommendations (3)

restoration

- **too much of a good thing**
  it should be emphasised that the characteristics of the original material are not defects at all, and should not be erased



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