Finish Notes

The newsletter of architectural finishes investigation from Frank S. Welsh company

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Frank S. Welsh, 859 Lancaster Avenue, Bryn Mawr, PA 19010
Tel: 215-525-3564 Fax: 215-525-1333

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WELCOME TO OUR NEWSLETTER

There are a variety of interesting topics related to architectural paint, wall coverings, color and microscopy on which we have worked over the past 20 years. We feel that it would be valuable to discuss and share them with our many clients around the country. We would like to publish information about your projects to share with others. Please call us with any questions and we will answer them in print and help when you call. We hope you will enjoy this premier issue of Finish Notes™.

Miles Brewton House

Are you interested in 18th-century American colors, especially in the South? February's cover story in *The Magazine Antiques* details the restoration of the Miles Brewton House, Charleston, South Carolina's famous historic landmark.

Clues to Colonial Color

Two in-depth articles by Tom Savage and John Bivins describe how the home was restored to its original 1769 appearance. First-rate photography shows some of the rich color we found inside that was typical of the 18th-century South: mahogany graining, medium gray, pale ocher and yellowish white. The home is owned by Brewton descendants Mr. and Mrs. Peter Manigault.

Rare Find

While working at this house I uncovered an extremely rare example of a gilt papier mâché border in the stairhall. The first I have ever found, I discovered it on the cove ceiling over the original blue wallpaper. Located above a stair landing, it was almost inaccessible, which probably accounted for its survival.

Fashion Exception

Almost all Colonial homes in this period had dark baseboards. The practical purpose was to hide dirt and scuff marks from sweeping and mopping floors. In an exception to the typical Colonial fashion, however, none of the original baseboards in this home were ever painted a dark color.

Can't find the issue? Call *Antiques* at 212-941-2800.

Eliel Saarinen House

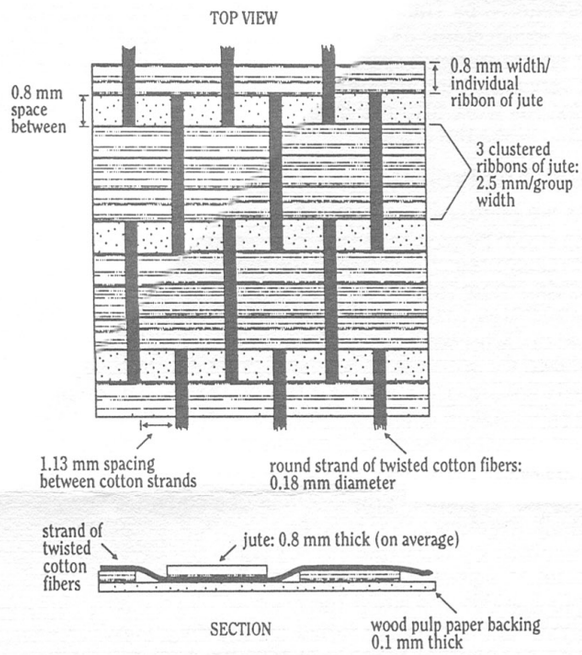
The April issue of *Architectural Digest* features interesting insights into the restoration of the Eliel Saarinen House, built in 1930 at Cranbrook Academy in Bloomfield Hills, Michigan. Curator of Collections Gregory Wittkopp has directed the restoration there for several years now. This article by Brendan Gill illustrates the major areas of restoration.

Pickled Panels

The rift-cut, straight-grained fir panels in the dining room were pickled. In the early 20th century "pickling" was a popular wood finishing technique. Unlike graining and marbling, pickling involved no decorative painting. Instead, pickled wood was bleached and aged using caustic solutions of lime to create an aged, weathered appearance. We identified signs of this finishing technique in a thin white film on the surface of the original wood. Using squaric acid in a microchemical test to detect calcium — all observed under the polarized light microscope — we confirmed that the panels were indeed classically pickled. We thank Dr. Walter McCrone of The McCrone Research Institute in Chicago for his guidance in this microchemical test.

Grass Cloth Reproduction

As textiles age and deteriorate, it becomes harder to identify how they originally appeared. In the living room, Saarinen specified that a type of grass cloth be used. A grass cloth is a woven-fabric wall covering. Saarinen's used natural fibers as opposed to artificial. Using polarized light microscopy we analyzed a tiny fragment, the only one surviving, and I identified cotton and jute fibers. Stereomicroscopical inspection allowed me to measure and draw the weaving pattern of the flat jute and rounded bundles of cotton fibers (see diagram). As a result, the fabric — as well as the original appearance — can now be reproduced exactly.



Wall Covering from: Saarinen House Living Room

Colonial Williamsburg Wallpapers

Recently the Colonial Williamsburg Foundation introduced a line of reproduced 18th- and very early 19th-century wallpapers from its collection. My role was to analyze more than 20 of the original papers, including wallpapers and borders alike. The goal was to determine the original colors in each pattern, the pigments used to make the paints, and the fibers of all the papers.

Distemper Paints and Typical Pigments

I found that most paints were distempers, and some were inks. Some papers' patterns were painted onto ungrounded (unpainted) paper stock. Most of the pigments were typical and easy to identify using polarized light microscopy (i.e., chalk, verdigris, yellow ocher) but some were not. Among the most challenging pigments to identify were the organic red and yellow lakes. Distinguishing their amorphous shapes and optical characteristics was extremely difficult. To identify them, I deferred to advanced instrumental analyses: X-ray fluorescence and Fourier Transform Infrared Spectroscopy (FTIR).

Recently one of these papers was temporarily installed in the parlor of the Robert Carter House on the Palace Green in Williamsburg. Called "French iresé", it is a rainbow paper, each alternating band of color blending smoothly into the next one. This parlor and the furnishings are scheduled to be the subject of an article in *Victoria Magazine's* June issue.

Carter House Parlor Restored

The parlor in Colonial Williamsburg's Robert Carter House recently received an extensive investigation of its original wood-trim paint finishes and colors. We found that

all the trim except for the doors and baseboards was painted a warm shade of off-white.

The original off-white color had yellowed extensively with age. To evaluate the original color we first needed to determine its pigment composition. Analyzing the paint with the polarized light microscope, we found major amounts of white lead and calcium carbonate, and smaller amounts of charcoal black, burnt sienna and yellow ocher. This helped us to more accurately assess the paint's original color and to understand more thoroughly the yellowing of the oil medium.

Accurate Color Matching

Other colors included brown on the doors and black on all the vertical faces of the baseboards. The baseboard height of the door trim also was painted black. The paint shop at Colonial Williamsburg accurately reproduced our color matches and restored them. Without a thorough understanding of the pigment compositions and small relative percentages of the tinting pigments, truly accurate interpretations of the original colors would have been impossible.

Recent Accomplishments

The Charles E. Peterson Research Fellowships, administered by The Athenaeum of Philadelphia, awarded Frank Welsh status as a Senior Fellow for 1992-1993. All year he has pursued special research and writing on 18th- and very early 19th-century American architectural paint colors. His work also will involve analysis of pigments used to make the colors.

Watershed Project

As we approach the 21st century, advancement of 40-year-old paint-analysis technology is sorely needed. This major project is showing the way to advancement. Involving more than 100 paints from more than 50 Colonial sites, this project marks the first time an extensive range of 18th-century American paints is truly being analyzed for accurate color and also for composition. Clearly linking color and pigment analysis to determine accurate original color represents a significant advancement in the field of architectural paint research.

This project recognizes that stereomicroscopical inspection of paint is only one-half of a complete color analysis. Pigment analysis is the other half, because the pigments in a paint determine its color. So does the amount of pigment used in a paint. The project will emphasize this and stress the need for all serious "paint analysis" of the future to similarly improve quality and accuracy. There are plans to publish the results in book form.

Munsell Color Restructures

Since the National Park Service adopted its use in the 1950s, the Munsell Color System has been used to describe original paint colors. In fact, it has been the preservation field's dominant color system and supplier of color samples. This, however, is quickly changing. In June, 1992, the Munsell Color Company closed its offices in Baltimore, MD. Except for personnel, the operation was relocated to the Newburg, NY, home office of owner Macbeth, a division of Kollmorgan Corporation.

Products Reduced, Costs Up

In a parallel move the company discontinued a major part of its extensive, long-time support of the Munsell color system and reduced the product line of colored papers sold. These papers served as color control and specification samples. They used to be small and relatively inexpensive. Now, however, the company's product list shows only colored papers sized 6" x 10" and 8" x 11" and costing $35 a sheet.

Welsh Introduces Alternative Color System

Our customers have noted their dissatisfaction with the changes at Munsell; i.e., only expensive larger sheets available, slower company response and mixed quality control. In the meantime, therefore, we are spending a lot of time developing what we feel is a more sound, useful and scientifically accurate alternative to the Munsell color system and the cost of color samples. We are implementing it on current projects. This is an enormous effort on our part and will take time to thoroughly introduce the system and techniques to all our readers and clients and to the preservation community at large. We know you will come to appreciate the advancement in technology and the improved accuracy and flexibility in color specification and quality control that it will afford. We believe you will like the economic benefits, too. As color is our business, and your principal concern in consulting with us, we take this matter very seriously. We will continue our discussion of this critical topic in our next issue. If you have any questions please call and we will supply any color samples you need.

Planning your next paint analysis project? Don't forget the PAINTPAMPHLET™. This handy guide helps you take your own samples in step-by-step fashion. Then mail to us for lab analysis. Cost: $5.

IN OUR NEXT ISSUE

- How is color accurately assessed and measured?
- Monticello update — Thomas Jefferson's 250th Birthday Celebration
- Our new article about lead paint.
- Microchemical analysis of historic metal roofing.
- Conner Prairie reopens Conner House.

If you want to learn more about a favorite area of concern, or if one of your projects has recently been featured in a local or national publication, let us know. We'll call attention to it.

FRANK S. WELSH COMPANY

The Frank S. Welsh company specializes in microanalysis of old and modern architectural paints, wallpapers, fabrics and other coatings on all substrates. The company analyzes and evaluates color and composition. We have performed architectural coatings analysis and color evaluations on hundreds of restoration projects in dozens of states as well as in foreign countries since 1974. Our experience in both color measurement and management services as well as our laboratory expertise using stereomicroscopy and polarized light microscopy can provide unequaled accuracy and results for architectural coatings analysis. © April, 1993

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