

# Photographic Prints

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Photographic materials are among the most unstable and difficult collectibles to preserve. They are also among the most common to own. Despite their fugitive nature, the life of photographic materials can be prolonged provided that some basic care and attention is given to their preservation. The conservation staff of The Henry Ford have compiled the information in this fact sheet to help individuals care for their objects and collections. The first step in the care of collections is to understand and minimize or eliminate conditions that can cause damage. The second step is to follow basic guidelines for care, handling and cleaning.

## **THE NATURE OF PHOTOGRAPHIC MATERIALS**

In general, photographic prints are composed of at least two distinct layers. The uppermost layer is referred to as the emulsion layer. The emulsion layer generally consists of metallic particles or dyes held in binder such as gelatin. This layer forms the image of the photograph. The lower layer or "support layer" is usually composed of paper, glass, metal, or plastic.

*Black and White Prints* - Black and white photography is the oldest photographic process. Commonly, the emulsion layer will consist of fine particles of silver embedded in a layer of binder. While the most common binder was and continues to be gelatin, other binder materials include albumen and collodian.

*Color Prints* - Color photography was invented in 1935 by the Eastman Kodak Company. There are a large variety of color processes that involve different materials but most consist of dyes suspended in a gelatin layer.

## **CAUSES OF DETERIORATION & GUIDELINES FOR CARE**

Deterioration can be caused by inappropriate light, temperature or humidity levels, poor processing, inappropriate framing, pollution and contaminants, mishandling, pests and mold. In addition, inappropriate repairs and cleaning methods can cause irreparable damage to photographic prints.

### **TEMPERATURE AND HUMIDITY**

Both color and B & W photographs are prone to damage from exposure to high and/or fluctuating temperature and relative humidity levels. High temperature and humidity

levels combined with pollution and contaminants can cause fading of photographic images. Excessively low humidity levels can cause photographs to curl due to dryness. Conversely, high humidity can lead to mold growth. The recommended levels for storage of photographic prints are 30-50% relative humidity at temperatures of 58-68°F. Fluctuations of more than 5 degrees per day should be avoided. Cold storage at low relative humidity is the ideal storage environment for color photographs; however, this is not usually practical for most collectors. Inexpensive temperature and humidity sensors can be purchased from conservation suppliers.

## **LIGHT**

Photographs are prone to light damage in the form of fading. In general, color photographs are more sensitive than B & W prints. For this reason, color photographs should be displayed under low light levels (approximately 50 Lux.). B & W photographs can be displayed under slightly higher levels. The light meter of a 35 mm camera can be used to measure light levels. (See Notes 2/5 from the Canadian Conservation Institute). Ultra violet, which is the most damaging form of light, should be eliminated by using ultra violet filtering glass or Plexiglas on framed prints.

## **POLLUTION AND CONTAMINANTS**

Since most B & W photographic images are composed of silver particles, they are prone to degradation through metallic corrosion. The same chemical pollutants that cause silver to tarnish can cause the degradation of photographic images. Whenever possible, contact with pollutants such as sulfur, ozone or peroxides should be avoided. Since materials like rubber and leather contain large amounts of sulfur they should not be stored in closed containers or drawers with photographs. The dyes in color photographs can also be damaged by contact with chemical pollutants.

## **DISPLAY**

Proper framing can help to increase the life of antique photographs. Prints should be framed using acid-free, lignin-free rag mat board. A window mat should always be placed between the print and the glass in a picture frame. The mat will serve to prevent the prints from becoming stuck to the glass. Only archival-quality adhesive tapes should be used for framing. Recommended tapes include filmoplast and acid-free linen tape. They are both available from Light Impressions Inc. (see suppliers list attached). Ordinary masking and scotch tape should be avoided since they can degrade and discolor leading to stains. The CCI NOTES 11/5 "Matting Works on Paper" offers a good description of the preferred method for matting photographs.

It is a common commercial practice to mount photographs directly to the mat board using head seal dry mount tissue. While the long term stability of this process is not certain, it is not advisable for antique photographs since future conservation work could be complicated by this process.

### **STORAGE AND HANDLING**

The best protection for photographic prints is storage in clear mylar (plastic) envelopes. The mylar helps to minimize damage during handling. For added protection, acid-free envelopes and boxes are available from conservation suppliers. When purchasing plastic sleeves make sure that they are uncoated mylar or polyethylene. Other materials such as polyvinylchloride can damage photographs.

When it is necessary to write on photographs, inscriptions should be written in pencil along borders or on the back of photographs. It is important to use a hard surface to write on and to press lightly so as to avoid leaving an embossed impression on the print. Ink pens should never be used since they can bleed through and permanently obscure the image.

### **CLEANING AND CONSERVATION**

Surface dirt should be removed using a soft brush. More extensive cleaning and repair should be left to a professional conservator since photographs are easily damaged by moisture and solvents.

### **PHOTOGRAPHIC REPRODUCTION**

Photographic reproduction offers an inexpensive alternative to treatment by a professional conservator. The process involves taking a photograph of the original print and producing a copy. The process often involves retouching the new negative to eliminate flaws that are present in the original print.

There are a variety of commercial photography establishments that reproduce antique photographs. Most can be found listed in the Yellow Pages telephone directory.

Use caution when entrusting your antique photographs to a commercial photographic establishment. Careless handling during the reproduction process could lead to damage of your original photograph.

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Notes: 16/6, 16/2, 16/3, 16/4, 16/5, 16/1, 2/5.

## **SUPPLIERS**

University Products

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PO Box 101

Holyoke , MA

800-762-1165

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(800) 828-5539 Fax

[www.lightimpressionsdirect.com](http://www.lightimpressionsdirect.com)



## REFERENCES

For a listing of conservators in your area, please contact:

The American Institute for Conservation of Historic & Artistic Works  
1717 K Street NW  
Suite 301  
Washington, DC 20006  
(202) 452-9545  
<http://aic.stanford.edu/guide/form.html>

Note: The in-house conservation staff at The Henry Ford has developed these Preservation Fact Sheets to assist in caring for your historical materials. These fact sheets provide basic information on the care, cleaning, and handling of a particular type of artifact, referral information to other conservation organizations, and a bibliography of authoritative works. Individuals may also arrange for a private consultation with a conservator. For more information, please contact the Benson Ford Research Center at [research.center@thehenryford.com](mailto:research.center@thehenryford.com).

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