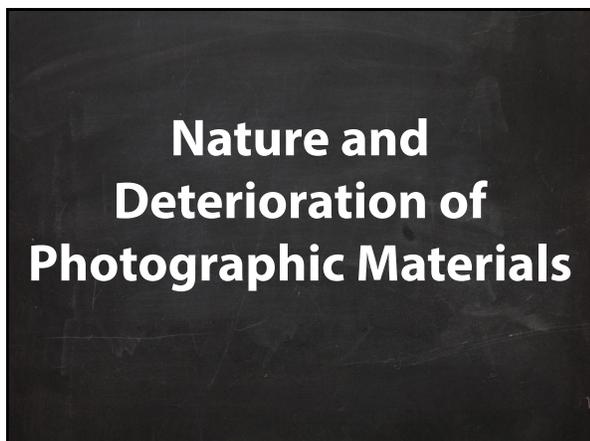


1



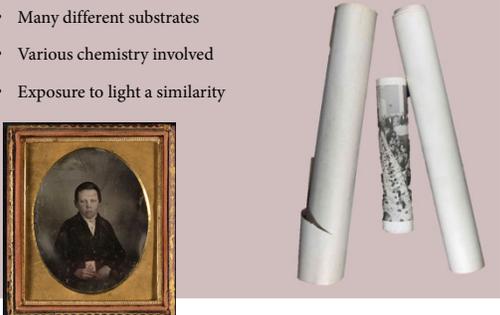
2



3

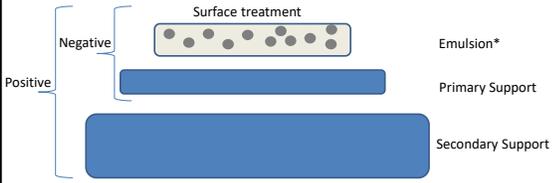
Wide Range of Photographs

- Many different substrates
- Various chemistry involved
- Exposure to light a similarity



4

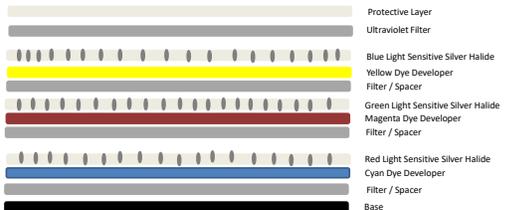
Basic Photograph Structure



*Emulsion - a binder and image material (usually silver)

5

Color Photograph Structure



6

Wide Range of Materials



- Paper
- Chemicals
- Gelatin/Protein
- Metal
- Glass
- Plastics

7

Causes of Deterioration



- Poor quality materials
- Instability of certain processes (ex: nitrate)
- Residue or unstable chemicals – poor processing
- Unstable Color Dyes

8

Poor Quality Materials

- Often used acidic material
- Becomes brittle over time
- Can break or snap when handled
- Does damage to photograph



9

Instability of Process



- Some photographic processes are particularly vulnerable to deterioration
- Nitrate film bases need special attention as they can be dangerous

10

Unstable Chemicals

- Both photographs are the same process
- Different amounts of fixer left in paper
- Both have issues but not to the same extent



11

Natural Chemical Breakdown



- Mirroring
- Silver is ionized and free to move around the emulsion; reflects visible light
- Natural chemical reaction

12

Unstable Color Dye

- Blue or other dyes fade resulting in color shift
- Chemically unstable material used
- Cold storage slows fading



13

Nature and Deterioration of Photographic Albums and Scrapbooks

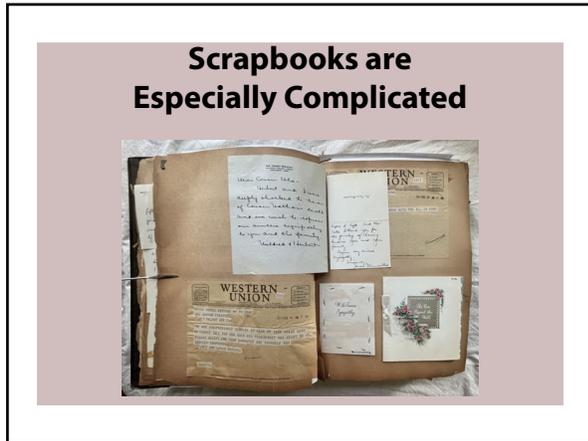
14

Materials



- Paper
- Board
- Photographs
- Adhesives
- Tapes
- Metal fasteners
- Covering materials

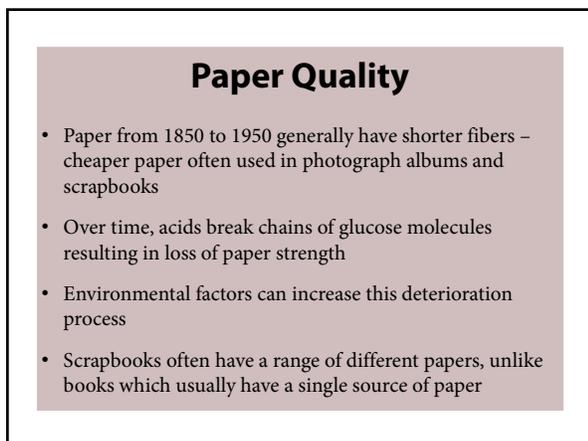
15



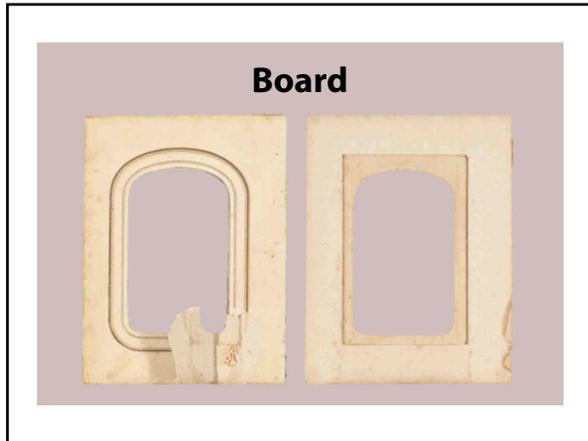
16



17



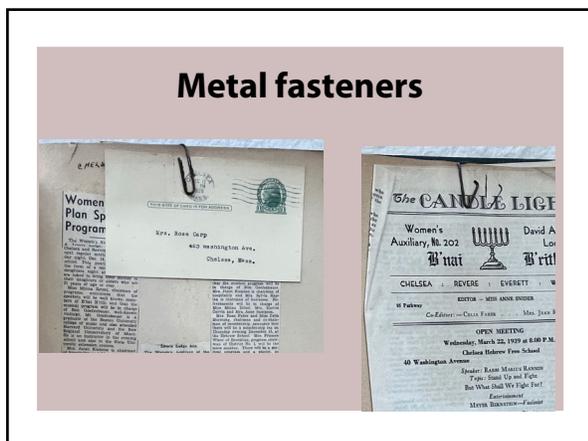
18



19



20



21

Overlapping Materials

- Objects are sometimes folded to fit volume
- Can increase the thickness of the volume, stressing the binding
- Objects can get damaged when attempting to open them
- Reformatting or imaging – difficult to capture all the information



22

Binding Structures

- Can find traditional binding structures but...
- Many tied using two holes
- Some use metal screw post
- Most restrict opening of the volume and lead to damage



23

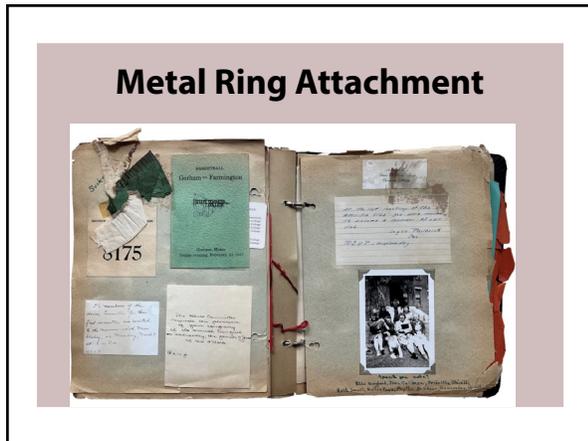
Most Photograph Albums Have Restricted Openings



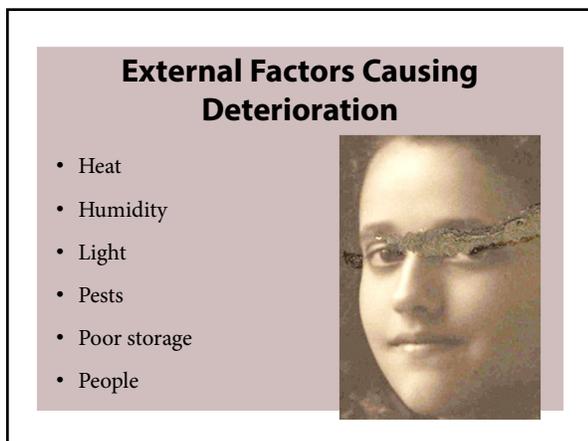
24



25



26



27

Relative Humidity



- Amount of moisture in the air compared to the total amount of moisture that could be held at that temperature
- Changes in humidity can lead to structural damage in all types of photographs

28

Light Damage



- Fading from light exposure
- Permanent damage
- Certain photos are at greatest risk – albumen prints, color photographs, etc.

29

Tarnishing



- Silver over a copper plate
- Silver tarnishes when exposed to oxygen
- Important that seals are intact

30

Animals and Insects

- Burrowing into material, eating, nesting, shredding
- Be vigilant about checking on collections!
- Pest management



31

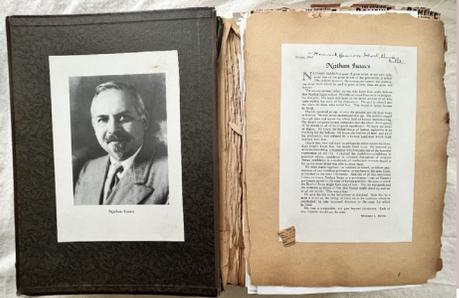
Poor Storage

- Photos rubbing against each other
- Too many objects in one box
- Different size objects jumbled together



32

Poor Handling



33



34



35

Maintaining a Steady Temperature

- Extremes in temperature can cause permanent damage, especially high heat.
- Seasonal climate changes can drastically affect your collections.
- Need to maintain a stable environment!
- Pay special attention to where materials are stored

36

Humidity

- Common photographs use a gelatin layer, which softens in higher humidity
- Photos can block or stick together



37

Blocked Photos



38

Mold

- High humidity can also lead to mold
- The emulsion layer is particularly susceptible
- Separate from rest of your collection
- Can be a serious health hazard



39

Light



- Dark storage is best
- Can minimize light exposure by limiting time exhibited
- Can also get copy made to exhibit while storing original

40

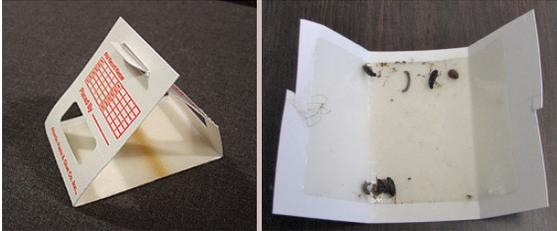
Air Quality

- Reduce air pollutants
- Some air purifiers can emit gases that are harmful to materials
- Pests are attracted by food and like dusty areas; keep collection spaces clean!



41

Pest Monitoring



42



43

Protective Enclosures for Photographs

- Paper can be a good choice
- Choose materials that have passed the Photograph Activity Test (PAT)
- Suitable plastics: polyester, polypropylene, or polyethylene
- **Do not use** polyvinylchloride (PVC)
- **Do not use** glassine enclosures

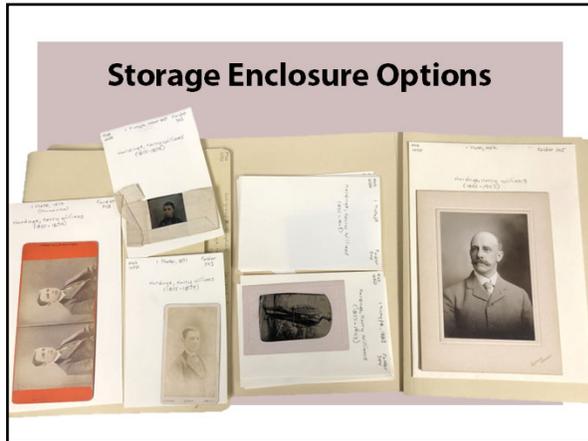



44

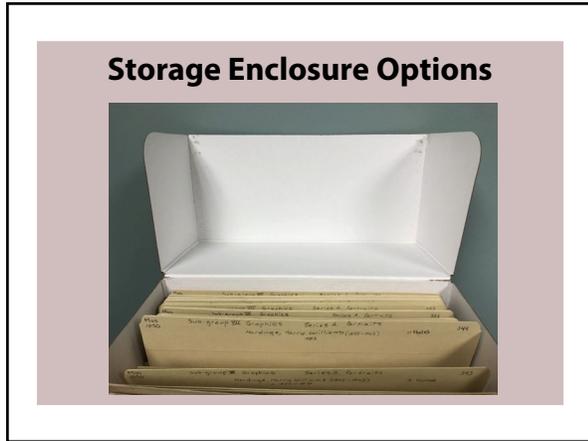
Durability and Permanence

- **Durability**
–the initial strength of materials
- **Permanence**
–the stability of those materials over time

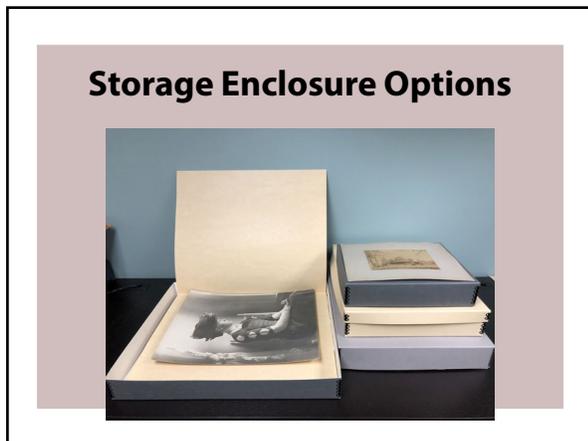
45



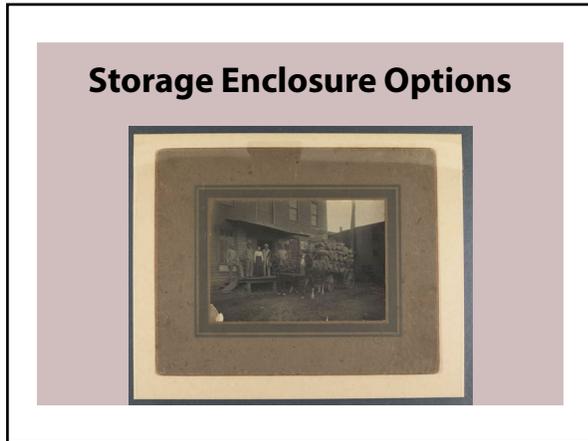
46



47



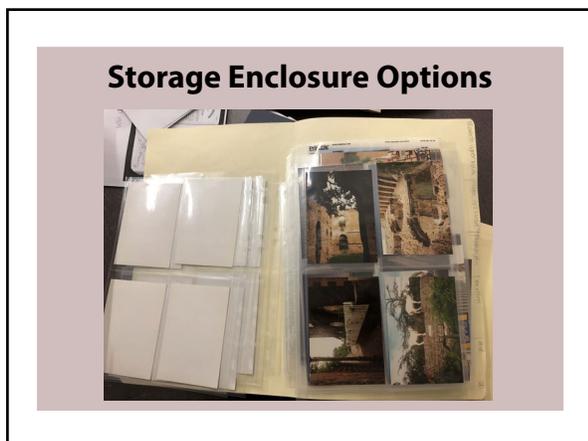
48



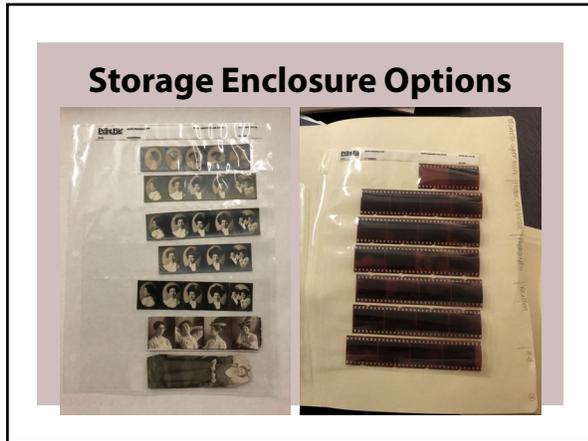
49



50

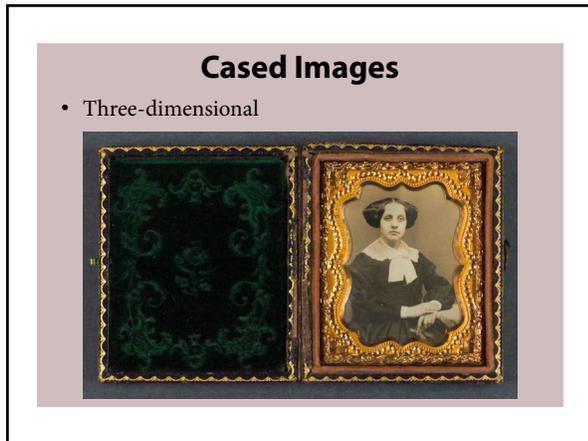


51



Storage Enclosure Options

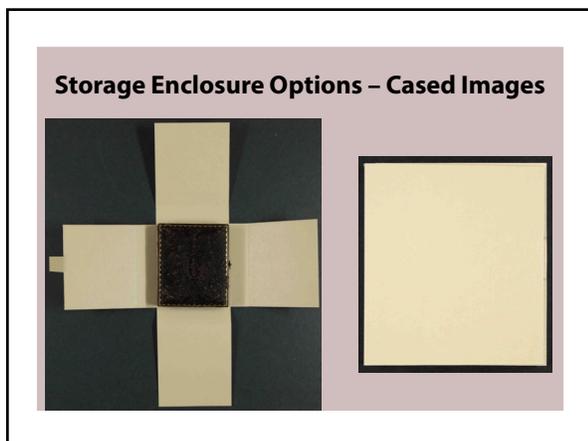
52



Cased Images

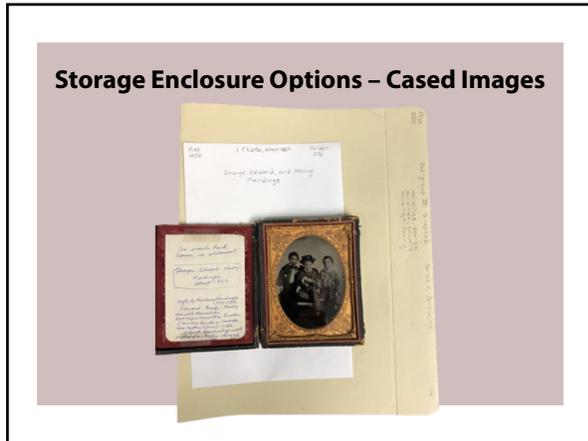
- Three-dimensional

53

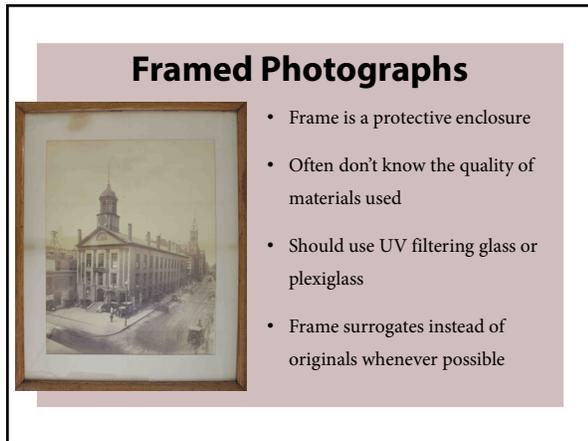


Storage Enclosure Options - Cased Images

54



55



56



57

Framed Photographs

- Make sure photographs are not touching glass
- The emulsion can adhere to glass with moisture
- Not usually possible to treat successfully – bond is stronger with glass than paper support



58

Importance of Interleaving



59

Boxes for Albums and Scrapbooks

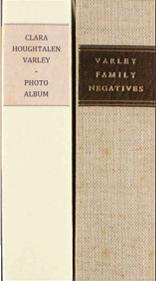
- Boxes should fit precisely to the book – needs exact measurements
- Can store other family papers in box with the scrapbook
- Can signify value
- Can label easily



60

Boxes for bound materials

- Different boxes have different costs
- Phase boxes often constructed from one piece of material
- Cloth-covered drop spine boxes are more expensive
- Can send a message about importance of material enclosed



61

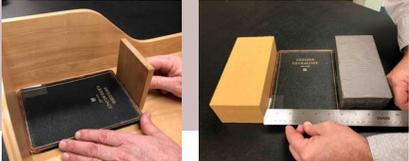
Storage Options



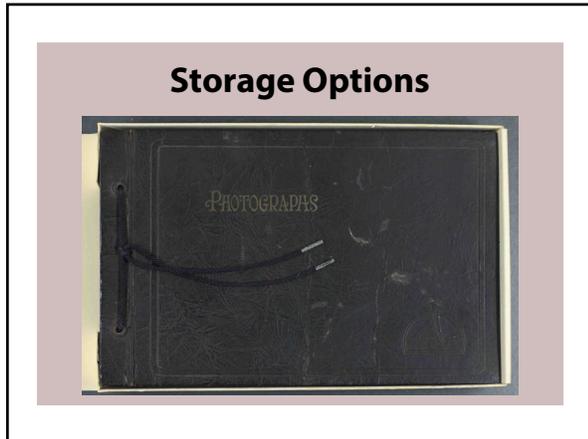
62

Measuring

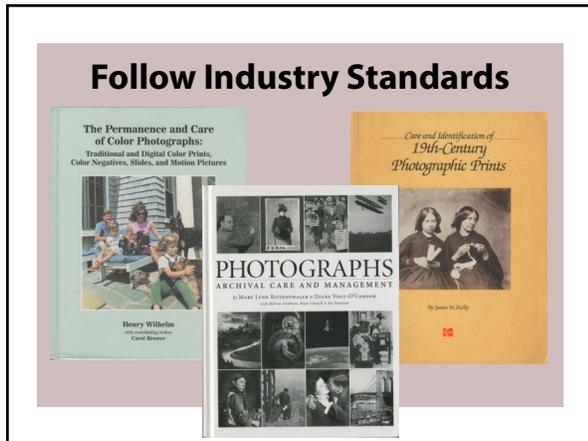
- Need exact measurements
- Books are not always square, but boxes are
- Devices for measuring with sliding ruler
- Can use any square material and a ruler



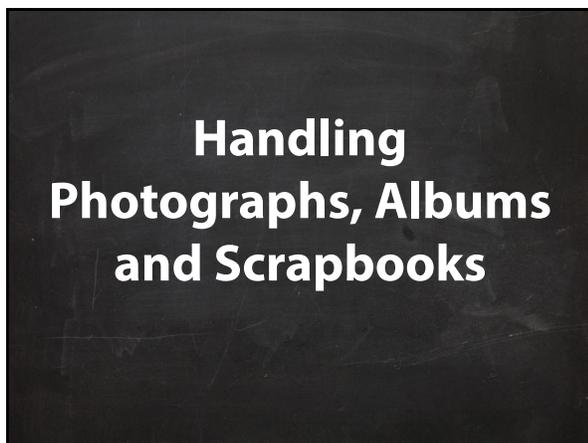
63



64



65



66

Gloves and Hand Washing

- Clean hands are good for most materials **BUT...**
 - Photographs are an exception as trace oils from skin can cause damage
 - Wear form fitting gloves – not cotton
 - Avoid touching image areas



67

Albums and Scrapbooks



- Albums and scrapbooks tend to open poorly
- A wide range of materials—often fragile or brittle
- Photos may be poorly adhered and easily damaged as pages are turned

68

Cradles

- Use cradles for bound volumes that do not open well
- Check for reasonable opening—every album is different— **Don't force it to open flat**
- Commercial cradles – but can use clean towels or pillows



69



70



71

Reformatting

- Distribute copies as widely as possible to make sure information is preserved
- Many ways to capture information, especially with increased quality in camera phones and low-cost flatbed scanners
- May need to take Scrapbooks apart to capture all information safely
- Especially fragile items may require professional imaging

72

Reformatting



- Information on pages and photos
- Often information on verso
- Photos can be slipped out
- Potential for damage to photo and album if not done carefully

73

Reformatting



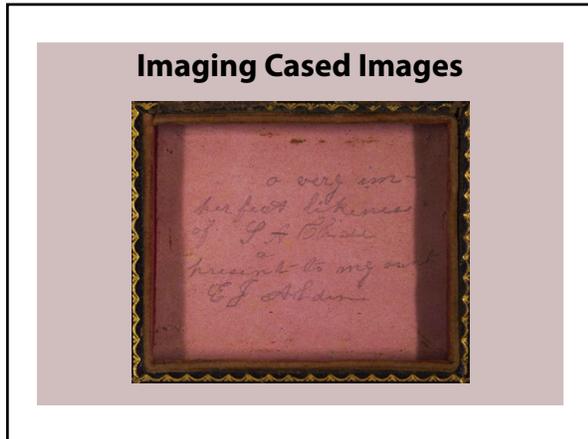
74

Imaging Cased Images

- Can have information on back of photo or case
- Packaged image removed from case



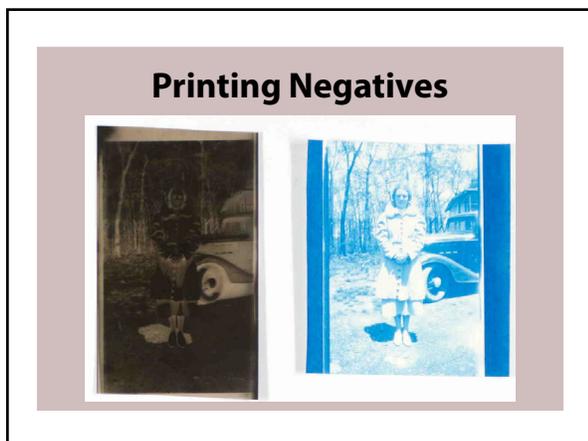
75



76



77



78



79

Overlapping Materials

- Objects are sometimes folded to fit volume
- Objects can get damaged when attempting to open them
- Can be difficult to capture all the information
- May need multiple images of one page

80

Conservation

- Why are you considering conservation?
- Why is the object important?
- Will conservation treatment achieve the desired outcome?

81

Physical and Ethical Considerations

- You are changing the original artifact—need to document that process
- Items are at greatest risk so the conservator should be trained in that specialty
- Proper materials are essential
- Doesn't solve all preservation issues
- Treatments are not always reversible

82

Cleaning

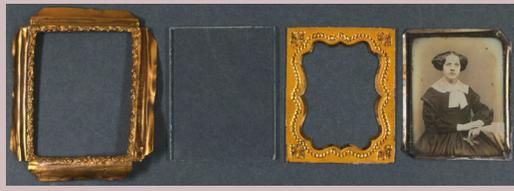
- Should only clean with a soft brush
- Any moisture can damage some photographs
- **Never** clean daguerreotype plates!



83

Cased Images

- Multiple parts work together: preserver, glass, mat and image plate
- Seals need to be replaced



84

Cased Images

- Important that all edges are covered
- Keeps oxygen out
- Use special tapes
- Can clip images and glass to hold together



85

Flattening Rolled Photographs

- Unroll a small part at a time to check image
- Humidify before trying to flatten



86

Flattening Rolled Photographs

- www.srmarchivists.org/resources/preservation/preservation-publications/how-to-flatten-folded-or-rolled-paper-documents/
- www.postalmuseum.si.edu/collections/preservation/flattening-documents.html



87



88



89



90



91

Documentation

Conservation Treatment Report

Item: Unidentified School Photo on board

Dimensions: 356 x 431 mm

Conservator: Todd Pattison

Completion date: 12/5/2019

Condition before treatment:
 The object is housed in two plastic sleeves that are smaller than the object. The photograph is adhered overall to an acidic and brittle mounting board that has a paper layer on the recto with embossed and printed decoration. The mounting board is brittle and has broken in half horizontally; there are losses at the edges that are also the result of the brittle board breaking. The photograph is torn horizontally and is now in two pieces; damage that corresponds to the break in the mounting board. There are small losses to the emulsion layer of the photograph along the horizontal tear. There are pressure-sensitive tape repairs to the mounting board on both the recto and verso; the tape may be filmoplast or similar "archival" tape. There is no information on the verso of the mounting board.

Treatment performed:
 The object was lightly dry cleaned. The photograph and top paper layer were mechanically removed from the board. Tears in the photograph and paper layer were mended with Japanese paper and wheat starch paste. The brittle mounting board was replaced by two layers of 20 point Bristol and the paper layer and photograph were adhered with wheat starch paste. The treatment was documented photographically and in writing. The mounted photograph was returned in a new folder.

92

Taking an Album or Scrapbook Apart

 An open photo album. The left page is filled with several small, rectangular photographs of various scenes and people. The right page features a large, oval-shaped portrait of a young woman with dark, wavy hair, wearing a dark dress. The album is bound in the center with three metal rings.

93

Taking an Album or Scrapbook Apart

- Inclination is always to keep an item together
- Condition: Is it falling apart? Are the photos well attached? Is the binding intact?
- Are there threats present that will continue to damage the items within?
- Is it much safer to handle as individual pages or items?

94

Disbinding and Boxing Scrapbooks

- Can better contain loose material
- Folders can be used to turn pages, minimizing the possibility of damage
- Disbinding and foldering can make it much easier to reformat



95

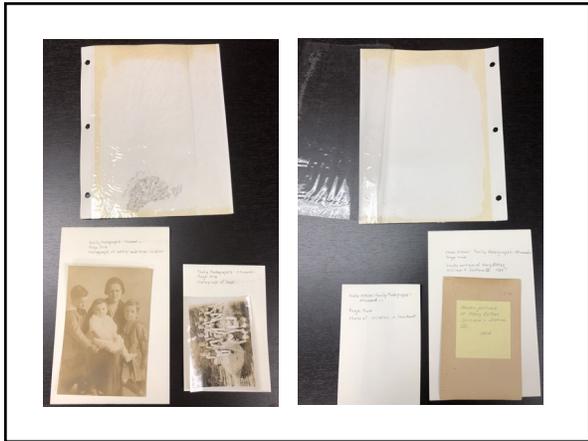
Documenting the Order

- Photograph each page (including front cover, inside front cover, inside back cover, back cover)
- Place pencil number on every page or leaf
- Use sub-numbering system for loose materials
- Have storage supplies ready if possible
- Make note of loose items

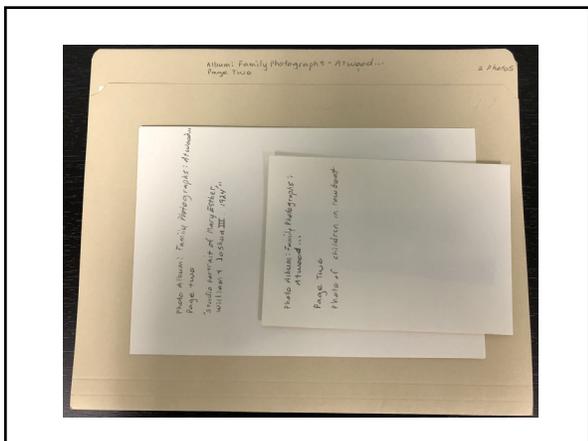
96



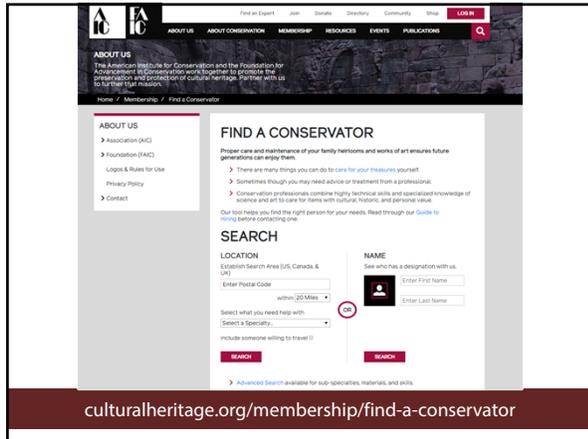
97



98



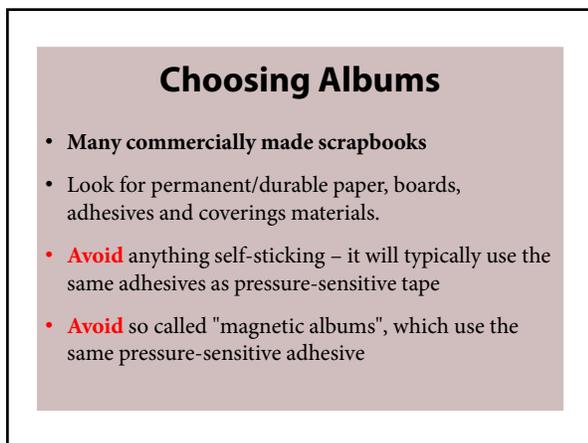
99



100



101



102

Photo Corners



- Can be used on more than just photos
- Allows for attachment with easy non-damaging removal
- Commercially made but also easy to make
- Can also use envelopes and pockets

103

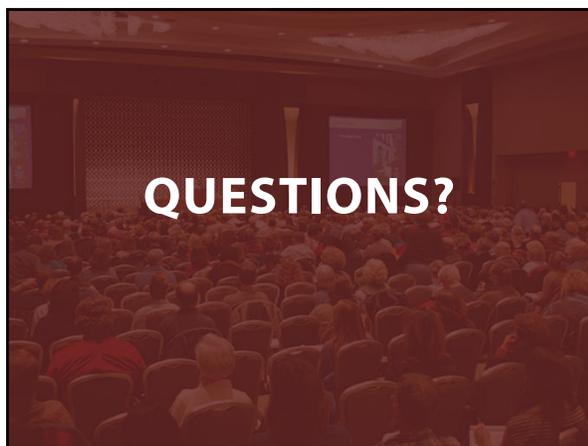
Plastics

- Often contained in commercially available scrapbooks
- If you have to use plastic: polyester, polypropylene, or polyethylene
- **Do not use** polyvinylchloride (PVC)



Plastic deterioration

104



QUESTIONS?

105



106



107



108



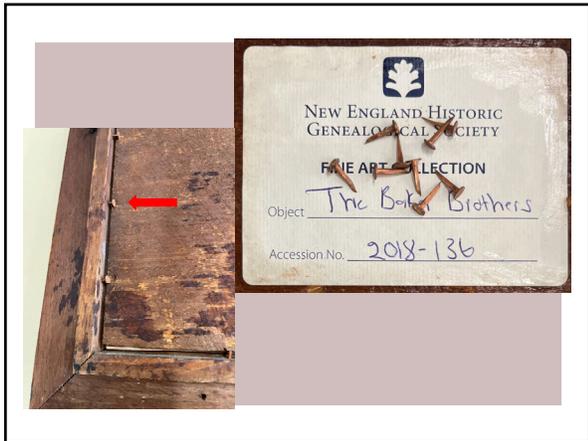
109



110



111



112



113



114



115



116



117



118



119



120



121



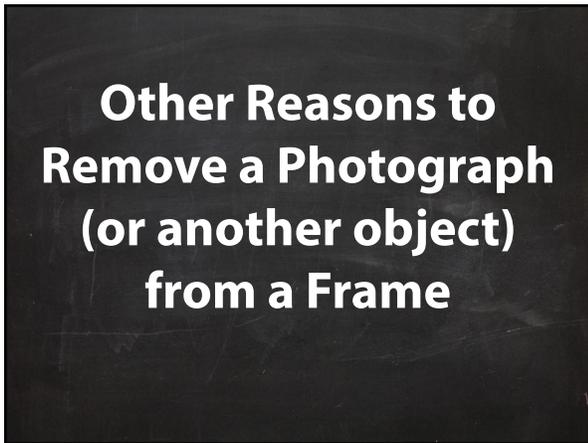
122



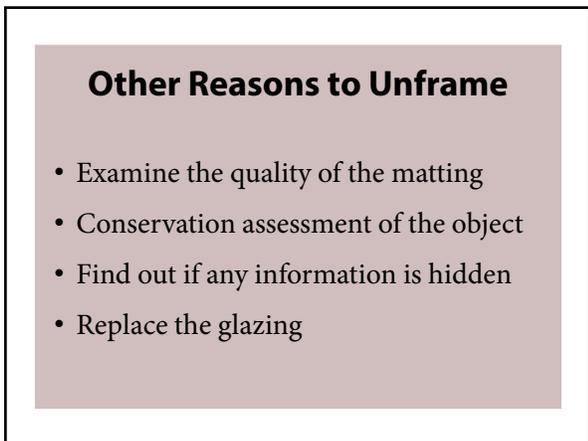
123



124



125



126



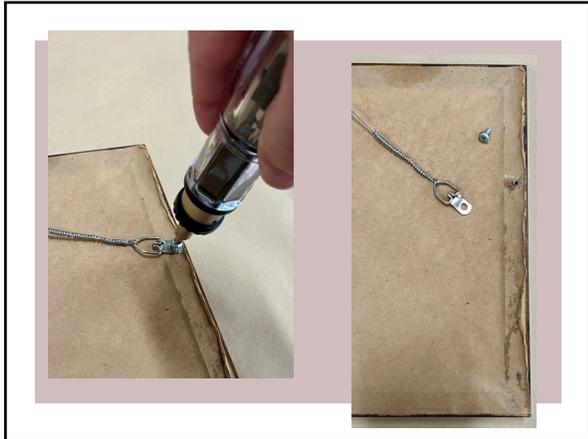
127



128



129



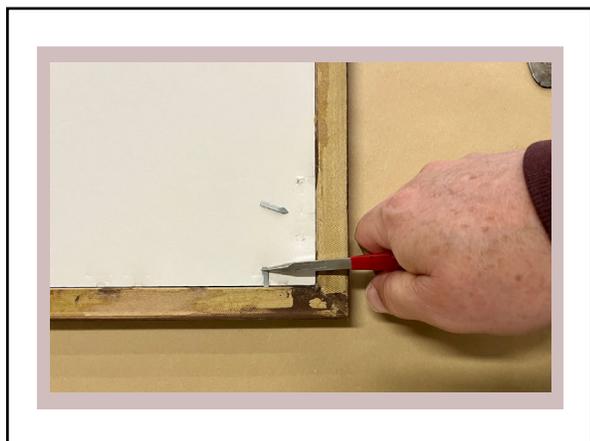
130



131



132



133



134



135



136



137



138



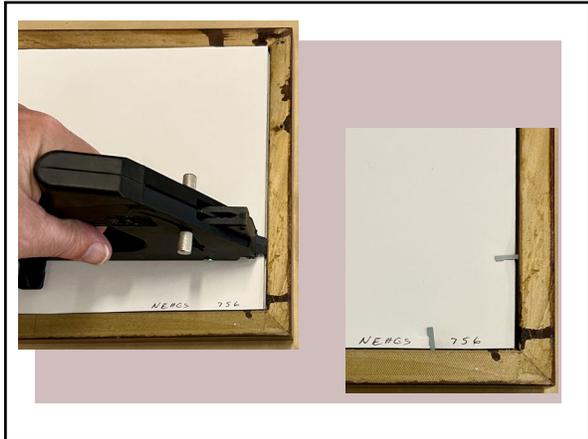
139



140



141



142



143



144



145



146



147
