WET CLEANING IN 3-D

Chris Paulocik

ABSTRACT - Costume artifacts are often three-dimensional and of a composite nature and therefore present treatment challenges. It is often necessary to build support systems in order to safely treat fragile beaded dresses, bodices, collars, cuffs, cats, etc. Through the years I have experimented with different techniques and materials, using everything from a custom made support constructed of coroplast to simple mylar cone shapes inserted in a sleeve to maintain a cuff shape. The blocking out procedure is critical when the fibers are wet and need to be re-aligned. Careful effort expended at this stage of the treatment can facilitate stabilization, and repair. A costume may have surface embellishments that need to be blocked out in a different manner than that of the main body of the piece. I will outline some solutions devised to maintain shape without removal of elements.

1. INTRODUCTION

Costume artifacts are often three-dimensional and of a composite nature presenting treatment challenges that differ from those of flat textiles. The structure of a costume can create special problems for a conservator, especially when a garment is composed of more than one layer of fabric.

Through the years I've learned to use various materials and devise structures that support these artifacts during the drying procedure. In this paper I will discuss some of the methods I've used to wet clean and block bodices, collars, cuffs, caps or even fragile beaded dresses.

2. CLEANING TECHNIQUES

Women of every century have experimented with techniques to achieve clean garments and to this end have used everything from stale bread to gin. The effectiveness of the latter is attested by the fact that it recurs often as an ingredient in cleaning fluids. (Foster 1978)

Prior to the twentieth century fashions were often virtual dirt collectors with floor length skirts and long trains dragging the ground. Dresses were more protected from body dirt due to the vast amount of underwear worn beneath. A chemise, a camisole and several petticoats protected garments from contact with the body. Neck and wrists were isolated by detachable collars, cuffs and undersleeves which could be removed for washing.

If these dresses were afforded some protection from body dirt, they were still subject to external soiling. Techniques for dealing with dirty clothes varied widely as C. Walkley and V. Foster outline in *Crinolines and Crimping Irons*. (Foster 1978)

> "Unpicking a dress completely before cleaning seems to have been a normal practice, though the complication of the styles must have made it a daunting task. . ."
>
> "A silk dress might be sponged over with a strong infusion of black tea . . ."
>
> "The silk must be unpicked and laid in widths on a kitchen table; then take a common scrubbing brush, quite clean, dip it in the mixture and scrub the silk hard on both sides so as to saturate it. Rinse in cold water until free of soap,

hang it on a clothes horse to drain until half dry; then iron it." (Foster, 1978:34)

According to today's sensibilities this process seems somewhat excessive.

2.1 CLEANING TECHNIQUES AT THE SMITHSONIAN, 1954

Research unearthed an article from *Woman's Day Magazine*, January 1954, called "Washday for the Smithsonian." (Kinard 1954) The article outlines the cleaning secrets used by the Smithsonian Institute on such treasures as diverse as George Washington's bedspread and a one-hundred year-old dress of fine cotton mull.

We learn that these pieces are laundered by Ms. Beulah Hall who "rocks" the clothes clean in a tightly capped jar. Apparently this method is used to shield age-old fabrics from their worst enemy, the weight of the water. According to the article, relics of antiquity were rocked to and fro in suds of pure soap flakes and warm water in this rarefied little laundry. "Some pieces were so fragile they almost defied handling, but all came through the wash as clean as a cloud." (Kinard, 1954:37)

3. THE DECISION TO WET CLEAN

Washing is an irreversible process with many potential dangers. Therefore it is important to think very carefully before subjecting a textile to an aqueous treatment. Materials such as water-sensitive embellishments may be present on your artifact. Beads, sequins or paillettes were made from wax, gum arabic gelatin, or a combination of a gelatin core and cellulose nitrate laminate.

Buttons were composed of a wide range of materials: everything from wood, iron, glass and leather. It is critical that the material of each element be identified on your artifact in order to determine how a wet cleaning treatment will affect all of the components.

Old repairs or later alterations may react differently with the cleaning solution than that of the original materials. Dyes may be fugitive. The soiling matter itself may have potential value since it may provide important information on use.

All of these factors may be compounded by damage the piece may have sustained through inappropriate storage and handling in its past life. Consider all of these factors before attempting an aqueous treatment.

After the analysis and examination have been completed and you have determined that wet cleaning would benefit the longevity of the object, pre-test each of the various components of the artifact with water and the washing solution.

4. WET CLEANING PROCEDURE

The wet cleaning procedure will depend on the fragility of the piece and the nature of the soiling matter, so it is difficult to give any recipe. But, I will outline some of the basic steps I take during this process.

I always go through a "dress rehearsal" before I wet clean an artifact, examining the piece, anticipating how it should look and determining what materials and tools are necessary to achieve this. I prepare for any eventuality and go through all of the steps,

acting as if everything and anything could possibly go wrong.

Before washing, I generally stabilize the areas of loss or weakness on the garment with net or cheesecloth and cover the hooks, eyes, fasteners or any surface decoration that might catch during the cleaning operation.

It is important to support the textile during the washing procedure when it is at its weakest state given the increased mass of water absorbed by the garment. Support materials I've used include fiberglass screening, nylon net, or heavy gauge mylar. They provide a support for the textile, allowing the piece to be handled when it is heavy with water.

The wash table or tray should be large enough to accommodate the full size of the textile. Fill it with lukewarm water. Depending on the piece and the type of the soiling matters present, I might treat the artifact first by pre-soaking.

A sponge is lathered up with the surfactant which is dissolved in a beaker of water. The textile is immersed in the water bath and gradually the surfactant mixture is added. The artifact is gently agitated either with a wet sponge or with the palm of the hand to work the surfactant through the fabric.

If the water becomes very dirty, it should be drained and replaced with a fresh bath. A beaker of water from each stage of the operation is compared for color. If the water is disturbingly yellow, I measure the pH to monitor the acidity or alkalinity. The textile is rinsed four to five times or until the water is clear.

Once the final rinse is completed, the water is drained and the garment is transferred on its support to white absorbent towels. Excess water is blotted with additional towels.

5. BLOCKING PROCEDURE

Attempting to reshape and smooth the garment back into its original form when it is still wet can be difficult due to the three-dimensional shape and multiple layers of fabric. A costume may have surface embellishments that need to be blocked out in a different manner than that of the main body of the piece. Through the years I've experimented with different techniques and materials using everything from a custom-made support constructed of coroplast (an inert extruded twin-wall polypropylene board) to a simple microfoam shape inserted in a sleeve to maintain a cuff form.

The blocking out procedure is critical when the fibers are wet and need to be re-aligned. Badly twisted and creased fabrics, when wet, can be straightened according to the structure of their weave and gently restored to their original shape.

Great care should be taken at this stage of the treatment will facilitate later stabilization and repair. If the warp and weft are aligned on both the artifact and the support material underneath, not only is it easier to stitch, but the repair is less visually obtrusive.

6. DRYING PROCESS

Some artifacts can be dried using gentle finger manipulation and a fan or hair dryer. (I keep the hair dryer on the cool setting.) Dresses with areas of heavier embroidery should have the denser portions dried first, otherwise the moisture will wick out into the thinner adjacent fabric.

I often use a glass table for blocking out artifacts. I smooth out the back of the garment on to the glass table in a relaxed or flat position to dry in the configuration desired. Smoothed fabrics will adhere to glass when wet, and the weave can be meticulously straightened. Sometimes I use a combination of techniques - for instance, blocking out the flat portions of the garment on a glass table and then inserting a piece of coroplast in the sleeve to pin out the lace segments.

7. SUPPORTS

Sometimes it is necessary to build a support to the specific dimensions of the artifact in order to block it out. Through the years I've experimented with different techniques and materials and have been most successful with ten-test board, coroplast and ethafoam.

First, a paper pattern of the garment is traced onto ten-test board and cut a little smaller than the pattern to allow for padding. Next the ten-test board is covered with polyethylene sheeting; if using coroplast the polyethylene is not necessary. After the garment is blotted of excess water, it is placed on this form and any wrinkles are smoothed out. Additional padding can be added in the sleeves, chest, etc. Sausages made of polyethylene stuffed with padding can be used as inserts, or little rolls of mylar can be manipulated to provide interior support while the piece is drying.

If necessary in the case of whitework, this type of support enables the conservator to pin sections of the garment into the appropriate shape and leave them to dry.

7.1 NET BODICE

In the case of one object--a bodice--creases in the damp net were eased out by careful hand manipulation of the fabric as it was drying. This method of smoothing prevented the formation of creases.

The interior of the neck, sleeves and torso were padded out with microfoam. I have also used net, tulle, mylar or nalgene to provide support with this type of artifact while it is drying.

Lace elements on the bodice can be aligned and pinned to the layer of microfoam underneath. With this method the air can circulate through the object.

Surface decorations can be shaped by inserting rolls or cones of mylar, puffs of tulle or polyester tubing. In general deal with the surface decoration after the main body of the garment has been blocked.

7.2 CUFFS/SHAWLS/BONNETS

Accessories such as cuffs can be washed and smoothed over cones of mylar to maintain the shape of the wrist and in order to provide support. Lace shawls, mantles, or collars can be pinned into coroplast and sections of frills be supported with mylar or tulle to accommodate their three-dimensionality.

With caps or bonnets I use either a Styrofoam head or, for unusual shapes, a custom support carved out of ethafoam. Often the back of a cap is puffed out with net to achieve some roundness and the head-band portion pinned to the form.

Bonnets with long ties and tiers of ruffles can be blocked in a similar manner on a head

form and secured with pins. Each row of frill was dried with a hair dryer starting at the bottom and working up to the top. Ribbons were blocked on the glass table with warp and weft aligned and then weighted.

All this must be thought out beforehand, because once the piece is wet, you want to work as quickly as possible. In your "dress rehearsal", you have determined the shape of your artifact and what methods and materials will help you support that interior space.

8. CASE HISTORY: BEADED DRESS

Occasionally I have been asked to treat artifacts that provoke sheer terror or cause palpitations. Often the unsuspecting curator is blithely unaware of the impact her request has made on me.

This brings to mind one occasion when I was asked to wet clean a beaded dress. This particular dress was so dirty and badly stained, that the curator of the collection decided not to accept the garment unless its appearance could be improved. Unfortunately solvent cleaning would not have diminished the staining.

Washing a beaded dress isn't something I would normally do. A treatment like this can be fraught with problems due to the fragile nature of the materials. These dresses are often constructed of sheer silks and laden with pounds of heavy beading. The weight of the beads on the thin substrate can cause enormous structural damage.

Examination showed that the dress was in stable condition. Tests were done on the beads, sequins and other elements on the garment in order to determine the presence of any water sensitive materials.

A paper pattern was made from the garment and transferred to a sheet of coroplast. That coroplast form was cut out and used as an interior support within the dress. Since this material tends to be sharp, strips of microfoam were basted around the edges of the coroplast pattern. This allowed the shape to be safely inserted between the layers of the dress.

Next, two pieces of coroplast were cut a little larger than the artifact. The dress was sandwiched between the two sheets in order to immerse it, and to flip the piece over when washing each side. This sandwiching provided a support for the wet garment during the wet cleaning process.

Orvus was applied with a small sponge to one side of the dress and worked in, then rinsed before flipping. The other sheet of coroplast was placed over top. So the dress was sandwiched between two sheets of coroplast, with a third layer inside the gown. This way the dress could be flipped to the other side to apply the soap, and then rinsed.

After the final rinse, the dress was removed from the bath using the sandwiching sheets of coroplast. Excess water was blotted up using white toweling. By that time the dress was only slightly damp since the fabric was so light and sheer. The coroplast form had two sets of ties one on either side of the shoulder--so the dress could hang from this support and be quickly blow dried by fans and hair dryers. The treatment was successful and the beaded dress in now in the collection at the Canadian Museum of Civilization.

I hope that you will find some of these solutions helpful but a word of caution...two apparently similar objects rarely present identical problems of conservation, so that

methods and equipment must be devised or adapted to meet each need.

REFERENCES

Brannt, William. 1929. *Practical Dry Cleaner Scourer and Garment Dyer.* New York: Henry Carey Baird & Co., Inc.

Foster, V. and Walkely, C. 1978. *Crinolines and Crimping Irons.* London: Peter Owen Ltd.

Kinard, E. 1954. Washday for the Smithsonian. *Woman's Day Magazine.* January.

Leene, J. 1972. *Textile Conservation.* Washington, DC: Smithsonian Institution Press.

CHRIS PAULOCIK, Conservator at the Costume Institute, Metropolitan Museum of Art, New York for the past seven years. Previous to that she worked as a Conservator in the Textile Laboratory at the Canadian Conservation Institute for ten years. Author's address: Costume Institute, Metropolitan Museum of Art, 1000 Fifth Avenue, New York, New York 10028, USA.