

# CARING FOR WATER DAMAGED PAINTINGS

A GUIDE FOR ARTISTS

Rustin Levenson Art Conservation Associates

As the creators of works of art, artists have the discretion to revise or rework their pieces in their possession.

- The steps described below are outlined for artists who have had work damaged by a water emergency or an outbreak of mold.
- As in all cases with care of paintings, proceed with caution and test the work in very small local areas before every step.
- If you have any questions or concerns, stop work immediately and call a conservator.

# Safety tips!

- Practice *sterile technique* when dealing with a mold outbreak. Masks and gloves are a must. Change them often. Paper suits may also be used, especially if there is extensive mold.
- If it is suspected that the mold is toxic, a decontamination company should be employed to test and remove mold.
- **Cover surfaces with plastic sheeting and discard after each work to avoid cross-contamination.**
- Dispose of gloves, paper towels, and other working materials often, sealing in a plastic bag.
- Clean the vacuum brush often with a mixture of 70% alcohol: 30% distilled water.

# As soon as possible

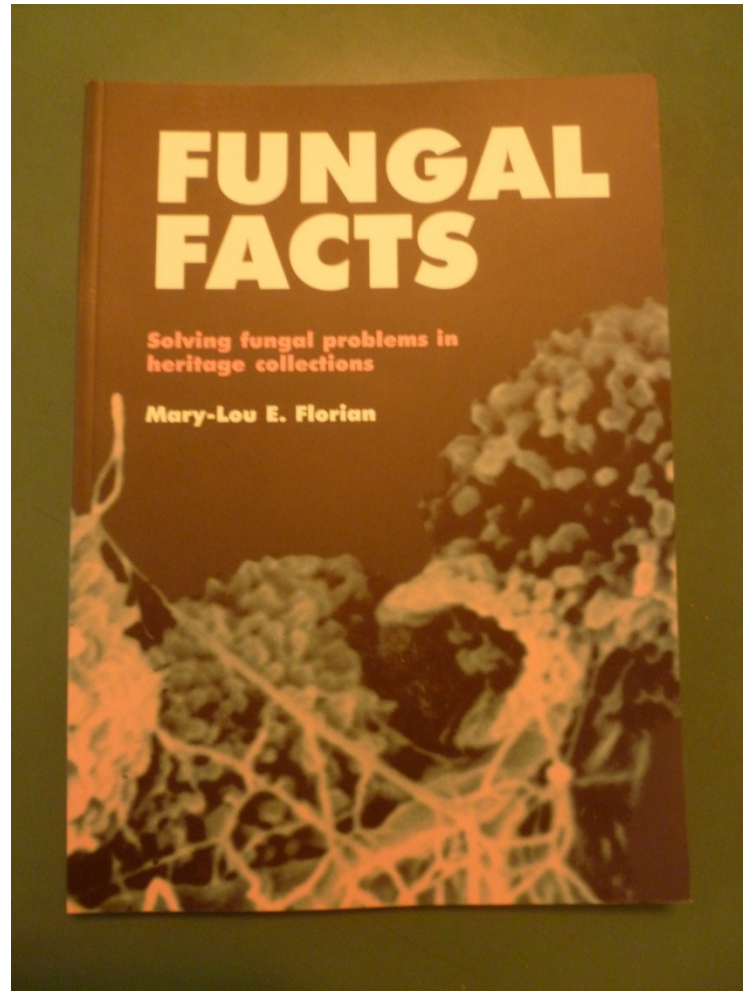


Blot excess water with plain white paper towels. (Viva brand if available)

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Once works have been exposed to water, there is danger of mold

An excellent resource  
for non-scientists:  
*Fungal Facts*  
By Mary Lou Florian



# Understanding Mold Growth

## Basic Facts

### Dormant State

Mold spores are everywhere.

### Activation State

Some of the factors that activate mold spores are:

Temperature variations

Humidity variations

Chemicals

Ultraviolet exposure

### Germination

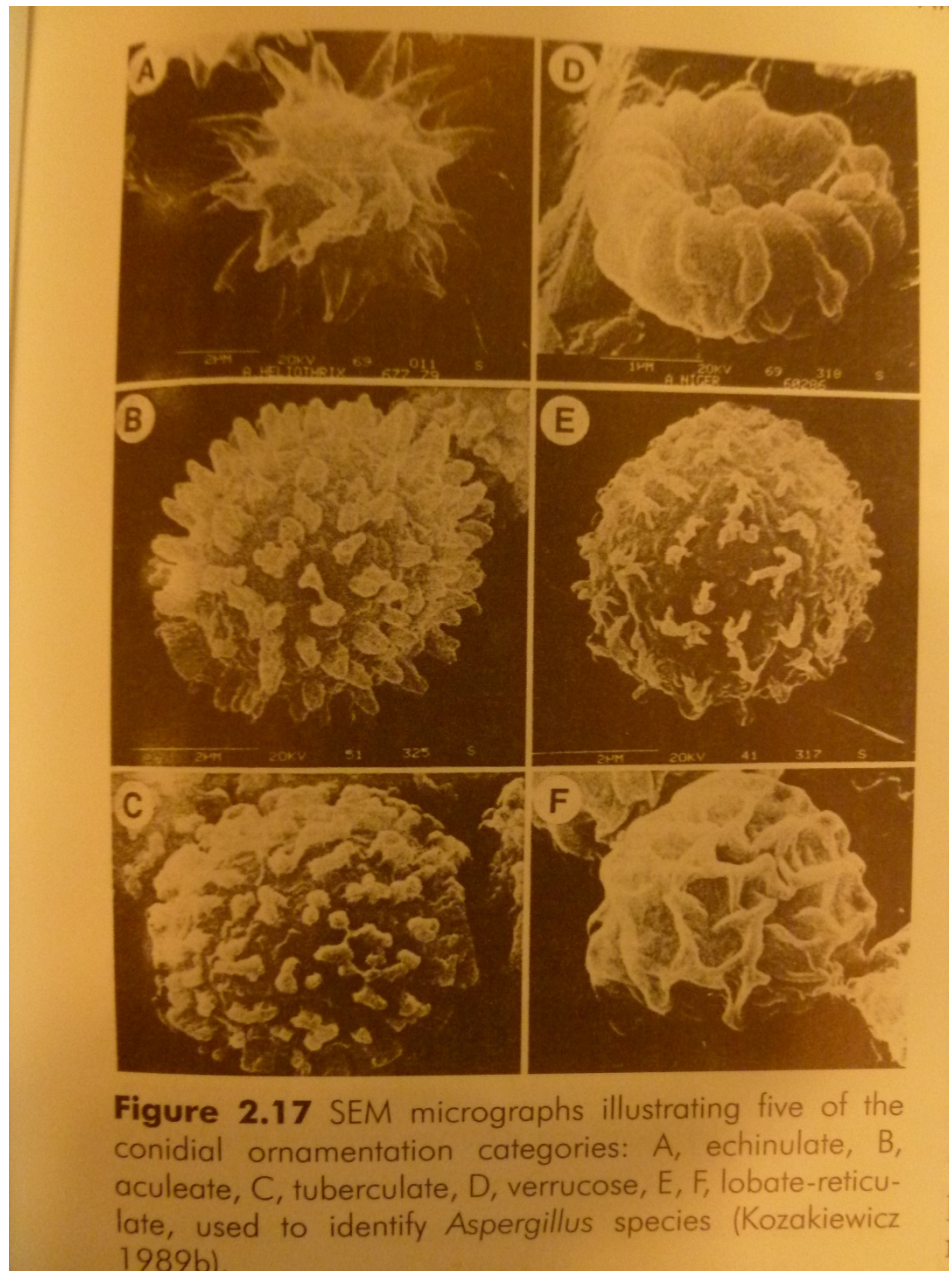
Germination occurs where there is adequate ambient moisture (high humidity after a flood).

# Once mold has Germinated

- Hyphae (the thread-like filaments that are the main form of vegetative growth) form and penetrate into the painting structure.
- **Discoloration** from mold comes from the pigments in the hyphae.

# MOLD

The most common type of mold on works of art is *Conidida*. These images were made with a scanning electron microscope.



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From  
*Fungal Facts*



# Initially mold can exhibit many colors



Once it has dried out, it becomes brown.

# Safety

N-95 Masks

Nitrile Gloves

Masks, gloves, and disposable suits, if needed, are available at hardware stores.



Other resources:

Cone Shaped N95 Particulate Respirators

<http://fluarmour.com/products>

Exam Gloves, powder free

<http://www.glovenation.com>

# TREATMENT FOR MOLD

ON THE REVERSE OF THE PAINTING

First step:  
Vacuuming the reverse of the painting  
Using a HEPA Vacuum Cleaner

Even if there is no mold visible, there may be *activated* spores. Each work should be vacuumed.

If the suction of the vacuum cleaner is too strong, tape a coffee filter or paper towel over the nozzle.



A vacuum cleaner with a HEPA (High Efficiency Particulate Air) filter will prevent mold recontamination through the exhaust of the vacuum cleaner.

Use a furniture brush nozzle to avoid pressure on the reverse of the painting.

The vacuum cleaner bags should be changed frequently and disposed of in sealed plastic bags. The furniture brush should be cleaned frequently with 70% alcohol/30% water mix.

# Removing grime and mold **only from the reverse** **of the painting** with Absorene sponges



Absorene Sponges are made of vulcanized rubber. Grime is “pulled into” the sponge and will not be easily re-deposited.

<http://www.absorene.com/drycleaningsootsponges.html>

# Mold behind the stretcher bar



# Cleaning between stretcher and canvas



A sliver of Absorene Sponge can be taped to a thin spatula to **gently** clean between the stretcher and canvas.

If the spatula causes a bulge when it is inserted between the canvas and stretcher, there is not adequate space to safely use a spatula in this way. In this case, the painting can be released from the stretcher. The tacks or staples can be replaced as they are removed with push pins. Then the canvas can be unpinned locally so there is more room to work between the canvas and stretcher in the area being treated. The canvas can be released and re-pinned as you move along. This will keep the painting under even tension as you work.







Extensive mold between the canvas and stretcher would indicate that the stretcher should be replaced



When the stretcher is removed, it will be easier to access the area covered by the stretcher.

Once the reverse has been vacuumed and cleaned with the sponge, local areas of mold can be treated with small balls of Groomstick, pressed several times into the affected area, to remove additional fungal material.



Groomstick is a non-abrasive, absorptive molecular trap available from Talas.

<http://www.talasonline.com/>

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# Mold treatment: Mix 30% distilled water and 70% Ethanol or Isopropanol



A sprayer from a hardware store can be used at a distance of about a foot to *mist* the solution onto the back of the painting and stretcher. If the painting is very sensitive in water, spraying should be done *very lightly* so the moisture does not penetrate the canvas.

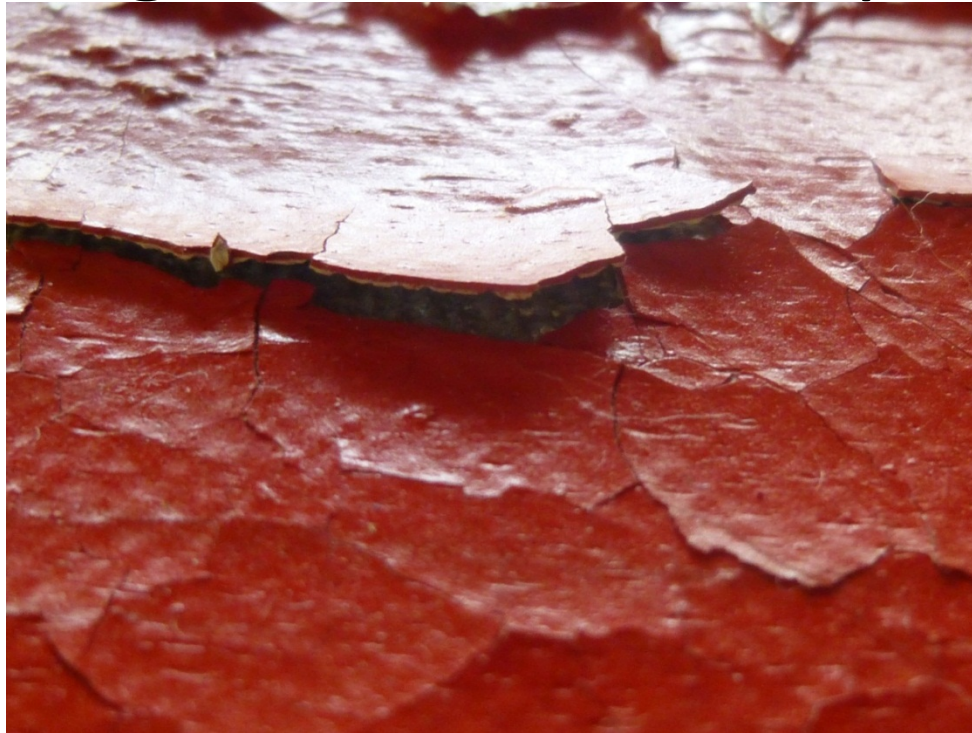
Further treatment of local mold spots on the reverse can be done using the solution on a swab or small brush. The solution should not be used on the face of the painting without checking with a conservator, as it could affect the paint surface.

# Working on the face of the painting

# Mold can also affect the face of a painting



# Check for lifting or flaking before treating the face of the painting



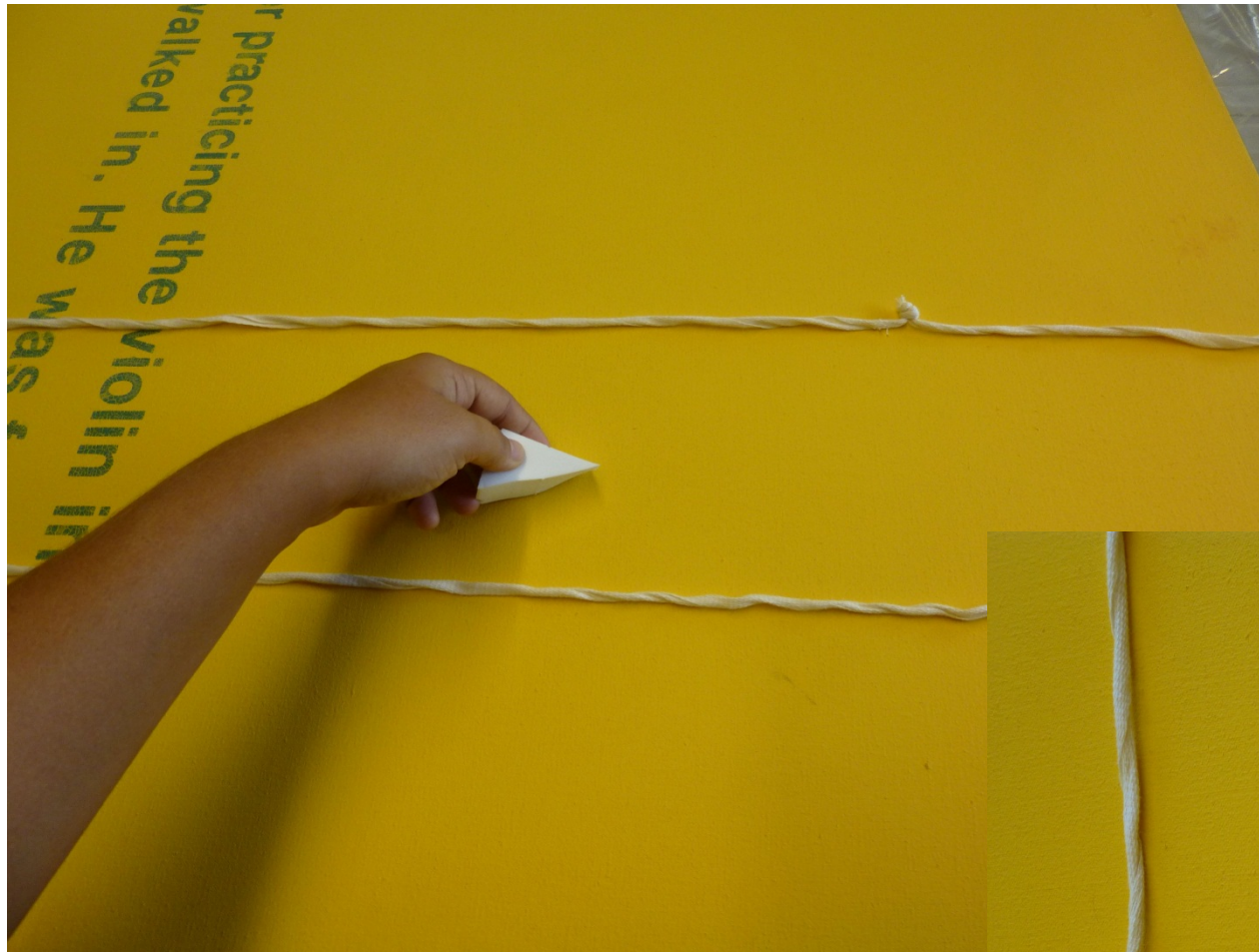
Lifting paint can be obvious as at the top of the photograph, or more subtle like the “tenting” paint at the bottom. If in doubt, check with a conservator. Do not treat the surface of a painting that is flaking. Store that painting face up so flakes will not be lost and call a conservator.

Dusting the face of the painting: First dust into a HEPA vacuum cleaner nozzle to avoid spreading mold spores.



Use a Sponge brush: Available at any hardware store, easy to discard!

## Further cleaning can be done with a low density sponge



Unlike the Absorene sponges, once the low density sponges are dirty, they cannot continue to be used and should be discarded.



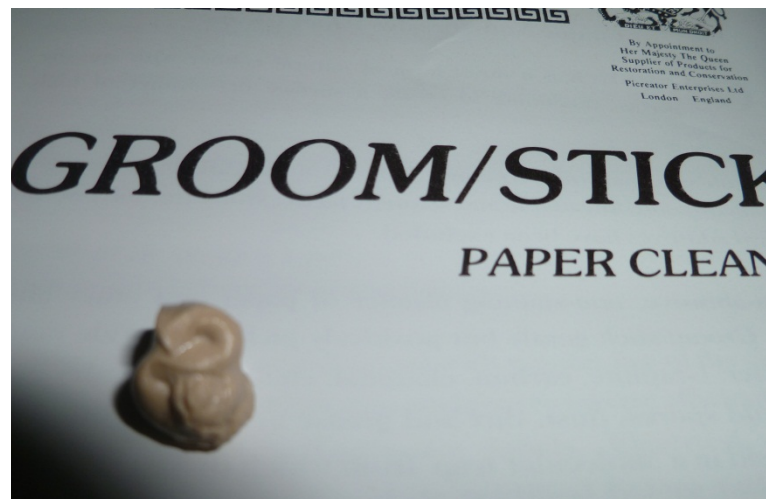
<http://www.kosmetech.com/item.asp?idProduct=444&idCategory=11&idSubCategory=11>



Use strings to help keep track of where you have worked while you are cleaning.

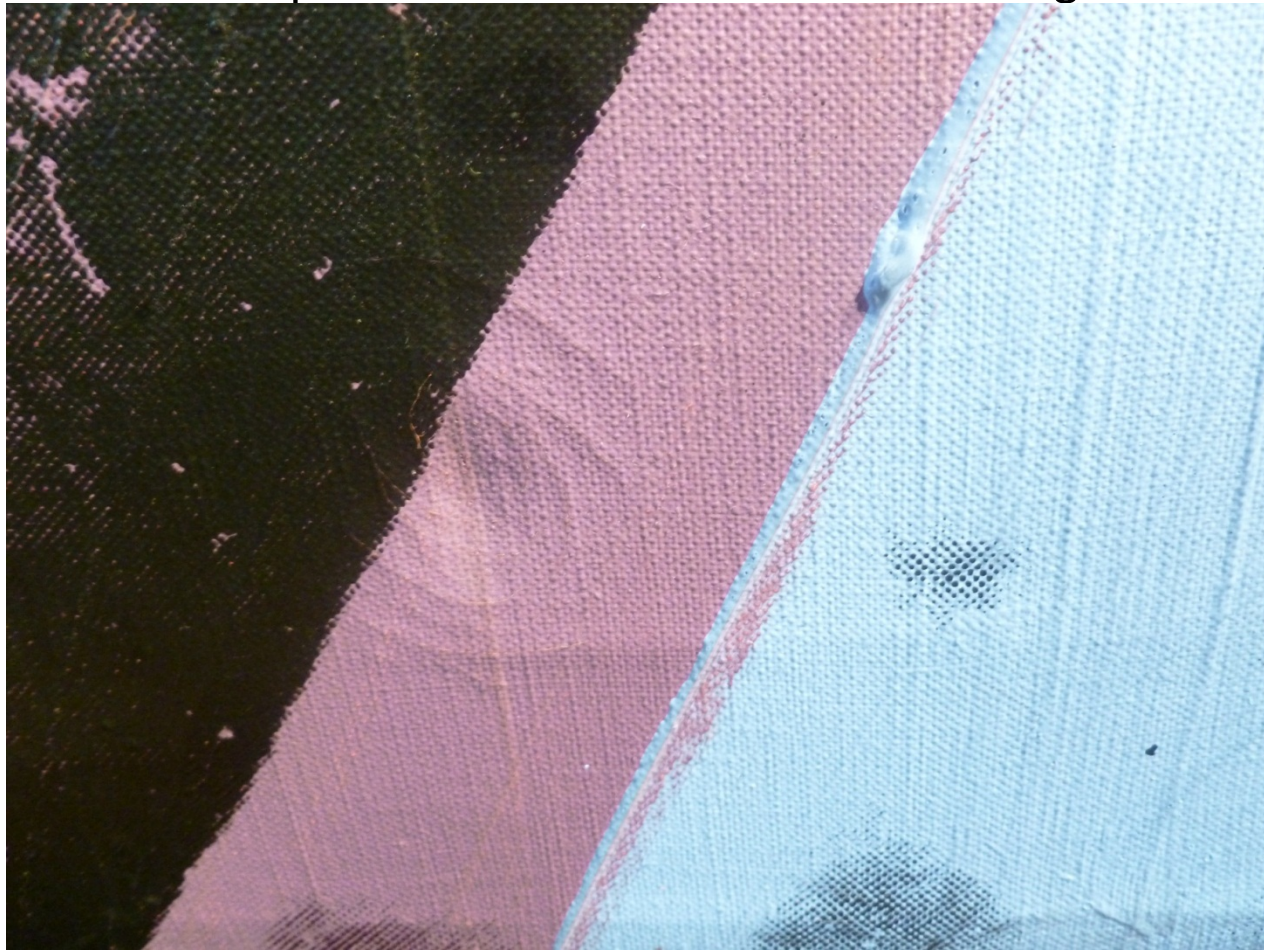


As with the mold on the reverse, Groomstick, formed into small balls, can be used to remove fungal material in local areas of mold on the face of the painting.



Tap the Groomstick balls several times gently against the areas of mold

Handle with care: flexing the canvas, leaning works against each other, or too much pressure can result in further damage



“Spider crackle”, resulting from a blow, can form immediately or long after the pressure has occurred.

Pressure on the face of the painting can cause the formation of *Stretcher Bar Marks*.



Thin metal signs from the hardware store can be gently slipped between the canvas and stretcher to prevent the formation of stretcher bar marks when working on the face of the painting on top of the stretcher edge.



Example of a thin metal sign



Carefully slide it behind the canvas, over the inner edge of the stretcher, to work on the face of the painting in that area.

# When to consult a professional

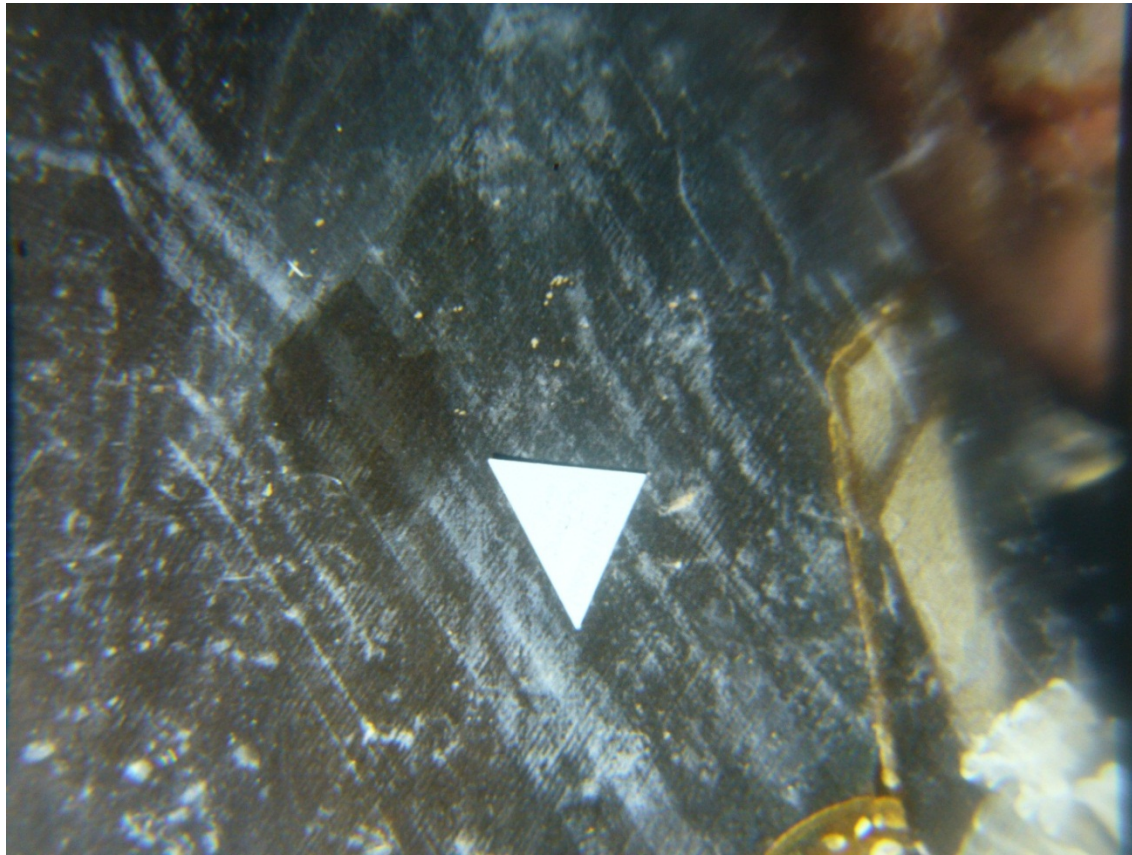


Further treatment of paintings should be done by a professional conservator.

Conservators can use different methods to flatten distortions.



# Blanching of Varnish



Varnish on paintings can blanch, becoming white like the ring formed a wooden coffee table by a wet glass. This can often be reversed with conservation.





Before  
Treatment



During treatment



AFTER TREATMENT

After  
Treatment

After testing, a conservator can remove or reduce surface grime.

Conservators can select the appropriate adhesive for consolidation of lifting and flaking paint, using a brush or syringe



## Lining:

A treatment done by conservators when a second canvas is adhered to the back of a damaged canvas with a reversible adhesive.



# Document!



It is important to document works as they are rescued and treated.

# Climate

- Once the works have been treated, they should be kept in a stable climate. It is especially important to keep the humidity low.
- In museums the recommended relative humidity is generally 50% plus or minus 5%.
- It is best to keep the works unwrapped with air circulating, until drying is complete. A slightly damp work, when wrapped will create it's own humid microclimate.

Because of our code of ethics, conservators are confined to retouching only areas of loss.

- However, as an artist, you can rework a painting after it has been damaged.
- Be sure the painting is completely stabilized and clean before adding paint. Consult a conservator on the best way to prepare your paint surface.
- Document carefully, adding a label to the back of the stretcher detailing the reworking and the materials used.

# Websites

[Amien.org](http://Amien.org): A great site for artists with information about materials they use.

<http://www.conservation-us.org/>: The American Institute for Conservation of Artistic and Historic works has lots of information, including recommendations for finding and selecting a conservator.

The American Institute for Conservation and Rustin Levenson Art Conservation are not responsible for damage to paintings using the above instructions.