# Preserving Your Historical Photos





NICOLE ASZALOS, ARCHIVIST/SUPERVISOR

## Agenda for Tonight

### Preservation: The Basics

- Main Agents of Deterioration on Photos
- Signs of Deterioration & Recommendations

### Types of Photos

- Daguerreotype/Ambrotypes
- Tintype
- Carte de Visite/Cabinet Card
- Photo Negatives

### Storage of Photos

- Summary
- Digitization
- Other Resources



### **Preservation: The Basics**

- Conservation is the hands-on act of working directly with the object to preserve its current condition. Such method can be invasive. For example, conservation includes removing accumulated layers of dirt and/or adding necessary components that have gone missing.
- Preservation is the **non-invasive** act of minimizing deterioration and preventing future damage of the object. Some examples are:
  - Housing the objects in an environmentally controlled area
  - Monitoring the collections for possible agents of deterioration
  - Practicing appropriate artifact/artwork handling
  - Storage in archival boxes and other archival materials (materials that preserve the quality and longevity of the object, such as acid-free tissue, paper, and folders)



### **Agents of Deterioration**

- Physical Force
- Water
- Incorrect Temperature
- Incorrect Relative Humidity
- Pollutants
- Light
- Fire
- Disassociation/Theft
- Pests



### **Physical Force**

- One of the greatest threats.
- Can be direct and include the impact, shock, vibration, pressure, or abrasion of an object.
- Can be indirect and include improper handling and storage.
- Most often happens by handling the object or moving from one place to another.
- Oversize photos especially vulnerable.
- Examples:
  - Dropping a glass negative.
  - Tears, creases, and broken corners.
  - Touching a photo without using gloves.
  - Improper storage causing breakage.



### **Physical Force**

Improper storing of Photos can cause overall structural damage. This oversize photo shows examples of breakage.



#### **Recommendations:**

- Use rigid supports, handle with both hands, take your time.
- Store oversize images flat and/or in appropriately sized archival sleeves, folders, or boxes.



### Water

- Often causes serious damage or complete loss of a collection. This includes growth of mould or water marks on images.
- Gelatin, paper, and enclosure materials of photos often very absorbent and can adhere to other materials.
- Water also usually contains dirt which can fuse to the image.
- Best way to mitigate this is to keep collections off the floor and away from exterior walls/ concrete.

### • Examples:

- Weather related events/ flooding.
- Placing the still damp glass of a frame over a photo.
- Leaking Roof or burst water line.



### Water

Water can result in complete loss and mould growth on images. It can also cause staining or accelerate other forms of deterioration.



#### **Recommendations:**

- Avoid storage in basements/attics.
- Store in protective enclosures.
- Place in dry enclosure.



## Incorrect Relative Humidity (RH)

- Different collections have different sensitivities. Many chemical processes require the presence of water, so higher humidity, faster the rate of deterioration.
- Try to keep collections in environmentally controlled areas if possible.

### • Examples:

- High RH can encourage mould growth on paper and textiles. Can also promote corrosion of metals such as tintype photos.
- Low RH can cause paper to become brittle, some magnetic media becomes unplayable.
- Consistent fluctuation in RH can cause layered documents (ie. photos, negatives, and films) to delaminate, fracture, or distort.



## Incorrect Relative Humidity (RH)



#### **Recommendations:**

- Avoid storage in attics and basements.
- Try to correct dampness in a room if possible.
- Store materials in boxes.



Oxidization of silver in tintype photo. Some iron rust along edges.

### **Incorrect Temperature**

- Causes long term damage to collection. Heat accelerates chemical reactions which leads to degradation of all organic materials, including paper.
- Try to keep collections in a controlled environment if possible. Do not store in attics, sheds, or basements.

### • Examples:

- High temperature causes chemical reactions of human made materials, particularly archival collections.
- Low temperature can be beneficial however it can damage painted materials.
- Fluctuation in temperature is the most common and can cause fractures and delamination in brittle materials. Can also cause RH fluctuations.



### **Incorrect Temperature**

#### **Recommendations:**

- Do not store in attics or basements.
- Do not use incandescent spotlights on material.
- Keep away from radiators or heat ducts
- Provide cool, dry storage area.





Examples of the effects of vinegar syndrome on a negative



### **Contaminants/ Pollutants**

- Indoor and outdoor contaminants such as dust, salt, chemical cleaning products, and pollution can disintegrate or discolour collections.
- Mitigate by blocking contaminants with proper storage and handling.
- Examples:
  - Windex is a chemical cleaner that off-gases which can accelerate deterioration of documents. The colouring can also stain.
  - Dust can weaken or degrade the structure of some collections.
  - Placing some materials on treated wood can accelerate deterioration. A lot of wood has varnish



### **Contaminants/ Pollutants**

#### Recommendations

- Make sure materials are stored in contact with images are chemically stable.
- Avoid adhesives or invasive mounting techniques (use mounting corners instead).
- Sleeve images individually in paper, polyester, or polyethylene.
- Use boxes, display cases, or airtight cases with barrier coatings and films where appropriate
- Use inert enclosures free from plasticizers and other pollutants

Acetate negatives stored in paper envelopes that are highly acidic and can accelerate the deterioration of negatives.





## Light

- High UV can fade, discolour, and weaken paper/dyes. Avoid areas with strong light from windows or artificial lighting sources.
- Many early images were lightly dyed and are highly sensitive.
- Some may have surface coatings such as waxes and resin which can yellow
- Examples:
  - Fading of inks on documents and/or yellowing of documents



## Light

#### **Recommendations:**

- Reduce light exposure when on display. Reduce/block daylight with curtains/blinds.
- Avoid high UV sources
- Turn off lights in area when not in use.
- Frame with UV filtering glass
- Use facsimiles where appropriate
- Store in acid free boxes/folders.



Fading as result of exposure to light over a long period of time.



### Disassociation/Theft

- Can include stealing or simply misplacing a document or collection.
- Always return your collections to their home location and keep them in a locked or otherwise controlled area.
- Examples:
  - Misplacing documents in the collection
  - Vandalism (intentional or not) to document.



### **Disassociation/Theft**



This is part of a scrapbook that was accessioned last year. The photo was missing when it arrived.



Note: Check out the impacts of tape on the photos.

### Many Agents of Deterioration





## Daguerreotype (1840s-1860s)

- Typically small, most common size 2 ¾ X 3 ½ inches
- Usually housed in a small case.
- Involved exposing a silver plated copper sheet to chemical fumes.
- Recognized by mirror like quality since it is very reflective. "Mirror to a Memory"
- Extremely fragile image layer
- Common Problems: easily abraded, silver oxidizes



Photo in Lambton County Archives Collection

Storage: Away from direct light and fluctuating temperatures Try to store in a controlled environment, in otherwords an attic or basement isn't the best option.



## Ambrotypes (1855-1865)

- Often contained in small hinged cases similar to Daguerreotype.
- No reflective, mirror like quality.
- Created on glass by wet collodion solution or emulsion processes.
- Common Problems: Breakage, flaking, oxidization of silver.
- Storage: Away from direct light and fluctuating temperatures.



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Ambrotype: Art Gallery of Ontario, 1855. Three tourists visiting Niagara Falls

### Tintypes (1856-1890s)

- Very popular type of image
- Created on an iron plate. Can be housed in hinged cases however these were soon replaced by paper sleeves
- Common Problems: Fragile image layer subject to iron corrosion, silver oxidization, and flaking



AMBTON

Image on the left is a sleeved tintype in an old photo album.

The image to the right is a tintype displaying some rust and breakage.

Both are part of the Lambton Archives collection.



### Carte de Visite (1859-1870s)

- Small albumen printed photos
- Size is typically 2 ½ x 4 inches and were often mounted on a thick paper/cardstock
- Early versions had square corners while later had rounded corners
- Common Problems: Tears, fading, staining, discolouration



Front and Back of Carte de Visite. From a scrapbook donated to the Lambton County Archives in 2018. The majority of individuals are identified.



### Cabinet Cards (1860-1900s)

- Can be confused with Carte de Visite.
- Often bigger then the Carte de Visite and mounted on a thicker board. Was considered a very popular type of photography.
- Like Carte de Visite, they may have the photographer's logo on the reverse side of the image.
- Common Problems: Tears, fading, staining, discolouration.



Cabinet card of an unidentified female. Lambton County Archives.



### Photo Negatives (1839-Now)

- Different types of negatives can be identified by their base material – paper, glass, or plastic
- Common Problems: Plastic deterioration, vinegar syndrome, discoloration of image silver, oxidization
- Storage: Cool, dark, and dry location that wont be compromised by light or humidity



Storage of acetate negatives in the LCA vault. Negatives are stored in acid free envelopes in acid free boxes. Each are labeled with the number, date, and event.

Digitized negatives can be viewed via the online collection at lambtonmuseums.ca





## Colour Prints (1935 - Now)

- So many processes to develop. Includes printed photos, including ones from disposable cameras, film negatives, and more.
- Common Problems: Fingerprints, scratches, discolouration
- Storage: Cool, dark, and dry location that wont be compromised by light or humidity. Store in transparent sleeve.



Colour slide taken during the Alvinston Centennial celebrations.



### **Photo Albums**

- Come in a variety of shapes and sizes dating back over 100 years.
- Often attempting to remove images that are adhered or taped can result in damage.
- Magnetic photo albums (sticky albums) can leach acid into photos making them brittle and changing the colours.
- Common Problems: Improper Handling, discolouration, missing images.
- Storage: Pages interleaved with acid free paper or acid free tissue. Then stored in a polyethylene bag and placed in an acid free box.

### **Storage of Photos: Summary**

- Good Practice is to ALWAYS use cotton or nitrile gloves.
- Remove from poor quality, acidic enclosures and place in acid-free envelopes, folders, and/or boxes
- Try to keep in a cool, dry environment and out of direct or bright light.
- When mounting photos, use acid-free materials. Photos should be attached to a backing with corners, not tape or glue. Use an acid free mat to prevent the glass from touching the photo.



Proper storage with acid free folders/paper and archival boxes.



### **Good Practice with Photos**

- Good Practice is to ALWAYS use cotton or nitrile gloves.
- Do not use tape, metal paper clips, rubber bands, or post-it notes.
- Do not use pen to write on photos. Label on the back with a soft pencil. Never write on the front.
- Making good digital or tangible copies for display and handling can help further reduce risks to originals.



Proper display under protected glass, with copied images (except one which is original), and soft light.

Display was a small exhibit in the Lambton County Archives Reading Room



## **Digitizing Images**



Before and after of a digitally restored glass negative from the Oil Museum of Canada collection. Scan and adjustments completed by London Image Scanning.

Digitizing photos helps with long term preservation of the image. We digitize images to enhance accessibility while also reducing deterioration caused by handling and exposure to light. It also allows us to capture the image before further deterioration occurs.





### **Additional Resources**

- Canadian Conservation Institute: CCI Notes
  - <u>https://www.canada.ca/en/conservation-</u> <u>institute/services/conservation-preservation-</u> <u>publications/canadian-conservation-institute-notes.html</u>
- Conserve-o-gram
  - <u>https://www.nps.gov/museum/publications/conserveogram/cons</u> <u>toc.html#collectionpreservation</u>
- Carr-McLean Archival Supplies
  - <u>https://www.carrmclean.ca/</u>



# **THANK YOU**





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