



# Identification and Preservation of Photographic Collections

CARLI Preservation Working Group  
Audiovisual Preservation Forum  
Tuesday, October 13<sup>th</sup>, 2009

Presented by:  
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Head, Preservation and Conservation, UIUC

# Identification of Major Processes

- Heliographs



# Identification of Major Processes

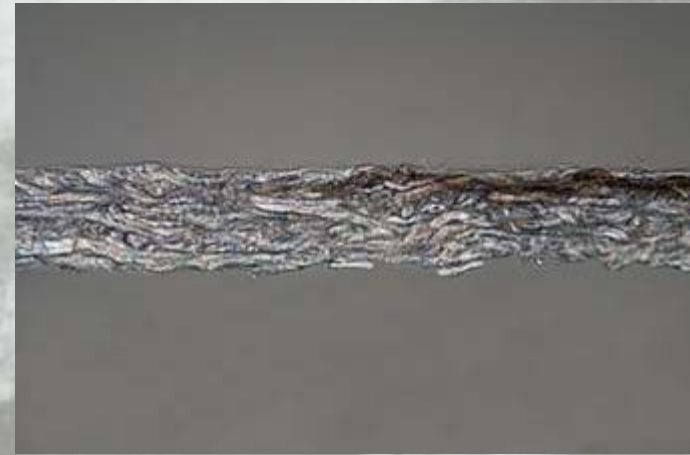
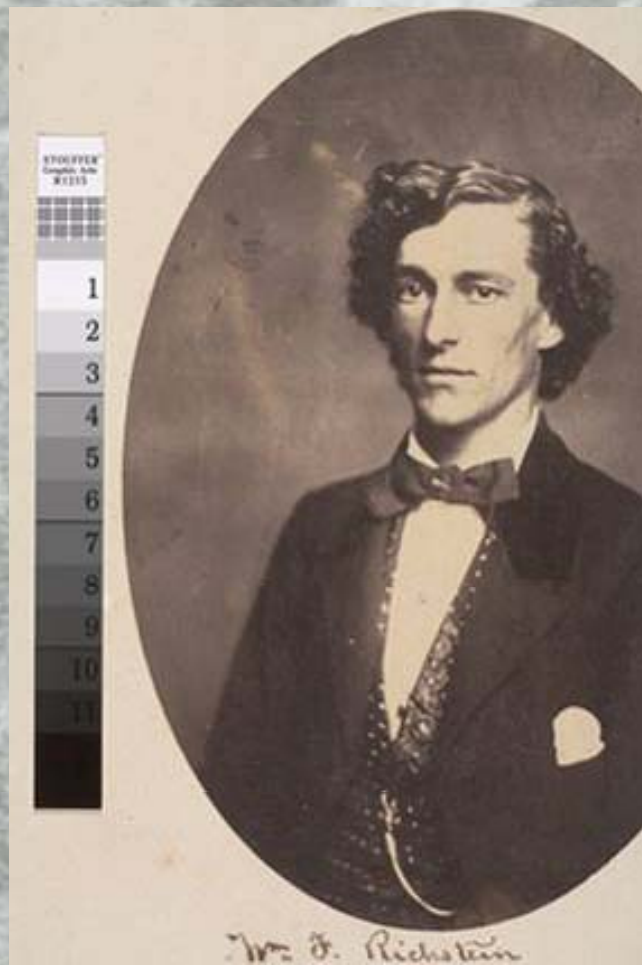
- Daguerreotypes



William Pratchett, 1850s, University of Connecticut

# Identification of Major Processes

- Salted Paper Prints



# Identification of Major Processes

- Cyanotypes



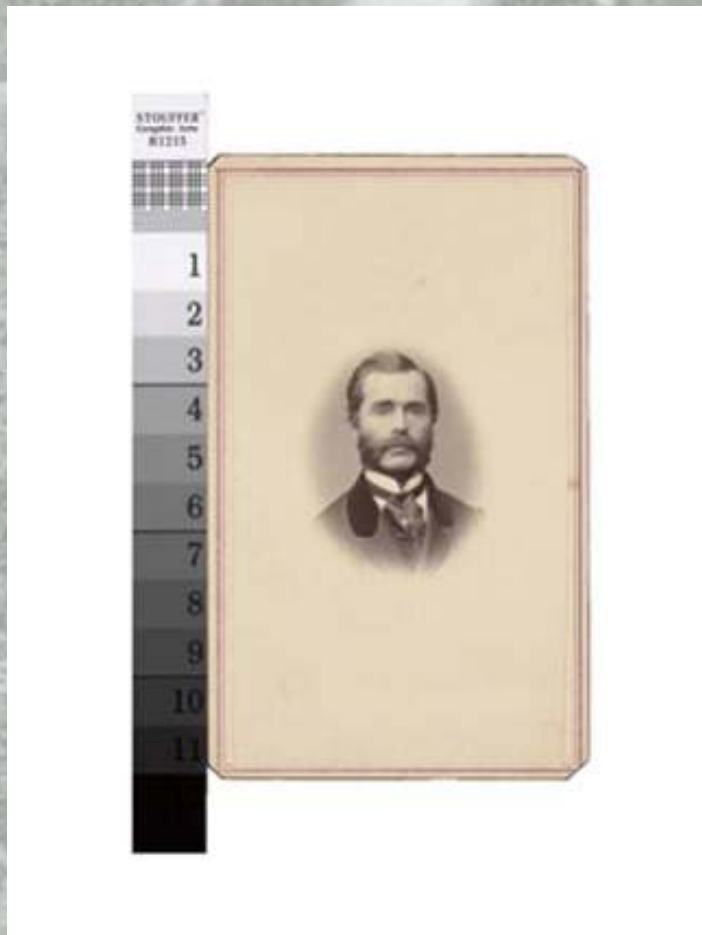
# Identification of Major Processes

- Tintypes & Ambrotypes (collodion process)



# Identification of Major Processes

- Albumen prints



# Identification of Major Processes

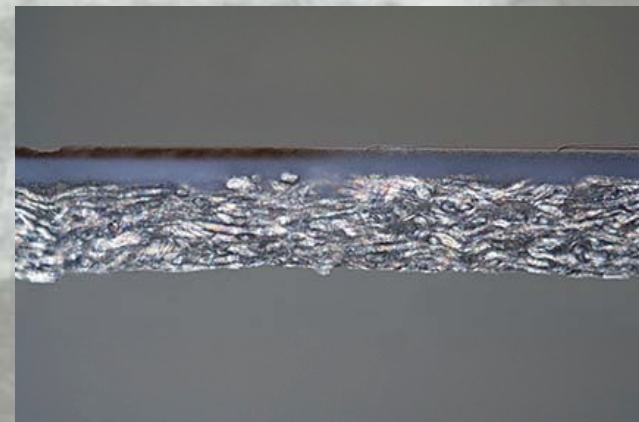
- Carbon Prints





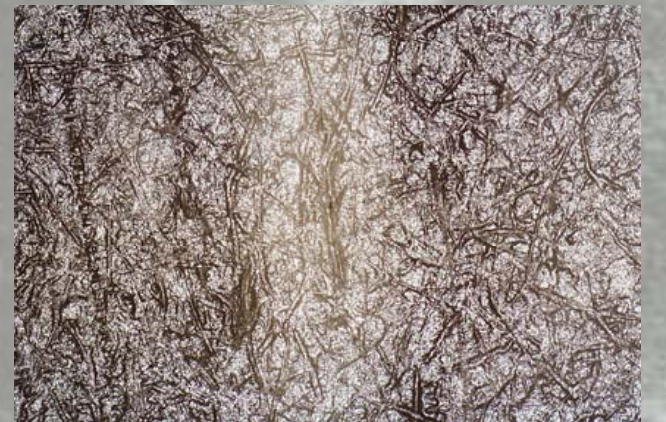
# Identification of Major Processes

- Collodion Printing Out (Glossy Collodion)



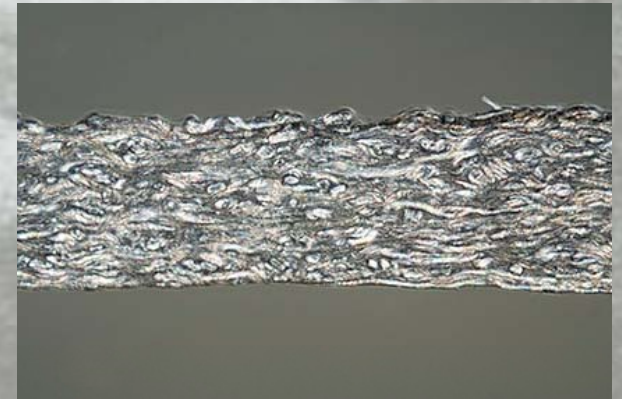
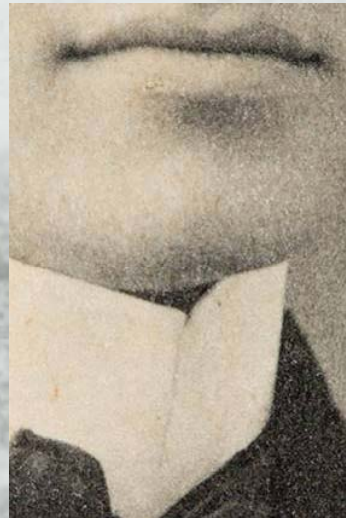
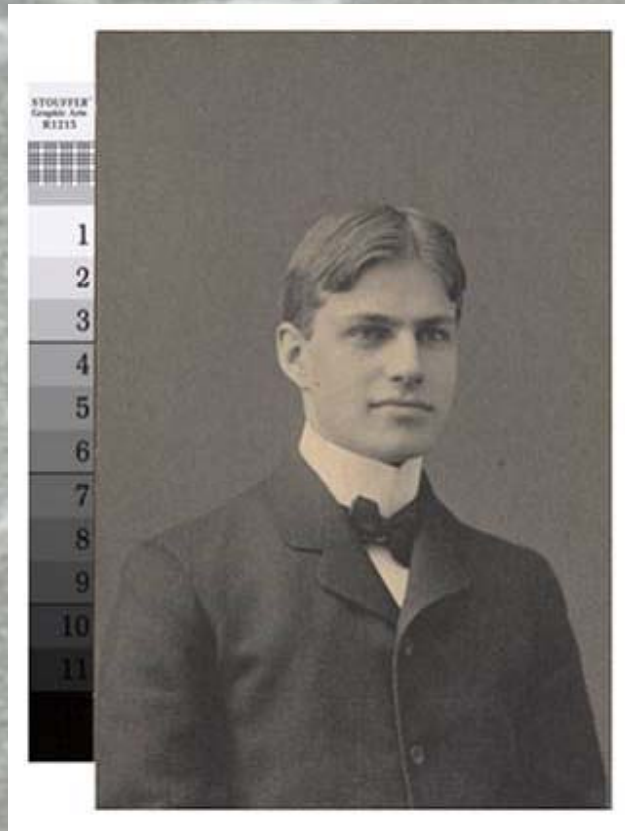
# Identification of Major Processes

- Matte Collodion



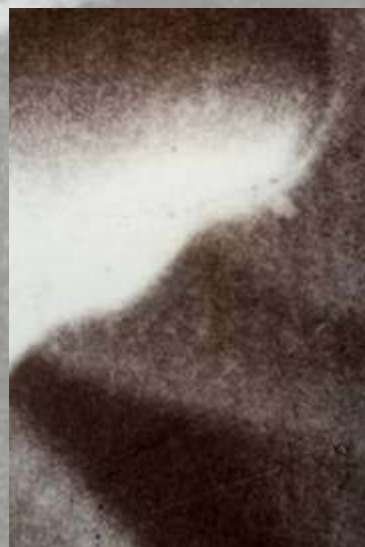
# Identification of Major Processes

- Platinum Prints



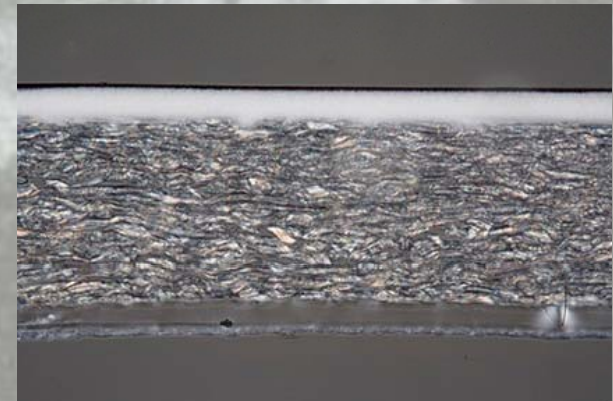
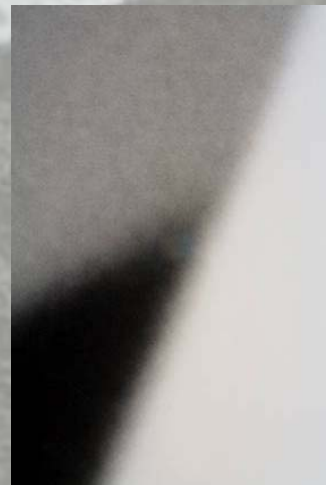
# Identification of Major Processes

- Silver Gelatin
  - Printing out



# Identification of Major Processes

- Silver Gelatin
  - Developing out



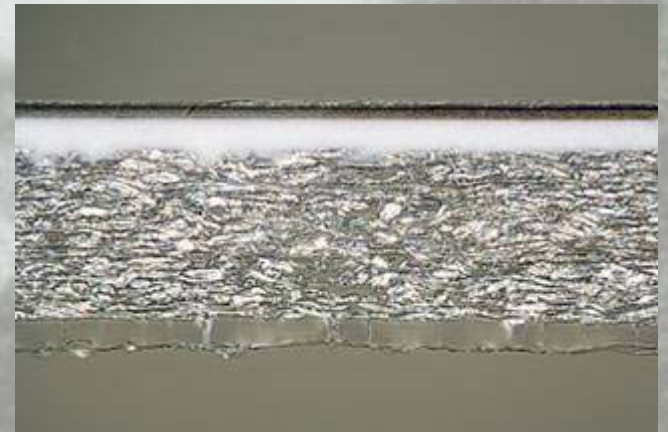
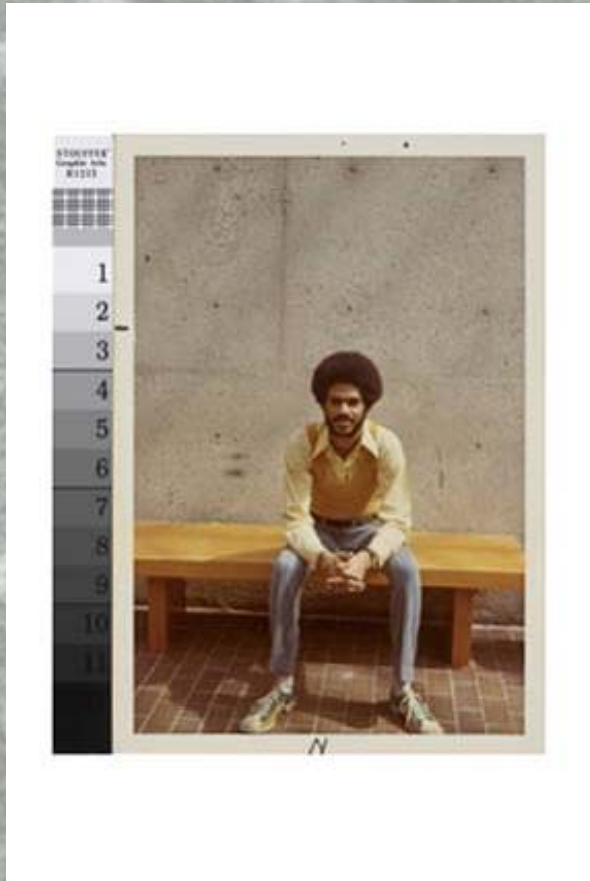
# Identification of Major Processes

- Color Processes
  - Instamatic



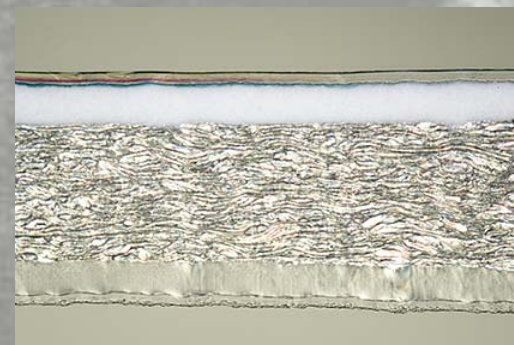
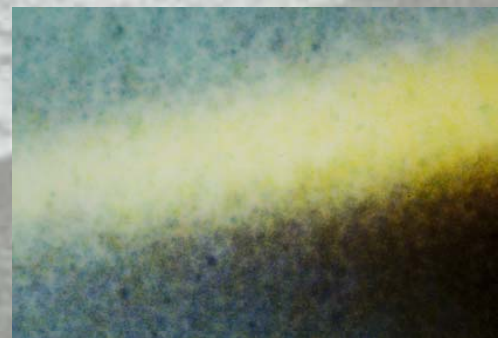
# Identification of Major Processes

- Color Processes
  - Chromogenic



# Identification of Major Processes

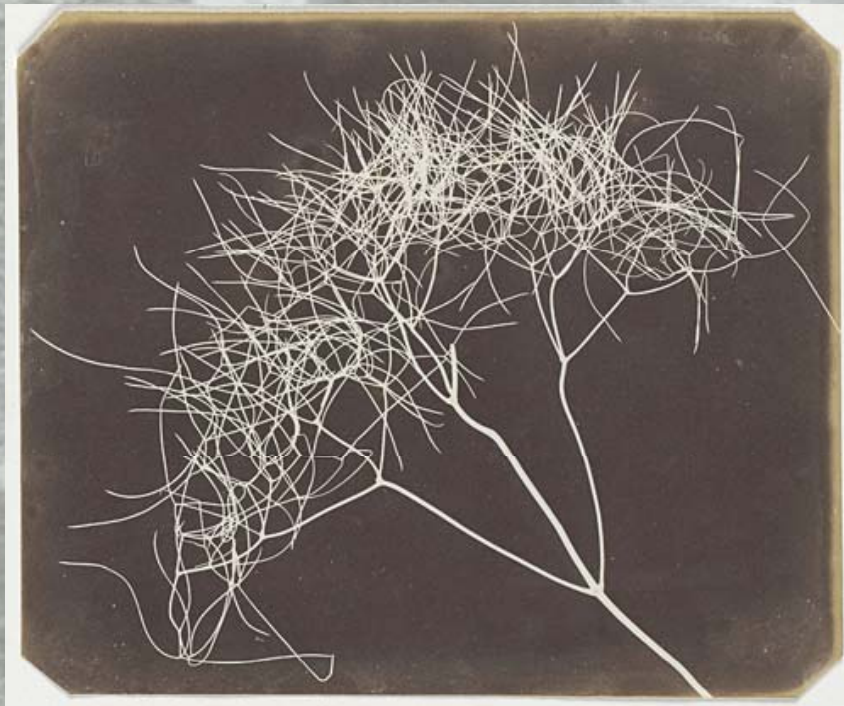
- Color Processes
  - Cibachrome





# Identification of Major Processes






- Negatives: Paper and Glass



# Identification of Major Processes

- Negatives: Film (Nitrate, Acetate and Polyester)

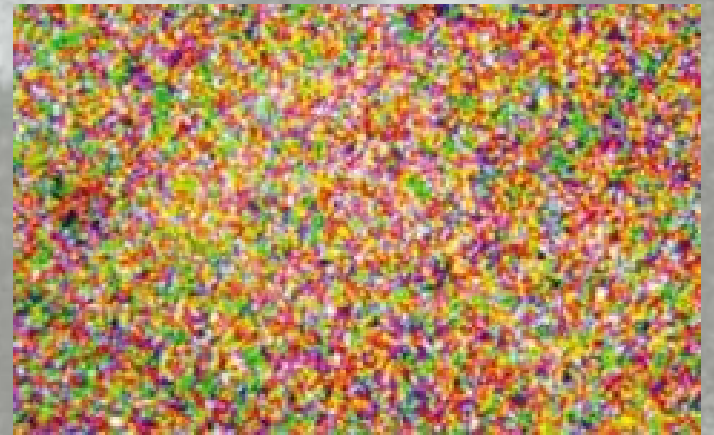
## KODAK Black-and-White Films

KODALITH Ortho 2556, Type 3	 (No Notch)
Technical Pan / TP	 (Universal Notch)
T-MAX 100 / 100TMX	
T-MAX 400 / 400TMY	
TRI-X 320 / 320TXP	



# Identification of Major Processes

- Transparencies Autochromes (glass)



# Identification of Major Processes

- Transparencies: Lantern Slides and Glass Slides



# Identification of Major Processes

- Transparencies: Film Slides



# Deterioration

- **Cased Photographs:** Case and coverglass deterioration, daguerreotype oxidation, broken ambrotypes, rusting tintypes



Weeping cover glass

<http://archfoto.atspace.com/daginsten.html>

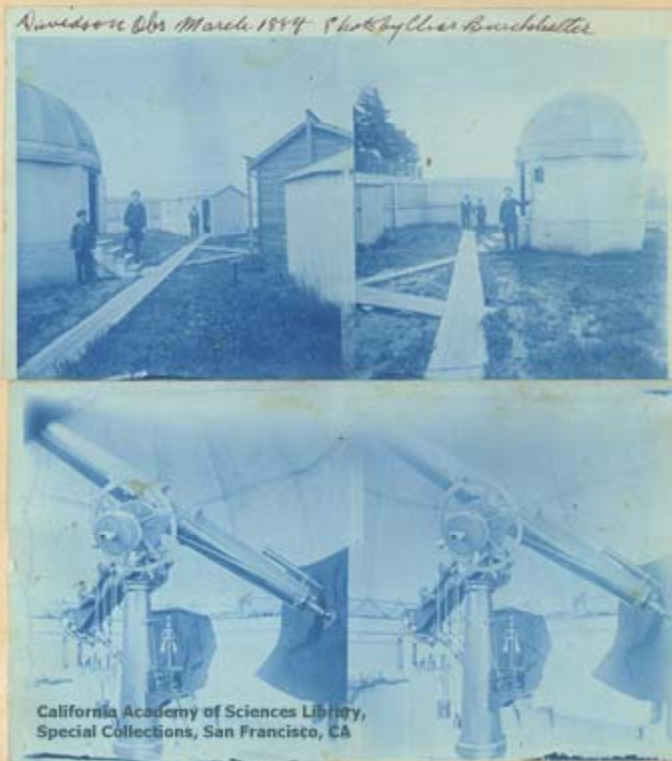
# Deterioration

- **Paper negatives & salted paper prints:**  
Light sensitivity and fragility of paper



# Deterioration

- Cyanotypes: fading due to light and pH



*Navidson Obs March 1854 Photo by Clara Burchette*

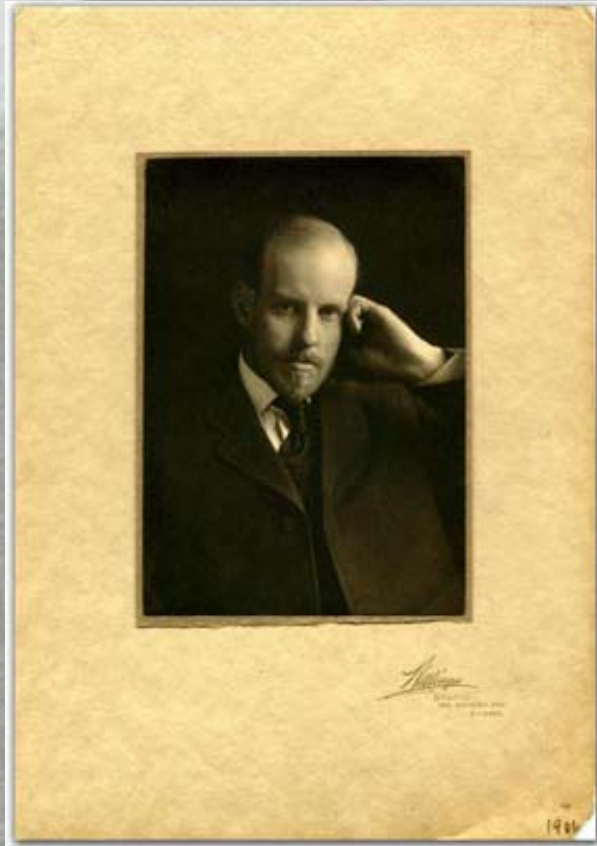
California Academy of Sciences Library,  
Special Collections, San Francisco, CA

*6.4 in Alvan Clark takes cope of Navidson Obs  
Purchased 1876 set up in Lafayette Park in  
San Francisco near 2221 Washington St in 1879  
First observatory on the West Coast*



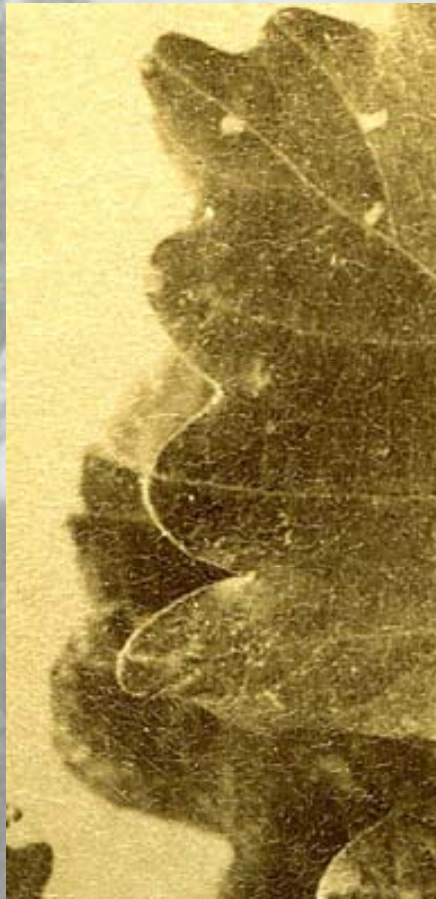
# Deterioration

- Platinum prints: image burn



# Deterioration

- **Albumen:**
  - Cracking
  - Fading
  - Curling



# Deterioration

- Silver gelatin: Mirroring



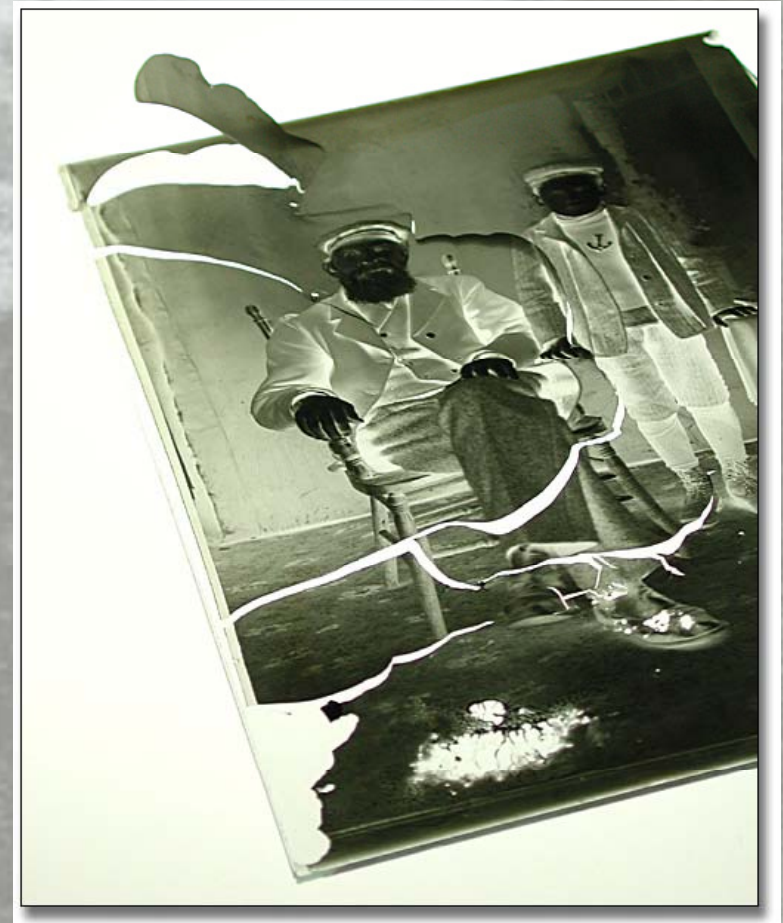
# Deterioration

- Color images: Dye fading



# Deterioration

- Negatives and Transparencies: Glass support failure



# Deterioration

- Negatives: Acetate and nitrate base deterioration



# Preservation

## Enclosures

- “archival”
- pH (<7.0, 7.0, >7.0)
- Lignin-free
- Buffered
- Unbuffered
- High Alpha-Cellulose Content
- Permanent Paper
  - ANSI/NISO Z39.48 (1992)(r2002) “Permanence of Paper for Publications and Documents in Libraries and Archives”



The infinity symbol inside a circle identifies a publication printed on paper that will last for several hundred years. The paper meets the criteria set forth in American National Standard for Information Sciences - Permanence of Paper for Printed Library Materials, ANSI Z39.48-1992.

- LE (Life Expectancy)
- Photographic Activity Test (PAT)



# Preservation

- Handling
  - To sleeve or not to sleeve?
  - Emulsion damage
  - Abrasion



# Preservation

- Storage
  - RH – low (30-40%)
  - Cold Storage (Frozen)
    - Color, cellulose based film
  - Cool Storage (50-60° F/10-15° C)
    - Most other photographic formats
  - Light
    - Dark storage ideal, necessary for color, cyanotypes, slated paper prints, and poorly fixed albumen and silver gelatin
    - (200-400 lux)



# Preservation

- Enclosures
  - Sleeves
  - Folders
  - Window mats
    - Attachment methods
      - Hinges
      - Corners
      - Slings

# Preservation

- Conservation Treatments
  - Humidification and Flattening
  - Mending tears
  - Stuck Emulsions



# Questions?

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