

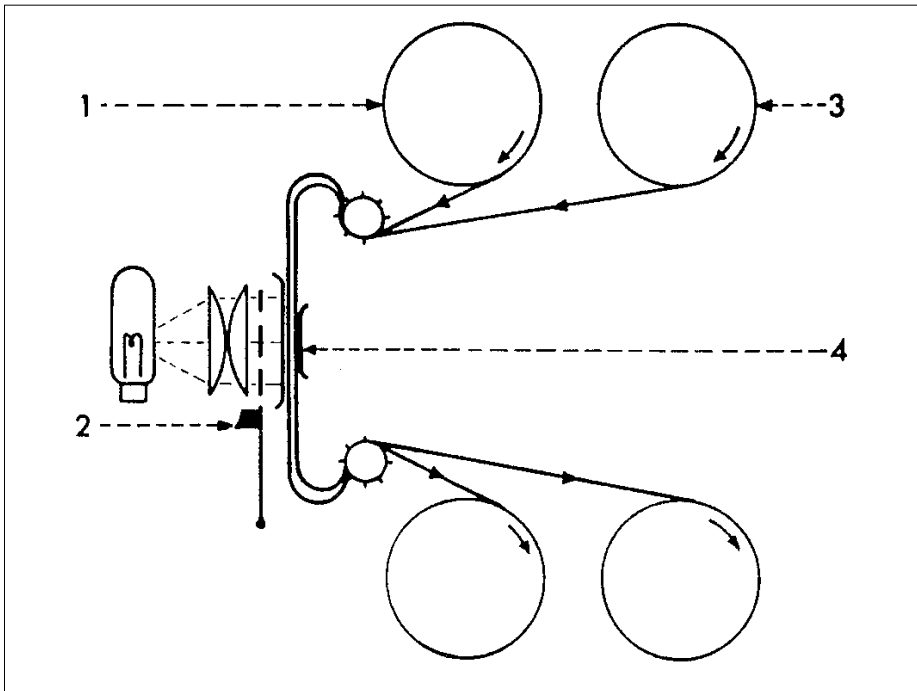
Der Weg vom analogen zum digitalen Film

Reto Kromer • AV Preservation by reto.ch

Hochschule der Künste Bern
**Analoge und digitale
Filmkonservierung und -restauration**
Bern, 1. November 2023

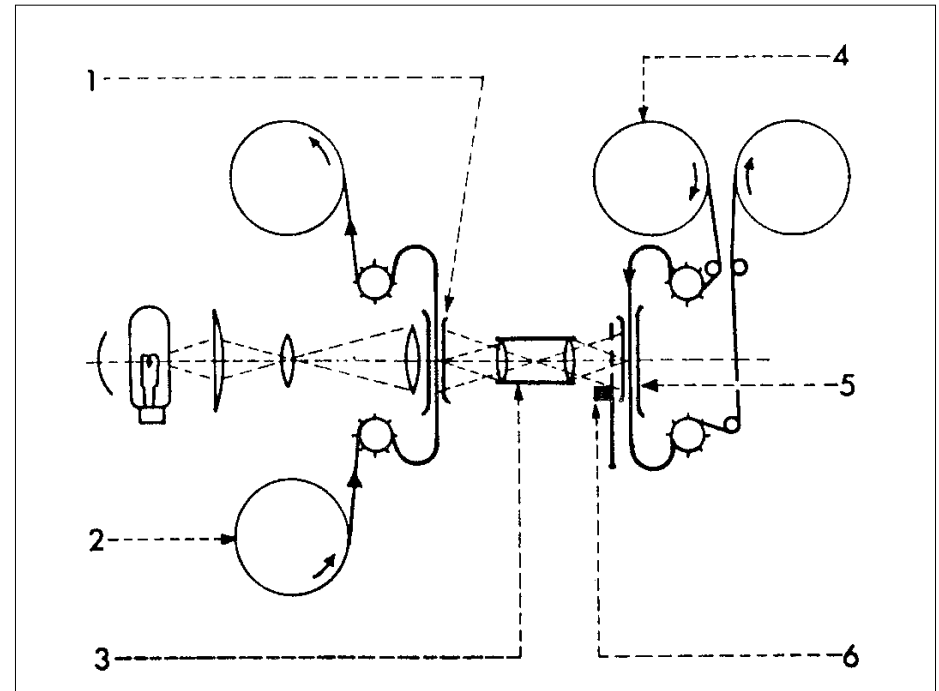
Labortechnik

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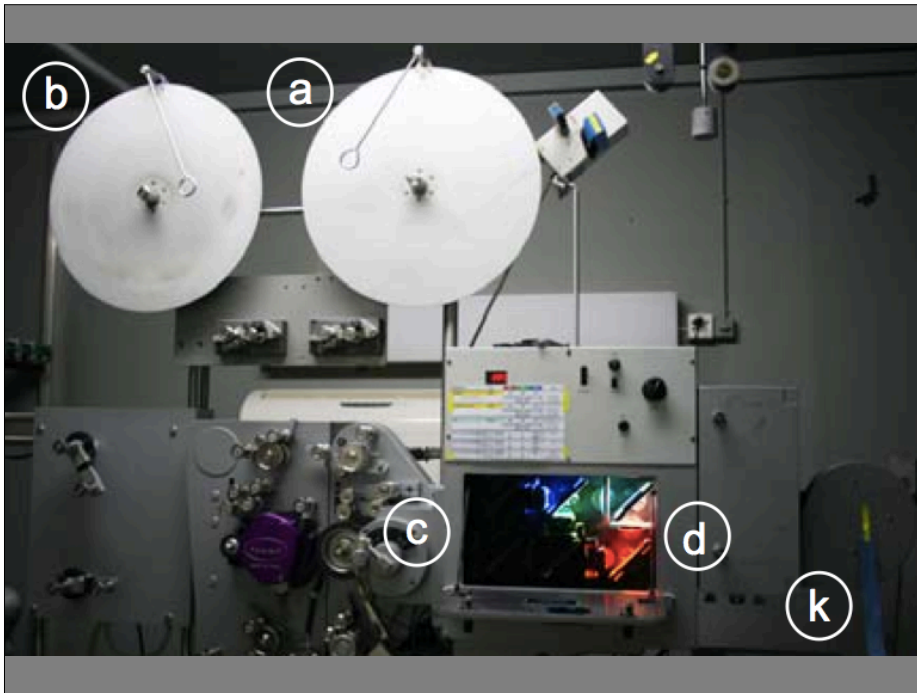


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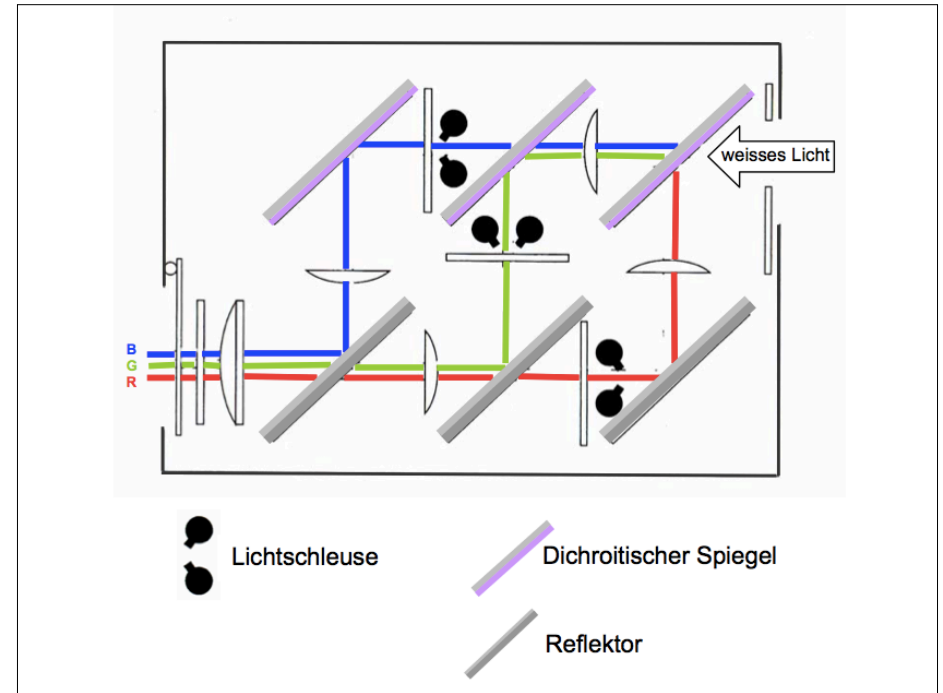


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Zahnradbetriebene Maschinen

- Herstellung
- Kamera
- Entwicklungsmaschine
- Schneidetisch
- Kopiermaschine
- Projektion

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Familienfilm

Umkehroriginal

8

Amateurfilm

Umkehroriginal

→ Umkehrkopie

9

Dokumentarfilm

Kameranegativ

→ Vorführkopie

10

Schul- oder Industriefilm

Umkehroriginal

→ Negativ

→ Vorführkopien

11

Spielfilm (analog)

Kameranegativ

→ Arbeitskopie

→ Duplikatpositiv / Interpositiv

→ Duplikatnegative / Internegative

→ Nullkopien und Korrekturkopien

→ Vorführkopien

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Spielfilm (DI)

Kameranegativ

→ Digital Intermediate

→ Kopiernegative

→ Nullkopien und eventuell Korrekturkopien

→ Vorführkopien

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Hybrid

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Bibliography

- Paul Read: **A Short History of Cinema Film Post-Production**, in Joachim Polzer (ed.): "Zur Geschichte des Kopierwerks" (= Weltwunder der Kinematographie, n. 8), 2006, p. 41–132

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History

- special effects (SFX / FX)
- digital intermediate (DI)
- film restoration

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Special Effects

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Special Effects

- Swiss Effects, Zürich; Ruedi Schick (*1947)
- Hermann Wetter (1935–2012), Genève
- Colour Film Services, London
- Probst Film Tricktechnik, Ostermundigen

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Digital Intermediate

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Analogue Workflow (Image)

- sooting on film
- making the rushes
- editing
- negative cutting (conforming)
- print projection

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Digital Intermediate Workflow

- sooting on film
- digitise camera negative
- digital post-production
- re-record onto film negative
- print projection

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Digital Post-Production

- cutting
- special effects
- add titles
- synchronisation with soundtrack
- grading
- add subtitles

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Grading

analogue:

- $50 \times 50 \times 50 = 125\ 000$

digital (8 bit):

- $256 \times 256 \times 256 = 16\ 777\ 216$

digital (10 bit):

- $1024 \times 1024 \times 1024 = 1\ 073\ 741\ 824$

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Zingo

by Christjan Wegner, Sweden 1998

- Digital Film Lab, København
- Kris Kolodziejski (1957–2012)

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Restoration

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