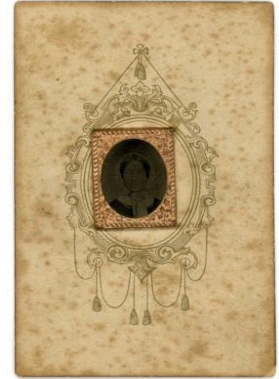


Preserving Family Heirlooms

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Definitions

- Emulsion layer: Photosensitive coating on photo film, paper or glass.
- Foxing: Fungus reacts over time with iron salts in paper. When this happens reddish brown spots begin to appear.
- Humidity: Refers to the relative amount of moisture that is in the air based on the room temperature and the amount of water the air can hold at that temperature.
- Red Rot: A term used to describe the chemical breakdown of leather, most common in vegetable-tanned leather.
- “Rag Paper” or linen paper, is paper that is mostly comprised of organic materials like linen or cotton. This paper lasts a tremendously long time with very little breakdown or yellowing. the Constitution was reprinted for citizens on this type of paper.
- “Pulp Paper” is paper that is made up mostly of wood pulp. Popular beginning around 1850 this paper is the most common form of paper used today. This type of paper is highly acidic and deteriorates over time. The paper begins to yellow and becomes brittle, ink begins to fade or bleed onto other pages.



Documents

- With standard conditions (70 degrees and 50% humidity) paper will become brittle within a generation (15-20 years).
- Acidation happens when paper is not properly rinsed causing the chemicals to stay in the paper. Paper becomes brittle and breaks at its stress points. Acid transfers to other through a process called acid migration.
- Foxing: Fungus on paper will react over time with the iron salts in paper. The process is hastened if stored in warm, humid, spaces. The process is reversible, but it is costly.
- High heat causes paper to dry out and become brittle.
- Do not eat or drink when handling old books and wash your hands after eating.
- Inspect for insects once a year. Dark, damp conditions breed mold and mildew which attracts insects. Insects are also drawn to the glues in the spines of old books.

- Small portable fans create air circulation which dramatically decreases the likelihood of mold and mildew, common in stagnant environments.

Caring for Documents:

- Do not eat or drink when handling old books and wash your hands after eating. Grease and oils from food can leave stains and hasten the deterioration of the paper.
- Inspect for insects once a year. Dark, damp conditions breed mold and mildew which attracts insects. Insects are also drawn to the glues in the spines of old books.
- Small portable fans create air circulation which dramatically decreases the likelihood of mold and mildew, common in stagnant environments.
- Optimal conditions for documents and books is 65-68 degrees and 45-50% relative humidity.
- Portable humidity detectors available at most hardware stores are a great way to track fluctuations in your house.
- Store rare and fragile books in a consistent environment (ideal location: first floor interior room or closet). Fluctuations in heat or cold can damage books and documents



- Use LED or Fluorescent bulbs in your home. If you must use incandescent bulbs, keep them under 60 watts.
- Use drapes or shades to protect heirlooms from direct sunlight.
- Eliminate dust buildup by vacuuming books with cheesecloth over the nozzle (this prevents damage from the suction).
- In case of an emergency, make 2 photocopies of every document; one for on-site retrieval and one for off-site storage.
- Non water-based cleaners & document cleaning pads can be used to remove surface dirt from documents. Test a small inconspicuous section of paper to make sure the ink will not run, or that chemicals will not fade/damage the paper.
- There are deacidification sprays to purchase that neutralize the acid in paper. This will halt the deterioration, but not repair the damage.
- Encapsulate (NOT LAMINATE!) documents once they have been cleaned and place them in Mylar or other polyester sheets that do not contain PVC or PVA.

Storage of Documents

- Acid free file folders can be used to store loose documents and pamphlets. Label folders, and other enclosures to minimize handling.

- Follow the 'Thumb Rule': place folders in boxes, with about an inch to spare, so the folders will not sag/slide causing further damage.
- Do not store paper documents in brown cardboard boxes or 'smelly' plastic containers. Be sure you are using archival quality acid and lignin free boxes or plastic containers containing no PVC or PVA.



Photographs

Daguerreotypes

- These images were very expensive because exposure times took up to a minute.
<https://daguerreiansociety.org/FAQ>
- These increasingly rare early American photographs are comprised of metal and glass. The image copied directly to a thin layer of pure silver on a copper substrate.
- A mat was placed around the silver to keep the glass from direct contact with the image, then the glass was added. The edges were then sealed with wax or animal fat and wrapped in paper or fabric then enclosed in a decorative case.
- Daguerreotypes are quite sensitive. If their seals are broken, or if the glass cracks they can suffer from a host of problems.
 - Condensation can cloud the image and invite mildew.
 - Exposure to humidity can cause mold.
 - Direct sunlight will cause the image to fade. Heat can dry the chemicals causing the emulsion layer to crack/ fissure.
- Once the seal is broken on a Daguerreotype, you cannot reverse the damage. Seek out a qualified photo conservationist. A list of companies is provided at the end of the hand-out.

Tin Types



- Patented in 1856, these were inexpensive and made by the millions. There are no negatives for tin types as the process transferred images directly onto the metal. Images with text often are reversed because of the image transfer process.
 - Small ½ x 1-inch images were called 'gems' and affixed to cardboard or worn in jewelry.
 - Early images were enclosed in fancy cases, but most of what you would find today are caseless varnished images (few still have their paper enclosures).
 - These suffer from exposure to the elements. Because of the perceived indestructibility of the images, they can be in poor condition.

- Tin types are particularly susceptible to rust especially if the varnished layer of the tin type became damaged and air and moisture reached the exposed metal backing.
- These photographs bent very easily which caused the varnish to crack.
- Many tin types that were not coated in varnish were easily scratched causing image loss.

Cabinet Cards and Carte-de-Visites

- Carte-de-visite were small black and white photos on a heavy cardstock. They were 3x4 in size and often used as calling cards. Cabinet cards were larger 5x7 portraits typically displayed at home on mantels and pianos. Many included the photography studio logo as a way to promote their business in the late nineteenth century.
- Salt Prints: They are images produced from a negative onto various sizes of coated paper. This same process is still used today to develop black and white photographs.
- Light exposure causes these images to fade faster than salt prints. These photos yellow, and blacks begin to take on a metallic sheen leaving an unsightly glare.
- Photo paper attached to cardboard backing creating an acidic environment for the photo. Susceptible to mold and mildew and light exposure.
- Acidity weakens the cardboard backing causing brittleness, eating at the emulsions of the photograph causing loss of image and staining.



Black & White Salt Prints

- Exposure to heat and humidity causes these types of photos to stick together or feel sticky to the touch. This leads to irreparable damage of the emulsion layer causing image loss.
- High humidity can spur mold growth & invite insect damage.
- Low humidity can cause photo emulsion layers to shrink making the photo curl and pull away from the paper backing.
- Light exposure is less of a factor compared to other formats, but they do fade with time.

Color Photos

- Color photographs have been in use since the late 1930's. Each photograph has a separate layer of Yellow, Cyan and Magenta.
- If these photos were not properly rinsed after development, or stored under improper conditions, one or all of the colors may fade at different intervals leaving some photos predominately red, blue or yellow.
- Color photographs are the least stable of all types of photographs.
- They are extremely vulnerable to heat and humidity.
- Color photos exposed to direct sunlight or lamplight fade much faster than black and white photographs.
- Color photos are much more likely to experience mold and mildew issues.

Photographic Storage



- Do not store photographs in the basement or attic. Keep images in temperature and humidity-controlled environments to slow down future deterioration.
 - Do not store photos in the developer's cardboard/paper envelopes in which they came.
 - Store black & white photos separate from color photos.
 - Negatives require separate storage from photographic prints.
 - Use buffered containers that are acid & lignin free.
- Store Photos on end, not flat nor loose in a box.

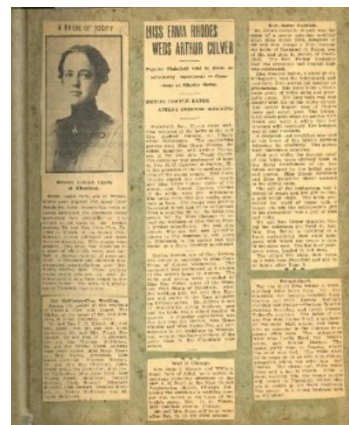
Caring for Photographs

- Handle with care. Natural oils from your fingers leave residues on photographs.
- ** In few instances, wear white cotton archival gloves when handling old photographs.
- Original negatives can be copied any place film is developed.
- Scan photographs on the highest possible resolution and save them to a computer or disc as a TIF file, not as JPG. JPG files are not archival quality and will eventually fail.
- Never use rubber bands or paper clips on photos.
- Use photo corners/sleeves on photos instead of tape or glue.

- Limit light exposure. Do not expose these images to direct sunlight or lamplight for extended periods of time.
- Some photos, in stable condition, may be cleaned to remove surface dirt. NEVER use water! You must use special photo cleaners.
- If photos become water damaged:
 - Place in air-conditioned room, below 68 degrees, with a circulating fan.
 - Carefully separate items and place them on a flat non-porous surface between layers of cheesecloth. Do not use paper towels!
 - When dry, place an object on top of image to limit curling.

Scrapbooking Dos and Don'ts

- Do order products from reputable vendors. Just because a product claims “archival quality” or “photo-safe” does not mean it is. Products may be safe now, but not in the future.
- Do be aware that embellishments like buttons, stickers tags and ribbons may react with paper and photos over time, causing the materials to degrade and become discolored or brittle.
- DO NOT use magnetic albums, even those that claim to be archival quality or acid free! Items can adhere permanently to the pages over time, causing serious damage when removed.
- Do use archival quality page protectors to keep pages from rubbing together especially if you are using raised embellishments.
- Do use copies of documents and photos and not originals, especially if you are going to crop or change the item in any way.



Historic Scrapbooks

- Do not repair historic scrapbooks with tape or adhesives. Use photo corners to put photos & papers back into place.
- Do scan or take pictures of historic albums before you disassemble them, to preserve its historical significance.
- Do not disassemble a scrapbook unless you are sure it can handle the stress of taking it apart.
- If fragile, place acid-free paper or polyester page protectors between the pages instead. This adds bulk, but keeps acid migration to a minimum.
- Do store small to medium sized albums upright and store larger scrapbooks or ones that are bulging/have loose item flat on their sides.

- Non-bulging albums can be stacked on top of each other, no more than 2 high. The weight can cause damage to bindings and photographs.
- If pages are brittle or breaking, tie pages closed with linen or white cotton fabric tape. Just be sure that the tape is not rubbing against the pages causing further damage.

Further Reading

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- ❖ Eastman Kodak Co. *Conservation of Photographs*. Eastman Kodak Co. Rochester, N.Y. 1985.
- ❖ Flemming, Ann. *Organized Family Historian*. Rutledge Press. Nashville, TN. 2004.
- ❖ Long, Jane S. and Richard W. Long. *Caring for Your Family Treasures* Abrams Inc. NY, NY. 2000.
- ❖ May-Levenick, Denise. *How to Archive Family Keepsakes*. Family Tree Books. Cincinnati, OH. 2012.
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- ❖ Taylor, Maureen A. *Preserving Your Family Photographs*. Betterway books. Cincinnati, OH. 2003.
- ❖ Tuttle, Craig A. *An Ounce of Preservation*. Rainbow Books. Highland City, FL. 1995.
- ❖ Williams, Don. *Saving Stuff*. Fireside books. New York. 2005.

Preservation Companies

- ❖ Archival Company: www.universityproducts.com
- ❖ Conservation Center: www.theconservationcenter.com
- ❖ Light Impressions Archival Supplies: www.lightimpressionsdirect.com
- ❖ Northeast Document Conservation Center: www.nedcc.org

Preservation Resources

- ❖ Getty Institute: www.getty.edu/conservation/about
- ❖ Image Permanence Institute: www.imagepermanenceinstitute.org
- ❖ Library of Congress: www.loc.gov/preservation
- ❖ Library of Congress: www.digitalpreservation.gov

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