

ARCHAEOLOGY/ETHNOGRAPHIC SMALL GROUP DISCUSSIONS

Abstract

Christina Krumrine

"Use of Teflon tape in the conservation of a Navajo cradle"

Ms. Krumrine described her use of Teflon "plumbers" tape to repair a Navajo cradle. To re-adhere delaminating bark, warm gelatin was applied between the bark and twigs. Strips of flexible, non-stick Teflon tape, an inert polytetrafluoroethylene (PTFE) polymer, were wrapped around the twigs. The tape provided gentle, even pressure to the bark during drying of the gelatin. Gortex gasket tape, another brand of PTFE polymer available in varying thicknesses, has been successfully adhered to brass mounts with archival adhesive; it provides a non-abrasive cushion for objects with friable paint layers.

Abstract

J. Claire Dean

**"The protection and conservation of archaeological sites and their contents:
Pinon Canyon Maneuver Site, Colorado"**

Ms. Dean, an archaeological site conservator, presented the problems faced in attempting to conserve archaeological and historical sites at Pinon Canyon Maneuver Site. While many of the problems were common to the conservation of all types of site, unique to Pinon Canyon is the potential destruction caused by the mechanized training of tank crews. Such training can cause extensive damage to rock art, archaeological and historic sites. Ms. Dean reports that the US Army has been very conscientious in avoiding this problem, and is working closely with various agencies to preserve the cultural resources at Pinon Canyon.

Abstract

Mr. Gary McGowan

"The South Street Seaport Museum Archaeological Conservation Laboratory"

Mr. McGowan reviewed the history of the South Street Seaport site and the legal decision resulting from litigation between archaeologists and developers, which provided at least a five-year presence of a conservation facility for which he is responsible. He reviewed the large numbers of artifacts which the facility is attempting to stabilize and exhibit, focusing on a number of interesting treatments. The presentation outlined the problems faced by a small facility with a very limited amount of time to assure the preservation of a large number of archaeological objects. Mr. McGowan also reviewed the challenges and benefits of working in facilities where the conservator is asked to interact with the public while working on the artifacts themselves.

Abstract

Joan Schiff

"The conservation of iron buttons from the Bowne site."

Ms. Schiff, a conservator at the South Street Seaport Museum, described the specific treatments being attempted to conserve mid-19th century corroded iron buttons, from an excavation formerly at 75 Wall St. Mechanical cleaning, removal of chlorides through soaking, vacuum impregnation with B-72 and/or wax, tannic acid application, etc. are stabilization techniques which have proved effective. The buttons will be stored in new environmentally controlled storage.

Abstract

T. Rose Holdcraft
"Repair of a Hawaiian Crested Feather Helmet"

A brief presentation on a treatment designed by Scott Fulton and T. Rose Holdcraft, illustrated the use of a narrow diameter surgical polyethylene tubing in the support of a tear in the cap portion of the helmet. The tube's function was to inhibit extension of the tear during transport and exhibition at a loan show. The beneficial properties of the tube are its inherent flexibility, low weight and low elongation. Discussion followed regarding potential use of other materials, including teflon tubing and the wide possibilities of their use as stable supports.

Abstract

Dennis Piechota
"An RH stabilized case using a gelled saturated salt "gatekeeper."

Mr. Piechota presented for discussion a concept he has been developing which would allow the reconditioning of silica gel within a sealed case by the introduction of various gelled metallic salts accessed via a small port. Gelled salts in Tyvek packets would either dessicate or humidify the air as it passes into the case. Mr. Piechota described his success in gelling zinc nitrate (43%RH) with Methocel A4C.

OUTDOOR SCULPTURE DISCUSSION GROUP

June 8, 1991

Secretary: Virginia Naudé

John Griswold, from Glenn Wharton and Associates, Santa Barbara, California, showed samples of a translucent filling material his company has been using for outdoor marble sculptures. It is made with Hxtal NYL-1 epoxy (from Conservation Materials), Cabosil (fumed silica), and #5 White Hard Fusing Powder (from Thompson Enamel, Box 310, Newport, KY 41072, tel. 606-291-3800). The enamel powder allows brilliant whites to be achieved without losing translucency.

He mixes the epoxy and then adds Cabosil, 4 or 5 times the volume of the epoxy. It must be very well mixed; an electric rod is useful. The filling material is ready to use when it becomes a stiff, translucent paste. Just enough white enamel frit is added to produce the appropriate shade, which can be slightly modified with small amounts of dry pigment.

Hxtal is used because it is not supposed to yellow. He has not yet experimented with added UV inhibitors. The kind of fillings shown have not been outside for more than a few years but they have not changed color. Hxtal setting speed is variable. It depends of the amount of hardener, the heat and relative humidity.

Griswold pointed out that #5 frit contains lead as a modifier within the glass but that this should not have any effect on long term aging properties, according to John Twilley at LACMA. Normal health precautions should be observed while using it, especially when sanding the final putty.

Discussion followed about various stone fillings, everything from lime mortar, to proprietary products and resins with various aggregates.

Shelley Sturman raised the question of adding UV absorbers (such as Tinovin 328) to coatings to stabilize them, especially in an outdoor environment. These UV absorbers are based on benzotriazole derivatives. She does not know of many people working on this and hopes to begin research. Any suggestions will be welcome.

Tracy Power reported that she and Michelle Barger had experimented with various fillers. (The following text follows from notes Powers sent in after the meeting). The experiments were conducted while treating an indoor alabaster sculpture at the Fine Arts Museums of San Francisco. They wanted to avoid

using solvents since solvents lead to shrinkage and can have negative effects on aging of resins. Solvent retention in the fill material could make the fills too soft and inappropriate for large fills along protruding design elements. The fill material also needed to be translucent to visually blend with the stone.

Solvents were avoided by melting mixtures of synthetic waxes and solid resin beads in small metal weighing cups over a hot plate. Calcium carbonate and alabaster dust were added for coloring, and fumed silica was added as a matting agent. The mixtures were cooled and they hardened into separate cakes.

Poly (vinyl acetate) resin beads and solid synthetic waxes were tried first, yet were unsuitable as they separated upon cooling in the metal cups. The process was repeated using resin beads without wax. A range of poly (vinyl acetate) resins and Acryloid B-72 resin were experimented with, and all had the qualities initially desired from the fill material. Acryloid B-72 was chosen for the treatment because it seemed to have better working properties.

Before applying the fill material, damaged areas on the stone were primed to promote better adhesion, with a layer of poly (vinyl acetate) in ethanol. A heated spatula with various tips was used to soften the thermoplastic resin to work it into areas of loss on the sculpture. A combination of differently tinted resins were used to simulate variation in stone. The fills were refined by use of heat, solvents, and polishing.

The technique requires some patience, yet Power and Barger feel that the visual result, avoidance of toxic solvents and promise for long-term stability outweigh the inconvenience. Although the sculpture treated is exhibited indoors, the technique may have a potential for stone exhibited outdoors. Other thermoplastic resins could be substituted for Acryloid B-72. The technique has also been used successfully on ivory.

After the discussion about stone filings Arthur Beale gave an update on the SOS! program. Update material written by SOS! since the Albuquerque meeting is appended to these notes in lieu of a summary of the informal remarks made in June.

After Beale's presentation Terry Weisser commented that there are too few practitioners in the field of outdoor sculpture conservation. [Hear! Hear!]

David Mathieson brought up the subject of treatment and display of deteriorated wooden sculpture outdoors. He is particularly concerned about figureheads. After some discussion everyone seemed to agree that historic polychromed wood should be brought inside. Many people thought placing replicas outdoors was appropriate. A discussion followed about suitable replication materials.

Beale mentioned the resin rhinoceros replica outside the School of the Museum of Fine Arts, Boston. It was cast from a plaster mold used to make the original bronze by Katharine Lane, located on the Harvard University Campus. Beale mentioned the extensive use of resin for reproduction of bronze and stone sculptures in France; delegates to the 1986 ICCROM metals conference in Paris were shown many examples. Naudé gave an example of replacement using similar material; medieval limestone carvings are being replaced by carving existing, weathered images in the same kind of stone using computer technology. Slides were shown of early prototypes in a process being developed by John Larson for Lincoln Cathedral in England.

Glenn Wharton asked the group if anyone could provide advice for some current projects on sculpture in fountains. People who had addressed this issue had generally used very practical means to get the purest water possible, by removing metal pipes, using antibacterial agents and monitoring water purity. The technology for purifying water through less chemicals and more filters exists but is very expensive. (Note: Martin Burke will present, at the 1992 AIC Pre-Session on outdoor sculpture, the results of his current research on fountain maintenance. He will provide maintenance guidelines and sources of information.)

There was discussion about increased legal restrictions on the materials we are allowed to use out of doors. Public health questions are being raised. Walnut shells and toluene were two frequently-used materials discussed. Beale mentioned that the coatings industry is very concerned about the same issues, and a considerable amount of research is underway to develop water-based consolidants and coatings.

Some of the particularly toxic, frequently-used materials are the polyurethane paints with very toxic catalysts, such as Imron, from Du Pont. Many paint companies make a similar product.

The discussion went on about the quality of the Imron surface and aesthetic problems with its extreme gloss. Several people reported ordering matte Imron from the manufacturer. Marianne and Robert Marti reported work spring 1990 on a Calder sculpture at the Nelson-Atkins museum in Kansas in collaboration with Kate Garland. Du Pont came up with an Imron mixture to match the color and surface sheen of Calder's original paint. In this case the paint was not matte.

Du Pont has not done any tests on the life of the matte paint because of the high cost of testing and low demand for the product. The manufacturer says that the high gloss Imron has a coating life of 10+ years. They recommend, as we do, yearly inspections and spot retouches.

A few minutes were taken at the end of the afternoon for discussion about the discussion -- if people want to continue this kind of session at annual Objects Group meetings. There was

a consensus of "yes" and an interest in keeping the format fairly unstructured. It was suggested that someone sign up to give a starter presentation. Griswold's idea for a practical discussion with samples to pass around got everyone involved right away. People might also be encouraged to bring some slides to show if the discussion drifts in the right direction. It was stressed that maintaining spontaneity is very important.

The secretary was not aware that such an extensive commentary would be solicited for a post-print and suggests that the next secretary make better note of individuals who may have commented only briefly on a topic but who might be able to provide additional information to insert in the published notes.

AIC 1991 Albuquerque
Objects Session
Decorative Arts and Sculpture discussion group
Brian Considine, Secretary

Notes on the proceedings:

Kathryn Klein
J. Paul Getty Museum
213 459-7611
A Conservation Treatment for an 18th Century Chandelier.
Abstract attached.

Valentine Talland
The Isabella Stewart Gardner Museum
617 566-1401
Discussed the problems encountered in the consolidation of stone sculpture permanently installed in the museum. A vapor chamber was created by building a 2 x 4 frame and covering it with two layers of polyethylene sheeting. This chamber was then ventilated to the outside by installing a portable duct fan in a window and connecting it to the vapor chamber via flexible ducting. Sandbags were placed along the bottom to ensure a good seal. The exhausted air was filtered through charcoal and hepa filters. This chamber allowed them to contain the consolidant being sprayed on the stone.

Melissa Meighan
Philadelphia Museum of Art
215 787-5418
Italian High Renaissance Majolica: Examination and Treatment.
"Italian Renaissance" Hand Mirror: An Electrotpe.
A Tip for the Examination of Restored Ceramics.
Abstracts attached.

Don Menvig
Los Angeles County Museum of Art
213 857-6166
Discussed Toshikatsu Endo's sculpture, Lotus II, from the Hara Museum in Tokyo. This sculpture, which the artist describes as being of earth, air, sun, water, fire and wood, is made of 16 sections of charred wood with a circular steel water trough. The piece was in a travelling show and, because it had been made with green wood which was then charred, there were problems of cracking and crumbling of the charred sections. Leaks also had developed in the steel trough, which was lined with an industrial product called liquid membrane (manufactured by the W.R. Grace Co.). Shrinkage of the wood also caused the rag bond on the top of the wood to delaminate. This was reglued with PVA. The

artist had originally used latex to fill cracks on the exterior of the wood sections, but it was found that the latex pulled off too much of the charred wood when the piece was disassembled. Papier maché with clay was substituted in subsequent installations.

Kory Berrett
Berrett Conservation Studio
215 932-2425
and

Michele Barger
215 384-3624

Discussed the use of the scanning electron microscope to identify mold spores appearing on two tin-glazed earthenware objects. Different molds were identified, including one that was growing under the glaze.

Jean Portell
Jean D. Portell, Inc.
718 643-1222

Discussed her current work on the recognition of decorative silver gilding when it is so tarnished that its presence is not obvious. She illustrated her talk with both sculpture and decorative arts.

Suzanne Hargrove
St. Louis Museum of Art
314 721-0067

The Examination and Treatment of a Behrens Electric Kettle.
Abstract attached.

Kathy Klein
The J. Paul Getty Museum
213 459-7611

Abstract

A Conservation Treatment for an 18th Century Chandelier

The main structural frame of this 18th century chandelier consists of four iron arms overlaid with rectangular pieces of glass which extend from a central iron spindle. Secondary armatures are made of silvered brass set with glass, crystal beads and rock crystal drops. Many of the glass elements throughout the chandelier are backed with a silvered copper foil. The foils are painted primarily in transparent yellow-green or faded crimson, but there are a number which are painted either purple or topaz to simulate semi-precious stones. Blue, topaz and purple-colored glass beads as well as gilt-copper accents have been added throughout.

Prior examination had determined that the chandelier needed to be cleaned, due to the heavy amounts of surface dirt, tarnish and rust. Because the mixture of copper and brass wire showed extensive signs of deterioration, it was decided that the entire wiring system for the crystal drops, beads and glass pieces should be replaced with a more stable material.

Materials and Suppliers:

Micro

Spectrum Chemical Manufacturing Corporation
14422 So. San Pedro Street
Gardena, CA 90248

Pliable stainless steel wire
Bob Martin Company
2209 No. Seaman Avenue
El Monte, CA 91733

Melissa S. Meighan
The Philadelphia Museum of Art
215 787-5418

Abstract

Italian High Renaissance Majolica: Examination and Treatment

A pair of late sixteenth century Italian Renaissance majolica vases, in the istoriato-grotesque style, are undergoing examination and treatment in the Objects Laboratory of the Philadelphia Museum of Art, initiated by an inquiry regarding their attribution and authenticity from the British Museum. The project has involved the use of X-ray diffraction analysis, emission spectrography, neutron activation analysis and cross- and thin-section analysis as well as normal macroscopic and microscopic examination techniques. Other Italian majolica in the P.M.A. collection was examined for comparison and the Renaissance text by C. Piccolpasso, The Three Books of the Potter's Art, was used to elucidate aspects of the materials and techniques of manufacture. A few aspects of the examinations and treatment will be discussed.

Abstract

"Italian Renaissance" Hand Mirror: An Electrotpe

A beautiful, parcel gilt-silver hand mirror was recently examined as a rare example of Northern Italian domestic metalwork, dated c.1500. X-radiography was the analytical technique which confirmed that the object was an electrotpe. Library research revealed that electrotyping was commonly used in the nineteenth century by a number of manufacturers for the reproduction of works of art for educational purposes. In at least one case, a major museum both commissioned and collected these electrotypes. Visual clues, maker's marks, the X-radiograph of the mirror and the 1868 "Convention for promoting universal Reproductions of Works of Art for the benefit of Museums of all Countries" will be commented on.

Abstract

A Tip for the Examination of Restored Ceramics

In recent examinations of repaired and overpainted ceramics, infrared reflectography has proven a useful alternative to X-radiography.

Suzanne Hargrove
The Saint Louis Art Museum
314 721-0067

Abstract

The Examination and Treatment of a Behrens Electric Kettle

An important early twentieth century example of an electric teakettle designed by Peter Behrens for manufacture by the Allgemeiner Elektrizitäts-Gesellschaft of Berlin was examined and treated. The surface of the kettle was disfigured by packing tape, fingerprints, grime and old polish residue. Parts of the heating element package were broken or missing. The treatment describes the removal of the tape with benzine and the cleaning of the kettle with Solvol Autosol metal polish. Flaking black paint on the underside of the kettle was consolidated with a 20% solution of Acryloid B48-N in acetone. Hot air and hot water were used to reoxidize the surface slightly prior to the spray application of several coats of Agateen 2B cellulose nitrate lacquer. The wooden handle on the lid was given a protective coat of wax and the cane handle was wrapped for protection during the oxidizing and lacquering processes. Neither was soaked. The heating element was also detached and treated separately. Mica contained within the package was broken in many pieces. Rust was removed from metal plates in the package with glass bristle brushes. The pieces of mica were encapsulated between sheets of mylar prior to reassembly. After treatment, the handle of the pot was unwrapped and the wax was removed from the handle of the lid.