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Caring For Photographs: Special Monochrome Processes

Curators and archivists frequently encounter special monochrome photographic processes, such as daguerreotypes, albumen prints, cyanotypes, ambrotypes, tintypes, collodion wet plates, and platinum prints, which have special storage and handling requirements. The word "process" is a shorthand term used by professionals to refer to the configuration of production materials, methods, and techniques that results in the image. The image is said to be "of" or "in" that process, such as "silver gelatin negatives." Many of these processes are described in detail in the *Museum Handbook*, Part I, Appendix R: Curatorial Care of Photographic Collections, and all are described in photographers' technical manuals.

The first step in caring for these valuable historic photographs is to learn how to identify their photographic processes. There are many thousands of photographic processes in existence. Most museums and archives will have many of the eight processes described here. To learn how to identify processes:

- Obtain process identification training from a professional organization, such as the Rochester Institute of Technology, a local archival organization, your state archives, or a university program.
- Visit exhibitions whose labels or catalogs indicate the photographic processes on exhibit. Visit archives or libraries that have accurate process cataloging data, then look at the images and data.
- Read the books in the references.
- Ask for expert advice from a trained photographic conservator, curator, or archivist.
- Read the NPS references listed for background information on photographic processes.

To Preserve Your Archival Photographs **Do This...**	**Don't Do This...**
Housing/Storage of Daguerreotypes • Store daguerreotypes at 65-68°F (18-20°C), 40-50% RH, and < 100 Lux or 10 foot-candles. • Use a preservation environment monitor (PEM; a combined datalogger, hygrothermograph and reporting program that estimates how long stored materials will last in a space) when monitoring storage spaces. See Reilly (1995) in references. • Use only storage materials that pass the Photographic Activity Test (PAT). *Conserve O Gram* 14/2 discusses the PAT. • House uncased daguerreotypes in neutral-pH, alum-rosin sizing-free, lignin-free sink mats with an alumina silicate cover glass, and a Filmoplast P-90 tape seal. Place them flat, by size, or vertically in archival boxes or padded drawers.	• Don't place daguerreotypes in plastic sleeves or in cold storage. • Don't touch the surface of the images with hands or tools while rehousing. • Don't try to clean these images. • Don't force these images into vintage or reproduction cases.

To Preserve Your Archival Photographs **Do This...**	**Don't Do This...**
Handling of Daguerreotypes • Wear clean lint-free cotton or latex gloves. • Work over an uncluttered, clean and padded surface. • Ensure that security is tight as these images are easily stolen and have high market value.	• Don't try to remove or clean the cover glass without a conservator.
Reformatting of Daguerreotypes • Prepare the rehoused image for reformatting. • Minimize the number of times and length of time that daguerreotypes must be removed from long-term storage by inspecting copy work immediately upon return and never using originals for reference or duplication after copying. • Follow the American National Standards Institute (ANSI) standards when writing contracts and inspecting returned copy work. See *Conserve O Gram* leaflets 19/12 and 19/13.	• Don't expect photographers to be able to easily photograph daguerreotypes. The mirrored base makes reformatting very difficult.
Housing and Storage of Albumen Prints • Store albumen prints (the most common 19th century photographic process) at <68°F (18-20°C)±2°, 30-50% RH, and <50 Lux or 5 foot-candles. • House albumen prints in unbuffered (no alkaline reserve) paper sleeves with a pH of 7-7.5.	• Don't store albumen images in fluctuating environmental conditions, as this will lead to cracking and crazing of the binder layer. • Don't remove albumen images from their secondary board/card supports.
Handling of Albumen Prints • Handle albumen prints without bending or flexing them. • Avoid touching the emulsions of albumen prints. Keep them out of the light.	• Don't force open tightly wound rolls of unmounted albumen prints, instead give them to a conservator to open.
Reformatting of Albumen Prints • Minimize the number of times and length of time that albumen prints must be removed from cold storage by inspecting copy work immediately upon return and never using originals for reference or duplication after copying.	• Don't expose albumen prints to bright lights for long periods during copying. • Don't expose albumen prints to high humidity, even for short periods.
Housing, Storage, Handling, and Reformatting of Cyanotypes • Place cyanotypes (a photographic image made in the blueprint process) in stiff, neutral-pH, four-flap enclosures or envelopes within flat shallow print boxes or map case drawers. • See *Conserve O Gram* 19/9.	• Don't handle cyanotypes roughly as they have little mechanical strength. • Don't expose cyanotypes to light or place next to buffered paper as they fade very quickly.
Housing and Storage of Collodion Processes (Ambrotypes, Tintypes, and Collodion Wet Plates) • Store ambrotypes, tintypes, and collodion wet plates (common 19th century negative and transparency processes) at 65-68°F (18-20°C), 40-50% RH, and <100 Lux or 10 foot-candles. • Use only storage and housing materials, regardless of type, which pass the PAT.	• Don't place ambrotypes or tintypes with flaking binders in plastic sleeves as the plastic's static charge will pull the flaking emulsions from the base.

To Preserve Your Archival Photographs **Do This...**	**Don't Do This...**
• House corroded or flaking images flat and by size, in neutral pH, acid-free, alum-rosin sizing-free, lignin-free sink mats. Don't hinge the images. Hold them in place by the mat layers instead. Next, place the matted images flat in folders in shallow archival print boxes. • House loose ambrotypes and tintypes with stable emulsions in four-flap, neutral-pH paper enclosures or envelopes with a sheet of four-ply neutral-pH rag board made of acid-free, alum-rosin free, and lignin-free, high alpha-cellulose (>87%) with a pH of 8.5 behind them. • Place photographic prints or xerographic copies of the images on the outsides of the boxes using acrylic adhesive to aid in locating images without opening the containers. • Store the boxed images flat, ***by size***, in larger boxes or padded drawers; or store them vertically in padded boxes or drawers. • See *Conserve O Gram* 14/5.	• Don't place ambrotypes or tintypes with flaking emulsions in cold storage as the flaking may accelerate. • Don't touch the surface of the images with hands or tools while rehousing. • Don't forget to wear latex or clean lint-free cotton gloves during rehousing. • Don't try to clean collodion images. • Don't force these images into vintage or reproduction cases. • Don't use wooden grooved boxes for storage of collodion images.
Handling of Collodion Processes (Ambrotypes, Tintypes, and Collodion Wet Plates) • Wear clean lint-free cotton or latex gloves. • Work over an uncluttered, clean, and padded surface. • Ensure that security is tight as these images are easily stolen and have high market value. • Use acid-free separation sheets and copy originals when removing images from their original location.	• Don't allow any handling or use of images with flaking emulsions until a conservator stabilizes them. Instead provide copies for reference and duplication purposes.
Reformatting of Collodion Processes (Ambrotypes, Tintypes, and Collodion Wet Plates) • Use the interpositive process for reformatting. • Follow ANSI standards when writing contracts. • See Albumen Prints: Reformatting, above, for guidance.	• Don't forget to follow ANSI standards when writing contracts.
Housing and Storage of Platinum Prints • House platinum prints (a common fine art photographic print process) in neutral pH materials. Platinum is a catalyst for cellulose deterioration leading to embrittled and discolored (yellowed) paper. • Place a sheet of neutral pH interleaving tissue between platinum prints and the next image or page, as platinum prints may leave a "ghost image" on the next sheet. • Place platinum prints in neutral pH paper four-flap enclosures within folders in either archival fliptop or flat print boxes.	• Don't store platinum prints next to unprotected paper, photographic, or film materials. Instead use neutral pH interleaving tissue between the items.
Handling of Platinum Prints • Minimize handling of platinum prints, as they are often brittle and have little mechanical strength. Provide copies for use.	• Don't allow platinum prints to be handled extensively.

To Preserve Your Archival Photographs **Do This...**	**Don't Do This...**
Reformatting of Platinum Prints • Insist that photographers handle platinum prints with great care as they are frequently brittle.	• Don't forget to follow ANSI standards when writing contracts.
Housing and Storage of Silver Gelatin Processes • Silver gelatin processes are the most common 20th century negative, print, slide, transparency processes. See *Conserve O Gram* 14/4.	• Don't allow silver gelatin images or negatives to be stored in spaces with high humidity and temperature as the gelatin swells and can mold easily. • Don't store silver gelatin images in pest-infested spaces as insects and vermin eat gelatin.

For general guidance on how to care for photographs see *Conserve O Gram* 14/4. For guidance on how to care for special formats of materials, such as glass plates, see *Conserve O Gram* 14/5. For information on how to care for color processes see *Conserve O Gram* 14/6 and for guidance on how to make photographic mounting corners see *Conserve O Gram* 14/1. Also see *Conserve O Gram* leaflets 19/10, Reformatting for Preservation and Access: Prioritizing Materials for Duplication; 19/11, Preservation Reformatting: Selecting a Copy Technology; 19/12, Contracting for Reformatting of Photographs; and 19/13, Preservation Reformatting: Inspection of Copy Photographs.

For an overview of storage enclosures for photographic materials see *Conserve O Gram* 14/2. For a chronology of photographic processes see *Conserve O Gram* 14/3. Also see NPS *Museum Handbook*, Part I, Appendix R: Curatorial Care of Photographic Collections, for guidance on environment, cold storage, and light exposure levels and the NPS *Museum Handbook*, Part II, Appendix D: Museum Archives and Manuscript Collections.

References

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Diane Vogt-O'Connor
Senior Archivist
Museum Management Program
National Park Service
Washington, DC 20240

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