

AIC Annual Meeting - Los Angeles, CA - May 1984

DEMONSTRATION OF PAPER SUCTION TABLE TECHNIQUES

The presentation was conducted by Janet E. Ruggles, Paper Conservator, Balboa Art Conservation Center, San Diego, CA with the assistance of Victoria S. Blyth-Hill, Paper Conservator, Los Angeles County Museum, Los Angeles, CA. The narrator was Marilyn Kemp Weidner, Director of Conservation and Chief Conservator, Conservation Center for Art and Historic Artifacts, Philadelphia, PA.

INTRODUCTION

The suction table was originally developed to treat difficult problems in paper conservation. It has proven to be a useful tool that allows the conservator to add to his or her repertoire of treatment techniques. Conservators are increasingly finding it an alternative to more traditional methods. For instance, in spot and stain removal many spots, such as foxing can be reduced or removed simultaneously with overall wetting or local applications of moisture without subjecting the object to a water bath.

There are times when the conservator becomes suspicious of the medium - and even though testing does not indicate that the medium is water soluble the conservator's experience suggests that caution is warranted. The suction table allows for more controlled treatments. The conservator is able to stop in mid treatment if there is any indication of movement of the colors.

For purposes of the demonstration mock-up designs were created by Candice Botts and Victoria Jeffries of the Balboa Art Conservation Center. They tried to simulate various paper artifacts where treatment on the suction table might be the preferred method. For instance, artifacts with the following conditions might be considered for suction table treatment:

1. Works with creases and cockling that require manipulation during flattening.
2. Delicate media that cannot be covered over, especially when wet, such as unfixed pastel, gouache and watercolor.
3. Textured papers or impasto that is crushable.
4. Three-dimensional objects such as collage, molded papers, embossed prints, and objects with seals.

RELAXATION OF THE OBJECT

The use of moisture in conjunction with the suction table is a two step operation:

The first step is to relax the object for flattening and to achieve contact with the receiving surface of the table such as a blotter.

The second step is to wet the object to an appropriate degree while under suction pressure to move staining materials out of the paper.

Moisture can be introduced into the artifact through humidification or by spray wetting with water or a water/alcohol combination. Brush wetting can sometimes be used in combination with spray wetting.* The relaxing technique, whether a single step or a combination of techniques, is decided on at the discretion of the conservator or to meet the demands of the particular object under treatment.

FLATTENING

The first demonstration involved the flattening procedure.

During flattening the object must usually be uniformly relaxed and therefore uniformly expanded. This allows the object to flatten on the table without creasing. In any suction table treatment, if the relaxation step has not also included complete expansion of the paper the introduction of additional moisture into the object, such as in washing or lining, may result in cockling and creases because the paper will expand further during the second wetting step. If this occurs careful manipulation of the paper is necessary.

There are, however, some situations that are exceptions and do not require expansion of the paper support before further treatment.

The object Janet and Victoria worked with during the flattening demonstration was a watercolor. It was spray wetted on the reverse to begin the relaxation and then spray wetted on the front, as necessary. It was then set down on a dry blotter on the suction table and the vacuum was turned on.

If left on the table until dry a box-like filter can be set down over the object to filter out air borne dirt.

The Flattening Demonstration

- A. The watercolor example was shown to the audience.
- B. The watercolor has been humidified in a humidity chamber.
- C. The watercolor was removed from the humidity chamber on a blotter. The watercolor was turned face down and the reverse was spray wetted.
- D. The vacuum was turned on.

*Cathy Baker, Art Conservation Training Program, New York State University, Buffalo, N.Y. described a wetting technique using wet blotters beneath the object on the suction table that she has found successful.

- E. The object was placed on a blotter on the suction table.
- F. The suction pressure was turned up.
- G. Janet and Victoria placed plastic strips around the edges of the object.
- H. The object was spray wetted on the front again.
- G. A dirt filter cover was placed over the object while it dried on the table.

The watercolor can remain under suction pressure until dry or, once the surface is dry to the touch, a more traditional flattening method can be used.

STAIN AND SPOT REMOVAL

The object used for the next demonstration of stain removal represented a mixed media artifact with staining due to overall deterioration of the paper support.

Because of the extreme water solubility of one of the components of the media humidification of the object was chosen to relax the paper support. Additional moisture required during the washing stage for stain removal must be tempered by the degree of solubility of the medium and the porosity of the paper. In this demonstration we tried to show the effects of appropriate and inappropriate degrees of wetting on the various media in our example. Janet spray wet the sample when it was under suction pressure in three stages:

One section was heavily wetted.

One was lightly wetted.

and the middle section halfway wetted.

We then showed that some colors were pulled through to the blotter below while others remain in tact. The same thing can occur in watercolors, ink drawings and manuscripts where there are differences in solubility of the colors and stains in the paper support.

The media in the object used in the demonstration were as follows:

The red was an extremely water soluble vegetable dye.

The light brown color was made from old discolored paper. The papers were boiled and the deterioration product that went into solution formed this color and represents discoloration of the paper support.

The blue color was Winsor Newton Permanent Blue Watercolor.

The dark brown was Pelican Sepia Ink.

The Stain Removal Demonstration

- A. The object example was shown to the audience.
- B. The object was removed from the humidity chamber.
- C. It was placed on a blotter on the suction table.
- D. The vacuum was turned on.
- E. Plastic strips were brought up to the edges of the object.
- F. Suction pressure was turned up.
- G. The face of the object was spray wet in three sections so that each third was wet to a different degree.
- H. The vacuum was turned off.
- I. The blotter from beneath the object was shown to the audience showing how the most easily soluble colors pulled through while other colors did not move with the same amount of moisture.

This process can be repeated, changing the stained blotters for dry blotters until no further stains are removed. Or the stained area can be selectively further wetted with brush applications of water and the rest of the object only wetted minimally to retain contact with the table. An advantage of stain removal on the suction table is that treatment can be stopped at any point, the object dried, and the progress of the treatment evaluated. Further treatment can be discontinued or continued as required.

As in the flattening procedure the object can be left on the table to dry or removed when it is dry to the touch and flattening continued with a more traditional method.

LINING

The next part of the demonstration included both the normal lining technique that is used on the suction table and the "dry" lining technique which would be used if there was danger of migration of stains in the paper support that could not be removed prior to lining. The object example was an unfixed pastel.

The first lining involved brushing out the Japanese lining paper with paste directly on the suction table. The pastel which had been relaxed in the humidity chamber was taken from the chamber and immediately set down onto the pasted lining paper. The suction was turned on and adhesion was achieved.

The Normal Lining Demonstration

- A. The opening in the suction table was outlined with black tape so that the open area of the table was visible throughout the lining process.
- B. A sheet of polyester web was placed over the open area and wet up with a Japanese mizubake brush.
- C. The Japanese paper lining paper was laid down on the polyester.
- D. The Japanese paper was pasted out. (Photograph #1)
- E. The pastel on a blotter was removed from the humidity chamber and set down on the pasted lining paper. (Photographs #2 & 3)
- F. The vacuum was turned on.
- G. Plastic strips were placed around the edges of the pastel. (Photograph #4)
- H. The dirt filter lid was placed over the pastel as it dried. (Photograph #5)

The "dry" lining technique can also be used with traditional lining methods and is carried out as follows:

The "Dry" Lining Demonstration

- A. The lining paper was placed on a sheet of polyester film (mylar).
- B. The lining paper was pasted out.
- C. The pasted lining paper was covered with another sheet of mylar to form a sandwich.
- D. The sandwich was turned over so the pasted side was face down.
- E. The top sheet of mylar was removed.
- F. The back of the lining paper was blotted to remove excess moisture.
- G. The back of the lining paper was covered with polyester web.
- H. The pasted lining paper sandwich was set on the suction table with the paste side up. The paste was checked for tackiness.
- I. The mylar was removed from the pasted lining paper.
- J. Simultaneously the pastel on a blotter was again brought from the humidity chamber to the suction table and set down on the pasted lining paper as in the normal suction table treatment.

K. The vacuum was turned on.

L. The edges were covered with plastic strips.

M. The dirt filter cover was placed over the pastel while it dried.

It is important that this be done as quickly as possible so that neither the relaxed object nor the paste has a chance to dry out before adhesion is achieved. Once adhesion is achieved the object can again be left to dry on the table or the extended edges of the Japanese paper lining can be pasted to a drying panel and the drying and flattening process completed in this manner.

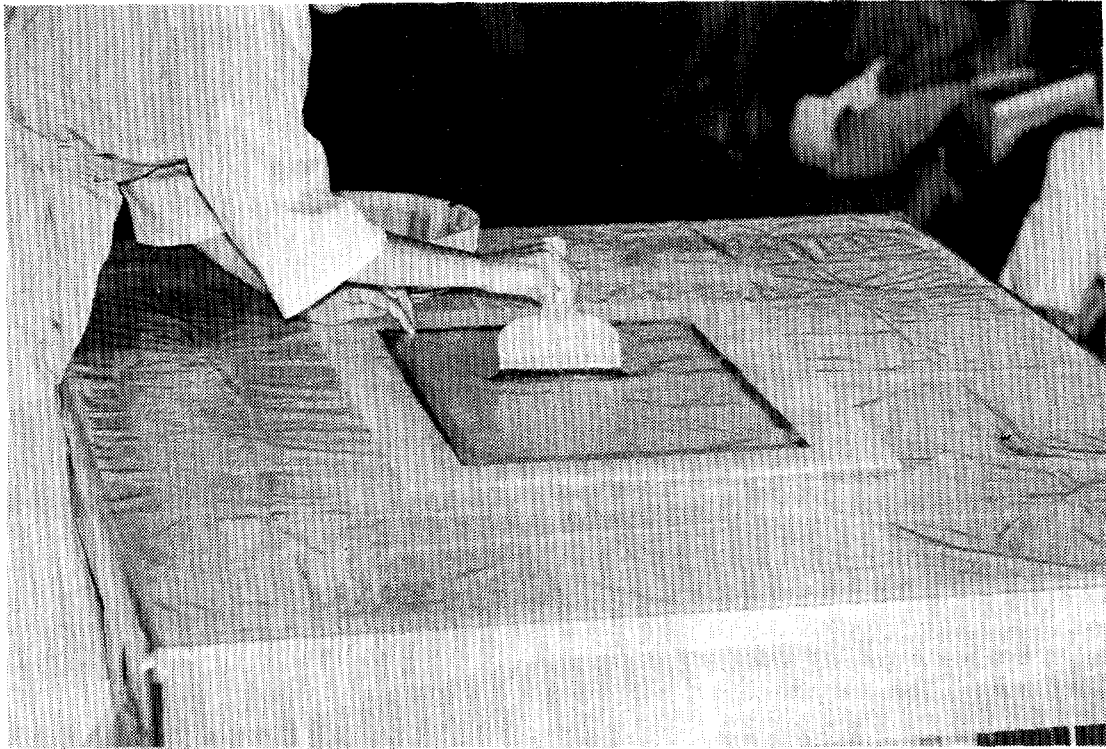
Considerable ingenuity has gone into the development of the suction table itself. The original table was simply a porous surface through which air could be evenly pulled. It cost about \$200 and is still in constant use twelve years later. The newer, more sophisticated tables with their variations of surface, pressure and air flow are important additions to the tools available to the conservator. But, if a conservator cannot afford one of the more expensive varieties of table all the techniques demonstrated during the meeting can still be easily accomplished on a simply build suction table the conservator can build him/herself.

What is of far greater importance is the skill, experience, sensitivity, ingenuity, and judgement of the conservator who is doing the treatment.

Bob Futernick, Paper Conservator of the Fine Arts Museums of San Francisco, CA then demonstrated his technique for leaf casting on the suction table. This technique is also described in the Journal of the American Institute for Conservation, Vol. 22, No. 2, Spring 1983.

Stefan Michalski, Senior Conservation Scientist, Canadian Conservation Institute, Ottawa, Canada, answered questions regarding principles of processes used on the suction table and demonstrated a new table he is developing. Mr. Michalski welcomes further inquiries from conservators.

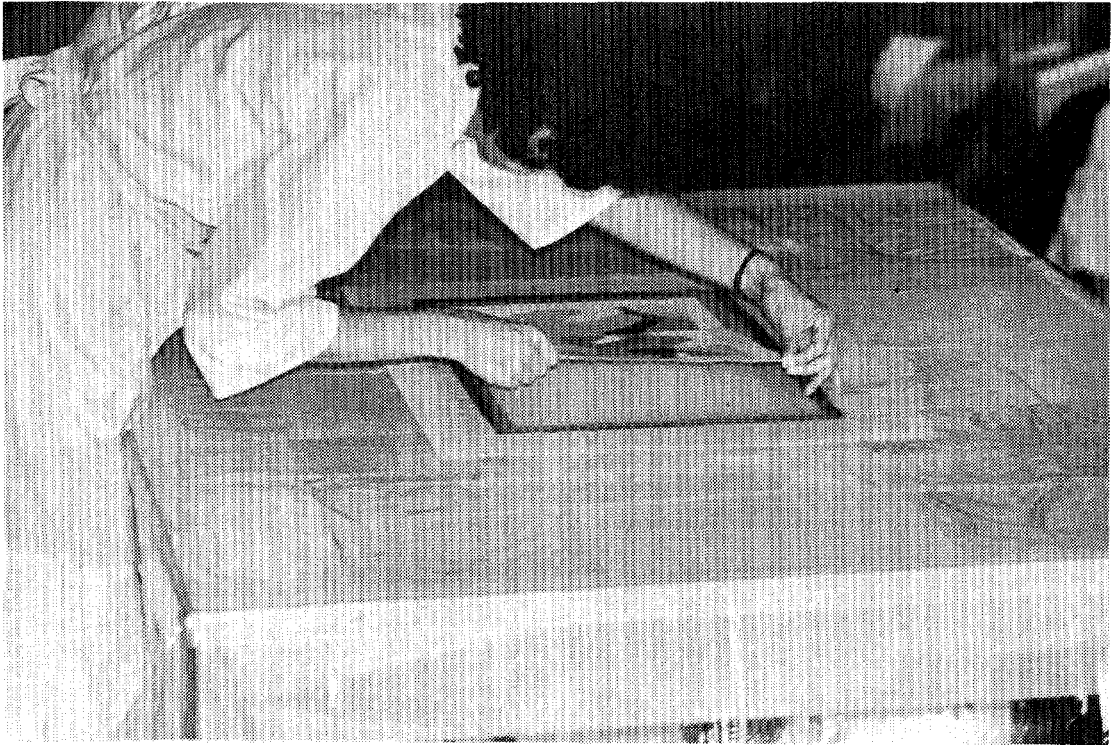
The participants in the demonstrations are grateful to Bill Maxwell and Nascor Technical Services Inc., Sag Harbour, N.Y. for leaving their new model suction table in Los Angeles so that it could be used during the demonstrations.



Photograph 1*



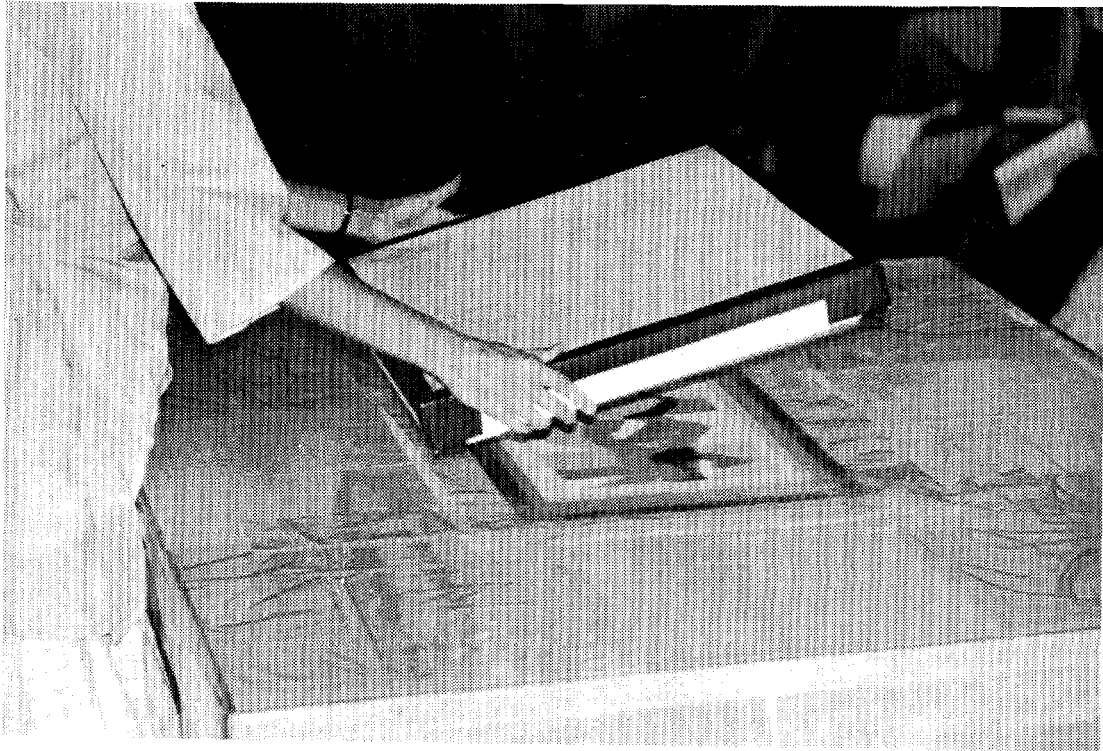
Photograph 2*



Photograph 3*



Photograph 4*



Photograph 5*

* Photographs by Dan Kushel.