

THE REINSTALLATION OF AN 1830'S  
ZUBER SCENIC WALLPAPER  
AT THE  
MARTIN VAN BUREN NATIONAL HISTORIC SITE

BY JAMES HAMM \*

The removal, treatment, and reinstallation of a Zuber scenic wallpaper was carried out in phases over a period of eight years. In designing the reinstallation, considerations were given to environmental fluctuations, adhesive flexibility, reversibility, toxicity and stability, ease of handling and trimming, plus the appearance of moldings in proper relative relief to the wallpaper. The mounting system will allow future removal of the treated wallpaper without the use of water or solvents. Some problems encountered with the contraction of the large wallpaper panels were solved after discussion with the curator and project coordinator.

Introduction

In 1839, during his presidency, Martin van Buren purchased an early Federal style home in his native village of Kinderhook, New York, on the east side of the Hudson River, located approximately 30 miles southeast of Albany. In the ensuing years, with considerable help from his daughter-in-law Angelica Singleton van Buren, he directed a fairly major renovation and expansion of the house he called Lindenwald, which included the creation of a large central dining hall. It was in this room that Angelica suggested placing the scenic wallpaper titled "Paysage a' Chasses" made by the French firm "Zuber et Cie," along with a decorative balustrade paper made by "Jacquemart et Benard," in the dado area beneath the scenic.

The design of the Zuber paper consists of four major sections, depicting hunt activities, linked by brief interludes of scenes from the French countryside. One complete set consists of 32 panels, which creates a scenic view extending approximately 48 feet horizontally. Each set is hand printed in gouache paint using 1280 hand carved wood blocks and 142 separate colors. [1] At Lindenwald, the size of the room allowed nearly one and two-thirds sets to be hung.

Today, the Zuber factory is still in operation at its original site in Rixheim, France, and the scenic paper "Paysage a' Chasses" is still in production. Some of the fine detail in the wooden blocks has been lost, but this is only noticeable

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in a side by side comparison with the 1830's edition of the paper. The quality of the paper itself, however, is not up to earlier standards. Nevertheless, the recent edition of "Paysage a' Chasses" is breathtakingly beautiful in its freshness of color and purity of surface, qualities which are most evident in the large areas of perfect blue sky.

The Dining Hall proved in many ways to be a nearly ideal place for the display and ultimate preservation of a scenic wallpaper because of the large, mostly unbroken, wall space, and three "inside" walls. [See illustration #1.] The fourth wall, an "outside" wall, endured wide environmental changes and the wallpaper here was essentially unsalvageable. The opposite wall at the west end of the room had lost all of its paper for unknown reasons at some time earlier, except for a section of the balustrade dado hidden behind a 12" high baseboard molding in the stairway. It was decided to cover these two walls using a recent edition of the Zuber scenic paper. The balustrade dado panels (the original of which has been long out of production) were reproduced by Scalandre, in New York City.

Overall, approximately 680 square feet remained in 1977 of the original 900 square feet. Studying early color photographs of the room taken in the mid 1940's just before the installation of an oil fired central heating system, it is evident that a significant amount of damage (tears and paint loss) occurred during the subsequent 30 years, more so than in the previous 100 years.

Part of the rationale for removing the remaining paper was that approximately 40 - 50% of the paper had delaminated, the plaster in certain areas was crumbling and required repair, a very discolored shellac coating needed to be removed (for safety and health reasons it would be better to work off premises), an irregularly applied liner paper was creating lines of stress at its edges resulting in tears, and extensive mold growth on the reverse required treatment.

Removal and Treatment was completed in 1981 [2], at which time the lined wallpaper was mylar encapsulated, with a sheet of neutral pH glassine placed over the paint side of each panel first. It was agreed that the wallpaper should be installed only after all other work at Lindenwald had been completed.

### Rationale and Research

Numerous reinstallation materials and methods were considered. Initially, some form of rigid or semi-rigid secondary support was thought to be advantageous, such as aluminum honeycomb panels, paper honeycomb panels, or fiberglass/epoxy resin sheets. In this particular situation, however, the great thickness of the honeycomb panels would alter the appearance

of the moldings relative to the wall, impose an unusually flat appearance on the wallpaper, masking the gentle undulations of the historical wall, and pose problems with hiding joints between support panels, not to mention the significant expense. The thinner fiberglass/epoxy resin sheets would solve some of these problems, but could pose problems with adhesive selection, edge joining and surface appearance, as well.

Adhering the wallpaper directly to the wall would avoid all of the above problems, but could make later removal more difficult. However, it was thought that perhaps a combination of adhesives, sizings, and paper interleaf could be found which would allow direct mounting, thus retaining the original placement relative to the moldings, and the correct appearance on the undulating walls.

Direct mounting would also necessitate that future removal be possible without using water or solvents: in other words, "dry." The reason is that the wallpaper is lined with a mixture of acrylic emulsion adhesives on fiberglass fabric. Water will not readily penetrate this laminate structure and would probably harm the gouache paint before any useful penetration could be attained. Solvents cannot be used because of the safety and health hazards, and the risk of delaminating the fiberglass lining, necessitating the handling of the wallpaper without sufficient support.

We experimented with mounting mock-ups using various commercially available wallpaper adhesives, sizings, and liner papers, as well as discussing our requirements with several manufacturers' technical representatives and a professional paper hanger, Bob Kelly of Lee, Massachusetts. Eventually, we devised a system which met our requirements, at least on the small scale of 12" square mock-ups. It now remained for the system to be scaled up to room size. [See illustration #2]

### Materials and Methods

Work on the Martin van Buren National Historic Site had been completed in 1986. The National Park Service decided that it was time for the wallpaper to be reinstalled and for the furnishings and floor coverings to follow. The reinstallation proceeded as described below.

#### A. Wall preparation and sizing:

1. All four walls were coated with a commercial methyl cellulose size (Golden Harvest #09301) containing phenolphthalein. This indicator size would show areas of the plaster, either new or old, which were incompletely slaked before use, thus still containing some caustic lime (calcium oxide.)

2. After drying, no "hot spots" were detected. The size was then washed off using the following formula: 1 gallon warm water, 3 cups Clorox bleach, and 2 tablespoons Alconox detergent. All walls were then rinsed with plain water.

3. After drying, an acrylic emulsion size (Roman Adhesives R-35) was applied to north, south, and west walls. Since the east wall is an outside wall, a starch paste containing clay (Shur-stik 111) was applied to promote better adhesion under conditions of changing temperature and relative humidity.

#### B. Preparation and application of Liner:

1. In order to provide a more uniform surface on which to hang the wallpaper, as well as to aid in its future removal, a high quality, strong, 1/64" thick liner material ("Cover-up" by Lam-Vin) was adhered to all four walls. The exact fiber content of this liner is not known, but similar liner papers contain: 25% [bleached alpha cellulose], 75% [rayon, polyester, nylon, and polypropylene fibers] with an acrylic emulsion sizing applied by the factory to both sides. The adhesive used was Golden Harvest GH-34, a wheat starch, dextrin, and methyl cellulose based formulation.

2. After drying, the liner was sized with acrylic emulsions: on the north, south, and west walls Benjamin Moore's Wall-Grip #3 (203 03) was applied by brushing; on the east wall Roman Adhesives R-35 was used again.

Note: The east wall has been prepared with stronger sizings and adhesives because it is more susceptible to wide moisture and temperature variations, which could lead to premature delamination.

#### C. General Procedure:

1. A horizontal level line was marked using pencil around the entire room at a position 2 inches below the correct placement of the bottom edges of the scenic panels.

2. The original scenics were hung first, beginning with the shorter wall sections at either end of the north wall and at the east end of the south wall (the prototype). The dados were hung after the scenics had dried for several days, following the same sequence used originally. The large wall spaces were hung next: on the south wall, all scenics were hung from left to right; on the north wall, the scenics were hung from both left and right to the center, in order to ensure a precise fit with the elaborate doorway moldings at either end.

3. The fiberglass lining was trimmed exactly to the edge of the wallpaper on top and either left or right sides, depending on which side would abut an adjacent panel or molding. The

leading and bottom edges were trimmed to allow a 1/4" extension of the fiberglass lining to remain. This extension allowed a bit of overlap between panels without hiding any of the medium, helped control excess adhesive squeezed out during hanging, and provided a surface on which to inpaint later, if necessary.

4. A recent edition Zuber scenic wallpaper and reproduction dado paper were hung on the east and west walls, as described in the next section. The panels of both original and recent papers, which would meet in the corners, were hung at about the same time. Where the corner overlaps would occur, the originals were carefully lifted from the wall using a microspatula to allow the recent papers to fit underneath. In this way, no small fraction of the original wallpaper would be hidden by even a corner overlap. The original papers were then re-adhered as before.

#### D. Mounting the Wallpapers:

1. The original scenic and dado papers were installed on the north and south walls using Muralo 8060 adhesive (wheat starch, dextrin, methyl cellulose, and fungicide) applied to both the prepared liner and the reverse of the treated wallpaper using a 3/8" nap roller. A stronger adhesive mixture comprised of: Muralo 8080:8050:Rhoplex AC-33:Cellofas B-500 (Na CMC) [8:4:1:1] was brush applied at the perimeter of each panel in a 4-6" wide band. This stronger mixture was applied to prevent lifting of the edges/seams. After pressing the fiberglass lined wallpaper to the liner, trapped air was expelled using various soft and hard roller devices to ensure a close and consistent bond with the liner paper, and hence, the wall. The use of the Muralo 8060 adhesive on site deviates from the original plan after we realized that the stronger adhesive mixture (which we had planned to use for all fiberglass backed wallpaper) was not actually necessary to support the entire panel surface. It was necessary, however, for better adhesion of the perimeter of the slightly textured, sized fiberglass fabric, a surface which does not bond well with wheat starch alone. The Muralo 8060 has better tack than any of the other wheat starch based adhesives, but not so much that later removal would be hindered.

2. In order to provide a clean line where the top of the scenic panel meets the bottom of the crown molding, a matching blue band, approximately 1" wide, was painted on the liner paper just below the crown molding. Wherever small breaks or unevenness in the top edge of the paper occurred, the blue band provided continuity and made for a more visually satisfying appearance.

Originally, the top edge of the scenic turned slightly onto the crown molding and in the ensuing years was subsequently

painted over with paint containing white lead. Partially broken away, this painted edge was too brittle to handle safely, and in some places broke away entirely. Although inserts of new paper were made in the majority of these areas, the irregularities that still remained were smoothed out by the simple procedure of painting a narrow, blue backdrop before actually hanging the paper.

3. The recent edition of the Zuber scenic paper used on the east and west walls had been printed in the mid 1950's and required special preparation before it could be hung, in order to enhance its durability and preservation. The following treatment steps were taken before giving the paper to Bob Kelly for hanging:

- a. Trimming the top and bottom of each scenic to the approximate installed length; sectioning the sky sections to fill spaces over doors and windows.
- b. Applying by brush to the reverse, undiluted, Wei T'O #2 (methoxy magnesium methyl carbonate in methanol diluted with Freon.) This step was included because the surface pH of the paper measured approximately 4.5 and the paper was considerably less flexible than the 145 year old original scenic.
- c. Spraying two applications of an acrylic resin (Acryloid B-72 5% in xylene:toluene:diacetone alcohol [4:2:2]) for the purpose of reducing the sensitivity of the gouache paint to water and surface abrasion. Since the original wallpaper had been coated with shellac at some time within the first 10 years of its initial hanging, and is now thinly coated with Acryloid B-72 resin, we felt this step could be easily justified aesthetically, as well; furthermore, there was only a minimal change in gloss after application.

4. The mid-1950's reprinted scenic paper was installed on the east and west walls using methyl cellulose (Culminal from Talas) with Golden Harvest GH-34 starch adhesive to reinforce the overlaps. The 1985 Scalandre reproduced dado paper, also installed on the east and west walls, was adhered using methyl cellulose (Culminal) with Metylan "Stan-fix" seam adhesive to reinforce the overlaps.

5. When hanging wallpaper in the conventional manner, the paper expands with the application of adhesive and then contracts slightly while drying on the wall. In this case, the treated wallpaper had been in a sense pre-hung "dry" on the fiberglass fabric and could not expand when the adhesive was applied for the actual installation. Therefore, the potential for a slight gain in dimension by expansion during hanging was not realized, and this accumulated to about 1 1/2 inches over a distance of approximately 25 feet. Further complicating the refitting of the paper were the irregular expansions and contractions which occurred before, during, and after the 1979 removal.

Two vertical inserts were made, one each on the north and south walls, to compensate for this small shortfall. Full length "scraps" of the 1950's edition scenic were trimmed and turned face in, adhering them to the liner with Muralo 8060. The scenic design was continued with an exact pencil drawing, then reconstructed using the same inpainting palettes made up during the conservation treatment performed during 1980 and 1981, plus some additional colors. Several light spray coatings of 8% Acryloid B-72 resin in xylene and toluene [2:1] were applied to unify gloss and to match the adjacent panels better. [See illustration #3.]

6. Inpainting of various small losses throughout the room was accomplished using Bocour Magna synthetic resin based paints, soluble in xylene. For the most part, we relied on the original mixtures made during the earlier conservation treatment as mentioned above.

### Conclusion

The wallpaper appears now to the casual visitor as though it had never been removed. The paper conforms to the undulating plaster walls, the moldings appear in proper relative relief to the paper, and the room is now covered with scenic and dado on all four walls, much as it once had been. Also, it is a rare opportunity to be able to compare a pristine, recent edition of a scenic paper with the aged, darkened, changed, but visually intact original scenic.

The original wallpaper is securely bonded yet can be removed by cleaving the wallpaper/fiberglass laminate from the sized liner (breaking the bond between the starch adhesives and the sizing on the liner paper) using various thin, metal spatulas. The method is simply to begin at the bottom at either corner with a microspatula and work up, increasing the size of the spatula to the large, cake decorating size. The largest spatulas usually need to be thinned a little near the tip using a belt sander.

At this time, the starch based adhesive separates from the soft sizing on the liner sufficiently clean to allow future removal and reinstallation without great difficulty. We all hope that the inevitable changes over time experienced by the materials used will not unduly upset their balanced interrelationship, making future removal less feasible than planned.

I would like to thank Patricia Dacus Hamm for her tireless work and contributions, without whom this project could not have been done. I would also like to thank Bob Kelly for providing his extensive paper hanging skills and knowledge, both of which proved invaluable.

## Materials Sources

1. Temporary wall size (indicating) - Golden Harvest #09301 with phenolphthalein: Golden Harvest, division of Krause Milling, Box 1156, 4200 W. Burnham, Milwaukee, WI 53201.
2. Wall size (used on the north, south and west walls) - Roman Adhesive R-35 (a dilute, soft acrylic emulsion): Roman Adhesives, Inc., 5 Lawrence St., Bloomfield, NJ 07003.
3. Heavy duty wall size (used on the east wall) - "Shur-Stik 111" (a clay content wheat starch adhesive diluted with water): Gibson-Homans, 1755 Enterprise Parkway, Twinsburg, OH 44087.
4. Liner adhesive - GH-34 (wheat starch, dextrin, methyl cellulose, and fungicide): Golden Harvest (see #1).
5. Liner paper - "Cover-Up" (fiber content unknown; other similar papers contain: 25% [bleached alpha cellulose], 75% [rayon, polyester, nylon, polypropylene] with an acrylic emulsion sizing on both sides) : Lam-Vin, Inc., 6260 Mar Industry Drive, San Diego, CA 92121.
6. Liner size (used on the north, south and west "inside" walls) - Benjamin Moore Wall Grip #3 (203 03) (a soft acrylic emulsion): Benjamin Moore, Chestnut Ridge Road, Montvale, NJ 07645.
7. Liner size (used on the east "outside" wall) - Roman Adhesive R-35 (see #2 above.)
8. Adhesive for original Zuber scenic wallpaper (previously treated and lined with a sized, fine weave, fiberglass fabric): general - Muralo 8060 (wheat starch, dextrin, methyl cellulose, fungicide); perimeter - Muralo 8080 (wheat starch, dextrin [less than 8060], methyl cellulose, fungicide), Muralo 8050 (a clay content, starch based adhesive with greater adhesive strength than either 8080 or 8060), Rhoplex AC-33 (acrylic emulsion), Cellofas B-500 (sodium carboxymethyl cellulose) together in the following proportions - [8:4:1:1]. Muralo Co., Bayonne, NJ 07002. (Muralo: 8050, 8060, 8080) Rohm and Haas, Independence Mall, Philadelphia, PA. (Rhoplex) Talas, 213 West 35th Street, New York, NY 10001-1996. (Culminal)
9. Wei T'O #2 (methoxy magnesium methyl carbonate in methanol diluted with Freon) - Wei T'O Associates, Inc., P.O. Box 40, Matteson, IL 60443.
10. Acryloid B-72 resin (ethylmethacrylate methylacrylate) Rohm and Haas (see #8 above.)
11. Adhesive for recent edition of the Zuber scenic wallpaper



and Scalamandre reproduced balustrade dado - "Culminal" methyl cellulose (see #8 above.)

Overlaps were reinforced on the scenic paper with Golden Harvest GH-34 and on the dado paper with Metylan "Stan-Fix" (probably a poly vinylacetate resin emulsion.)

Golden Harvest (see #1 above.)

Metylan Adhesives, Ross Chemical, 8750 Telegraph Rd., Taylor, MI, 48180.

12. Bocour Magna Colors (pigments ground in n-butyl methacrylate resin) Bocour Artist Colors, Inc., 100 Fenc1 Lane, Hillside, Ill. 60162. (Originally: 1 Bridge Street, Garnerville, NY 10923)

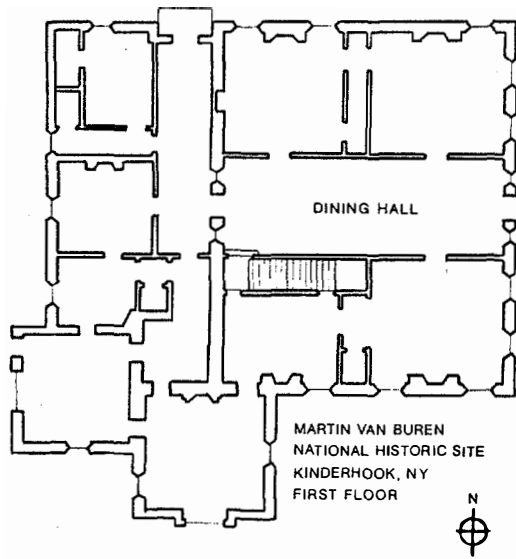
#### Endnotes

1. \_\_\_\_\_, "Historic Notes on the Scenic Papers of A. L. Diament & Co.," A. L. Diament Co.:Philadelphia (1978).

Note: This company no longer handles Zuber wallpapers.

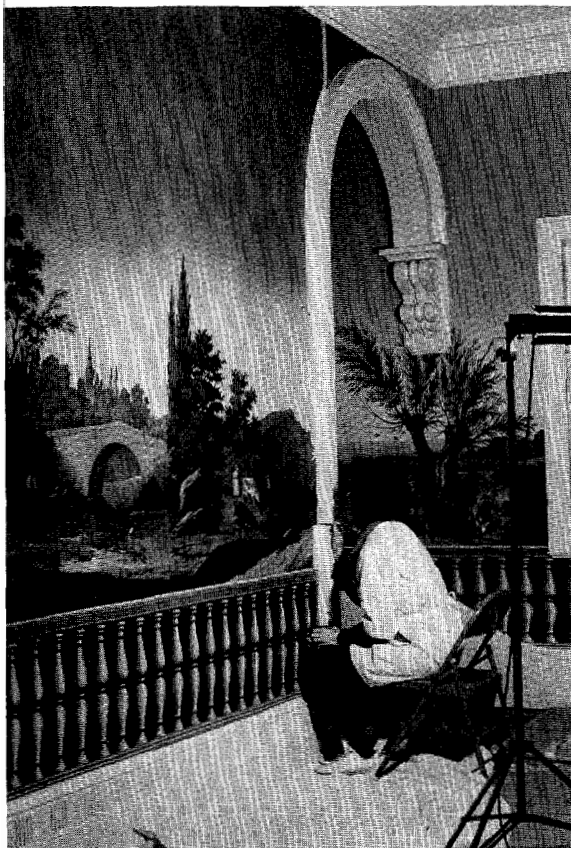
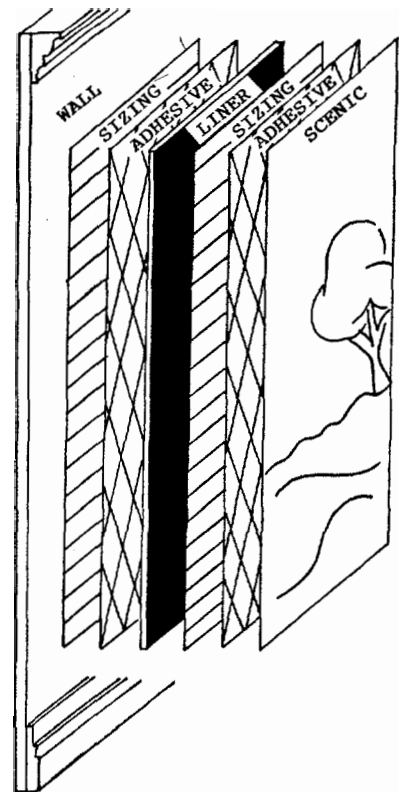
2. Hamm, P. and J. Hamm, "The Removal and Conservation Treatment of a Scenic Wallpaper, 'Paysage a' Chasses,' From the Martin Van Buren National Historic Site," Journal of the American Institute for Conservation, Spring 1981, Volume 20, #2, pp. 116 - 125. (See also "Wallpaper Conservation: A Special Issue" in the same Journal, pp. 49 -151.)

Illustrations



1. (Left) Floorplan of Lindenwald locating the 15' x 42' dining hall. The narrow outside wall faces east.

2. (Right) Schematic drawing of laminar mounting system.



3. (Left) Painting the narrow, vertical insert on the south wall. Background shows portion of 1950's edition of the Zuber scenic on west wall.