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DOCUMENTARY HERITAGE
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FOR NEW YORK

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DOCUMENTARY HERITAGE
& PRESERVATION SERVICES
FOR NEW YORK

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Common Collection Conditions:

ASSESSING THE CONDITION OF YOUR
COLLECTION'S HOUSING

PRESENTED BY THE
CONSERVATION CENTER FOR ART AND HISTORIC ARTIFACTS
BEN ILUZADA

Identifying Common Issues in Your Collection

There are several common issues that plague collections of all sizes. They fall into four general categories:

- Pests
- Ambient Conditions
- Object Related
- Housing Related

Factors of Deterioration

The four general categories overlap with most of the ten factors of deterioration, most notably:

- Relative Humidity/Temperature
- Light
- Pollutants
- Pests
- Mold

*adapted from Andrews 2009

Checking for Issues in the Environment

When you are going through our collection, it is important to be vigilant about looking for any potential threats and damages. Things to look for are:

- Look for any traces of insects/rodents
- See if the storage space feels too hot or too cold
- Look for leaks or cracks in the building/infrastructure, or any other places moisture could get in or signs that things have shifted/moved
- Look for any visible signs of mold or condensation build up

Prioritizing Issues

All the issues discussed in this power point are in the high priority category. That is, they are issues that will continue to get worse and further damage the artwork if not addressed

Pest Issues within Framed and Matted Objects

HOW TO IDENTIFY PROBLEMS, AND SOLUTIONS FOR REMOVING
DAMAGING DETRITUS

Did you find insects, larva, and/or insect frass inside of an object's frame or housing?

Insects can cause a lot of damage to objects even after death. As they decay, they release volatile organic compounds that can seriously stain or destroy important items.

IN-HOUSE SOLUTION FOR IT

- Remove object from frame/housing
- Throw out all infested and damaged materials
- Check other objects that were stored nearby for similar insects
- Re-mat and reframe with a new materials and backing board



Insect infestation of varying types



Common Insects and Pests Found in Collections

More information can be found online at:

<https://museumpests.net/identification/identification-pest-fact-sheets/>



American Cockroach



Silverfish



Museum Beetle



Book Lice



House Centipede



Furniture Carpet Beetle

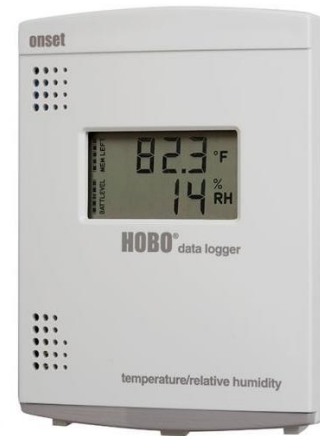
Ambient Atmospheric Issues

ENVIRONMENTAL PROBLEMS WITHIN THE STORAGE SPACES
CAN LEAD TO DAMAGE IN OBJECTS THAT ARE NOT HOUSED IN
SEALED MICRO-ENVIRONMENTS

Is the temperature and/or humidity of the storage area too high or low?

It is important to keep your collection stored in a space that does not have large fluctuations of temperature or relative humidity. Changes like that can lead to mold growth, rust, object distortion, and other issues.

- Keep your space at a consistent temperature
- Monitor your environments with strategically placed temp/rh data loggers
- Stabilize sealed units with silica gel or other conditioning units



Relative Humidity (RH) & Temperature Guidelines

- Ideal RH is 50% with +/-5%* but is different for each object.
- Ideal Temperature is 21 degrees Celsius (70 F) +/- 4 degrees Celsius*
- Paper objects reach equilibrium with the RH and Temperature of their environment over time
- Rapid Changes in RH and temperature can cause distortion in artwork substrates, flaking of media, or hinge or mount failure
- RH over 65% will result in microbiological activity – making mold growth possible

*<https://www.si.edu/mci/english/research/consulting/MuseumEnvironment.html>

Is moisture/condensation a problem in your space?

Leaky pipes and cracked foundations are signs of larger infrastructure issues. Be sure to keep an eye out for them as you are in your storage facility.

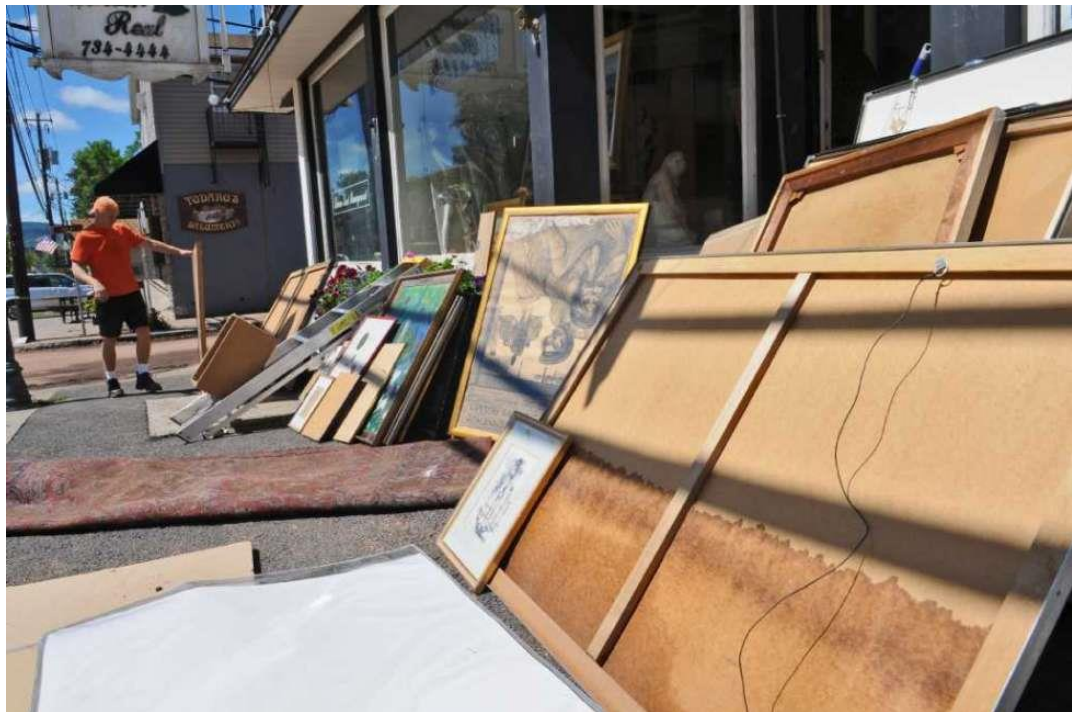
- If you find water, clean it up and dry the area as soon as you can. Look for the water's origin, a leaky pipe or drain, air duct, etc.
- Take preventative measures to limit further condensation (adjust heat/air conditioning, run dehumidifier)



Solutions for Moisture Damaged Objects & Housing

FOR DAMAGED OBJECTS:

- Consult a conservator



FOR DAMAGED HOUSING

- Remove from environment that created damage
- Isolate artwork from other objects if moldy
- If object is undamaged, re-mat and reframe with new materials, and store away from contaminated space

Dirty Storage Conditions?

- Sometimes storage locations are not always in ideal locations, especially in older historic buildings.
- Places like attics or basements can be prone to the accumulation of dust and dirt over the years and should be regularly cleaned to combat this issue.
- Long periods of neglect can have serious lasting consequences, especially if objects are housed in older or acidic materials.



Object Related Housing Issues

PROBLEMS AND SOLUTIONS RELATING AN OBJECT DIRECTLY



How to Identify Object Related Issues

- Is the object visibly damaged?
- Is there mold or insect detritus directly on the object?
- Is there tape directly in contact with the object?*

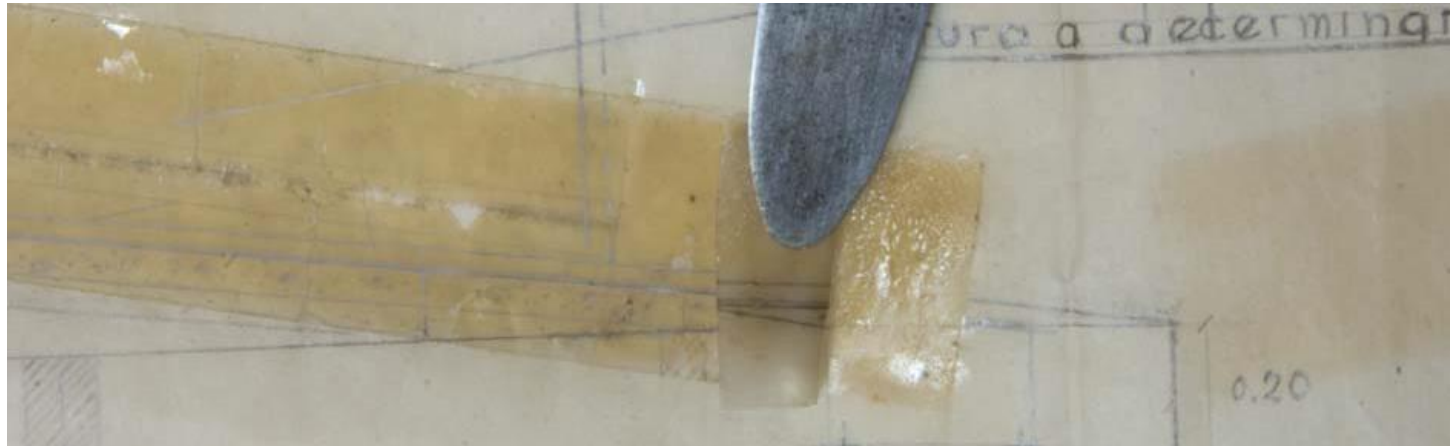
If yes to any of these questions, DO NOT ATTEMPT TO FIX THEM.

Contact a conservator for a consultation and treatment.

**How to Tell if Tape is on an Object

Self-adhesive tapes has been a common form of mending and hinging objects for decades. Unfortunately, the people who used them don't always know how acidic and damaging different kinds of tapes can be. Some signs that tape was used are:

- Visible staining from tape adhered to artwork, mat board and backing board. Usually in rectangular shape.
- Objects cannot be separated safely because of tape or adhesive keeping them together



All problems that directly involve objects should be handled by conservators who are specially trained to treat damaged objects.

Housing & Framing Issues

PROBLEMS AND SOLUTIONS RELATED TO AN OBJECT'S
HOUSING CONDITIONS

Is an Object Askew in its Mat and/or Frame?

If an artwork has noticeably shifted in its matting, or a float mounted artwork is pulling away from back mat and is in contact with the glazing, then that means its hinges or mountings have failed.

IN-HOUSE SOLUTION:

- Unframe and re-mount artwork using non-adhesive mounting (photo corners, edge strips)

PROFESSION SOLUTION:

- Contract preservation framer to re-mount with mulberry paper hinges and wheat starch paste



Edge strips made from Permalife (or other PAT passing papers) along the perimeter of an object secure it in place without the need for dangerous pastes or adhesives directly in contact with the object

Is There Visible Yellowing on the Mat or Artwork?

Acidic and poor-quality mat board can lead to yellowing and acidification over time. It will be especially noticeable on the bevel of the mat board, and potentially will leave a distinct "mat burn" or discoloration of the object in direct contact with the mat.

IN-HOUSE SOLUTIONS:

- Remove from matting and store in alkaline folder or box.
- Re-mat artwork using 100% rag board (best) or virgin alpha cellulose (acceptable) mat.

PROFESSIONAL SOLUTIONS:

- Contract preservation framer to re-mat with museum quality mat board
- If mat burn is an issue, contact conservator for consultation



Different Kinds of Mat Board

- ❖ Museum Board: made of 100% cotton rag
- ❖ Conservation Board: made with virgin alpha-cellulose
- ❖ Acid-Free Board: made with buffered wood pulp **NOT SUITABLE FOR COLLECTIONS USE**

Conservation Quality Matboard

- Refined alpha cellulose or 100% cotton rag
- Lignin-Free
- Naturally non-acidic
- Zeolites: traps pollutants on a molecular level
- Buffered with Calcium Carbonate to maintain alkalinity

Regular Decorative Matboard

- Composed of wood-pulp and lignin
- Slightly buffered to alkalinity, but yellows over time
- Most common type of board, was the only kind available until the 1980s
- High chance of leaving "mat burn" on objects

Was an Acidic Backing Board Used For Housing?

Acidic backing boards are commonly used in the framing industry due to their low cost and being marketed as "Archival" or "Acid-Free." Things like foam core might have an acid-free paper liner, but the interior foam block is anything but. Over time, the acidic components off-gas and leech into the non-acidic parts, causing them to acidify. If you can identify foam core, brown cardboard, chipboard, or a wooden backing board, you should try and replace them.



IN-HOUSE SOLUTIONS:

- Remove existing backing board and replace with alkaline corrugated board, rag board, or other suitable material used in preservation housing

PROFESSIONAL SOLUTIONS:

- Contact Preservation Framer to replace backing board

Is the object housed poorly?

Sometimes objects were housed by well-intentioned people with no housing experience or were housed in very precarious/dangerous ways. This can be anything from matting art with glue, leaving out the backing board, and beyond. People's creativity when it comes to dangerous matting and framing continues to surprise conservators around the world to this day.

IN-HOUSE SOLUTIONS:

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- Re-mat artwork using 100% rag board(best) or virgin alpha cellulose (acceptable) mat.

PROFESSIONAL SOLUTIONS:

- Contract preservation framer to re-mat with museum quality mat board



Does the Object and/or Mat Look Faded?

If there is noticeable fading of the artwork or mat board, you could be looking at UV light issues. If the glazing is glass, visible bubbles and specks indicates that it predates UV filtering technology. Some acrylic glazings are made to be UV filtering, but a vast majority are not.



IN-HOUSE SOLUTIONS:

- Keep object away from windows and other UV light sources
- Replace glazing with UV filtering acrylic

PROFESSIONAL SOLUTIONS:

- Contract preservation framer to switch out glazing with UV filtering acrylic

Are There Any Cracks in the Glazing?

Cracks in glass are dangerous for objects stored in frames, as it can shatter and damage the art. Acrylic is much safer and less likely to shatter in a manner that will directly gouge or scratch the object.



IN-HOUSE SOLUTIONS:

- Replace with UV filtering acrylic glazing in-house

PROFESSIONAL SOLUTIONS:

- Contract preservation framer to replace glazing with UV filtering acrylic

Is the Object Touching the Glazing?

Sometimes an object's substrate will warp, and the artwork will end up physically touching the glazing. This can be dangerous as media can be transferred from artwork to glazing, resulting in visible media damage. If the object is noticeably damaged, contact a conservator.

IN-HOUSE SOLUTIONS:

- Remove from frame and store.
- Add spacers between artwork and glazing in-house

PROFESSIONAL SOLUTIONS:

- Contract preservation framer to alter housing:
 - Add spacers, replace frame with a new frame with deeper rabbet
 - Alter existing frame to accommodate added depth of spacers



Is the Frame Coming Apart at the Seams?

Over time, even the well-made frames can start falling apart. This can lead to visible gaps in corners of frame or cracks starting to form. Another tell-tale sign is that the frame feels structurally unsound (i.e. corners are loose).

IN-HOUSE SOLUTIONS:

- Remove object from frame.
- Store flat until it can be re-framed in new frame

PROFESSIONAL SOLUTIONS:

- Consult Frame Conservator to repair frame
- Replace Frame



Does the Frame's Hanging Hardware Look Worn?

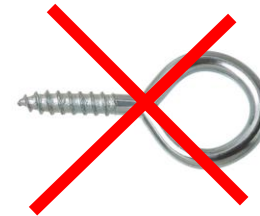
Sometimes the hanging hardware and wires that were used can wear out. I-Hooks can come loose, and old wire can fray or snap. Hanging Hardware failures can be very dangerous, so be sure to check them every so often and see if they need to be replaced.

IN-HOUSE SOLUTIONS:

- Replace hardware with small or medium D-rings if possible
- Replace old wire with plastic-coated and braided hanging wire of suitable weight capacity

PROFESSIONAL SOLUTIONS:

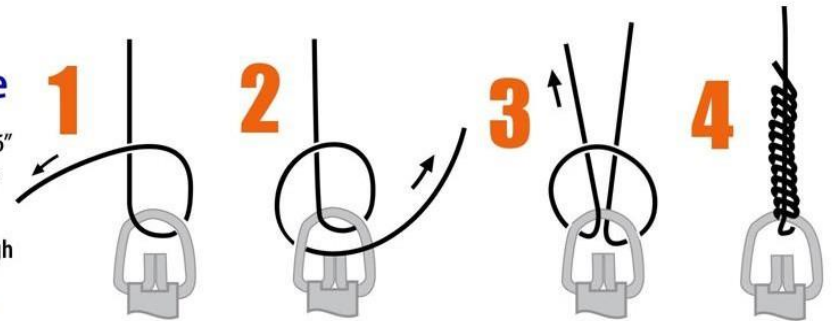
- Contact framers to replace hanging hardware



Tying Wire

Cut a piece of wire 4- 6" wider than the frame.

Loop one end of wire about 2 inches through D-Ring and follow wire tying steps 1-4.



In-House Resources

Recommended In-House Matting & Framing Tools

A list of items that are helpful for institutions or collections to have to re-mat and re-frame objects.

Tools

- Needle nose pliers
- Wire cutters
- Screwdriver & screws of various sizes
- X-acto knife
- Micro-spatula
- Tape measure
- Carpet scraps
- Easel
- Cloth covered weights
- Framing point driver
- pH Pen

Materials

- Permalife
- Microchamber Paper
- 10pt / 20pt buffered & unbuffered barrier board
- Alkaline corrugate board
- Mylar / inert polyethene film
- Plastic coated & braided picture hanging wire

Where to Source Preservation Materials

Some local and regional sources for the North Eastern United States. Some companies ship nationally and internationally.

Places That Have Everything for framing

- Don Mar Frame & Moulding
- Omega Moulding

Matt boards & Backing boards

- Talas
- Gaylord Archival
- University Products

Glazing

- Everything Plastics

Handing Hardware

- Amazon

Conservator Listings

- Your local ICA or AIC chapters

Paper & interleaving

- Talas
- Conservation Resources

Pre-made Boxes

- Holliner Metal Edge
- Talas

Other great DHPSNY webinars to watch for more information about common issues in collections' housing:

- ❖ [Collections Care Basics](#) (November 10, 2016)
- ❖ [Housing Material Basics](#) (February 20, 2018)
- ❖ [Introduction to Integrated Pest Management](#) (April 6, 2017)
- ❖ [Lighting: Beyond Standards](#) (April 30, 2020)
- ❖ [Mold: Prevention, Detection, and Response](#) (February 5, 2018)
- ❖ [Temperature & Relative Humidity in Collections Care](#) (March 12, 2019)

Thanks for tuning in!

FOR ANY ADDITIONAL QUESTIONS OR RESOURCES,
VISIT:

- [HTTPS://CCAHA.ORG/RESOURCES](https://ccaaha.org/resources)
- [HTTPS://DHPSNY.ORG/RESOURCES](https://dhpsny.org/resources)

You can also reach me for questions at:

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