
Annual Meeting Presentations

*The 2006 WAAC Annual Meeting
was held October 20 - 22
in Tucson, Arizona.*

*The papers from the meeting are
listed below along with summaries
prepared by the speakers.*

Traveling in the American West

Sylvie Penichon

In the American West was a landmark in the career of New York fashion photographer Richard Avedon. Unveiled in 1985 at the Amon Carter Museum, the work was acclaimed and criticized with equal fervor. Twenty years later, *In the American West* is back on the road and continues to fascinate and disturb visitors. This presentation will focus on the aesthetic choices made by the artist for the printing, mounting, and display of the photographs and their impact on the long-term preservation of the work. Conservation issues with the traveling of the exhibition to multiple venues will also be discussed.

Saving Grand Canyon River Running History: One Boat at a Time.

Brynn Bender

Modern adventurers have been traveling through the Grand Canyon on the Colorado River since 1869. The Grand Canyon National Park Museum collection contains 18 boats that have made historic journeys on this amazing river from 1909 to 1965. This presentation will include an overview of the National Park Service's project to preserve and exhibit these boats. Treatments have used multi-disciplinary techniques and an overall approach towards long term preservation.

Conservation Methods Used for *Miracles and Mischief: Noh and Kyogen Theater*

Susan R. Schmalz

The Los Angeles County Museum of Art organized an exhibition of over 200 culturally significant objects borrowed from Japan for its exhibition, *Miracles and Mischief: Noh and Kyogen Theater*. Ranging from sumptuous silk robes to expressive wooden masks, these objects of high cultural, aesthetic, and monetary value were accompanied by staff from the Japanese Government's Agency for Cultural Affairs, the "Bunka-cho." To address the lenders' strict guidelines for installation and exhibition, LACMA's textile conservator and object conservator worked closely with the couriers to address environmental, mounting, and treatment needs. This paper will examine the steps taken to bring together Eastern and Western philosophies of aesthetic appearance and acceptable stability.

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Preliminary In Situ Conservation of Late Pre-classic Maya Wall Paintings and Architectural Features in Las Pinturas San Bartolo, Guatemala

Angelyn Bass Rivera, Leslie Rainer, and William Saturno

Following discovery of late pre-classic murals at San Bartolo in 2001, preliminary conservation of the wall paintings and architectural features has been carried out in conjunction with their excavation. In situ conservation treatments have focused on recording the physical condition of the murals and monitoring the microclimate as baseline documentation, stabilizing wall paintings and stucco relief features, reattaching mural fragments, and cleaning surface soiling to facilitate documentation and interpretation of the murals. Minimal intervention and a phased conservation approach have allowed excavation to proceed while preserving the structural and material integrity of the wall paintings and other architectural features for future study and presentation.

Re-tracing the Long Old Road in China: Conservation, Archaeology, and Museum Ethics at the Fogg Art Museum, 1921-1933

Sanchita Balachandran

The preservation of cultural property is never a neutral activity. The question of who is to possess, care for, and interpret artifacts is highly politically charged, particularly when cultural property is acquired or removed under imperial or colonial rule. This talk examines how preservation was used as a justification for the removal of not only movable artifacts but also pieces of immovable archaeological sites, and was therefore an essential tool in building museum collections.

This study focuses on a collection of twelve wall painting fragments from the site of Dunhuang, China, which were removed by art historian Langdon Warner in 1924 for the Fogg Art Museum (now the Harvard University Art Museums). The removal process resulted in significant damage to some of the painting fragments as well as to the site, calling into question what is preserved—an intact ancient artifact or an ancient artifact

scarred by and embedded with its modern collection history. How do pedagogical institutions such as museums grapple with unsuccessful examples of preservation? Drawing from the Harvard collection as an example, this paper examines the contradictions of early preservation ethics in China, and considers the legacies of such policies for museums with these entangled artifacts as well as the sites from which they were originally removed.

Reading a Pueblo Pot: What We Can Learn from the Conservator's Visual Examination

Landis Smith

Pueblo pottery presents the conservator with a range of technology and conditions which are the result of the potter's technology and materials, and the subsequent history of the pot both within and without the pueblo. Visual examination reveals an array of surface deposits, Native repairs, coatings, use wear, paste, slip, and paint which offer information about the pottery-making process, firing conditions, social conditions, cultural aesthetics, environment, use and differences between pueblos. At the same time, examination of pottery often sheds light on past museum practices, ethics, and particularly, attitudes towards preservation. Case studies will be used as points of discussion.

Anatomy of a Collection Move

Jennifer Alcoset, David Dolim, Lisa Forman, Margaret Kipling, and Caroline Kunioka

Planning and preparing for a collections move presents one of the greatest challenges to museum professionals. The development of a collections move process is a complex problem, and many different approaches have been used. The move process created by Hudson Conservation Group for the Southwest Museum of the American Indian of the Autry National Center collection presents a useful case study of a well-designed collections move. Stations for registration, pest management, condition assessment, cleaning, rehousing, and storage were created to insure all aspects of each artifact were addressed within the overall context of the

whole collection. Objects were tracked throughout the process using a custom designed barcoding system. The talk will outline these procedures and their implementation.

Documentation Synthesis of the Watts Towers

David Wessel, Katherine Untch, and James Cocks

Italian immigrant Simon Rodia created the Watts Towers between 1921-1955. Fully encompassing a tenth-acre triangular lot and reaching a height of almost 100 feet at the highest point, the site contains several individual features made of steel armature, wire mesh, and cement mortars. The surfaces of these sculptures are embedded with salvaged decorative pieces including glass bottles, glazed tile, pottery shards, rocks, and seashells. Surfaces, including the floor, are embossed with designs from iron gratings and Rodia's tools. The towers are designated a National Historic Landmark, one of four in the city of Los Angeles.

Several conservation and engineering experts have contributed to the ongoing preservation of the Watts Towers. In 2005 Architectural Resources Group was contracted by California State Parks to synthesize previous records including repair databases, condition and repair records, photographs, and engineering and material test reports into an accessible web-based three dimensional computer model. Data links at locations on the computer model can access records pertaining to a specific location. The model can be used to better assess condition changes over time. This paper will give an overview of previous documentation formats and demonstrate the web-based computer model.

The Community of Biofilms on Rock Surfaces: Conservation Implications

Mary-Lou Florian

Biofilms are bacterial, fungal, algal, and lichen colonies which produce a film, slime- by which they attach themselves to surfaces. The community includes all these organisms. Each one is undertaking activities required for its life and at the same time influences the others, allowing

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life together in harsh environments on rock surfaces. Each cell has its own film. It is the site of water and gas diffusion, enzymatic activities, chelation of minerals, antibiotic resistance, etc. The film has been overlooked in our conservation treatments. Films remaining on surfaces condition surfaces for rapid reinfestation. The film is a colloidal gel strongly adhered to the surface which shrinks and swells with moisture changes causing rock particle disaggregation.

Louisiana Mold in Southern California

Beverly Perkins

As an objects conservator, I am not accustomed to confronting moldy collections. Six months after the hurricanes and flooding in New Orleans, Mary Striegel of NCPPT, Hilary Kaplan of NARA, and I went to Louisiana to teach three workshops sponsored by NCPPT, AIC, and NARA. The three of us also carried out on-site consultations for wet and moldy collections. During one of these site visits to a jazz musician's house, we recovered selected pieces of the musician's hand written music, journals, and personal effects. Four boxes of still wet paper and objects were sent to Southern California. A mini-massive treatment was carried out on the musical scores and journals, under the supervision of Hilary Kaplan and with the help of Janet Ruggles of BACC. Basic information on handling and eliminating a mini-massive amount of mold will be presented.

After the University of Hawaii Library Flood: FEMA and Treatment of Maps and Aerial Photos

Lynn Davis

Powerful water surged through the ground floor of the University of Hawaii at Manoa Library in October 2004, leaving behind some fish, frogs, and water and mud damaged collections. In February 2005 the university was declared a disaster by President Bush, allowing for FEMA funding. FEMA pre-Katrina and Rita, seemed to have little or no experience with library collections including maps and aerial photographs. A local architect and a paper conservator from the U.S. were assigned to work with the library on recovery issues and costs. This

talk will explore the delights and challenges of negotiating with FEMA and treatment of the library's collections.

The Use of Antibodies for the Identification of Proteins in Artists' Materials

Arlen Heginbotham, Victoria Millay, and Michael Quick

Antibody-based immunological approaches to identifying protein-based materials offer several advantages over the traditional methods used for analyzing works of art. These techniques are able to distinguish with ease between different protein types (i.e. collagen vs. albumen vs. casein) and also to determine the biological source of the protein (i.e. bovine collagen vs. rabbit collagen vs. sheep collagen).

The technique of Enzyme-linked Immunosorbent Assay (ELISA) is highly sensitive (detection limits can be below one nanogram) and is relatively simple and cost-effective. In addition, immunofluorescence microscopy (IFM) offers the possibility of spatially resolving target proteins in embedded cross-sections. This paper presents a case study in which these complementary methods were successfully employed for the identification of egg albumin in the analysis of an important 17th-century French cabinet by Andre-Charles Boulle in the collection of the J. Paul Getty Museum. The authors suggest that ELISA and IFM have the potential to become routine analytical tools in conservation science laboratories.

The Southwest Pottery Project: Surveys, Storage, Rehousing, and Treatment at the Arizona State Museum

Chris White, Nancy Odegaard, Teresa Moreno, Marlien Pool, Margaret Kipling, and Julie Unruh

The Arizona State Museum conservation and SW Pottery storage facilities are undergoing a significant renovation and reorganization. The project includes a baseline condition survey that includes treatment and material analysis of adhesives, coatings, and historic residues. The Southwest pottery collection consists of approximately 20,000 whole vessels. The entire collection will be surveyed and

moved to climate controlled storage in a new purpose-built facility. The survey includes photographic documentation and selective sampling of old adhesive residues, surface coatings, and ethnographic repair materials. The data from the survey will allow further work and research to continue on the collection and provide a valuable reference for future conservators.

Assessing Mechanisms of Granite Decomposition: A Cemetery Case Study

Caitlin O'Grady

Granite materials are used widely in archaeological and architectural contexts. Several different mechanisms of deterioration have been identified including hydrolysis, salts formation, and biodeterioration. Hard water (resulting in hydrolysis and salts formation) and its effects on granite have not been adequately addressed, as indicated by rapid deterioration of granite grave markers from cemeteries in the southwestern United States. Samples from markers and irrigation water used in cemetery maintenance are analyzed to characterize chemical decomposition and determine a mechanism of deterioration. Recommendations for irrigation practices and possible treatment options for already damaged grave markers are made.

Hand-Held Conductivity Probe Prototype: Measuring Soluble Salt Content on Ancient Ceramics

Lesley D. Frame, Iva Segalman, and Chris White

This hand-held conductivity probe enables conservators and other researchers to estimate the soluble salt content in ancient ceramics without immersion in water. While the complete immersion of ceramics in deionized water provides accurate detection and measurements of soluble salt content, this method can be time consuming and potentially destructive. The aim of this probe's design is to maintain the integrity of the artifact while obtaining localized surface measurements of soluble salt content. In addition, the device is highly mobile, facilitating use in both the lab and the field. The probe is still in the early stages of development. Calibration curves relating conductivity

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in mS to ppm salt content and comparisons to conventional methods of measuring salinity have guided its development. Eventually, this hand-held probe will enable conservators more quickly to survey collections and determine strategies for preservation environments that will inhibit efflorescence as well as guide the protocols for conservation treatment.

The Removal of Arsenic and Mercury from Materials Used for Artifacts

Peggi S. Cross

Historic treatments to preserve natural science specimens, ethnographic artifacts, and other materials often included arsenic and mercury salts. The need for a method to decontaminate artifacts and museum surfaces without causing degradation to the surfaces or exposure to personnel is a critical conservation concern. Today, there is an environmental concern for the health of the museum workers, visitors, and researchers who work with these collections. In addition, American Tribes who receive objects through repatriation may face serious health hazards if the objects are placed back into cultural use. Aqueous solutions that include the use of reduced alpha-lipoic acid, a natural chelator, have been developed, and the efficacy of these solutions to remove arsenic and mercury from porous materials including standard filter paper, cotton, wool, and feathers has been measured using X-ray fluorescence (XRF).

Supercritical Carbon Dioxide (scCO₂) Extraction of Pesticides from Simulated Museum Artifacts

Teresa K. Moreno, Werner Zimmt, Nancy Odegaard, Rachael A. Turner, Bo Xie, Anthony J. Muscat, and Mark R. Riley

In the past, cultural artifacts in museums were often treated with a range of poisons and pesticides to prevent or retard deterioration. Unfortunately, accurate records of the type, dose, and timing of administration of these pesticides were frequently not maintained. Many persistent pesticides, including non-volatile metals, may remain on artifacts decades after administration. There are limited methods to determine if such materials remain and few methods for removal

without damaging the fragile and precious materials. This study presents an investigation of the use of supercritical carbon dioxide (scCO₂) for the removal of organic pesticide residues, such as DOT or diazinon from simulated museum artifacts and pesticide residue detection using a lung cell culture technique.

Stanton MacDonald Wright: Murals for the Santa Monica Public Library

Susanne Friend and Duane Chartier

This paper discusses the recovery, conservation, and reinstallation of a mural cycle originally designed for the Santa Monica Public Library. The mural cycle suffered unnecessary damages as a result of the destruction of its original venue. As a WPA sponsored art work it was then brought to Washington, DC where it languished in storage for forty years. The construction of a new library in 2005 enabled the city of Santa Monica to take out a long-term "loan" of the paintings. The mural was then conserved and reinstalled in the new building. The reinstallation in a new library in close proximity to the old demolished library raises important questions about the management of WPA era art as well as other public art.

Wax Sculpting Tools

Beverly Perkins

Electric wax sculpting tools are efficient and easy to use. Wax sculptors use electric tools with an assortment of tips to make reliefs, jewelry, models, and sculpture. The needs of a sculptor are similar to the needs of a conservator working on an object made of wax; bonding two pieces of wax together and filling, or building up, areas to plump up sculptural forms. Electric wax sculpting tools can cost hundreds of dollars. This presentation will discuss various tools including one that works on batteries and sells for less than \$20, and one that can be easily made. This wax tool can also be useful for paintings conservators who make wax fills.

Sources for Wax Sculpting Tools:
Rio Grande www.riogrande.com
FDJ Tool www.fdjtool.com
Shor International Corporation www.shorinternational.com

Solvent Gels: Insights into Carbopol Gel Formulation with the Modular Cleaning Program

Chris Stavroudis

Ongoing development of the Modular Cleaning Program (MCP, a FileMaker Pro database that formulates cleaning systems for conservators) has catalyzed an effort to better understand the formation of Carbopol-based solvent gels. Working with only empirical observation of gel formation and careful measurement of the amount of water that is required to make a successful solvent gel, a theory of solvent gel formation has been incorporated into the MCP. Using this theoretical model, the MCP can suggest the correct amount of water to be added to complex mixtures of solvent, Carbopol, and up to two amines.

This theory of Carbopol solvent gel formation will be explained. Once conservators can understand how to predict the amount of water necessary to make a solvent gel, we can focus of fine-tuning the solvent combinations in solvent gels and the selection of neutralizing amines to better control their action in cleaning. How a number of solvent gels can be modularized to fit into a mix-and-match system to be implemented in the MCP will also be discussed.

Towards an Indelible Prehistory: Laser Scanning and Southwestern Archaeology

Wm. Randy Haas, Jr.

Archaeologists have relatively recently recognized potential applications of 3D laser scanning in archaeology. Over the past decade, Western Mapping Company has adapted and developed methods for capturing high-accuracy, high-resolution, digital 3D models of prehistoric material culture, including art, architecture, and artifacts. In this presentation, we provide a brief overview of laser scanning technology, introduce some socio-political impetuses for digitally modeling prehistoric remains, and offer several case studies to demonstrate the efficacy of using 3D laser scanning to solve analytical and management problems in the archaeology of the American Southwest.