

A METHOD FOR TEMPORARILY FACING A VARNISHED MAP
DURING AQUEOUS CONSERVATION TREATMENT

by Sylvia Rodgers

Introduction

This paper describes the use of solvent-activated heat-set tissue as a temporary facing during aqueous treatment and lining of a large varnished 1882 J. L. Smith lithographic map of Philadelphia. The map was in very poor condition before treatment. It was mounted in two parts (each measuring 22 1/2" x 30 5/8"), each of which was cracked into more than one hundred pieces and inadequately held together with a loose-weave linen cloth backing applied with starch paste. The cloth was limp and shredded from water damage and excessive handling, and no longer functioned properly as a structural support. The map was executed on a poor quality paper which had become extremely brittle and discolored with age. The paper crumbled easily and testing revealed a pH of about 3.9 and a large percentage of alum. The map was heavily coated with a yellowed varnish which contributed to the brittleness and discoloration of the paper. The varnish was partially soluble in alcohol.

Treatment

Water washing was a necessary step in the conservation treatment of the map in order to remove the old lining and to replace it

with a new lightweight Japanese paper lining. However, immersion of the object in a water bath with no fixed support of the pieces risked separation and possible loss of paper fragments and detailed map information. Furthermore, the idea of reassembling over a light box more than one hundred tiny wet pieces with thousands of street names and designs was somewhat daunting. A facing was necessary to keep the pieces from disassociating completely in the water bath during removal of the old backing.

The material decided upon, after much testing, was a heat-set tissue.¹ Before application of the facing, all of the small loose pieces of the map and those folded over were properly aligned and reattached to the front with wheat starch paste. In addition, the varnished surface was dry cleaned of soil with grated Staedtler-Mars eraser crumbs. The edge of linen cloth which overlapped the borders of the map was removed with methylcellulose poultices.

Each of the map halves was treated as a whole. The facing was applied to each piece in the following manner: squares of heat-set tissue measuring about 8" x 10" were generously sprayed on the adhesive side with absolute alcohol and applied in an ordered sequence to the recto of the map over the varnish. Each piece of facing was patted into place with cotton to insure contact with the map. The varnish gelled slightly upon contact with the alcohol-sprayed adhe-

¹Bookmakers' Heat Set Tissue made with lens tissue and Rhoplex adhesive.

sive layer of the tissue. Those areas of the facing which did not adhere well enough during this process were re-wet with alcohol locally and re-patted into place. The facing was then trimmed to 1/4" border around the edges of the map and allowed to dry thoroughly. Next, the map was immersed face-up on a support of 3 mil mylar into a warm water bath. After a ten minute soak, it was removed from the bath and set on a rigid surface face-down on another sheet of mylar. The linen backing was peeled off in strips leaving a thick layer of adhesive behind. The map was then positioned face-down on a thick plexiglas support and tilted into the sink. The adhesive was gently brushed off with a stippling brush and rinsed away with water from the sink hose. This procedure also removed some discoloration from the paper. The map paper expanded when wet and was restrained by the synthetic adhesive of the facing, so that it developed a pattern of ripples overall. However, the facing paper expanded slightly with the map and lining of the original paper was possible with the facing still in place.

A lining paper of lightweight Kizukishi² was applied to the blotted map verso with dilute wheat starch paste. The drop-lining technique with a hand-held stick was used to allow the Japanese paper to conform nicely to the uneven map surface. The lined map was stretch-dried by taping the edges of the Japanese paper to the formica tabletop. After forty minutes or so it was possible to peel off the facing papers one by one. The varnish had moved (bloomed)

²Supplied by Andrews/Nelson/Whitehead

during the wet treatment and had become almost entirely deposited in the facing paper. After removing the facing papers the lining was cut off from the table and the map was positioned between two felts and pressed overnight under plexiglas and weights. Later, spots of residual varnish were brushed off locally with a small stiff brush. There was still a slight amount of varnish left in the paper and so the lined map was immersed in an absolute alcohol bath for a short time to remove what varnish was left. Water treatment had left the varnish easily soluble in the alcohol.

After the solvent bath the map was resized with methyl cellulose.³ The sizing was applied by spraying on the front, and the map was then blotted and pressed again between polyester web and felts under weight. Each half of the map was encapsulated in 5 mil mylar for flat storage in the Geography and Map Division of the Library of Congress.

Conclusion

The approach of this conservation treatment was to save the absolute maximum amount of information on the map, and there were some compromises made concerning its final cosmetic appearance. The map retained a slightly mottled appearance due to the restricted washing possible with the facing in place. However, absolutely no losses of paper or map information were sustained, and the treatment was not a high risk operation. An object which was considered to be

³3% (wt./volume) methyl cellulose, 100 centipoise, in water.

virtually unusable by the department is now easily accessible to geography and map scholars and historians. It might be added that the technique has subsequently proven useful for local treatment as well as overall facing.

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