Conservation and the Work of the Light and Space Artists
Mitchell Hearns Bishop

The work of the artists associated with the Light & Space movement, such as Jim Turrell, Bob Irwin, Maria Nordman, and others will be discussed in terms of how these works can be conserved and/or documented and the different approaches that can be taken. Reconciling these with professional ethics and standards will also be considered. An approach embracing the context and values associated with these works will be advocated. In some instances, these values deliberately circumvent materiality in favor of an experiential approach. Reconciling this with preservation and conservation concerns will be the primary subject of this paper.

Repairs on Ethnographic Objects Using Abalone Veneer
Scott Carlee

Many objects from the Northwest Coast and the Pacific Islands have abalone inlay or buttons as decorative elements. Often portions are lost or missing, compromising the aesthetics of the design. Replacing the missing elements with abalone veneer is easy, fairly inexpensive, and will never be mistaken for original material (except to the casual viewer). The best way to handle this material for conservation purposes will be discussed and treatment examples will be shown.

Structural Fills: Preservation and Conservation in a Museum of Living Anthropology
Tony Chavarria

This presentation will examine varying perspectives of museum conservation methods used in the treatment American Indian art and artifacts. Touching on issues of patrimony, preservation, and roles of authority garnered from specific events, this presentation hopes to create discussion and dialogue among conservators and between sometimes-disparate groups. Differences of worldview and training will be shown to merge in common goals.

Microenvironments for Pyrites and Other Unstable Minerals
Tania Collas

Pyrites ($\text{FeS}_2$), like all sulfides, oxidize when exposed to air. The oxidation reaction produces sulfur dioxide and sulfuric acid, which further the degradation of the specimens, pres-
Presentation Summaries

Tania Collas and Vicki Gambill

Archaeological Site and Historic Ruins Protection – Reburial Techniques and Shelters
Rachel Burch

Earthquake Strapping for Collections

Southern California may have beautiful scenery and mild weather, but it also has its share of natural disasters. Los Angeles and its environs experience as many as thirty earthquakes in a typical day, although most are very small and go unnoticed. An earthquake of significant magnitude could strike downtown Los Angeles at any time without warning. To mitigate potential earthquake damage to collections, staff from the Natural History Museum has started an earthquake-strapping project in targeted collection areas.

Immobilizing 33 million artifacts and specimens is a tall order, so we are addressing the most vulnerable collections first. Our method of earthquake strapping is not new, but it is low cost, easy to install and use, and adaptable to many different types of collection storage units. This presentation will show the steps involved in making the earthquake straps and will provide examples of their use in museum collection storage areas.

Once Upon a Mattress: Conservation Challenges Presented by the Treatment of a Painting Executed on a Vinyl Mattress.
Paula De Cristofaro

A painting by Argentinean artist Guillermo Kuitca, entitled San Juan de la Cruz (1992), is executed on an unusual support – a king-sized vinyl mattress. The work was damaged at the time it was unpacked. My talk will discuss how the treatment of this uniquely constructed work presented cross-disciplinary conservation challenges. My presentation will follow-up with information gathered directly from the artist regarding his choice of materials and his views on the ageing of his materials.

An Investigation into the Tradition of Applied Decoration to Spanish Colonial Paintings
Kristy Jeffcoat and Camilla Van Vooren

Traditionally, Spanish Colonial paintings were heavily influenced stylistically and technically by Italian, Flemish, and Spanish paintings, brought to the New World by Spanish colonists. The use of religious art as a teaching tool for the masses began in Europe and traveled to the colonies via this route.

Customs resulting from the veneration of saints often included the incorporation of expensive materials such as gold leaf, inset glass and jewels, and even lace in an effort to portray them as “other-worldly.” These materials most often survive intact in polychrome sculpture of the period, but there is evidence of their use in the embellishment of canvas and panel paintings, though there are fewer extant examples of this.

The Denver Art Museum (DAM) conservation team ended with the conclusion that lace once adorned the painting, much like jewels or fabric that are sometimes seen embellishing polychrome sculptures of the same time and place. This paper will deal with the thought processes and precedents that led to the treatment and restoration.

Preliminary Results from a Survey for Residual Arsenic on the North American Ethnographic Collections at the Field Museum (poster)
Marianne Klaus, J. Plitnikas, R. Norton, T. Almazan, and S. Coleman

As was standard practice in the past, the Field Museum’s Anthropology Department and some of its ethnographic holdings’ original collectors treated artifacts with pesticides to protect them from insects. Some pesticides can leave hazardous residues on artifacts, however, and an examination of Museum records and archives identify early departmental use of arsenic, one of the most toxic of these pesticides.

The presence of residual arsenic is a safety concern for staff and visitors, outgoing loans, and repatriation activities. Because of this and past incomplete record keeping of its use, the Save America’s Treasures (SAT) Project at the Museum is carrying out a preliminary survey for arsenic on the approximately 40,000 artifacts in the North American ethnographic collections. (Archaeological collections are not included in this survey. Additionally, human remains and archival material [i.e. photographs] have also been excluded.)

The goal of this survey is to begin to clarify the extent of contamination within the collections, provide more details on the time period for arsenic usage, and...
reveal any patterns for its application by specific collectors, on types of artifacts, and on kinds of materials.

In May 2003, SAT conservators began a survey, sampling 10% of the artifacts by accession. Although both organic and inorganic artifacts were tested, within an accession those with organic components were selected for sampling over wholly inorganic ones if possible. The Merckoquant Arsenic Test was used to determine if arsenic was present. The result of each test was reported in the Anthropology database, in the permanent file of each object, and in an Excel file, which correlated all of the results with accession data (date, source, collector). To date, approximately 60% of the testing has been completed.

Analysis of the data being compiled from the survey reveals that 35.7% of the sampled artifacts have tested positive for arsenic. The highest percentage of positive artifacts comes from accessions dating from the decade 1890 to 1899. A significant drop in the percentage of positive artifacts in the late 1930s-early 1940s suggests a departure from arsenic usage during that time.

At this stage in the survey, it is premature to be able to identify strong links between the application of arsenic and collectors, artifact types, and kinds of materials. The high percentage of positive artifacts found in accessions collected directly by the Museum (i.e. expeditions), however, suggests that staff were consistently applying arsenic to the collections.

Certain accessions collected or donated by the same individual also show high percentages of positive artifacts (>50.0%), which may indicate that some poisoning was carried out before artifacts entered the Museum’s collection.

In addition, the highest percentage of positive artifacts identified so far are those made from animal skin and fur. Once this survey is completed, it is the intention of the department to test all of the North American ethnographic artifacts in accessions with results of $\geq 25\%$ positive for arsenic. Similar preliminary surveys may also be proposed for other ethnographic collections such as African and Pacific.

New Mexican Spanish Colonial Painted Hides: Ecclesiastical and Decorative Arts in 16th –18th Century New Mexico.

Dale Kronkright

With perhaps 60 surviving examples, the ecclesiastical and decorative painted hides of 18th and 19th-century Spanish colonial New Mexico provide a unique opportunity to examine one component of the complex and fragile relationship between Spanish colonists and the Native Americans whose lands were invaded.

Dale Kronkright will provide a presentation that offers insights into the materials, techniques, and complex cultural contexts that brought the brain-tanned hides and painting traditions of Pueblo, Comanche, Apache, and Ute people directly into the center of economic, social, and military survival in colonial northern New Spain. The findings are a result of a five-year formal systematic study of New Mexican Spanish colonial hide paintings at the Museum of New Mexico.

Northern New Mexico became the frontier of the Spanish colonial empire in 1598. While New Mexico did not immediately offer the Spanish colonists access to mineral wealth and political status associated with other Spanish colonies, it did offer a resource that promised to establish a foothold economy in northern New Spain.

Native Americans throughout the southwest practiced a system of semi-tanning animal hides using emulsions of brains and organs that produced soft, white durable leathers unlike anything the Spanish had seen. Further, the abundance of large hides that Native Americans obtained from both buffalo and elk provided the Spanish colonists with access to a resource that was in great demand in Zacatecas, Puebla, and Mexico City: hides, leather, and decorative painted leather door, wall, and floor coverings.

These were produced in New Mexico by the hundreds beginning as early as 1627, and the practice continued for nearly 200 years. Today, 40 New Mexican Spanish colonial hide paintings remain in the collections of the Museum of New Mexico, the Spanish Colonial Arts Society, and the Archdiocese of New Mexico.

In 1986, Museum of New Mexico (MNM) conservators Claire Munzenrider and Bettina Raphael, along with former McCrone microscopist Robert L. “Mac” McLaughlin, began a systematic study of two large, pieced painted hide wall murals from northern Spanish colonial New Spain, what is now northern New Mexico. These two paintings are commonly referred to as the Seggesser Hides. One depicts a battle between Spanish colonial military forces with their Pueblo Indian workers, the other a French colonial military expedition (ca. 1720 – 1758).

The team also expanded its study to the ecclesiastical Spanish Colonial painted hides in the collection of the Museum of International Folk Art and the Spanish Colonial Arts Society first studied by E. Boyd in 1946.

The study of New Mexican Spanish colonial paintings on hide was given further attention in 1994 when MNM Senior Conservator Dale Kronkright became interested in continuing the effort to document the technical consistencies, variations, materials, techniques, and conservation problems presented by the more than 40 extant examples. Between 1994 and 2000, Mr. Kronkright was assisted by nine conservation interns and advanced fellows, who have all contributed to a more complete understanding of the materials, techniques, and preservation problems of these unique expressions of complex cultural relationships.

Maximum Strength Relief: a Case Study for Reattaching Large Heavy Cover Boards in Rare Book Conservation.

Chela Metzger

This case study illustrates variations and combinations of published board reattachment methods used while treating a 1755 edition of Johnson’s Dictionaries with detached cover boards.
The two volume Johnson’s Dictionary is very large with heavy boards. Such books can present unique problems when the boards become detached. If the book is actually read, there is a very real danger that the board attachment will be stressed or broken during use unless the boards are firmly anchored to the textblock. But the strongest board reattachment can involve the most intervention and loss of fragile or degraded binding materials.

For conservators today, there are many published techniques to consider when re-attaching boards to books. Japanese paper hinge repair, joint tacketing, inside cloth hinges, split linen-flanges, and board slotting are some just some of the approaches found in the literature. (See AIC “Board Reattachment Discussion” in The Book and Paper Group Annual 20, 2001 p. 63-86.) When working with large heavy books, it may be especially useful to combine various board reattachment techniques and elements of traditional rebacking in order to address the structural and aesthetic problems of the treatment.

The 1755 edition of the Johnson’s Dictionary was in a tightback, tightjoint 18th century binding covered with thin sheepskin. The spine leather was heavily gold tooled and shattered, with previous losses and repairs in the head and tail areas of the spine. The laced-on cover board attachment had failed, been repaired, and failed again. The objective was to keep the binding intact and make these books available for in-house use by patrons at a small public library with no special collections staff or facilities.

The steps of the treatment involved a variety of both adhesive and mechanical techniques designed to allow for adequate anchoring of the heavy boards to the spine of the textblock with minimal damage to the already weakened leather covering material on the spine. The leather on the spine was faced and lifted mechanically at the head and tail area only.

After cleaning the back of the exposed textblock, linen linings with flanges were attached both adhesively and mechanically to head and tail spine area. Patch linings of western paper and alum-tawed skin were adhered over the linen and sanded to reduce bumps on the spine.

New toned leather with flanges was adhered directly on the lined spine and under the lifted leather covering on the outside of the boards to provide loss compensation, spine lining, and board reattachment. The linen flanges at the head and tail areas were adhered to the inside of the reattached boards. Finally, toned Japanese paper was adhered over the outer joint and inner hinge areas to improve the visual integration of the treated Dictionaries, and the lifted original leather from the head and tail areas was re-adhered to the spine.

The books were boxed, with textblock supports incorporated into the box to take pressure off the cover boards when shelved vertically.

Preliminary Report: The Conservation of Helen Lundeborg’s Mural History of Transportation
Andrea Morse, Rosa Lowinger, and Tracy Lucero

In 1939, under contract from the WPA, Los Angeles based painter Helen Lundeborg was commissioned to create a large-scale wall mural. The piece was sited for a stretch of Florence Avenue in Inglewood, CA that was a heavily trafficked thoroughfare. It was to depict the history of transportation. Lundeborg created a mural composed of a material called petrachrome—a terrazzo-like substance that consists of small bits of stone aggregate in a cementicious matrix. The ensuing 240 foot long mural (there are 60 panels measuring 8 feet high by 4 feet wide) is one of the great WPA works in Southern California.

Since the installation of the mural, Florence Avenue ceased to be a well-trafficked thoroughfare. The mural was hidden by trees, poorly lit at night, and essentially exposed to many types of deterioration, including vandalism. The most apparent damage was graffiti. All of the panels had been tagged repeatedly in the ensuing years—some to the point where the images depicted in petrachrome were no longer visible under layers of paint. On several occasions, the mural was damaged by automobiles. Full panels were lost or partially damaged.

In 2001, Sculpture Conservation Studio was hired by the City of Inglewood, under a grant from the Getty Conservation Institute, to assess the damage to the mural and determine if the piece could be conserved and also removed from its present site and relocated to a more trafficked portion of the City of Inglewood.

A sample panel was removed and tested for cleaning and repairs were carried out. The findings resulted in funding for the mural conservation project, including relocation to a new site in a park opposite Inglewood High School.

The mural is presently at the mid-point of a 24-month conservation project. This paper will present the preliminary findings of SCS with regard to the mural’s condition and discuss the issues that have been dealt with in its removal and conservation. We will also address some of the issues that have arisen in determining the best method for reinstalling the mural on the new site.

The Route 66 Preservation Program
John Murphey

The Conservation of Four Colonial Altar Screens Located in the Church of Nuestra Senor de Esquipulis, Chimayo NM
Claire Munzenrider

The presentation will include an overview of a 5-year project that began with a condition survey of 5 large wood constructions (altar screens/ reredos) in 1998 and a subsequent treatment project in 2003-2004. The treatment was a collaborative effort that included members from the church community and the staff of the conservation laboratory of the Museums of New Mexico working side by side to complete successfully this large project.
Healing the Whole Object: New Age Conservation in Santa Fe
New Age Conservation Group

It is with great anticipation that the Spirit Guides have pronounced October 2004 as The Time to reveal the secrets of the ages as practiced by a select group of conservators inside the sacred space of the Conservation Pyramid. Yes, it has come the time to reveal the dawning of a new paradigm for conservation, an enlightened New Age for conservators.

Let us now move beyond the physical, even cultural realms of conservation, into the spiritual and emotional qualities of our objects as we gently guide them toward wholeness. Drawing on the wisdom of the Ancients, we find support in the healing modalities of crystals, aura healing, pyramids, the labyrinth, aromatherapy, astrology, and Native American ceremony. It is our deepest intention that we reclaim our inner shamans, leading ALL conservators to soon join us in the Healing Circle of New Age conservation. (It was brilliant, but you had to be there. Ed.)

A Tale of Two Murals
Victoria Montana Ryan

This is the cautionary tale of the conservation project of two historically significant murals permanently located in the entry lobby of the Colorado Springs Historic City Auditorium. Construction of the auditorium was completed in 1923. To further enhance the beauty of the much-used public building, and as a local effort in the Works Project Administration (WPA), two local artists were chosen to paint individual murals for the entry.

Archie Musick and Tabor Utley, students of Boardman Robinson and followers of Thomas Hart Benton, were chosen after submitting designs for competition. Their designs were to both complement the architecture of the building and relate to the citizenry of the town. These two men had unique visions, individual iconography, and style. Equally important for the conservation of the two works, each man had a distinct approach to materials and methods. While the murals have stood proudly for decades, deterioration was exacerbated by problems that plague many structures, including water ingress and by some problems unique to the locale and use of this Auditorium.

The conservation treatment, which involved the use of Aquazol as complimentary adhesive and inpainting medium, included stabilizing the surface and cleaning the murals.

Cultural Considerations in Caring for American Indian Objects
Sherelyn Ogden

American Indian cultural objects, like most objects, deteriorate over time. Standard museum practice suggests several procedures to slow deterioration. As a conservator and consultant, I have occasionally been asked to provide assistance in the care of American Indian items. The methods and techniques I suggested were always based on standard museum practice. But often, it seemed, my suggestions did not meet the cultural needs of the items and were impractical given the situation in which the items existed. I was glad that tribal methods of care were still practiced. I hope American Indians succeeded in caring for items when my suggested methods did not suffice.

Standard museum practice often fails to take into account cultural considerations. Museum professionals tend to apply the same standard procedures to all items regardless of the lifeways of the culture from which they come. They are seen as artifacts, separate from their culture, rather than, in the case of American Indian items, as cultural links between the past, present, and future. This can lead to strained relations between Indian people and non-Indian museum staff and, worse still, to inappropriate treatment and display.

Museum professionals need to be aware from the outset of the differences in approach to cultural items between Indian and non-Indian people. They also need to remember that their understanding of these differences is influenced by their own cultural background. A general understanding of various cultural practices and points of view and a respect for these on the part of everyone involved is key to the appropriate care of these items.

Cultural differences can be glaringly obvious or so subtle as to be seemingly invisible. The interpretation of the differences sometimes can be as challenging as recognizing them in the first place. This became especially apparent to me when collaborating with Indian people to produce the book Caring for American Indian Objects. While consulting with the many Indian people who provided assistance with this book, I came to understand that cultural considerations cannot be separated from preservation. Actually, they are as much a part of preservation as are environmental or treatment considerations.

Of the twenty-one contributors to the book, fourteen are American Indians. This presentation will explore such topics as why items should be preserved and how they should be handled and displayed. It will touch upon issues related to use, gender, vocabulary, respect, sacredness, and continuity. Because I shall be discussing cultures different from mine, I shall use the words of Indian people as much as possible, quoting extensively from Indian contributions to the book.

A Mounting System for Double-sided Paintings
Steven Prins

A Team Approach: Two African Masks from a Conservation and Education Perspective
Paulette Reading and Heather Nielsen

The Denver Art Museum is opening a new addition in the fall of 2006. Included will be a designated 2300 square foot gallery space for the African collection, its first permanent display in 10 years. The core team working on the installation has developed several unique interpretive strategies and visitor experience goals.
that demand challenging and innovative display techniques. As a result this project presents a unique opportunity for conservation and education to work together, ensuring both memorable experiences for visitors and safe preservation of objects. This talk will focus on the conservation, interpretation, and presentation of two African masks.

The new installation offers visitors an opportunity to explore the nature of the creative process, in and out of Africa. Some interpretive components will highlight song, dance, and movement for certain works of art. To simulate movement, an Egungun mask, complete with costume, will be displayed slowly rotating on a turntable. Conservation treatment involved stabilizing fragile components, and creating a mount that both supported the object and also helped to suggest movement.

Designed with the needs of younger audiences in mind, a Yaka mask will be presented in a crawlspace, behind glass and next to a video that will be motion activated. Lifting paint on the mask will be consolidated so that it can withstand any possible vibration resulting from tapping on the platform or casework under which the mask will be displayed. Collaborative planning of this unique gallery has shown that the unconventional presentation of the objects poses both challenges and solutions to the preservation and interpretation of the artifacts.

Carved in the Cliffs: Conserving the Cavates and Removing Graffiti at Bandelier National Monument
Angelyn Bass Rivera and Larry Hometewa

Deep in the canyons of the Jemez Mountains in Northern New Mexico are the remains of numerous prehistoric villages carved in the cliffs. These villages, composed of thousands of cavates (cave dwellings) and stone masonry structures, were occupied for about 400 years from the thirteenth to the sixteenth centuries.

Preserved within them are numerous built-in features to produce and store food and weave fabric, as well as earthen plasters that are not often preserved in standing architecture of the same time period. The cavates are the ancestral homes of modern Pueblo people who live in the Rio Grande Valley. Modern Pueblo people visit the cavates and acknowledge them as an integral part of an ancient landscape to which they are strongly and deeply connected.

The cavates are slowly deteriorating from both environmental and human impact. A multi-phase project is underway at Bandelier National Monument to conserve and maintain the cavates as both constructed and natural heritage, and to develop a formal Conservation Plan to preserve their many values. This paper will present research and fieldwork recently conducted at as part of the cavate project, including a discussion of treatments to mitigate modern graffiti that was carved into some of the cavate interior walls and ceilings.

The Volvo & Xavier Martinez: A Conservation Tale
Pam Skiles

This paper presents an unusual treatment of a painting undertaken at the Oakland Museum of California. The painting had been damaged in a hot car when it was left for several hours with its face leaning against the leather seats. Subsequently, a small portion of the paint layer remained stuck to the leather seats. When the client brought the painting for treatment, she also brought the small fragments of paint that had been stuck to the seat, which had been pulled off the seat with clear adhesive tape.

It was decided to first exhaust attempts to return these fragments to the painting, before filling the losses to the paint layer. The crux of the treatment became removing the tape from the reverse of the fragments to allow them to be placed in the lacunae in the correct orientation. Factors that needed consideration included: the solubility of the paint, tape, consolidant, and facing adhesive; the thinness of the fragments; and their orientation on the pieces of tape.

Questions in Mimbres Ceramics Analysis: Integrating Conservation with Archaeological Inquiry
Landis Smith

The Classic Mimbres culture of southwestern New Mexico flourished during the short period 1000-1150 with the prolific production of a unique and aesthetically striking pottery type. Subsistence farmers, the Mimbres lived in villages of the Mimbres and Gila River valleys where they made mostly hemispheric bowls whose rough exteriors contrast dramatically with meticulously prepared interiors.

The interior of these bowls has been described as a kind of white-slipped “canvases” against which were painted stylized animals, humans, anthropomorphic and fantastic figures, as well as geometric designs. Mimbres motifs and figures have been widely incorporated in today’s generic “southwest style” and are seen on everything from real estate signs to dinnerware and contemporary Acoma pottery. While the stylistic aspects of the pottery have been well studied, surprisingly few studies have been done in other areas of ceramics analysis.

As excavated collections are re-documented and re-analyzed, it has become clear that information routinely recorded by conservators could be better integrated with the language and concerns of archaeological ceramics analysis. By integrating conservation condition assessments with the language of ceramics analysis and the larger questions of archaeological inquiry, conservators can potentially offer important documentation for identifying certain trends and making correlations.

Condition assessments along with materials identification and characterization of pastes, slips, and paints; use/wear pattern descriptions; and notation of firing conditions are some of the areas that can all be of great use. A case study will describe the archaeological implications of a conservator’s investigation of paint instability in Mimbres ceramics involving re-firing experiments, use/wear analysis, and paint condition.
While much of the organic material at Mimbres archaeological village sites has disintegrated, ceramics offer the most reliable and extensive record of site occupations, social organization, lifeways, trade, and religion. The study of ceramics can also help trace aspects of the development, and even the little understood, and fairly abrupt, collapse of Classic Mimbres culture and ceramic production.

While the high artistry of Mimbres pottery has generated much interest, the demand for these pots has also led to extensive looting of sites and destruction of a great deal of contextual information. Nonetheless, the inter-disciplinary analysis of documented ceramics along with information from scientifically excavated Mimbres sites can offer a wealth of information to which conservators could contribute much.

**Preservation of the San Esteban del Rey Mission in Acoma Pueblo**

Francisco Uviña

**Using the Modular Cleaning Program**

Chris Stavroudis

This session will explore working with the Modular Cleaning Program. The Program’s aqueous cleaning system will be reviewed and demonstrated, and the Program’s new solvent and solvent gel cleaning systems will be presented. The theory behind the MCP will be presented in more detail than in previous presentations and the mechanics of using the FileMaker Pro based database will be elaborated upon.

**Mexican Mayólica: Investigations into the Puebla Blue-on-White Style**

Mina Thompson

While treating the objects for *Cerámica Y Cultura: The Story of Spanish and Mexican Mayólica*, the Conservation Department had the opportunity to examine closely a variety of ceramic styles. The curator, Robin Farwell Gavin, stated the difficulty in refining dates for Puebla Blue-on-White ceramics to a time span of less than one hundred and fifty years between 1650 and 1800.

This presentation discusses the origins of Mexican Mayólica and the international influences from trade that distinguish Puebla Blue-on-white ceramic styles, as well as the discovery, during our examination and treatment processes, of underdrawings on two objects.

These underdrawings were first noticed using a stereomicroscope and were then further elucidated through infrared reflectography using the MuSIS 2007 system.

The underdrawings from the Puebla Blue-on-White ceramics differ greatly from traditional ceramic design preparation techniques described in most literature, and the use of infrared reflectography has proven a useful tool in these ceramic examinations.