

President's Letter

Daniel Cull

Dear Membership,

First and foremost I'd like to thank Dana Senge for organizing such a splendid annual meeting. The city was a wonderful choice with some great venues hosting a fascinating range of talks and events - personally I particularly enjoyed seeing talks from beyond

the usual fields of discussion, and learning about the roles the conservation profession plays beyond the laboratory bench. It was incredibly inspiring, if also sad, to see the work that Texas based conservators had put into disaster recovery and training for smaller institutions within their state. I hope you all enjoyed the meeting as much as I did.

I would also like to extend thanks to several outgoing board members for their hard work and dedication over the years of their service. Without their work the organization would simply not function and so it is truly appreciated. Outgoing board members I'd like to thank include; Members-at-Large Beverly Perkins and Ria German-Carter, Treasurer Natasha Cochran, and President Dana Senge; thank you all.

I'm sure many are wondering who the new board members are then! I'd like to first thank Leslie Rainer and Ellen Carrlee for forming the nominations committee and assisting me in establishing the slate for the election. I greatly appreciate their hard work in making the election a success. So without further ado I'd like to announce that Nicholas Dorman was elected Vice-President, and Pamela B. Skiles and Christel Pesme were elected as Members-at-Large. I have appointed Ozge Gencay Ustun as the new treasurer, and I'd like to add an extra thanks to Natasha Cochran for her work over the last few months to bring Ozge Gencay Ustun up to speed and transition the position. So on behalf of the board, myself, and you the membership, I'd like to extend a warm welcome to all our new board members.

It's customary in your first president's letter to announce the location for the next annual meeting. However, before I do that I'd like to briefly delve into one of the things I'm hoping will come to the fore at the meeting. When a WAAC position is transitioned, there is a binder of information that is passed from one person to another. These binders hold a fair bit of interesting information and institutional knowledge about WAAC. I was thrilled in receiving the President's binder to read through a series of letters in which various conservators discussed the founding of the organization, and a desire right from the start to look outwards, and to incorporate other allied professionals into the world of WAAC.

I found it fascinating to discover that the welcoming and relaxed atmosphere that so many refer to WAAC as having was there intentionally from the outset. I mention this because this year's meeting will coincide with the annual meeting of the Western Museums Association (WMA), and we hope that over the coming year we are able to organize ways in which our two separate meetings are able link up and learn from one another. I hope that if you have a burning desire to see something happen at, or an idea for, the annual meeting you will let me know as soon as possible; before all the details start to become finalized. So in closing, the news you've all been waiting for is that the 2012 Annual Meeting will take place in Palm Springs, CA, between 22nd and 25th October. I hope to see you there!

Oh, and a very Happy (belated) New Year to you all.

Cheers,

Dan

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Regional News

Nicholas Dorman
column editor

Volume 34 Number 1
WAAC Newsletter

AKASKA

Ellen Carrlee presented a collections labeling workshop at the Museums Alaska conference and posted the information on the weblog ellencarrlee.wordpress.com along with test results for alternate adhesives from a collaborative project with **Anna Weiss**, student at Queen's university, and **Samantha Springer**, Cleveland Museum of Art. She continues treatment and research of waterlogged basketry in collaboration with **Dana Senge**, National Parks Service. Ellen was also accepted into the PhD program for anthropology at the University of Alaska-Fairbanks.

Scott Carrlee received the Award for Excellence in the Museum Profession from the statewide museum association Museums Alaska. He gave a workshop at their annual conference in Valdez on disaster preparedness for small museums. The Carrlees are writing a grant to purchase a portable XRF to be used at the Alaska State Museum and for the Alaska State Museum outreach program to museums around the state. After attending a training session, they borrowed a unit from Bruker Elemental and used it for a public demonstration that was well received.

After a busy fall changing exhibits and planning for 2012 exhibits, **Monica Shah** conserved and couriered objects for *Shapeshifting: Transformations in Native American Art*, an upcoming exhibit at the Peabody Essex Museum in Salem, MA.

Regional Reporter:

Ellen Carrlee
Alaska State Museum
Juneau, AK
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ARIZONA

Brynn Bender used the XRF with the Hopi Tribe to survey over 150 collection items for heavy metal pesticide residues. Brynn and **Dana Senge** traveled to Grand Teton National Park for six days and packed approximately 700 ethnographic items for transport to Tucson, AZ. Brynn and Dana packed the tricky items and directed an awesome curatorial packing team of six people.

Dana, **Maggie Kipling**, and **Audrey Harrison** are preparing to treat over one hundred iron objects from the actively used blacksmith shop exhibit at Grant-Kohrs Ranch National Historic Site. **Amy Molnar** continues to assist on projects in the lab.

Martha Winslow Grimm has just finished a two month stay in Honduras examining 5th- and 7th-century textiles excavated at the Copan archaeology site. She also attended the North American Textile Conservation Conference in Oaxaca, Mexico before returning to her Phoenix home.

Rose Cull presented at the 2011 ICOM-CC meeting in Lisbon, Portugal "Conservation of Materials and Resources," which summarized current sustainable practices in the art conservation field. She has accepted a position as assistant to the chair for the ICOM-CC working group on the Theory and History of Conservation. Rose has been working in the Phoenix area and has made a few trips to California for conservation projects with Rosa Lowinger & Associates.

Daniel Cull can be found behind the glass window at the Musical Instrument Museum (MIM), most recently working on an Italian octave harpsichord. In addition to making structural repairs and stabilizing the gesso and paint layers, he has been investigating the history of the object through finding and identifying maker and seller marks using UV light. The treatment and investigation were recorded by KJZZ radio. The investigation revealed the outer case was made by Fedelus of

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REGIONAL NEWS

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Internet

Articles and most columns from past issues of WAAC Newsletter are available on-line at the WAAC website, a part of CoOL (Conservation OnLine) <http://cool.conservation-us.org/waac/>.

Deadline

Contributions for the May Newsletter should be received by the Editor before **April 15, 2012**.

Western Association for Art Conservation

The Western Association for Art Conservation (formerly, the Western Association of Art Conservators), also known as **WAAC**, was founded in 1974 to bring together conservators practicing in the western United States to exchange ideas, information, and regional news, and to discuss national and international matters of common interest.

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Individual Membership in WAAC costs \$40 per year (\$45 Canada, \$50 overseas) and entitles the member to receive the WAAC Newsletter and the annual Membership Directory, attend the Annual Meeting, vote in elections, and stand for office. Institutional Membership costs \$45 per year (\$50 Canada, \$55 overseas) and entitles the institution to receive the WAAC Newsletter and Membership Directory. For membership or subscription, contact

MAJOR PRIZE!!!

Thought that might get your attention.

WAAC has weathered the troubled economy reasonably well, by being a lean organization that doesn't waste money. But we are not immune. Beginning in 2009, we have had, not surprisingly, a drop in membership, presumably because individuals and institutions tightened their budgets.

As a result, we are now operating at a small annual deficit. This can be covered by our modest savings for a while, but it is not sustainable.

Accordingly, the board is investigating ways of increasing revenue and controlling costs; workshops are one possibility, and we even considered designating ourselves as the worthy organization for the proceeds of the silent auction.

The best solution, of course, is regaining membership. 100 new or re-acquired members would restore our financial balance.

WAAC has never, in anyone's memory, solicited members. We've always thought enough enlightened beings would find us and appreciate being part of a smart, unpretentious organization with a sense of humor, very cool meetings, and a remarkably good *Newsletter*. And that did, in fact, work, until 2008.

So..... the board has decided to have a good natured competition to see who can sign up the most members, with some appropriate prize to be decided on later. And it's open to all. Think of all the likely suspects: students; people who think they are still members but who have actually failed to renew; somebody who always wants to borrow your copy of the *Newsletter*; those who really ought to know about us, but don't.

WAAC needs you.

(Be sure to remind potential members that \$5 of dues goes directly to CoOI and that they should indicate when joining that you get the credit.)

Early Meeting Notes

In mid January the *Los Angeles Times* Travel section had a good article on Palm Springs:

Palm Springs revival has deals for a song (or close to it)

The once-hip Palm Springs of the Rat Pack era is hip again. Deals on hotels, restaurants and activities can be had, and we let you know where to find them.

It's definitely worth checking out if you want to start planning, or just getting ideas. latimes.com/travel/la-tr-palmsprings-20120115,0,658700.story

Silent Auction

It's also not too early to start thinking about the always fabulous Silent Auction. This year those of us near Palm Springs will be able to bring, and take home, all sorts of things that would be too cumbersome or heavy on a plane, or might otherwise be on a no-fly list. Think of the possibilities....

As always, Bev Perkins will be the lady in charge.

Regional News, continued

Camerino, Italy, in 1630. The instrument is unsigned, but quite definitively Italian in origin and earlier than 1630 in date, making it among the earliest extant octave harpsichords. Adding to the object's biography Daniel also discovered that the instrument and case were purchased in 1755 by Giovanni Battista di Michelis, a composer active in Italy. This is a rare and significant instrument that MIM is looking for a donor to purchase. There is one other example of such an instrument from this time period that resides in the Musée de la Musique, Paris.

Linda Morris continues to treat the Amerind's art collection a few artifacts at a time.

Nancy Odegaard served on the advisory board for the Iraqi Institute for Conservation of Antiques and Heritage Building Capacity, Reconciliation and Shared National Identity (IICAH) and traveled to Iraq in October. She also presented at the North American Textile Conservation Conference in Oaxaca.

Gina Watkinson and **Ida Pohoriljakova** (now working at the University of Pennsylvania museum) helped Nancy complete CAP surveys for the Sunnyslope and Graham Co. historical societies.

Teresa Moreno worked on the *Eyes of the Eagle* exhibit, and a new pottery exhibit, and has been solving several environmental issues in the museum building while working with a variety of crews. **Marilen Pool** continues to work on the treatment phase of the southwest pottery project. Also working on this project is **Katie Klauenberger**, a new student in the heritage conservation science graduate program at the UA.

Julia Tubman, new Kress Fellow and recent graduate from the University College London graduate program in archaeological materials, has joined the lab to fill the position left by **Hamada Koth** who returned to Egypt. **Brunella Santarelli**, graduate research assistant and graduate student in heritage conservation science completed her MS and continues towards the doctorate degree.

Christina Bisulca, graduate student in

heritage conservation science at the UA successfully completed her qualifying exam and is now a doctoral candidate. She is completing residues studies of lead on ancient Hohokam pallets. **Elyse Canosa**, graduate student in heritage conservation science at the UA, is working on residue studies of tobacco in ceramic and stone pipes.

Kevin Wohlgemuth, pre-program intern, is working on stabilization for Hohokam pit house roof fragments and other archaeological finds. **Werner Zimmt**, now 90 years old, continues with iron stabilization testing.

Regional Reporter:
Brynn Bender

HAWAII

Dawne Steele Pullman spent the last two months in Hong Kong conserving a painting for Hong Kong University in time for their centenary. It is the only surviving portrait painting of the vice chancellor (who was also Governor of Hong Kong) Sir Cecil Clementi from 1930, which was severely damaged during the Japanese occupation with tears and paint losses caused by bayonets and bullets.

Larry and **Rie Pace** continue work on a number of projects from a variety of sources. **Makiko Watanabe**, a conservator from Japan, will be spending a couple of weeks with them in December to assist with two large paintings.

Gregory Thomas/Art Care has begun the conservation of selected paintings in the collection of the Hawai'i Volcanoes National Park for the National Park Service. These paintings include work by artists in the Volcano School, including D. Howard Hitchcock, Jules Tavernier, Charles Furneaux, William Twigg-Smith, and Lionel Walden.

Thor Minnick recently completed treatment of a large coconut wood umeke/calabash with coconut wood and

kou wood lid. The calabash had been severely compromised by fungus and dry-wood termites. Also completed were two damaged enamel, silver, and gold royal order badges originally presented by King Kalakaua. He is presently developing treatment proposals for King Kalakaua's poker table now in the collection of Iolani Palace and an Isamu Noguchi granite, marble, wood, and steel sculpture privately held.

Regional Reporter:
D. Thor Minnick

LOS ANGELES

LACMA paintings conservation head **Joe Fronek** is continuing a technical examination of paintings in the museum's European collection with **Elma O'Donoghue** studying the paintings with IRR and **Frank Preusser** and **Charlotte Eng** analyzing pigments with XRF and digital microscopy. Curator of European paintings **Amy Walsh** is writing the art historical essays.

The catalogue for the Edward and Hannah Carter collection of Dutch paintings is written and is now with editors, and the team has begun examination of paintings for the catalogue of gifts of the Ahmanson Foundation. **Bianca May** is continuing her Mellon fellowship in paintings conservation at LACMA and nearing completion of work on paintings by Juan Patricio Morlete Ruiz from the museum's Latin American collection.

Last November, Bianca, assistant objects conservator **Siska Genbrugge**, and objects conservation intern **Lily Doan** participated in the Getty museum workshop "Polychrome Sculpture and the Painted Surface." During the group's visit to LACMA Bianca, Siska, and Lily discussed six polychrome sculptures in the museum's European collection, including the 18th-century Spanish *Pietà*, acquired in 2000.

Anne Getts, graduate student from the Winterthur/University of Delaware Program in Art Conservation, has completed

Regional News, continued

her summer and half of her current third year internship in textile conservation at LACMA. She is currently completing the second half of her internship year in textiles conservation at the Victoria and Albert Museum in London.

Last November, **Catherine McLean**, LACMA senior textile conservator, traveled to the Topkapi Museum in Istanbul, Turkey, to participate in a week-long professional exchange with conservators from the Topkapi and the Central Laboratory for Restoration and Conservation of Istanbul.

Kelly Leahey is LACMA's new Mellon Fellow in paper conservation. Kelly comes to LACMA from Melbourne, Australia, via Amsterdam. She completed a master's degree in cultural materials conservation (paper specialization) and a postgraduate certificate in arts (photographic materials conservation) at the University of Melbourne in 2010. Kelly has interned and worked for various cultural institutions in Australia and abroad, including the Centre for Cultural Materials Conservation, Melbourne, where she was assistant paper and photograph conservator from mid-2009 until early-2011. She has a particular interest in photographs and has spent most of 2010 undertaking internships to improve her conservation skills in this area.

After one year of work in LACMA's converted gallery space **Chi-sun Park** and her staff have completed the conservation of an eighteenth-century Korean Buddhist painting entitled *Buddha Shakyamuni Preaching to the Assembly on Vulture Peak*. Professor Park is the director of a prestigious private conservation studio and is teaching with the department of conservation of cultural properties, Yong-In University, in Seoul, Korea. The painting was installed in LACMA's newly renovated Korean Galleries in December. It is the culmination of a year-long collaboration between the LACMA conservation staff and scientists and Professor Park's conservators and **Woo-thak Chung**, professor at the department of art history at Dongguk University who researched the provenance and history of this signature temple painting.

Paper conservation would also like to make mention of the return of **Margot Healey** to LACMA. Margot worked at LACMA from 1999 thru the turn of the century. She has been helping out on various projects in the paper conservation lab, including *A is for Zebra*, an exhibition about alphabets making sense and non-sense featuring works from LACMA's collections and new works by several local artists. The exhibition is part of *Art Programs with the Community; LACMA On-Site*, and was made possible by the Anna H. Bing Children's Art Education Fund. They are happy to have Margot back and look forward to more projects with her in 2012.

Conservation is also complete on an eight panel folding screen scheduled for installation in *Masterpiece and Focus: The Debut of the Tsushima Night Festival Screen and its Restoration*. This LACMA installation will highlight with images and text the treatment undertaken by **Sekichi Hisaji**, owner and master of the Bokusendo Co., Ltd. of Kyoto, Japan.

Tiarna Doherty has left the Getty Museum and is now the Chief of Conservation at the Lunder Conservation Center which is a shared facility of the Smithsonian American Art Museum and National Portrait Gallery in Washington, DC.

Joe Gott is the new Conservation Technician for the Academy of Motion Picture Arts and Sciences Margaret Herrick Library. Joe worked previously at the Chicago Conservation Center before moving out to Los Angeles. He is working for **Jennifer Kim** on a variety of materials from the archive.

Regional Reporter:
Virginia Rasmussen

NEW MEXICO

Conservators at CSI have recently completed a host of projects in the western US and elsewhere. With Anderson Hal-las Architects of Golden, CO, they are

wrapping up an HSR for the Hoover Dam for the Bureau of Reclamation. In Waco, TX, CSI just completed the relocation and conservation of a tile mural for Texas State Technical College. In California, CSI directed and performed masonry and decorative metal conservation work at Bodie and Marshall Gold cemeteries.

Other completed projects include design and oversight of the restoration of the WWI Memorial on the National Mall in Washington, DC, as well as restoration of the decorative bronze doors at the Lincoln Memorial for the National Park Service. Currently they are working with GSA in Spokane, WA, on the restoration of a mosaic tile floor in the Beaux-Arts era post office. As of November they are re-mobilized at Vizcaya Museum and Gardens in Miami to continue work conserving their collection of outdoor sculpture.

The New Mexico Chapter of the National New Deal Preservation Association hired **Steve Prins**, Santa Fe art conservator, in 2007 to remove 5-6 coats of white paint covering seven Brooks Willis murals in the lobby of the Ilfeld Auditorium at NM Highlands University in Las Vegas. These were created as a New Deal art project in the 1930s and placed over each of the eight doors in that lobby. This fall Prins and an associate were hired to do the final conservation and preservation work on each of the remaining seven murals which was funded by the Stockman Family Foundation and Highlands University.

During the fall 2011 term, **M. Susan Barger** taught the online class, *Collections Management: Managing and Organizing Museum Collections*, which is part of *Small Museum Pro!*, the online certification program for those who work in small museums offered in cooperation with the Eastern New Mexico University Distance Education Division. For more information on *Small Museum Pro!* see: www.smallmuseum-pro.org. Barger was also a chairman for the session *From Bats in Our "Belfry" to Plastered: Museums Dealing with Unexpected Risk* at the Annual Meeting of the New Mexico Association of Museums held in Farmington, NM, the beginning of November.

Regional News, continued

Jamila Hull, an undergraduate student in museum conservation at New Mexico State University, was awarded a 2011 full-time summer internship at the Smithsonian Institution's National Museum of the American Indian. Jamila spent ten weeks working on ethnographic collections at the conservation department in the Cultural Resource Center in Suitland, MD under conservators **Marian Kaminitz** and **Kelly McHugh**. Jamila was one of three summer interns who worked with four Fellows in the conservation department.

Regional Reporter:
Silvia Marinas-Feliber

PACIFIC NORTHWEST

Susan Lunas is busy repairing three books from the 16th, 17th, and 18th centuries. One of those projects that looked innocent and easy on the outside, had rotten wooden boards and brittle thread. In order for the owner to use the book frequently, she is resewing the text, and binding it into new wooden boards.

Rebecca Pavitt at Fine Art Conservation, Vancouver B.C., had a busy summer this year. With the help of conservator **Marcia Abramoff**, 25 illustrations by Oscar Cahen were prepared for exhibition in a record-breaking four weeks. The show *Oscar Cahen: Canada's Ground-breaking Illustrator* opened October 1 at Illustration House in NYC, and was attended by Rebecca, her daughter Kate (who helped with the surface cleaning and report writing), and her mom Marianne. Most of the illustrations are on Hi Art illustration board, and treatment challenges involved stain and adhesive reduction while retaining the original paperboard supports and avoiding areas of highly water sensitive liquid watercolor medium.

Rebecca also had the opportunity to work on seven of Robert Thornton's *Temple of Flora* series. The goal was to avoid any water treatment which might affect the delicate image areas. Waterstains on

the margins of the prints were removed using strips of Gellan, in a modification of the method described by Iannuccelli and Sotgiu in the 2010 *Book and Paper Annual*. Water from the gel was discouraged from wicking into the image area by working on thick blotters and edging the perimeter of the image area, front and back, with cyclododecane. This method minimized tidelines and those which did develop were removed on a suction table, using heated water mist generated by a Preservation Pencil.

Rebecca is now using Gellan to prevent organic solvent tidelines when removing pressure sensitive tapes: the rigid gell is cut to fit outside of the tape (using a Mylar pattern) to make a "damp dam" that prevents solvent from wicking beyond the tape's perimeter.

J. Claire Dean has been undertaking field work in South Africa. On her way back to the USA she presented a seminar at the Institute of Archaeology, University College London on her on-going work for the Tulalip Tribes, and she attended the ICON Ethnography Group seminar Conservation and Source Communities held at the Pitt Rivers Museum, Oxford, UK. She will be spending most of the remainder of the year in Los Angeles working with **Tania Collas** and **Liz Homburger** at the Natural History Museum of Los Angeles County.

Lisa Bengston attended the NATCC conference and workshop in Mexico in early November. Two volunteers have been lending their considerable expertise to conservation projects, **Maria Arrom**, who is working on rehousing a new Chinese acquisition, and **Vicky Karas**, who is tirelessly condition reporting artifacts for a new archaeology exhibit. The Pacific Conservation Group met in Victoria at Craigdarroch Castle, also touring Ross Bay Villa as it nears completion of renovations.

Paper conservator **Emily Pellichero** joins conservation in the Pacific Northwest. After completing a one-year Kress Fellowship in book and paper conservation at Johns Hopkins University's Sheridan Libraries, Emily and her husband Emanuele have relocated to the Seattle

area. Emily holds a BS in Art from the University of Wisconsin, Madison, a Post-Baccalaureate Certificate in Conservation from the Studio Arts Centers International in Florence, Italy, and a Masters in Conservation of Works on Paper from the University of Northumbria, Newcastle Upon Tyne, UK. In addition, Emily has held conservation internships and fellowships at several prestigious institutions, including the Asian Art Museum in San Francisco, the Toledo Museum in Ohio, the Victoria & Albert Museum in London, and the Laboratory for Restoration of Paper, Books, and Parchment in Florence. She is currently working as a freelance paper conservator and is eager to learn more about the area and its objects.

Maria J. Guirado is an object conservator who has recently moved to Seattle from London, UK, where she earned a BS in conservation and restoration and worked for clients such as Mallets and the Royal Household. She specializes in working with gilt, lacquered, and polychrome objects and is looking forward to new conservation challenges in the Pacific Northwest.

The Seattle Art Museum conservation department provided conservation content for the galleries and micro-site for *Luminous: The Art of Asia*, an exhibition drawn from the Asian art holdings of the museum's permanent collection. **Nicholas Dorman** presented a talk on the exhibition at the WAAC meeting in Austin, where he also became WAAC VP. **Liz Brown**, Nicholas Dorman, and guest lecturer **Donna Strahan** also gave presentations in Seattle relating to the exhibition.

Liz oversaw re-painting of Alexander Calder's great stabile sculpture *The Eagle* at the close of the summer art maintenance season at the Olympic Sculpture Park.

Marta Pinto-Llorca gave a presentation on the museum's IMLS-funded storage improvements for the Asian screen collection at the Pacific Northwest conservation meeting in Victoria. In January, SAM conservation started teaching at the University of Washington Museol-

Regional News, continued

ogy program with **Miriam Clavir**, who has taught the conservation part of the degree course for a number of years.

In March, with FAIC support, SAM conservation will host **Chris Stavroudis'** Modular Cleaning Workshop.

Corine Landrieu was busy working on a range of sculpture conservation projects for most of the summer and early fall, which included Ursula Von Rysdingsvaard's cedar sculpture *Skip to my Lou*. She is currently working on some artifacts for the Museum of History and Industry as it is getting ready to move to a new location near South Lake Union this winter.

Regional Reporter:
Corine Landrieu

ROCKY MOUNTAIN

The Buffalo Bill Historical Center launched a small exhibit titled *Is There Any Science in Art?* The exhibit focuses on the work of **Jessica Cosmas**, conservation intern who carried out the PXRF examination of three paintings by Fritz Scholder.

Beth Heller is pleased to announce that she will be moving into a paper conservation space located above the Western Center for the Conservation of Fine Art in January 2012. She will be available for treatment of works of art on paper and historic documents, as well as for preservation consultation for libraries, archives, and museums.

Tara Hornung has been working in private practice for museums and private collections in the region. Projects have included outdoor and contemporary sculpture, polychrome sculpture, and historic and ancient metals. Last summer, Tara worked as a field conservator for the Ziyaret Tepe Excavations in Diyarbakir, Turkey.

Under the direction of **Beverly Perkins**, Tara completed a firearms conservation residency at the Buffalo Bill Historic Center in the spring. This fall she published an article titled "Indigenous Influ-

ence in the Workshops of the New World: Technical Examination of a Spanish Colonial Candlestand in Novedades del Nuevo Mundo" (*Newsletter of Alianza de las Artes Americanas*) concerning her treatment design and research on two polychrome sculptures from the New World collection of the Denver Art Museum.

Denver Museum of Nature and Science conservators **Jude Southward**, **Jessica Fletcher**, and **Julie Parker** are joined by **Judy Greenfield** (a whole lotta J's!) in completing condition reports for 800 well-preserved and simply beautiful fossil plants in the collection of the Earth Sciences Department. With IMLS support, these holomorphotypes and the other 8000 specimens that make up the paleobotany collection will be re-housed and moved into new Delta Design cabinets.

Laura Downey Staneff and **Paulette Reading** each have been working on several items for the spring 2012 opening at the new History Colorado Museum in Denver (formerly the Colorado Historical Society). They have also been collaborating on an unusual piece involving wool embroidery on perforated paper.

Regional Reporter:
Paulette Reading

SAN DIEGO

Pre-program intern **Jacinta Johnson** recently began an internship at the Museum of Photographic Arts, San Diego, under the direction of librarian **Holland Kes-singer**. Jacinta is working on a project involving Collaborative Arts Resources for Education (carearts.org), a website available to teachers and students that promotes arts integration in public school classrooms. She is researching information related to images from MOPA's collection and compiling bibliographies, including books and videos, related to these images. As a part of her internship she is also cataloging items in MOPA's rare book room and will possibly be assisting in their re-housing.

Regional Reporter:
Francis Prichett

SAN FRANCISCO BAY AREA

Candis Griggs Hakim is busy once again as president of the Bay Area Art Conservation Guild, which has just launched a completely revived website at BAACG.org. The Guild recently held a lecture by furniture conservator **Mark Harp-ainter**, toured the Phoebe Hearst Museum's exhibit, *The Conservator's Art: Preserving Egypt's Past*, and held a social event for emerging conservators to meet Bay Area professionals in their field. In her private practice, Candis has been treating outdoor sculptures between rain storms, cursing porcelain, and trying to restore the dignity to a beheaded Buddha.

It is an exciting time at SFMOMA, planning for the upcoming expansion of the museum has begun in earnest. In August, the Cultural Heritage Institute came to SFMOMA to lead an four day training workshop in Reflectance Transformation Imaging (RTI). The workshop was attended by staff and regional professionals and was sponsored by an IMLS 21st Century Museum Professionals grant.

For the past year they have been fortunate to have **Kendall George**, a pre-program intern in the conservation department. In addition to treating objects for Architecture and Design exhibitions, she has spent the bulk of her time treating hundreds of Barry McGee works from a recent acquisition. In November, they welcomed their new fellow in the conservation of contemporary art, **Martina Haidvogel**. Martina comes to them from the Academy of Fine Arts in Vienna with a Master's Degree in Conservation of Modern and Contemporary Art. Her training specializes in time-based media with a background in paper conservation. They are thrilled to welcome her to the team.

Jenna Zarate has joined the textile conservation lab of the Fine Arts Museums of San Francisco as a volunteer intern. Jenna aspires to be a painting conservator, but will be gaining some preventive conservation experience by working on

Regional News, continued

an on-going textile storage project. She has previously undertaken conservation training in Florence and Malta.

The Objects Conservation Lab at the Fine Arts Museums of San Francisco has been busy with a myriad of exhibitions, including a self-originated show on the work of Stephen de Staebler and an exhibition of Pacific Island material that was collected by the London Missionary Society, providing some challenging treatments for **Lesley Bone**.

Alisa Egelston has been working on designing new storage systems for objects returning from offsite storage and on creating laboratory safety training protocols. **Pascale Patris** and Mark Harpainter visited the lab for a study day to discuss the past treatments of a settee purported to have belonged to Marie Antoinette.

Karen Zukor returned from Haiti in early October, where she taught a four-day course in paper conservation to the students at the Haitian Cultural Recovery Center in Port-au-Prince. She also gave presentations on paper conservation this fall to the East Bay Genealogical Society and the Hillside Club, an 85-year old book club in Berkeley, CA. In November, Karen once again hosted the annual visit to her studio of Mills College book arts students who come to see the effects of bad matting and aged adhesives firsthand. While she doesn't exact a pledge from the students to not use pressure-sensitive tapes, they always note the TAPE IS EVIL refrigerator magnet prominently displayed.

Regional Reporter:
Alisa Egleston

TEXAS

Sandra Blackard, art conservation consultant, Austin, recently completed a CAP conservation assessment for Harlingen Arts and Heritage Museum in Harlingen, Texas, with Dallas architect Richard Wright. This was the tenth assessment they have done together. In November, Sandra gave her second

of special note:

Hastings Plastics Lives!

More accurately, it has been re-incarnated as Santa Monica Plastics. Two of the longtime former employees now run it; Bruce Zelesnik remains as resin guru, and Eric Warren is in charge of fabrication. At present, the facility is modest, they don't keep as large an inventory as the old shop, but can generally get materials with a day's advance notice and they will soon be selling most resins. The fabrication capacity remains the same.

Their new location is:

Santa Monica Plastics
2834 Colorado Ave., Unit 39
Santa Monica, CA 90404
(310) 403-2849 or (310) 663-8668

annual Working with a Conservator presentation to Julie Holcomb's preservation management class at Baylor University, Waco.

In October, **Ken Grant**, paper conservator at the Harry Ransom Center, University of Texas at Austin, gave two presentations to the docents of the Blanton Museum of Art at the University of Texas at Austin. The presentations were in support of the exhibition *Storied Past: Four Centuries of French Drawings from the Blanton Museum of Art* on display at the museum through the end of December 2011. The presentations covered a history of traditional European handmade papermaking techniques and the physical features that are visible in the resulting paper.

Also, Ken discussed the results of research he conducted on drawings from the exhibition and that were included in his technical essay for the catalog that accompanies the exhibition. After the show closes in Austin it travels to the Grey Art Gallery at New York University, April 17 - July 14, 2012, and the Iris and B. Gerald Cantor Center for Visual Arts, Stanford University, May 28 - August 24, 2014. The exhibition was previously on display at the Frick Art Center, Pittsburgh, PA.

Regional Reporter:
Ken Grant

WAAC Publications

Handling Guide for Anthropology Collections

Straightforward text is paired with humorous illustrations in 41 pages of "do's and don'ts" of collection handling. A Guide to Handling Anthropological Museum Collections was written by Arizona State Museum conservator Nancy Odegaard and illustrated by conservation technician Grace Katterman. This manual was designed to be used by researchers, docents, volunteers, visitors, students, staff or others who have not received formal training in the handling of museum artifacts. Paperbound and printed on acid-free stock.

Price: \$8.85

(\$6.60 copy for orders >10 copies)

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Investigation into the Use of Aquazol as an Adhesive on Archaeological Sites

by Vanessa Muros

Introduction

Archaeological conservators face many challenges when working in the field, none greater than the lack of availability of standard conservation materials and chemicals in many countries. In places where purchasing commonly used solvents is extremely difficult, conservators are faced with an even greater predicament in the lab when trying to make up resins for use as an adhesive or consolidant. For these types of situations, aqueous-based materials or those that are soluble in a wide range of solvents are often ideal.

The challenges described above are what led to the current investigations into the use of Aquazol (poly (2-ethyl-2-oxazoline)) as an adhesive on archaeological sites. The characteristics, use and working properties of Aquazol have been described elsewhere (Arslanoglu 2003; Chiu, et al. 1986; Wolbers, et al. 1994) and will not be covered here in detail. What is of particular interest for use in the field however is Aquazol's solubility in a wide range of solvents, including water (Chiu, et al. 1986). In areas where solvents are difficult to obtain, Aquazol could be the resin of choice.

The problem of obtaining solvents in the field was encountered by the author when working on the Pambamarca Archaeological Project (PAP) in northern highland Ecuador. Due to strict government regulations, obtaining solvents such as acetone and ethanol from chemical suppliers, hospitals and conservation labs was extremely difficult. The majority of the work in the conservation lab focused on the reconstruction of ceramics and other small finds. Due to the limited solvents available, finding a suitable adhesive posed problems when surveying the more commonly used synthetic resins for archaeological materials. The only solvents commercially available that could be easily purchased lo-

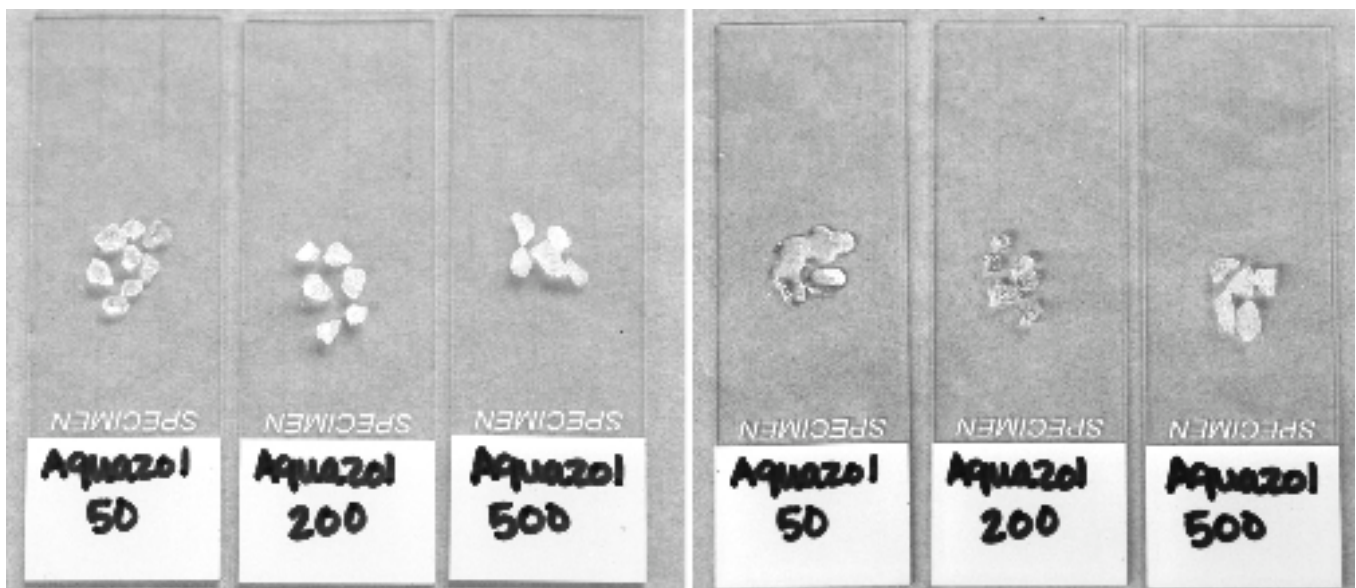
cally were distilled water and a 70% solution of isopropanol in water. Aquazol, with its solubility in both water and isopropanol, was considered as a possible adhesive choice, especially the higher molecular weight polymer Aquazol 500.

Published information on the behavior of Aquazol in high humidity environments raised concerns however. Aquazol was found to be more hygroscopic than other aqueous-based adhesives and thought to lose strength at high humidity (Arslanoglu 2003; Wolbers, et al. 1994). Films of Aquazol 50 and 500 were found to lose adhesion above 75%, with gelling of the adhesive above 84% (Arslanoglu 2003). Failure of a weight bearing join on a glass vessel due to high humidity was reported, though the specific relative humidity (RH) level at which this occurred was not (Arslanoglu 2004). On a site where artifacts are stored in non-climate controlled storage in a region where RH levels can average 59-84% daily (Gladstone 2011a, 2011b), the response of Aquazol to high humidity could pose a problem.

Testing

A series of empirical tests were conducted in order to better understand what the behavior of Aquazol was at various RH levels. Different molecular weights of Aquazol (50, 200, 500) were tested both in the pure resin in granular form and as a film applied to a glass slide. The solvent chosen for the film was 70% isopropanol in deionized water. This particular solvent was chosen for two reasons: previous testing showed that the application of Aquazol in solvents other than water made it less responsive to RH changes (Arslanoglu 2004, 2003) and this was the highest concentration of isopropanol commercially available in the area where PAP was located. 40% solutions of each of the Aquazols (50, 200, and 500) in 70:30 isopropanol: deionized water (v/v)

Figure1 The images shows Aquazol in the pure resin form before (left) and during testing when the humidity reached 80% (right). The granules have altered in response to elevated humidity. The 50 has dissolved and the granules of 200 are shiny, translucent and have solubilized slightly. The 500 has become tacky and appears to have increased in sheen and translucency.



Investigation into the Use of Aquazol as an Adhesive on Archaeological Sites, continued

was made. Each solution was brushed onto a glass slide to produce approximately a 1-2mm thick film. 0.05 gr. of each of the pure resins was also placed on glass slides. The samples were kept in a humidity chamber for 6 weeks with the RH slowly increasing from 50-85%. The RH was monitored using both a HOBO H-8 data logger from Onset Corp. and a Lufft dial hygrometer. The samples were examined at each 5% increase in RH for any changes in color, translucency, texture and tack.

Results

Changes were observed in the Aquazol in pure resin form at RH levels as low as 60-65% (figure 1). The Aquazol 50, which was much more hygroscopic than the higher molecular weight resins, became tacky at 60%. At 70% all the resins were tacky. In addition to an increase in tack as the RH rose, changes to the appearance of the granules were also observed. At 65% RH, Aquazol 50 appeared shiny and translucent. At 70% RH, the granules of 50 started to swell and look rounded. At 75%, the 50 began to dissolve and continued dissolving as the RH increased. Similar changes in sheen and translucency of the 200 were observed starting at a slightly higher RH (70%). The granules of 200 began to look slightly rounded at 80% RH and began to solubilize, but the resin did not dissolve to the same extent as the 50. These changes were not observed in the pure resin form of the Aquazol 500, except for becoming slightly shiny at 80% and an increase in sheen and translucency at 85%.

The results of the tests on films gave slightly different results. As discussed by Arslonaglu (2004, 2003), Aquazol made with solvents is much less responsive to changes in relative humidity in comparison to the pure resin form or films made using only water. Changes to the test films made were observed at 65% RH with the Aquazol 50 becoming tacky. As with the tests with the pure resin form, the films made with the higher molecular weight resins were not as hygroscopic. These two films did not become tacky until the RH reached at least 70% in the case of Aquazol 200 and 75% in the case of Aquazol 500. Other than becoming tacky, no other changes were observed to the films (figure 2).

Discussion and Conclusions

Though Aquazol has found success as an adhesive for certain applications (Arslonaglu 2003; Friend 1996; Shelton 1996; Wolbers, et al. 1994), based on the initial results of these tests, it may not be a suitable material to use as an adhesive for ceramics and other archaeological materials when used in environments with elevated humidity levels. The resin appears to be too responsive to increases in RH, starting as low as 60-65%, which could cause softening of the adhesive layer and failure of joints. Though the larger molecular weight resins were not as hygroscopic as the Aquazol 50, with changes in the 200 and 500 films not occurring until the RH reached at least 70%, their use could still be problematic if humidity levels rise, especially when used on weight-bearing joints.

| Figure 2 RH | resin granules | | | films | | |
|----------------|---|--|------------------------------------|----------------|----------------|----------------|
| | Aquazol 50 | Aquazol 200 | Aquazol 500 | Aquazol 50 | Aquazol 200 | Aquazol 500 |
| 50% | No change | No change | No change | No change | No change | No change |
| 55% | No change | No change | No change | No change | No change | No change |
| 60% | Slightly tacky | No change | No change | No change | No change | No change |
| 65% | Tacky; resin becoming translucent, shiny | Slightly tacky | No change | Slightly tacky | No change | No change |
| 70% | Tacky; resin starting to swell; more translucent | Tacky; resin becoming translucent, shiny | Slightly tacky | Tacky | Slightly tacky | No change |
| 75% | Tacky; resin dissolving; granules are transparent | Tacky; increase in shine and translucency | Tacky | Tacky | Tacky | Slightly tacky |
| 80% | Resin dissolved and tacky | Granules slightly rounded, shiny and translucent | Tacky; shiny | Tacky | Tacky | Tacky |
| 85% | Resin dissolved and tacky | Granules rounder, shinier and more translucent | Tacky; shiny, slightly translucent | Tacky | Tacky | Tacky |

Investigation into the Use of Aquazol as an Adhesive on Archaeological Sites, continued

In addition to the hygroscopicity of Aquazol, the ageing of this resin could potentially pose additional concerns to its use as an adhesive. Ageing tests conducted on Aquazol 50 and 500 found that there is a decrease in the molecular weight of the polymer chain. Samples of Aquazol 500 had a molecular weight close to 300,000 daltons before ageing, with a drop in the molecular weight to 50K daltons after ageing (Wolbers, et al. 1994). Only a small drop in molecular weight was noted in Aquazol 50 after ageing. This may mean that if an Aquazol polymer with a molecular weight greater than 50-60K Daltons is used, there may be adhesive failure as it ages due to a possible scission of the polymer chain (Wolbers, et al. 1994).

Additional testing should be conducted to determine the stability of Aquazol adhesion as it ages and in particular for weight bearing joints on archaeological materials.

Because of its hygroscopicity and changes in molecular weight as it ages, further testing should be undertaken to determine the behavior of Aquazol when used as an adhesive on different inorganic substrates such as ceramics, metals and stone. Tests have found that Aquazol applied to dry pigments or used to consolidate underbound paint is less soluble in solvents (Arslanoglu 2005). Aquazol seems to form complexes with the metal ions in the pigments creating large networks of polymer chains making it less responsive to changes in humidity (Arslanoglu 2005; 2003). This could in turn increase the RH at which failure of joints or loss of strength occurs. What this means in terms of the behavior of the resin within the joints of archaeological material is unclear, but it deserves further investigation.

Until additional tests can be conducted, Aquazol should not be recommended for use as an adhesive in non-climate controlled working or storage environments where humidity exceeds 65-70%, especially if used for weight bearing joints. Aquazol could be considered as an adhesive on archaeological sites in dry climates or where objects are kept in climate controlled storage, however, the changes in molecular weight of the polymer chain over time could potentially affect the stability of objects joined with this resin. For the time being, conservators working on archaeological sites with high humidity or non-climate controlled storage, who cannot readily obtain solvents in the field, will need to continue to look for other alternatives to the resin-solvent systems commonly used on archaeological materials.

Materials and Equipment

Aquazol 50, 200, and 500
Talas
330 Morgan Ave
Brooklyn, NY 11211
212-219-0770
<http://talasonline.com/>

Glass slides
VWR Micro Slides, Superfrost White

VWR International, LLC.
Radnor, PA 19087
800-932-5000
<http://www.vwr.com/>

HOBO H-8 data logger
Onset Corp.
470 MacArthur Blvd
Bourne, MA 02532
1-800-LOGGERS
<http://www.onsetcomp.com/>

Lufft dial hygrometer
Manufactum
Hiberniastr. 5
D-45731 Waltrop
Germany
+49-2309-939 054
<http://www.manufactum.com/>

References

- Arslanoglu, J. 2005. Using Aquazol: A brief summary. *Paintings Specialty Group Postprints*. Washington DC: American Institute for Conservation, 107-110.
- Arslanoglu, J. 2004. Aquazol as used in conservation practice. *WAAC Newsletter* 25 (1), January, 10-15.
- Arslanoglu, J. 2003. Evaluation of the use of Aquazol as an adhesive in paintings conservation. *WAAC Newsletter* 25(2), May, 12-18.
- Chiu, T.T., B. P. Thill, and W. J. Fairchok. 1986. Poly (2-ethyl-2-oxazoline): A new water- and organic-soluble adhesive. In J.E. Glass (ed.) *Water-soluble Polymers: Beauty with Performance*. Washington D.C.: American Chemical Society, 425-433.
- Friend, S. 1996. Aquazol: One conservator's empirical observations. *WAAC Newsletter* 18(2), May.
- Gladstone, P. 2011a. METAR/Synop Information for weather station SEQU (84071) in Quito / Mariscal Sucre, Ecuador. <http://weather.gladstonefamily.net/site/84071>. Last accessed 12/1/2011.
- Gladstone, P. 2011b. Synop Information for weather station 84056 (Tomalon, Ecuador). <http://weather.gladstonefamily.net/site/84056>. Last accessed 12/1/2011.
- Shelton, C. 1996. The use of Aquazol-based gilding preparations. *Wooden Artifacts Group Postprints*, Norfolk, VA. American Institute for Conservation. http://cool.conservations-us.org/coolaic/sg/wag/1996/WAG_96_shelton.pdf. Last accessed 12/1/2011.
- Wolbers, R. C., M. McGinn, and D. Duerbeck, 1994. Poly(2-Ethyl-2-Oxazoline): A new conservation consolidant. In V. Dofe and F.C. Hault (ed.) *Painted Wood: History and Conservation*. Los Angeles: Getty Conservation Institute, 514-517.

A Longer Exposure: An Extended Learning Approach to Photograph Conservation Training in Central, Southern, and Eastern Europe

Introduction

In 2008, the Getty Conservation Institute (GCI) joined forces with two institutions in Slovakia; the Academy of Fine Arts and Design (AFAD) in Bratislava and the Slovak National Library (SNL) in Martin, to carry out a three year regional course in central, southern and eastern Europe entitled *Fundamentals of the Conservation of Photographs* (2008 – 2010).

The course was intended to advance the conservation of photographs in the region by teaching new knowledge and skills to a group of professionals responsible for the care of photograph collections, and to stimulate the formulation of a professional community that could move the field forward.

A 2006 needs assessment illustrated the pressing preservation needs of photograph collections in museums, archives, and other institutions in the region and underscored the need for professionals able to provide adequate conservation and care to these collections. Given the scale of these needs it was also clear that, beyond providing new knowledge and practical skills, training activities should also highlight skills such as prioritizing conservation, fundraising, and advocating the value and importance of photographs.

Encouragingly, the assessment identified a significant number of professionals and institutions highly motivated to find ways to improve the care of their collections of photographs, but it also pointed out that opportunities for specialized training and education in the area of photograph conservation were very limited (in fact, the first academic specialization in the conservation of photographs was established at the Academy of Fine Arts and Design, Bratislava in 2006).

The picture that developed through the assessment process also suggested that a program of sustained learning and communication would be most beneficial.

The Course

The objectives of the course *Fundamentals of the Conservation of Photographs* were: to teach relevant knowledge and skills; to build capacity, and; to encourage the growth of a strong regional network of professionals.

The idea of extending the learning experience for participants through sustained communication and activity over several years was a way to pursue all of these objectives in a meaningful way. The course was based on a model of three annual summer schools (each two or three weeks long) with a program of distance learning and capacity building activities between each.



The eighteen participants in the course represented ten countries in the region and a variety of professional backgrounds, including conservators (who comprised about 60% of the group), collections managers, archivists, a conservation scientist and a curator. All shared a record of caring for photograph collections. A passion for photographs and willingness to promote the preservation of photograph collections was also required. With only a few exceptions, the group remained the same throughout the three years of the course.

The *Fundamentals of the Conservation of Photographs* course introduced participants to concepts related to the identification, value and conservation of photographs and photograph collections. Dissemination was also a key theme of the course, and participants were asked periodically to provide information detailing their efforts at outreach, advocacy and collaboration, no matter how modest.

The annual summer schools focused on classroom-based instruction and group discussions and included theoretical and hands-on sessions. An effort was made to keep the program varied; some exercises were staged as competitions (identification of a set of unknown processes; creation of custom storage housings) and recreation of historic processes (salted paper print, cyanotype, platinum print and daguerreotype) during the second and third years of the course. These proved to be both very useful for deepening understanding of photographic processes and also inspirational to participants in other ways that will be described later.

During the eight month “distance mentoring” phase that followed each of the first two summer schools, participants completed a series of assignments designed to help them apply information and knowledge to their own collections and professional practice. At each due date, participants uploaded their assignments to a course website. Two

course instructors took on the role of “mentors,” reviewing the assignments and providing constructive feedback to participants.

The mentors also addressed questions from participants and encouraged others in the group to contribute to solutions through an online discussion forum. The course website was also used to make key readings, presentations and other teaching material available electronically to participants over the three years of the course.

During the first distance mentoring period, participants carried out a survey of 20-30 photographs from an institution, private or teaching collection, and assignments led participants through the process of surveying, writing a condition report and developing a thorough preservation plan. The assignments of the second distance mentoring module continued to address the theme of survey (expanded in scale to larger collections and in scope to include storage and exhibition spaces, institutional policy, etc.).

Photograph conservation terminology and vocabulary (a topic from the second summer school) was also addressed through a collaborative assignment that asked participants to contribute to the creation of a twelve language, 150 term comparative vocabulary of photographic terms.

The distance mentoring assignments, curriculum and course activities are described in considerable detail on the “teaching and learning resources” web page of the GCI website: http://www.getty.edu/conservation/publications_resources/teaching/photographic_materials.html. This web page includes “session outlines” (descriptions of individual teaching sessions), technical notes, and other material that describe what was taught, and how instructors taught it.

The Fundamentals course, along with the GCI’s other project work on the preservation of photographs and photograph collections (a new initiative entitled the Middle East Photograph Preservation Initiative (MEPPI), which also uses a model of extended learning, just began in 2011) is described on the GCI website at: http://www.getty.edu/conservation/our_projects/education/cons_photo/index.html.



Extending the Learning Process - Benefits and Challenges

Curriculum

A major challenge to framing this course as an ongoing learning experience was keeping the curriculum coherent and consistent over three years. Despite a logical program (thanks to input from many in the photo conservation community), and much built-in flexibility, the curriculum that was implemented departed considerably from the ideal version drafted at the outset. This was due in large part to serious budgetary restraints that were imposed as a result of the financial crisis, as well as to unexpected issues with instructor availability.

Although all of the topics were eventually covered, some had to be postponed or restructured, and some subjects intended for the first summer school, such as fundraising and fundamentals of macro- and microclimates, did not occur until the third. This affected the “flow” of the curriculum and in some cases, the learning experience. There were also practical effects – for example, the fundraising session that was taught during the third summer school was outstanding – but would have been of greater benefit at the beginning of the course as originally intended.

In retrospect, the response to the need for changes relied perhaps too much on the considerable flexibility built into the program which allowed us to react, at the expense of a more formal re-evaluation. A strong back-up plan or a thorough evaluation with the advice of an advisory committee would have helped to reformulate the curriculum more effectively.

Another challenge, recognized from the outset, was presented by the variety of backgrounds represented in the group. As the course was focused on fundamentals, an in-depth treatment of conservation treatment was outside its scope. This message – and the GCI’s plans for future “advanced level” courses to deal with conservation treatment topics - was made clear from the outset – but it still proved difficult at times to manage expectations, and a number of conservators in the group continued to request supervised treatment time as a part of the course. This was not viable, but other opportunities were made for conservators in the group to talk about conservation problems through consultation with instructors and through group discussions where these would benefit the larger group.

These needs are very real, and the GCI does intend to initiate several advanced level courses in the region to address them more fully beginning in 2013. In terms of bringing a variety of perspectives and concerns into the classroom, the mix of backgrounds was beneficial.

Distance Mentoring

The idea of distance mentoring is used in a variety of ways in courses and activities run by the GCI Education

A Longer Exposure: An Extended Learning Approach to Photograph Conservation Training in Central, Southern, and Eastern Europe, continued

department, when it can bring benefit to a group of learners. An important potential benefit is the opportunity to apply knowledge, with expert guidance, in one's own work environment. If the exercises are appropriate and the quality of the mentorship good, these experiences can serve to reinforce knowledge and build confidence and decision making skills. The distance mentoring part of the course also represents an opportunity for ongoing dialogue with peers and instructors which may widen the participant's view of the field.

Since the GCI Education department uses similar programs of distance learning activities in other courses, we were lucky to have experience and a number of other examples (some successful, others less so – these even more useful) to rely on. Participants in the Fundamentals of the Conservation of Photographs course were committed to the distance mentoring program (they and their supervisors or directors were asked to review and commit to this program in advance) and as a result it worked very well, and gave a strong sense of momentum to the three year course.

Ensuring quality participation in distance learning activities can be a challenge and requires careful crafting of a program that is realistic and useful for the group of learners. It is important to consider language and technology issues and the professional/institutional context of participants, including workload factors; accessibility of the resources and collections necessary to carry out the assignments; and the willingness of senior staff and supervisors to support the proposed work.

On the other side of the equation, the quality of the feedback from the course mentors is crucial as well. It is important for the responses of mentors to be thoughtful, encouraging and coordinated (though not necessarily standardized) to ensure that questions are being answered clearly and appropriately – and that opportunities to help participants to find answers themselves are not missed.

An assessment of the possibilities for a distance learning program should be thorough and open to different ways of structuring work and communicating – and also willing to recognize that a program of distance learning simply may not be appropriate in some contexts – for example if institutional commitment to provide time and access to material needed to complete the program is not forthcoming. Failure at a program of mentoring is discouraging and may prove much more detrimental than not having undertaken one at all.

Professional Networks

Maintaining momentum with this group over the course of three years contributed enormously to the objective of building professional networks in the region, which are crucial to continuing to move the field of photograph conservation forward. Ongoing opportunities for dialogue and shared activities had a positive impact on the quality of relationships that were formed.

By the second summer school, the dynamic had evolved from formal and somewhat strained at times (due in some part to regional politics and recent conflicts) to a far more congenial atmosphere. Cooperation began to cross national boundaries and take place in the classroom and outside it as well.

By the third year of the course, we were surprised at the number of real collaborations taking place, ranging from joint outreach and training activities (lectures, workshops and publications, etc.) to a significant international grant proposal. This latter example was a joint proposal by participants from five countries to the European Commission for funding through the Culture 2007 – 2013 grant scheme. After some growing pains, and with the benefit of the session on fundraising during the last year of the course, participants from three countries were successful in securing funds for a joint proposal.

The distance mentoring program was the framework for communication during the time between summer schools. The formation of relationships and networks is always unpredictable, and it is ultimately pointless to try too hard to force informal communication via a course website. For the Fundamentals course, leading by example – encouraging course mentors to use the website for important announcements and to make use of the discussion forum to address questions - proved to be an effective strategy to encourage shared communication. Another was to ensure that the course website was functional and straightforward – a place to access important readings and information (some of it social) and to post easily and discuss relevant questions.

The fact that informal communication is occurring and ongoing, and is supported by the course is far more important than the quantity or frequency of informal communication as officially tracked by a course web site. In fact, the hope is always that communication eventually moves away from course structures to happen more effectively in other ways. We asked participants to keep us informed about instances of cooperation, collaboration and dissemination that they were engaged in but we heard little in the first year of the course and initially assumed that not much was happening on this front.

As we had the chance to discuss this with participants during the summer schools, we were surprised to discover the amount of communication and activity that was going on. It was a challenge for us to get participants to recognize the value in some of their activities that they considered mundane or modest and assumed we would not be interested in. We struggled to get the point across that it is exactly these kinds of activities - advice shared and visits organized between participants, joint activities carried out - even small in scale, that do the work of building a profession and building support for that profession.

As the course progressed, we continued to be surprised at

A Longer Exposure: An Extended Learning Approach to Photograph Conservation Training in Central, Southern, and Eastern Europe, continued

the amount and scale of communication and collaboration that was going on over the three years of course. Particularly fun examples included instances where participants took the knowledge (and in some cases, left over supplies) from process recreation sessions taught during the summer schools and created their own workshops for colleagues at their own and other institutions, and even for the public, as participants from Poland did at a national science fair for children.

Even more exciting were instances where participants from different institutions and countries collaborated on activities in order to pool resources and expertise. It is gratifying to see trainees begin to fill needs for each other and for others in the field.

Conclusion

The course Fundamentals of the Conservation of Photographs was an effort by the GCI, working with partners in Slovakia and with the help of many in the photograph conservation community, to meet the needs of an emerging group of conservation professionals within a region with a wealth of photographic collections, but with urgent preservation challenges, limited resources and very few opportunities for training. The model of a multi-year course that includes distance mentoring activities and sustained access to teaching materials, instructors and peers worked well for

this audience. The GCI plans to continue to contribute to the momentum in the region through future activities such as a regional symposium, and a series of workshops dealing with more advanced topics in photograph conservation.

It is very encouraging to see the recent developments in the region. Formal academic programs in photograph conservation are being discussed and established. The Academy of Fine Arts and Design (AFAD) in Bratislava, a project partner, created an MA specialization in photograph conservation in 2006, and others in the Czech Republic are following. In addition, several participants in the Fundamentals course who work in academic settings are working to establish the same at their own institutions.

Outside the region, the North East Document Conservation Center (NEDCC) – an early leader in promoting conservation of photographs in this region - has found funding for several years in a row to host interns from the region, and the timing for these internship opportunities could not be better.

A separate paper could be devoted to the course participants and their work, and any success is due in large part to their hard work. We would also like to acknowledge the goodwill and extraordinary dynamism of the photograph conservation community, particularly those who contributed generously to the course as instructors or advisors.



Concept to Fabrication: The DeNiro Collection *Men of Honor* Deep Dive Suit Stabilization Device

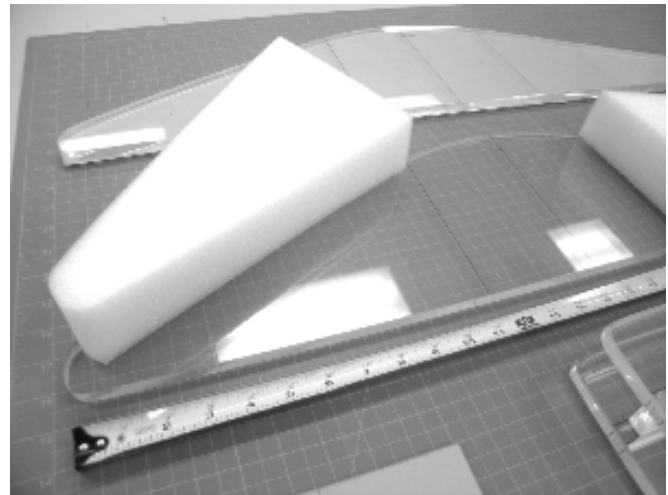
There are many factors to be considered when housing very large collection objects. This was particularly true in the case of the deep sea diving suit worn by Cuba Gooding Jr. in the movie *Men of Honor*, which came into the care of the Harry Ransom Center in Austin, Texas when it acquired the Robert DeNiro collection.

The mandate was to create a device to increase the longevity and preserve the construction of the suit. The deep dive suit was too large and too heavy for housing in conventional preservation boxes, and flat storage could not have properly supported the suit's own material from crushing itself.

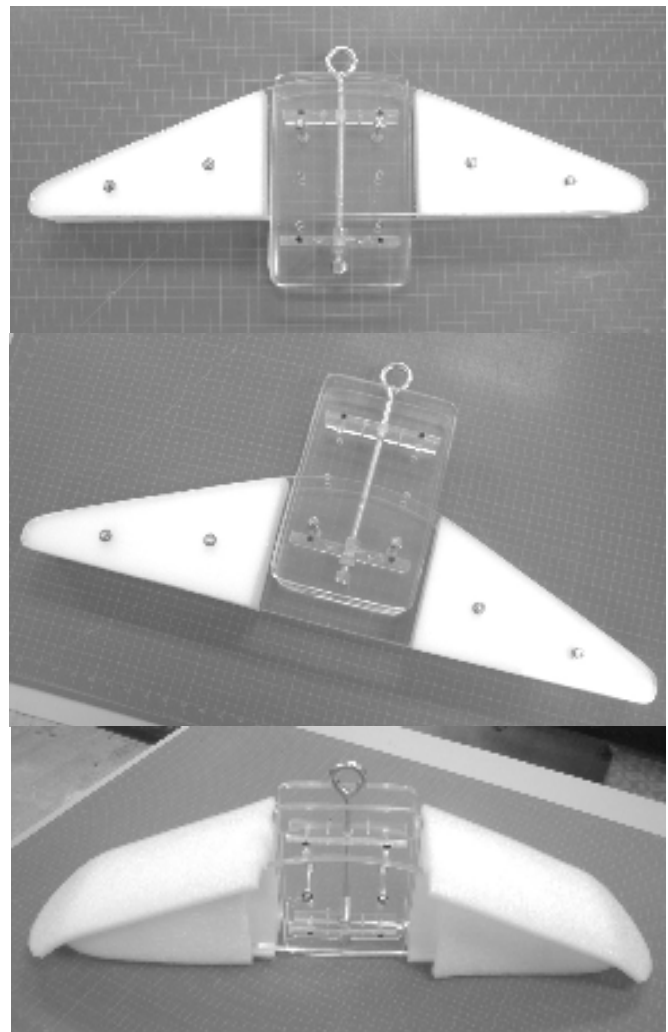
The amount of storage space also had to be considered, along with the construction of the support device, so the suit could be easily transported and exhibited. This dictated that the type of materials used to construct the device be archival and light weight, such as acrylic sheet and polyethylene foam.

The solution was a hanger designed to be simple, adjustable, and adaptable. The main body and structure of the hanger is 1.25 cm thick acrylic sheet. It was measured to fit the exact shape of the interior of the deep sea diving suit across the shoulders and into the arms.

The acrylic sheet panels were cut, drilled, and polished, then bolted together with two thick polyethylene foam planks placed between them. The Ethafoam serves as lightweight,



highly compact, archival filler. It also provides a porous surface to which layers of Ethafoam padding can be hot-glued, to cover the surfaces and edges of the acrylic sheet as well as the bolt heads.





The central neck panel is also constructed from acrylic sheet, and screwed together to form an adjustable sliding block that is removable. This allows the shoulder support to be placed inside the suit without obstruction and refitted once the suit is ready to hang. The neck panel also has an adjustable swiveling eyebolt that provides easy attachment when transporting, hanging, and exhibiting.

The Ethafoam padding goes well beyond the shoulder seams of the suit and gives support across the entire upper half of the shoulders and well into the arms to reduce weight pulling on the shoulder seams of the suit. The width of the hanger from front to back completely supports the neck's thick vulcanized collar, as well.

The hanger can readily be taken apart and modified for future adjustments or additions. One possibility being considered is the addition of fabric straps from the main body of the hanger to the interior of the waist for further support.

The hanger has an unobtrusive appearance, but can also be easily covered to suit exhibition purposes. It is, of course, important that the stabilizing support that extends from the wall be securely mounted to insure adequate support to the weight of the suit.

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The Watercolors of Charles Russell: An Examination of the Artist's Materials and Techniques on the Montana Frontier

Jodie Utter

Analyses of Charles M. Russell (active c. 1880-1924) watercolor artists' materials and techniques were undertaken using magnification, polarizing light microscopy (PLM), X-Ray Fluorescence, (Tracer III XRF), Infrared Reflectography (IRR), and ultra violet (UV) light. Russell's pigments are identified, as well as shifts in his technique over the course of his career. Focus is given to the wide variety of high quality artists' materials available in America and specifically on the Montana frontier in the late 19th and early 20th centuries.

Over the course of his lifetime Russell is thought to have painted some 1,600 watercolors. This project provides a baseline of comparison for Russell's watercolor paintings, as well as traces the skills of the artist throughout his career.

The Resurrection of Nam June Paik's *Video Flag Z*

Siviu Boariu, Mark Gilberg, John Hirx, and Jeff Ono

In 1986 LACMA acquired Nam June Paik's *Video Flag Z*, the third and final work in an edition of video sculptures, each comprised of 84 television monitors. Nam June Paik (1932-2006) is widely considered the father of video art, was the first video artist to experiment with electronic media, and played an important role in introducing the use of video as a form of artistic expression. The arrangement of television sets mimics the format of the American flag, and through the use of use of fast paced edits the images flicker in a dazzling array across the zones of stars and stripes.

Once acquired *Video Flag Z* was operated almost continuously until the late 1980s when the original Quasar television sets began to incur technical problems with wiring, switches, and "image burn" into the phosphorescent picture tubes. In the early 1990s as more and more televisions began to require repairs, *Video Flag Z* was frequently shut down as local repair shops hunted for hard-to-find replacement

parts for the Quasar model, which was no longer manufactured. Finally in 2000 it was decided to take the artwork off public display as technical problems and lack of spare parts rendered the artwork inoperable.

In 2006 the decision was made to restore Paik's *Video Flag Z* for the opening of the Broad Contemporary Art Museum. With funding secured from the Samsung Foundation and the assistance of the Nam June Paik Studio in New York the process of restoring the artwork was put in motion. In 2011 the restoration was completed in time for the opening of *Human Nature: Contemporary Art from the Collection*. The results of this successful collaboration will be reviewed in an effort to illustrate some of the more problematic decisions and approaches that must be taken when undertaking the conservation of contemporary art and electronic art in particular.

Responding to Local Disasters: Fires in Bastrop

Karen Pavelka, Rebecca Elder, and Virginia Luehrsen

On Sunday, September 4, a perfect storm of downed power lines, high winds, high temperatures, and parched land ignited wildfires in Bastrop, TX. The fire burned uncontrolled for over a week, destroying nearly 1600 homes and burning more than 34,000 acres.

Students and faculty of the School of Information, the University of Texas at Austin, organized a team to help residents recover anything found in the aftermath. It is still early in the recovery process, so the current focus is spreading the word that fire victims should not throw things away, and making contacts with Bastrop authorities to let them know the team is available. If needed, more workshops will be held as people are allowed back into their homes to assess the damage.

It is not known how much actual material there will be to salvage, however reports of melted fire safes and homes reduced completely to ashes make for a dim outlook. The workshops generated substantial attention from local and national media, giving us the opportunity to show what conservators can give to the

community in a disaster situation, raising the profile of the field.

While we would never wish for a disaster, this has given us the opportunity to connect with the community and to let the community understand the value of conservation.

Luminous: How Conservation Studies, Treatment, and Advocacy Are Integrated in an Exhibition at the Seattle Art Museum

Nicholas Dorman

The presentation will describe how our efforts to prepare and document 100 works of fragile art from the Seattle Art Museum, for a tour of five museums in Japan, evolved into more thoroughgoing research and treatment and an unprecedented opportunity to showcase a variety of conservation issues and technical art history in our galleries and on the SAM website.

A Cold Storage Facility for Large Contemporary Color Photographs at the J. Paul Getty Museum

Sarah Freeman and Marc Harnly

A successful acquisition and donation program of several years has significantly increased the holdings of oversized contemporary color photography in the collections of the J. Paul Getty Museum.

Long-term storage temperatures below ambient room conditions are known to increase the longevity of the image-forming dyes of color photographs, which fade even when stored in the dark. An eleven hundred square foot facility was constructed at the museum to store these objects at 40 degrees Fahrenheit. The project to design and construct this facility involved extensive research and consideration to yield optimum storage materials and methods, including individual artwork enclosures for a variety of formats; storage shelving and screens; and room construction such as the type of insulated wall panels and flooring.

Decisions required broad consultation with a variety of professionals: conservators, curators, art handlers, museum administrators, facilities staff, scientists,

architects, contractors, and construction personnel. Once completed, the large color prints were successfully installed in the new facility. Long-term plans for access, maintenance, and usage were also made.

Color: Review of the Main Color Producing Mechanisms and Illustration with Feather Colors

Christel Pesme

Colors and contrasts discrimination allow human beings to apprehend their surrounding world, to appreciate works of art, or to read documents. Logically, visual appearance plays a key role in the field of conservation. Color, gloss, sheen, and opacity are the main visual attributes of a surface.

Conservators have found color sensitivity indispensable to in-paint color losses or to evaluate treatment success. Color changes are often used as an indicator of a degradation process: this constitutes for instance one of the fundamental assumptions on which lighting guidelines for exhibitions have been developed in preventive conservation. Color science tools and techniques have also been successfully applied in conservation to provide conservation scientists and conservators with useful quantitative information. Color monitoring is very often used to check the progress of a treatment, or control the impact of a chemical or an adverse agent on the cultural artifact.

However, some materials used in making cultural artifacts show a level of complexity that challenges the common practices used in the field. Feathers, for example, force us to refine approaches to assess light sensitivity and to reconsider risk management and exhibition lighting decisions. But first of all it forces us to clarify the mechanisms in play that result in a given surface appearance.

Surface appearance results from a combination of two color producing mechanisms. Each mechanism is characterized by a specific interaction between the incident light and the surface material: one is based on selective absorption of the incident light, the other on its selective scattering. Pigments are examples of the first type of color and structural color-

ation makes up the second type. It can be challenging to discriminate between the colors resulting from each mechanism, yet it is important when assigning risks for the item. For instance colors resulting from selective absorption of the incident light are considered prone to fading, while those resulting from its scattering may be at higher risk in regards to dust deposit.

The main way to study and quantify the physical interactions between surface and light is to measure it directly. But pigments and structural color in both reflected and transmitted mode requires specific instruments. However, observing surfaces under different lighting conditions can provide one with visual clues that can help identify the way color or certain appearances are produced. These clues are sometimes conclusive. Images of feathers will be used to illustrate the presentation: the color productive mechanisms in feather are so extreme that observing them helps to exemplify the relation between the different physical entities and their appearances. Also, when possible, useful tips helping to discriminate between colors based on absorption and colors based on scattering will be presented.

More Than Surface Deep: Architectural Investigation and Conservation of Failing Sandstone.

Mark McMillan, Katharine Untch, David Wessel, and Rick Flaster

Calvary Presbyterian Church was constructed in 1902. This third building of the San Francisco congregation is composed with symmetrical facades and exhibits English Renaissance styles executed in sandstone. For architectural and social reasons, the church was individually listed on the National Register of Historic Places in 1978.

The building's facades exhibited failing paint and detachment of the underlying sandstone that posed an aesthetic as well as safety concerns. A team of conservators, historic preservation architects and masonry experts was assembled to verify the causes of deterioration and formulate a cost-effective preservation solution. Using non-destructive techniques, it was discovered that the problem was not inherent in the design or materials of the building,

but caused by previous coating treatments that had leached into the stone.

Based on the findings, research, and mockups, the team developed a strategy for stabilizing the sandstone and bringing the facade back to its original function and aesthetic glory. The non-historic paint coating was removed, thereby revealing the underlying, sound stone. Although pneumatic tools were employed, the process and craftsmanship was the same as when these elements were originally carved.

No further surface treatments such as paint or sealants were applied to the newly exposed stone. Based on the condition of other sandstone buildings of a similar age in San Francisco, this solution should provide a "100-year" solution for the facade, thereby reducing future maintenance costs. This project successfully uncovers the beauty and history of our past while being sensitive to the needs of our future.

What To Do When a Chemist Comes Knocking on the Door: Identification of Plastic Materials in Museum Collections through Collaboration with an Undergraduate Chemistry Program

JoAnn Peters

As an organic chemistry professor working at Central Washington University, I participated in National Science Foundation-sponsored Chemistry in Art workshops, and spent a research leave in the conservation labs at the Royal British Columbia Museum. Through these experiences I became interested in the identification and conservation of plastic materials in museum collections. This led to collaborative projects with the Yakima Valley Museum and the Kittitas County History Museum.

During the past year I worked with museum staff to identify plastic materials, particularly cellulose nitrate and other malignant plastics, in the museum collections. Testing involved minimally destructive sampling procedures and analysis through chemical spot tests, as well as infrared spectroscopy (ATR-FTIR). Sampling was carried out at the museum, with samples brought back to the university laboratories for testing.

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The projects were carried out with the assistance of undergraduate students. Students were introduced to the handling of museum objects by faculty from the university's Museum Studies Program prior to visiting the museums. Students worked closely with me at the museums and in the laboratory, assisting with all aspects of the project. I found that the projects were wonderfully suited to training undergraduate science majors. Projects of this type may be of use to other museums and of interest to other college chemistry departments.

Alaska, an Unexplored Paper History: The Examination, Training, and Treatment of the Paper Collections of Twelve of Alaska's Historical Institutions

Seth Irwin

Rarely in paper conservation are we lucky enough to act as archaeologist and be the ones to unearth paper treasure from the caverns of the past. Alaska, while being the second youngest state in the union, adopted to statehood in 1949, ironically happens to have some of the oldest paper artifacts in the union.

First visited by Russian fur traders at the beginning of the 18th century, the state houses many archive collections that play a significant roll in depicting Alaska's history. Many of these collections have largely been unexplored and unseen. This in turn has created a state of concern relating to the stability of the overall historical paper collection of the state.

Conservation in Alaska presents difficulties unlike any other state in the union. The remote nature of many of the institutions that house paper collections are only accessible by air and water. In addition, the institutions are generally volunteer run and have little training in working with paper artifacts. At present there are no paper conservators in Alaska and transportation of damaged or deteriorated artifacts to the 'lower 48' for treatment is simply not an option.

Throughout 2010 and 2011, organized through the Alaska State Museum, twelve Alaskan institutions were visited for one month each to handle the conservation concerns for their paper collections. These projects, funded primarily through generous grants from the Alaskan Rasmuson

Foundation and several other institutions, had three primary objectives; assessment of the collections, training in some basic conservation techniques, and treatment of the institution's high priority paper artifacts. It is the intent of this paper to explain how this project functioned as well as to discuss the methods of conducting various paper conservation activities in the most remote of conditions.

Developing an Architectural Conservation Plan for the University of Texas at Austin

Frances Gale and Michael Holleran

The University of Texas at Austin campus contains one of the most elegant and beautifully designed collections of early twentieth century academic buildings in the United States. Several historic buildings on the original "Forty Acres" campus were designed by prominent American architects. Cass Gilbert designed Battle Hall, the only building on the Forty Acres listed on the National Register of Historic Places, and Paul Cret designed the iconic Main Building and Tower and a number of other buildings. Both Gilbert and Cret developed master plans for the University, and the Forty Acres still reflects their influence.

An award from the Getty Foundation's Campus Heritage Grants program provided the opportunity for in-depth study of the Forty Acres campus. The project included a cultural resource survey to determine eligibility for the National Register of Historic Places, a landscape inventory and management plan for the historic cultural landscapes, and a conditions investigation of historic buildings. Our campus partner was the Office of Facilities Management, and consulting services were provided by award-winning preservation architects Volz & Associates, Inc. This presentation focuses on the historic building investigation and the development of an architectural conservation plan for the Forty Acres.

UT Preservation students participated in the project through two materials conservation courses. In a field methods course, students documented existing conditions on building exteriors and investigated sources of deterioration. They developed an illustrated glossary of conditions, and

identified those that affect many of the buildings, including biological soiling on masonry materials and corrosion on metal windows and spandrel panels. Based on this information, we selected representative buildings for further study.

In a lab methods course, students examined samples of materials from these buildings; their research included investigating deterioration and evaluating appropriate conservation treatments. Students identified organisms present in biological soiling and their adverse effects on limestone using DNA analysis and SEM imaging. During our study of historic windows, students examined paint and metal samples in the laboratory and evaluated state-of-the-art treatments.

The results of our research were used to develop specifications for restoration and guidelines for future maintenance of historic buildings within the Forty Acres. Promoting stewardship of UT's historic buildings was an important goal of our project, and the partnership between the Historic Preservation Program and the UT Office of Facilities Management was crucial to the success of the grant project, and to long-term sustainability of the Forty Acres.

Three Drawings in Search of an Author: Writing a Technical Essay for an Exhibition Catalog

Kenneth Grant

In 2006, the author was given the opportunity to contribute a technical essay for a catalog that would accompany the traveling exhibition entitled *Storied Past: Four Centuries of French Drawings from the Blanton Museum of Art* organized by the Blanton Museum of Art at the University of Texas at Austin. Fifty-four drawings were included in the show. The drawings dated from the 16th century to the early 20th century and were executed in a variety of media on various types of papers.

This paper outlines the author's thoughts and experiences examining the works in the exhibition and includes a brief survey of technical essays and their formats from recent exhibition catalogs. The author's eventual approach was to structure the essay in the form of three "case studies"

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that illustrate certain concepts common in conservation studies.

The first case addressed the examination under visible and infrared light of a drawing assembled from parts and mounted to a secondary support, obscuring previous designs in the process. The second, was a discussion of a drawing on a colored paper support that had faded and so changed the tonal contrast of the media relative to the colored paper. Finally, the third case study involved the investigation of a drawing on Gillot paper, an unusual (and now extinct) drawing support manufactured during the 19th and early 20th century to aid in the production of images for mass-market illustrated magazines.

The inclusion of an essay by a conservator in exhibition catalogs, once a fairly rare occurrence, is becoming more common. The point of departure for the discussion is, as expected, not usually thematic, iconologic, or iconographic; but focuses on the physical nature of the art object, its materials, construction, and subsequent aging characteristics. The paper also touches briefly on the author's experiences preparing information for museum docent training and the ways in which a conservator's expertise can complement those of the curator in order to provide a more complete understanding of a work of art.

A Longer Exposure: An Extended Learning Approach to Photograph Conservation Training in Central, Southern, and Eastern Europe

Sean Charette

This paper describes a three year regional course in central, southern, and eastern Europe entitled Fundamentals of the Conservation of Photographs that the Getty Conservation Institute (GCI) undertook from 2008 to 2010 with the aim of advancing the field of photograph conservation in the region. The course was carried out in partnership with the Academy of Fine Art and Design (AFAD), Bratislava and the Slovak National Library (SNL) and counted eighteen conservation professionals from ten countries in the region as participants.

Of particular note is an approach that extends the learning experience for par-

ticipants in a number of ways, beginning with a course design that utilizes both classroom teaching and distance learning activities to sustain communication and learning over several years. The benefits of this approach to the course objectives of teaching relevant knowledge and skills, building capacity, and encouraging the growth of a strong regional network of professionals is explored, along with the challenges in implementing an ongoing effort such as this. The use of this approach in other contexts is also explored.

A Comparison of the Use of Sodium Metabisulfite and Sodium Dithionite for Removing Rust Stains from Paper

Seth Irwin

Rust stains in paper pose an interesting problem for treatment in paper conservation. The presence of such stains might vary from covering the majority of a paper artifact to as small as a residual stain left by a rusted paper clip or staple. Rust, $\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$ (or $\text{FeO} \cdot \text{OH}$) is difficult to remove from the fibers of paper primarily due to its insolubility with water.

This problem is traditionally overcome in a series of wet treatments by reducing the insoluble Iron (III) compound to a soluble Iron (II) compound, adding a chelating agent such as EDTA, and repeating the process until the staining has been reduced or eliminated. At present, the most widely used reduction agent is sodium dithionite ($\text{Na}_2\text{S}_2\text{O}_4$) also referred to as sodium hydrosulfite.

Sodium dithionate, while proven to be effective for this process, can often present logistical difficulties for those requiring its use. According to current MSDS standards, sodium dithionite is labeled a hazardous substance; it is extremely flammable, and prone to spontaneous combustion. Therefore, its use often requires treatment to be conducted in a fume hood. In addition, the chemical is also considered a hazardous substance by shipping carriers, thus requiring it to be ordered via hazardous materials freight adding additional expense to its acquisition.

However, the reducing agent sodium metabisulfite ($\text{Na}_2\text{S}_2\text{O}_5$), having one more oxygen than sodium dithionate, is not considered a hazardous substance according

to current MSDS. Furthermore, it is not flammable, does not require hazardous material freight, and was also found to be far less expensive than sodium dithionite. Preliminary testing on rust stains in paper, in combination with EDTA, revealed significant success in its ability to effectively reduce iron corrosion. The intent of this project will be to conduct a side by side comparison of both reducing agents in their ability to reduce and eliminate rust stains from paper.

The Multipurpose Mount: An Adjustable Support for Photography and Radiography of Fragile Dineth Pottery

Jamie Hascall

In the Spring of 2011, a rare collection of ancient Dineth pottery was brought to the Conservation Department of the New Mexico Department of Cultural Affairs by the U.S. Bureau of Land Management for assistance in preservation and analysis. For the documentation of the 53 pieces, photography and x-ray analysis were requested to study their construction and repairs. The challenge presented to the Preparation Department was to provide a mount that would safely stabilize and support the pointed-bottomed vessels while being unobtrusive during photography and radiography. In addition, the mount needed to be adjustable to accommodate the wide range of sizes and shapes in the collection.

To meet the core criteria, the mount was constructed of clear rigid acrylic tubing and sheet with nylon fasteners used to join the components. The pot was supported by a structure composed of a vertical telescopic column, a horizontal over arm, and an adjustable rod and Volara pad that descend into the mouth of the vessel to stabilize it from the inside. Points of contact were made easily adjustable and padded to preserve the surfaces. When used with a lazy-susan table, the mount allowed safe examination of the entire object with minimal visual intrusion.

The mount proved to be a highly usable design, adaptable to a variety of uses. It is an excellent example of a mount whose purpose is neither display or storage, and shows how one design can satisfy a wide range of needs, while not compromising the preservation of the object under study.

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Research on Low-Oxygen Environments Applied to Autochrome Plates at the Metropolitan Museum of Art

Luisa Casella, Nora Kennedy, Katherine Sanderson, and Masahiko Tsukada

Research carried out at the Metropolitan Museum of Art established the benefits of low-oxygen conditions for the display of autochromes to minimize light fading, when compared to exposure under normal ambient oxygen levels. This was achieved by carrying out accelerated light-exposure tests on experimentally-produced autochrome color screens as well as historical samples, using a specifically designed testing protocol. The research project also investigated and tested a sealed enclosure that would allow for anoxic display of autochromes for limited time periods.

What I Learned from CAPS 2 and How I Applied it to the MCP

Chris Stavroudis

CAPS2 (Cleaning Acrylic Paint Surfaces 2) was held at MoMA in May 2011. The workshop continued the GCI's Education Department's interest in assembling a workshop on the cleaning of acrylics. CAPS2 was a still a prototype workshop intended to discuss the treatment aspects of the earlier, more theoretical discussions from CAPS-RIP (Cleaning Acrylic Paint Surfaces - Research into Practice).

A number of potentially practical cleaning systems were taken from the workshop and are being incorporated into the Modular Cleaning Program. The theory behind the cleaning systems and their implementation in the MCP will be discussed.

Have (XRF) Gun, Will Travel – to Museums and Historical Sites! Interdisciplinary Studies at the San Antonio Museum of Art and the Alamo

Michelle M. Bushey, Madeline J. Corona, Nicolle Hirschfeld, Jessica Powers, Pamela Jary Rosser, Benjamin E. Surpless, and Kate Ritson

The departments of Art and Art History, Biology, Chemistry, Classical Studies, and Geosciences at Trinity University have begun to integrate the use of a portable XRF device (pXRF) into curriculum

and research. Not only have these new tools helped us to infuse applications that immediately capture student interest in traditional science courses, but they have allowed us to extend the reach of analytical chemistry across campus and to forge new relationships with atypical disciplines both on an off campus.

In this study, a portable XRF instrument was used to perform in-situ analysis of Roman statuary from the San Antonio Museum of Art and wall decorations at the Alamo shrine in San Antonio TX. The pXRF allowed for the discovery of traces of gold on a marble statue called *Portrait of Antinous*. The gold is confined to the wreath surrounding the figure's head, and is invisible to the naked eye.

The pXRF was also used to characterize and identify pigments in frescoes found at the Alamo. The presence of mercury in red colored samples identified this pigment as vermilion, while the iron levels in yellow pigments allowed for the identification of iron ochres. Green and blue pigments were also found and are currently undergoing additional analysis in order to determine their composition.

Results of the pXRF analyses provided new insights into the pigments and other materials used in the production of these historical artifacts, and proved to be a fast and effective method of qualitative analysis. This work has been funded and supported by NSF, the Earl C. Sam's Foundation, Trinity University, the San Antonio Museum of Art, and the Daughters of the Republic of Texas, custodian of the Alamo.

To Hell and Back: Fire Recovery Project at Museum Biblical Arts, Dallas

Maria Sheets

In 2005 the Museum of Biblical Art experienced a devastating six alarm fire. This presentation will cover the process of recovery including triage phase challenges, temporary storage and transportation, public relations, environmental storage and working issues with a temporary lab, treatment, construction phase, safety issues, the opening of the new museum with an on-view conservation lab space/classroom, and additional challenges in the new facility.

Forensic Connoisseurship: Discoveries Made in the Conservation of *New England Village, 1912-1914* by Maurice Prendergast

Maite Martinez Leal

New England Village (1912-1914), by Maurice Prendergast, is one of the paintings in the Wintermann Collection of American Art given to the Museum of Fine Arts Houston in 1985. For years the MFAH paintings conservation team wondered whether *New England Village* would benefit from treatment. Consequently with the 2010 exhibition, *Prendergast in Italy*, we had an opportunity to explore treatment options.

The reason for treatment was that despite the lively impasto and colors of the paint, the surface was muted and the colors dulled, mostly from what appeared to be the wax lining adhesive that had seeped through cracks in the paint layer. This presentation will discuss how, as treatment advanced, we eventually decided to reverse the wax lining with the objective to reestablish the original relationship between canvas and paint. This presentation will describe the treatment, the various techniques used to extract the wax, and the unexpected discovery of the original, top fold-over edge of the painting.

Uncovering the top fold over edge was very fortunate since this information was previously hidden by the lining and led to questions about the presentation dimension of the painting. In the end we decided to stretch the painting as before, but to alter the frame. Returning the dimensions to the artist's intended composition creates a very different effect on the viewer, changing the sense of movement, space, and depth in the painting.

Over the years, on a case by case basis, we have reversed several wax linings at the MFAH, usually due to delamination problems or to correct a badly repaired tear. In each of these reversal treatments, to a significant degree, the relationship between canvas and paint was retrieved. The Prendergast treatment was, however, the first case to reverse a wax lining solely for aesthetic reasons. Reversal of wax linings merits more discussion for it can be an important tool to restore the essential, visual quality of paint on canvas.

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The Not-So-Still Life of a 17th-Century Dutch Painting.

Susanne Friend

A 17th-century Dutch still life by Joseph DeBray had been brutally kicked by the enraged son of the owner. Apart from this, the painting was in excellent condition. It is quite large and has two linings as well as a strip lining. As might be expected, it has been restored many times in its long life, but the latest intervention, beautifully and sensitively done, was altered by the crime of passion.

The force of the blow tore original canvas as well as the two linings resulting in seven major tears and several smaller tears in an area approximately 7" x 7". Reversing both linings in order to access the tears seemed unnecessarily aggressive; relining would have also required varnish and inpainting removal as heat, moisture, and pressure treatments would likely damage the otherwise pristine natural resin surface.

This paper addresses the dilemma conservators face when deciding whether to perform local, less invasive treatments with an uncertain outcome and possibly less visually satisfying results. The decision must be balanced against achieving potentially superior results with a complete reversal of older interventions, while incurring greater expense to the client and further assaults to the painting.

No, I'm Not Making Cocaine...The Challenges of Archaeological Conservation in Northern Highland Ecuador

Vanessa Muros

Archaeological conservators face many challenges when working in the field, one of them being lack of resources or availability of conservation supplies in foreign countries. In Ecuador, conservation in the field is made even more difficult due to the restriction placed on solvents, in part due to their use in the drug trade. This paper will focus on the conservation activities undertaken on the Pambamarca Archaeological Project in northern highland Ecuador. The issue of how the conservation lab meets the challenges of trying to conserve archaeological materials without easy access to commonly used-conservation ma-

terials, such as solvents will be discussed. Alternatives investigated and tested in order to get around the lack of access to solvents and the difficulty of using commonly used resins will also be described.

Concept to Fabrication: The DeNiro Collection *Men of Honor* Deep Dive Suit Stabilization Device

Wyndell Faulk

There are many factors to be considered when housing very large collection objects, especially a deep sea diving suit. This unique collection material is from the movie production *Men of Honor*, part of the Robert DeNiro collection at the Harry Ransom Center in Austin, Texas. As a preparator, concept designer, and fabrication specialist it's my job to create the device that will help increase the longevity and preserve the construction of this suit.

The deep dive suit is too large and too heavy for housing in conventional preservation boxes and flat storage cannot properly support the suit's own material from crushing itself. The amount of storage space must be considered along with the construction of the support device, so the suit can be easily transported and exhibited. The type of materials used to construct the device must be archival and light weight, such as acrylic sheet and polyethylene foam, which offer their own interesting properties to a project such as this.

While brainstorming with the preservation staff, my concept for this support began to materialize. The time has arrived to measure, draw plans, mock-up, and fabricate the solution into the high tech mechanism, "Deep Dive Suit Stabilization Device." This talk will describe the design of the housing, the materials, and the construction techniques used to fabricate this unique support mechanism.

Juggling "Material Time Bombs" – Dealing with Ephemeral Mixed Media Items from the Special Collections at the Getty Research Institute.

Albrecht Gumlich

Contemporary art collections throughout the country (and the world) are facing

challenging conservation problems: Some components of mixed media works degrade faster than others. Plastic elements, liquids, batteries, foodstuff, ... might ooze, leak, or crumble at an alarming pace, while their respective containers or adjacent components may seem stable. It is necessary to identify and tag collection items containing fugitive elements early on, best when entering into the collection. A viable system of periodic checks should enable a conservator to accompany and respond to the process of unstoppable decay – reducing risks for the respective ensemble.

The presentation describes the on-going quest of the Getty Research Institute to deal with a great variety of hardly permanent collection items. It aims to alert other institutions, which may be facing similar problems of having to deal with "material time bombs" in their collections .

The Unintended Effects of Some Book Treatments on Original or Early Binding Structures

Olivia Primanis

The treatment of bound materials in special collections has become more conservative over the past half century. Today, book conservators choose treatments that safeguard physical information that is intrinsic to original bindings. Treatments focus on mending and stabilizing book structures, which lessens the need for invasive treatments such as rebinding text blocks and rebacking covers.

But, in treating rather than replacing an original binding, the book conservator is often challenged by the deteriorated condition, which can range from slight to considerable, of these older structures and materials. At the Ransom Center, we have found that the repair of one binding component can stress and, in some cases, break other deteriorated binding structures. This talk will discuss problems that were caused by typical repairs, such as a new break in the sewing structure; or, stiffness, which changes how a book opens and how pages turn. Some of the techniques developed in the HRC book lab that can be used to minimize stress on older components will be described.

Wolber's World:

A Review of a Textile Wet-Cleaning Workshop Held in Oaxaca, Mexico

Richard Wolbers, Associate Professor and Coordinator of Science and Adjunct Paintings Conservator at the University of Delaware, offered a wet-cleaning workshop during the 8th bi-annual North American Textile Conservation Conference held in Oaxaca, Mexico, November 8-11, 2011.

The two-day instruction covered what he normally teaches during one week, so needless to say we all left with plenty of food for thought. Wolbers divided his lectures in four parts: Part I covered basic wet cleaning methods, Part II described macro and microemulsions (which Chris Stavroudis outlined at the last WAAC conference in Austin, Texas), Part III discussed enzyme applications, and Part IV introduced biphasic gels, in which aqueous and non-aqueous solvents join forces. I hope to provide a general overview and highlight important tools and/or materials and their applications. To try to include all the information he covered would take a book, which I'm far from qualified to write.

In Part I, Wolbers proposed a list of aqueous cleaning "tools" in order of importance: 1-Water and its conductivity; 2- pH; 3-Ionic Species; 4-Chelators, 5-Surfactants, and 6- Viscosity. That surfactants are almost at the bottom of the list surprised many of us who have traditionally paid most attention to the various properties surfactants have to offer when developing our wet-cleaning protocols.

Conductivity

Knowing the conductivity of the textile to be wet-cleaned and that of the water to be used is essential when determining the osmotic effect, or in other words the rate at which the fibers will swell. Conductivity is the ability of a material to conduct an electrical current. The most gentle but least effective cleaning would occur under conditions in which the conductivity levels of both textile and water are exactly the same, resulting in no net exchange of solutes in or out of the textile.

If a textile with a relatively high conductivity is placed in non or low conductive water, such as pure distilled or deionized water, the fibers will swell very quickly, and could, at a microscopic level, literally burst (Wolbers pointed out that this phenomenon is capitalized upon in the manufacturing of commercial detergents). On the other hand, if the conductivity of the textile is much lower than that of the bath, the textile can lose water very quickly, causing it to shrink.

Wolbers noted that the general rule of thumb when determining the appropriate conductivity of a solution is to not exceed or go below ten times the conductivity of the textile to be wet-cleaned, with the least aggressive levels ranging between one and two times that of the textile.

Wolbers has an ingenious way of measuring the conductivity of the textile using a gel block and a conductivity meter with a measurement well (the Horiba B-173 Micro Conductivity Meter). A tiny (1 mm diameter) circular block of gel punched out with a leather hole punch is placed on the textile and left to sit and absorb the salts on the textile for approximately five minutes. The gel is then transferred to the

conductivity meter well, making sure that the gel is in full contact with the two electrodes in order to get an accurate reading. This system leaves no mark on the textile, and the gel sample can be saved for further analyses if desired.

Those familiar with Wolbers' publications and cleaning methods already know he has been working with gels bulked with various materials for a number of years now. He chose agarose, a single polysaccharide derived from seaweed, as his bulking agent for the gel block for several reasons: it has a relatively neutral pH, the gel can contain up to 95% water, it gels above room temperature, and it's readily available. Agarose can be purchased in various levels of purity (a food grade version is used as a vegetarian alternative to gelatin in cooking and in Japanese desserts, and is readily available in health food stores).

While Wolbers used a very pure version distributed by Sigma Aldrich for the workshop (product number A0701), other less expensive versions are acceptable (such as those sold on goldbio.com and universalmedicalinc.com). This system for measuring conductivity can be used for other materials as well, such as archaeological ceramics as one of the workshop participants, Nancy Odegaard, pointed out.

pH and Buffers

Textile conservators have often measured the pH of a textile by wetting out an area and placing a pH paper strip on the surface. This can be both impractical, since wetting out an area can form tide lines on the textile, and inaccurate, since pH papers offer only a range and have a finite shelf life. Luckily, Horiba has also developed a pH meter with a measurement well (Horiba Twin Micro pH Meter), and the same little gel sample used to measure the conductivity of the textile can be used to measure the pH.

Wolbers pointed out that since the pH meter contains salts, it is best to measure the conductivity first and then transfer the gel sample to the pH meter. It should be noted here that both meters can be dipped in aqueous solvents as well and are very user friendly, offering a little smiley face when the readings are complete. Like all meters, however, calibration is required. And ease of use does take some practice. Tests conducted post-workshop revealed that weighting the gel sample on the textile surface to ensure full contact provides more consistent results, due to the three dimensional nature of the woven surface.

In order to maintain a working pH when wet-cleaning, buffers are often added to the bath solution. Wolbers noted that the two most advantageous buffers for our textile wet-cleaning needs are citrate, that holds the pH within 2.2 and 6.5 and triethanolamine (TEA), holding the pH within 7.0 and 8.3.

Ionic species and Chelators

Different salts containing various ionic species dissociate in water into different concentrations of ions. Adding specific salts to the bath water will effect the conductivity as well

as the ability to dissolve salts in the textile that would otherwise remain insoluble. The salt additives that assist with disalutation are known as chelators, and are usually complex, multi-valent compounds (meaning having multiple charges) containing at least three organic functional groups that interact with metal ions through dipolar, hydrogen, or ionic forces.

Wolbers offered two examples of weak chelating materials to dissolve calcium deposits bound to residual soaps often present in textiles: Citric acid and Nitrilotriacetic acid (NTA). Chelators are also used to dissolve rust stains, although the most effective one used up until now, Ethylenediamine-tetraacetic disodium salt (EDTA), dissociates at a relatively low pH and is therefore rarely used on textiles. Wolbers introduced a new chelator on the scene which appears to be just as effective in removing iron and works under neutral conditions: N,N'-di-(2-hydroxybenzoyl)-ethylenediamine-N, N'-diacetic acid (HBED). This chelator may be beneficial in general wet-cleaning as well, since many soils contain iron salts.

Surfactants

Surfactants are basically compounds with a hydrophilic (water loving) end and a hydrophobic (water repelling) end. They may be ionic, anionic, or non-ionic. The hydrophobic ends are attracted to each other and to the organic soils in the textile. Surfactants have various properties that are taken into account when determining which to use when, and Chris Stavroudis did an excellent job in explaining these in his January 2009 article "Sorting Out Surfactants" (WAAC Newsletter Vol. 31, No.1). Please refer to his article for detailed information on the critical micelle concentration (CMC) and the "Hydrophile-Lipophile Balance" (HLB). Suspension aids, such as carboxy methyl cellulose, are also sometimes added to aid in holding the surfactant(s) in solution.

Viscosity

By bulking up solutions and increasing viscosity one can increase the time the textile is in contact with the solution in a defined area during wet-cleaning. In some cases these gel solutions can include organic solvent(s), surfactants, and enzymes to aid with stain removal. The two bulking agents applied to test samples during the workshop were a xanthan gum (Vanzan NFC) and Noveon/Lubrizon's Pemulen TR-2.

The former is a naturally occurring polysaccharide used in food processing, while the latter is a synthetically produced block polymer of polyacrylic acid and a C₁₀₋₃₀ polyacrylate polyester. Polyacrylic acid compounds are used in various cosmetics and are primary ingredients in hair gels. Both are gel forming materials in aqueous systems. Xanthan gums are much more resistant to high ionic conditions, and tolerate a much wider pH range than the synthetic Pemulen materials. Noveon's Pemulen TR-2 and other polyacrylic acids are highly viscous within a pH range of 6-10, but thin at pH's above or below this range. They also do not remain

rigid in high ionic strength preparations or on salt-laden substrate surfaces (such as on a salt infused archaeological textile, weighted silk, a gypsum wall, or archaeological ceramic artifact).

Other bulking agents used to form rigid gel materials noted by Wolbers include various new forms of methyl cellulose and hydroxypropylmethyl cellulose block polymers, and less complex polysaccharides that are less sensitive to both ionic conditions and temperature. The simplest of all polysaccharides, Agarose, has already been mentioned above when discussing the measurements of pH and conductivity.

Emulsions and Biphasic Gels

Organic solvents can be added to water-based solutions to form emulsions, in which "roughly spherical droplets of one phase are dispersed into another." Emulsions are effective in dissolving what Wolbers defines as "intermixes" of materials, or "material arrangements that involve both water soluble and solvent soluble materials mixed together" such as oils and proteins, waxes and salts, proteins and carbohydrates, etc. Which, in effect, are the types of stains textile conservators most commonly confront.

Emulsions are divided into two categories: Macro and micro, dependent on particle or droplet size, which in turn effects various solvent properties. Macroemulsion particles are between 200 and 1000 nanometers in diameter, while microemulsion particles are 100 nanometers and under. The smaller particles offer larger surface areas, are optically clear rather than opaque due to the lower refractive index (their particle diameter is less than a ¼ of the wavelength of light, so they scatter little light), and have higher solubilizing capabilities.

Microemulsions are also thermodynamically more stable. In other words, macroemulsions require to be shaken before using if they have been sitting on a shelf, while microemulsions will stay emulsified indefinitely if stored under appropriate environmental conditions.

When making emulsions, surfactants are usually needed in order to form an interfacial film between the hydrophilic phase (i.e. water) and the hydrophobic phase (i.e. organic solvent or oil). The surfactants are carefully chosen "so that an ultra low interfacial tension can be attained at the oil/water interface which is a prime requirement to produce micro-emulsions."

Surfactants with high HLBs are needed to prepare emulsions with a higher concentration of water, while those with low HLBs are required to produce an emulsion with a higher concentration of oil. Bicontinuous micro-emulsions (those with equal parts water and organic solvent) require a surfactant with an intermediate HLB. Alcohol co-surfactants are also added to the water/organic solvent mix to provide the most stable of micro-emulsions. An emulsion can be bulked up to form a highly viscous, or gel-like, material to be applied locally as described above.

A Review of a Textile Wet-Cleaning Workshop Held in Oaxaca, Mexico, continued

Emulsions can also be made without surfactants. Pemulen TR-2 and xanthan gum, the materials used to form gels during the workshop, can readily form emulsions as well as act as bulking agents. These gelling materials now allow us to form emulsions without the addition of a surfactant.

A relatively new player in the world of bi-phasic gels, which may be useful for cleaning of water-sensitive material, is silicone-based. Velvessil Plus (Momentive Products) is a commercially available silicone block polymer that works much like the Pemulen TR-2 or xanthan gum materials do in water, forming stable water-in-solvent emulsions without the use of surfactants.

Enzymes

Enzymes are sometimes used in conservation to help break down and remove adhesives and residues. Those most often found in the conservation field are three hydrolases (enzymes that catalyze the break-down of bonds, or hydrolysis). These three include lipases, proteases, and amylases. Lipases catalyze the break down of oil-based polymers, proteases help break down protein-based polymers (such as animal glue), and amylases help break down cellulosic polymers (such as wheat starch paste). Enzymes are site-specific, so one can fine tune their selection to prevent a chemical reaction from occurring on a specific material (e.g. wheat starch paste on a paper substrate or animal glue on a silk fabric). Certain metal ions are sometimes needed in order for the desired reaction to occur.

Naturally occurring enzymes require body temperature to activate, and will de-nature above a certain temperature. There are synthetically derived enzymes now available, however, that can work across a wider temperature range (including room temperature!). Wolbers showed us the BRENDA (Braunschweig Enzyme Data Base) available on line that is an excellent tool to help determine which enzyme to use for each specific material and condition.

However, a general knowledge of the Enzyme Commission code system is necessary in order to understand the information provided. There are four numbers in the code. The first defines the class of enzyme, such as hydrolase. The second defines the subclass by the type of substrate or bond cleaved. The third defines the subclass by the electron acceptor or the type of functional group removed. The fourth is a classification based on the reaction mechanism that occurs. Descriptions and definitions of all four are available on BRENDA.

Concluding Thoughts

Wolbers, coming from the painted-surfaces end of the spectrum, offered textile conservators a wide range of tools to tweak and adjust to our needs and our discretion. Each participant left the workshop with his or her own questions to ponder. I, for one, rarely wet clean, since more often than not the textile in question may contain multiple types of materials that react differently when wet. The dyes may be fugitive, and/or the fibers may be so aged and degraded that

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exposure to water could do more harm than good. When I do wet clean, I test all factors as much as possible before committing to this irreversible technique. I also think long and hard about whether what I take out is doing more damage than what I might leave behind.

Which leads me to my main concern about using gels on textiles: Do the gelling agents discussed here *really* rinse out completely? One of the posters at the conference helped answer this to a degree: Maria Stavropoulou and Stavroula Rapti at the Department of Conservation of Antiques and Works of Art, Technological Educational Institute in Athens, Greece, conducted SEM analysis on new and aged samples of cotton fabric that had been cleaned with three different solvent combinations, two bulked with hydroxypropyl methyl cellulose and one with hydroxypropylcellulose (Klucel G®).

They found that the residues remained on all the fabric samples to various degrees, *with the aged samples containing the highest level* (my emphasis). Residue levels were also dependent on the type of gel applied, the number of times the gel was applied, and how it was removed. They noted that further research is needed, and that it is "paramount to examine the possible substrate alteration and the long term effects the residues may have on the textile substrate." I agree.

Acknowledgements

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Membership

Chris Stavroudis
membership secretary

Membership, continued

Articles You May Have Missed

“Budget Cuts Force Closure of Historic Preservation Programme,” *The Art Newspaper*, 08/25/2011

Federal budget cuts forced the closure of the National Trust for Historic Preservation’s Save America’s Treasures (SAT) office in July. SAT had provided more than \$315m in funding for historic preservation since 1999. US Congress does not plan to renew funding.

“Save America’s Treasures was a model public-private partnership that invested record amounts to preserve the icons of our democracy,” said Bobbie Greene McCarthy, the former SAT director at the national trust. This recent budget cut does not save dollars in terms of tax revenue. “The SAT appropriation comes out of the Historic Preservation Fund, which is funded by outer continental oil lease revenues, not taxes,” said Hampton Tucker, the chief of the Historic Preservation Grants Division, National Park Service.

The preservation programme was also involved in funding art museums. In February, SAT awarded a \$250,000 grant to the National Historic Landmark building that houses the 1874 Renwick Gallery, a branch of the Smithsonian dedicated to American contemporary decorative arts.

“Unknown Portrait Discovered Under Goya’s Masterpiece in Amsterdam’s Rijksmuseum,” *Art Daily.org*, 09/19/2011

An innovative method for examining paintings has revealed a hitherto unknown painting beneath Goya’s Portrait of Don Ramón Satué, one of his most celebrated masterpieces and the only painting by this famous Spanish artist in The Netherlands.

The hidden portrait, which is almost certainly also by Goya himself, was brought to light using Scanning Macro X-ray Fluorescence Spectrometry a new technique developed by the University of Antwerp and the Delft University of Technology. From the scans it can clearly be seen that Goya (1746-1828) painted his portrait of the Spanish judge, Ramón Satué, over a much more formal portrait of a man wearing a uniform.

The decorations embellishing the uniform are those of the highest ranks of a chivalric order instituted by Joseph Bonaparte when his brother, the emperor Napoleon, created him King of Spain. The hidden portrait must thus date from between 1809 and 1813. Goya’s portrait of Satué is signed and dated 1823.

“Restoration Work to Begin on Miro Mural in Wichita,” *CBS News*, 09/23/2011

Conservation crews will begin removing a massive mosaic by modern master Joan Miro from an art museum at Wichita State University next week as part of a five-

year, \$3 million restoration effort to stop the work from raining down pieces of Venetian glass and marble.

Measuring 26 feet by 52 feet, the *Personnages Oiseaux* mosaic depicts surrealist, fantastical birds. It was installed in 1978, five years before the death of the Spanish artist.

Unfortunately, the stained glass studio in France that created the outdoor mural based on a Miro painting affixed the approximately 1 million pieces of Venetian glass and marble to particle board. The freezing and thawing cycle of three decades of Kansas winters has caused pieces to pop off, recently as many as 400 a year.

The restoration, being done by Russell-Martí Conservation Services based in California, Mo., will include flipping the mural panels face down in molten gelatin. Crews then will remove the wood backing and clean the backside. After that’s done, a glue will be used to adhere the pieces to perforated stainless steel. The final step of the restoration will be to peel off the gelatin and clean more than 30 years of grime from the mural.

“Conn. Steel House Getting Chance to Shine Again,” *Associated Press*, 09/24/2011

Shedding paint flakes the size of dinner plates, the rusty steel house huddled in a corner of Connecticut College’s campus appeared for years to be more of an eyesore than a historic treasure.

As one of few 1930s steel houses of its type still standing nationwide, though, the prefabricated cottage holds a pedigree on par with many better-known architectural jewels. A crew of restoration specialists has dismantled the boxy two-bedroom, 800-square-foot structure and meticulously marked each piece to be sent to a Philadelphia conservation firm. Once every panel, beam and other item is cleaned of corrosion and special rust-resistant treatments are applied, they’ll be returned to New London next year. Then, it will be reassembled on the same foundation where Winslow Ames had the structure erected in 1933 after falling in love with the so-called “homes of tomorrow” that year at the World’s Fair in Chicago.

Ames, founding director of the Lyman Allan Art Museum adjacent to the Connecticut College campus, rented the yellowish-gray painted steel cottage to Navy officers and other tenants until he moved to Missouri in 1949 and sold it to the college. It deteriorated quickly as the college, unsure what to do with it and unaware of its historic value, focused its efforts and money on other projects.

“It looked like what people might have thought of as an old rusty shed,” said Douglas Royalty, a conservation specialist overseeing the restoration with the college’s

art history department chairwoman, Abigail Van Slyck.

John Carr, principal conservator of Milner + Carr Conservation, said the Philadelphia-based firm hasn’t taken on a project quite like the steel house before, but has used similar techniques to restore old diner cars from trains.

“Vandals Target Los Angeles’ Murals,” *The Art Newspaper*, 09/30/2011

As Los Angeles’ graffiti problem escalates, the city’s reputation as the mural capital of the world is in jeopardy as its famous wall pieces are disappearing under a sea of spray paint. They are being targeted by vandals who flout the long accepted code that they are off limits for tagging.

Delays in removing the graffiti caused by technical and legal complexities, including the threat of possible artists’ rights lawsuits if murals are damaged during their cleaning, can invite more graffiti. The city boasts around 2,000 murals.

While agencies such as Caltrans spend \$2.5m to \$2.7m each year removing graffiti from Los Angeles’ freeways, tagging on murals cannot be removed for fear of artists invoking copyright laws, particularly the Visual Artists Rights Act and the California Art Preservation Act, which forbid the defacing or destruction of public art without the permission of the artist. The city’s cultural affairs department has a budget for cleaning murals that have been painted with anti-graffiti coatings. It cleans on average 200 murals a year.

“Murals used to be safe from graffiti, but now they are a good place to put tags because you know that they are going to stay there,” says the Getty Conservation Institute’s Leslie Rainer. The Mural Conservancy of Los Angeles, co-founded by Twitchell and Bill Lasarow, proposes a programme encouraging organisations to set up a fund to maintain a mural in exchange for a named plaque. They are currently seeking sponsors for Twitchell’s Steve McQueen and Strothen Martin murals.

“Ancient Cave Paintings Threatened by Tourist Plans ” *New Scientist*, 10/06/2011

Prehistoric paintings in northern Spain could be irreparably damaged if plans to reopen the Altamira cave to tourists go ahead. Local officials want to reopen the cave to boost the local economy, but visitors could heat the caves and introduce microbes that destroy pigments.

The Altamira cave paintings were discovered in 1879 and are thought to be at least 14,000 years old. The paintings have attracted huge numbers of visitors – 175,000 in 1973, the busiest year on record. But the cave was closed to the public in 2002 after photosynthetic bacteria and fungi were

found to be consuming pigments at alarming rates.

A team from the Spanish National Research Council in Madrid have modeled the effect of visitors over a number of years and say that tourists would increase the temperature, humidity and carbon-dioxide levels in the cave, creating conditions in which microbes would thrive. In addition, visitors would bring with them organic matter in the form of skin flakes, clothing fibres and dust, which microbes can consume. Air turbulence created by moving people would spread bacterial and fungal spores to other, previously unaffected spaces.

The researchers say they want to prevent the scale of damage that occurred at the Lascaux cave in France, where mismanagement led to successive waves of pathogens attacking wall paintings there. For example, pesticides intended to destroy microorganisms became a source of nutrients for them instead.

“Eureka! 1,000-Year-Old Text by Archimedes Finally on Display,” *Fox News*, 10/17/2011

After more than a decade of restoration and study, the public is getting a glimpse at the oldest surviving copy of works by an ancient Greek mathematical genius at the Walters Art Museum.

The exhibition, *Lost and Found: The Secrets of Archimedes*, tells the story of the 1,000-year-old text and the work of dozens of scientists and scholars who uncovered its secrets. The manuscript was in tatters when it arrived at the Walters more than 12 years ago. Scholars believe a 10th-century scribe copied the text from Archimedes’ original Greek scrolls, but 200 years later, another scribe scraped the text from the parchment, rebound it and reused it as a prayer book.

Ironically, this affront may have been the key to its persistence. The prayer book was cared for through the centuries until 1844 when it was found in a Constantinople convent’s collection. The manuscript then disappeared for decades and resurfaced in France, where researchers believe a collector commissioned forgery paintings over the text after 1938.

These forgeries and the glue binding the book together posed the biggest challenge to conservators, according to Abigail Quandt, senior conservator of manuscripts and rare books. The process of conserving the book and imaging it was slow, including four years just to take the book apart. But along the way Quandt came up with new technologies that can be applied to other projects.

Most of the text in the manuscript was recovered using multispectral imaging, but the toughest leaves were taken to the

Stanford Synchrotron Radiation Lightsource lab. There, X-ray beams were used to reveal text beneath the forgery paintings and heavy grime. The conservation work is expected to be complete by the end of the year, but the scholarly work will continue for years.

“De Wain Valentine’s Gray Column Restored for Modern Art Show,” *The Guardian*, 10/08/2011

The joy of art conservation lies in rescuing damaged work by painstakingly restoring its looks. Tom Learner is one of a rare breed of conservators whose speciality is modern art. His latest achievement is the restoration of an extraordinarily large, previously unseen work by the Colorado-born artist De Wain Valentine, which is leading to a reappraisal of the sculptor’s contribution to American art.

Valentine’s artistic heyday was the 1960s and 1970s, so his oldest work has only survived four decades so far. Yet his use of experimental materials meant that a range of fresh challenges faced Learner and his team at the Getty Conservation Institute in Los Angeles.

“We chose De Wain because his work was not easy to restore,” said Learner. The polyester resin Valentine hoped to work with was used for small objects, because it tended to crack. But the artist wanted to work on a large scale to create *Gray Column*, a 3m by 2m slab, weighing just under two tons. Valentine’s resin has proved stable, but it scratches easily and a number of ridges had formed on the surface with age. The artist wanted these sanded away but the conservators had a different agenda. They knew there was a value attached to the blemishes of time.

For Valentine, a smooth surface was the whole point of the work and he did not want it to look old. A compromise was reached and the artist is now happy with how his monumental piece looks.

“Artifacts Indicate a 100,000-year-old Art Studio,” *Los Angeles Times*, 10/14/2011

In a tiny South African cave, archaeologists have unearthed a 100,000-year-old art studio that contains tools for mixing powder from red and yellow rocks with animal fat and marrow to make vibrant paints as well as abalone shells full of dried-out red pigment, the oldest paint containers ever found.

The artifacts were uncovered at a well-studied site called the Blombos Cave, which sits by the edge of the Indian Ocean about 180 miles east of Cape Town. The two shells had a red residue from a soft, grindable stone known as ochre. A residual stain line in one of the shells indicated that the mixture had at one time been wet. Along with ground-up red ochre, the mixtures contained

charcoal and crushed spongy bones that were probably once rich in fat and marrow.

The team also found rock fragments from the grinding stones that were used to make the mixture. One of the stones had remnants of a yellow pigment, perhaps from a previous batch of paint, that was not present in the reddish batches from the abalone shells. By measuring the damage to quartz sediments caused by radioactive isotopes in the soil around the ochre containers, researchers were able to calculate that the paint tool kits were about 100,000 years old.

“Portland’s MPF Conservation Team’s Work Shines in the Mason Monterey Collection at the Oregon Caves,” *OregonLive.com*, 10/15/2011

Conservators Kate Powell and Mitchell Powell are mending, cleaning and conserving two dozen pieces of Monterey furniture for the chateau at the Oregon Caves National Monument in Southern Oregon.

The Oregon Caves Chateau, designed in a rustic style by local architect Gust Lium, is built into the steep mountainside that houses the caves. The lobby is the fourth floor of the lodge; a stream runs through the third floor dining room.

Since it opened, the purposely primitive interiors were complemented with colorful Monterey furnishings -- the Western-inspired line that flourished from 1929-43. The furniture, often bedecked in leather with wrought-iron hinges, hand-painted donkeys, flowers and sombrero-wearing figures, was a popular choice for hotels and lodges throughout the southwestern United States.

With the 100th anniversary of the Oregon Caves’ designation as a National Monument and the chateau’s 75th anniversary in 2009, the Friends of the Oregon Caves and Chateau determined to restore and conserve two dozen pieces of furniture. The Powells have spent 10 months on research, paint matching, cleaning, resurrection of upholstered pieces and replication of broken, unusable chair legs. Gamblin helped the Powells come up with something they could use as a protective barrier on the painted furniture. Pieces that are headed to the museum got a wax finish, but those that will go back to work in the chateau received a coat of Galkyd.

“Treasured Campus Murals Conserved for Future Generations,” *University of Wisconsin-Madison News*, 10/25/2011

1940s-vintage murals depicting the societal values of advances in science by John Stuart Curry are being carefully preserved by the university as the rest of the 1937 Biochemistry Building located at Henry Mall and University Avenue was gutted and rebuilt around it.

Conservators from the Midwest Art Conservation Center of Minneapolis meticulously stabilized, cleaned and restored them. The paintings are on canvas and Joan Gorman, senior paintings conservator at the center, says they were likely painted off-site and applied to the walls later. Murals in another room were painted on a thinner muslin canvas at the site.

During construction the areas were protected on all sides and a special heating and ventilation system was developed to shield and insulate the murals from the elements during the winter, when main building systems were removed and replaced. All water pipes were routed around the murals because leaks in past decades had damaged the murals.

Because of a well-documented 1985 restoration of the murals, conservators knew exactly what type of varnish to apply and in what quantities. "The 1985 varnish is a stable, synthetic resin which is used instead of natural resins, which yellow and age very poorly," Gorman says. "We use that varnish today. It's still a horse in our stable. The thin layer of varnish we added is different but entirely compatible with, and will not affect, the 1985 varnish."

"Anger over Louvre's Plan to Clean a Leonardo," *The Art Newspaper*, 11/01/2011

The Louvre's latest attempt to conserve a masterpiece by the artist, *The Virgin and Child with Saint Anne*, 1508, has yet again sparked a wave of debate about cleaning paintings, even if they are dirty and discoloured.

The proposal to clean the work was first mooted at a two-day conference held at the Louvre in June 2009. According to *Le Journal des Arts*, the Louvre abandoned plans to conserve the work in 1994 because the solvents used to remove varnish risked damaging the paint layers beneath. In autumn 2010, the Louvre decided to try again. Vincent Pomarède, the project leader and keeper of paintings at the Louvre, said that the aim was "to solve the problem of the thick varnish that pulls on the paint layers, creating an uneven surface".

Pomarède's solution involves thinning the layers applied in the 19th and 20th centuries, leaving a film of varnish eight to 12 micrometres thick, rising to 25 micrometres across the faces of the figures. This strategy, which would still involve the use of solvents, raises fears that the sfumato, Leonard's "smoky finish" effect, could be compromised.

Michel Favre-Félix, the president of the Association for the Respect and Integrity of Artistic Heritage, is concerned, saying: "Leaving a layer of varnish is preferable but the deep infiltration of the solvents is the core issue. The varnish and sfumato are

so closely allied [that] we must ascertain, before moving ahead, whether the sfumato will be harmed by the solvents."

Pomarède insists his approach is safe: "At no point will we be in contact with the paint layers... the restoration is essential if we want to preserve this masterpiece, which is under threat because of the raised micro-blemishes on the surface. These are due to the oxidised varnish layers."

"Appetite for Art: Restoring Ancient Works With Hungry Bacteria," *Wired.com*, 11/1/2011

The frescoes in the Church of Santos Juanes in Valencia, Spain, have been damaged by fire (the Spanish Civil War), glue (botched restoration attempts in the '60s), and salt blooms (a side effect of pigeon nests). But the 17th-century masterpieces aren't lost yet.

The Polytechnic University of Valencia's Institute of Heritage Restoration and Centre for Advanced Food Microbiology have joined forces to rejuvenate the priceless works. Tool of choice: bacteria.

The idea is to use the harmless *Pseudomonas stutzeri* microorganism to clean the works in lieu of toxic chemicals or the jittery hands of restorers. "We grow the bacteria in a culture that has the substrate we want to eliminate," says Pilar Bosch, a biologist who helped refine the method after studying with the team that cleaned Italy's Campo Santo di Pisa. Effectively trained to eat salt and glue, the bacteria are brushed onto the frescoes and covered with a gel that, when heated with lights, creates humid conditions (perfect for nibbling) and aids cleanup.

Just 90 minutes later, the surface is rinsed with water and dried, killing the bacteria. For the *Pseudomonas*, every masterpiece is the Last Supper.

"\$1.1 million Sculpture Damaged by Cleaning Woman in German Museum," *Washington Post*, 11/07/2011

A \$1.1 million art installation in Germany's Ostwall Museum was damaged by a cleaning woman who mistook a hand-painted patina for dirt and scrubbed it away.

Artist Martin Kippenberger's *When It Starts Dripping From the Ceiling* was comprised of a wooden structure and a rubber trough painted to look as though it had once contained a puddle of dirty rainwater. The artwork fell victim to an expensive mistake when a woman from the cleaning agency, whose employees had been instructed to stay at least eight inches away from the art at all times, "cleaned" the installation.

It remains on view while insurance adjusters assess the damage, and the owner of the work decides whether it should be restored.

"Devil found in Detail of Giotto Fresco in Italy's Assisi," *Reuters*, 11/07/2011

Art restorers have discovered the figure of a devil hidden in the clouds of one of the most famous frescos by Giotto in the Basilica of St. Francis in Assisi. The devil was hidden in the details of clouds at the top of fresco number 20 in the cycle of the scenes in the life and death of St. Francis painted by Giotto in the 13th century.

The discovery was made by Italian art historian Chiara Frugone. It shows a profile of a figure with a hooked nose, a sly smile, and dark horns hidden among the clouds in the panel of the scene depicting the death of St. Francis. The figure is difficult to see from the floor of the basilica but emerges clearly in close-up photography. Sergio Fusetti, the chief restorer of the basilica, said Giotto probably never wanted the image of the devil to be a main part of the fresco and may have painted it in among the clouds "to have a bit of fun."

The master may have painted it to spite someone he knew by portraying him as a devil in the painting, Fusetti said on the convent's website. The artwork in the basilica in the convent where St. Francis is buried was last restored after it was severely damaged by an earthquake in 1997.

"Sheldon and Caroline Keck Helped Improve the Craft of Restoration," *Brooklyn Daily Eagle*, 12/07/2011

Sheldon and Caroline Keck, who lived in Brooklyn Heights from 1940 to 1963, were prominent art conservators who had learned a new approach to their craft from Edward Waldo Forbes, who brought art historians, restorers and scientists together at Harvard's Fogg Museum in the early decades of the 20th century.

Sheldon Keck met Caroline Kohn in 1931 while both were taking Forbes's course on the methods and materials of Italian art. They moved to New York City in 1933 and married. By the end of the next year Sheldon was working at the Brooklyn Museum. Sheldon entered the U.S. Army, and Caroline, who generally did conservation at home, filled in for him at the Brooklyn Museum.

The Army assigned him to the Monuments, Fine Arts, Archives Section. He became active with what were known as the Monuments Men, working to find and protect artworks that Hitler had removed from museums and private collections, so they eventually could be returned to rightful owners.

In 1954, together with the Brooklyn Museum director and staff members, the Kecks created the ground-breaking *Take Care* exhibition that explained in detail the hows and whys of modern conservation. A companion book, *How to Take Care of Your*

Pictures: A primer of practical information, was jointly published by the Museum of Modern Art and the Brooklyn Museum.

By the time the Kecks sold their State Street home and moved permanently to Cooperstown, NY, Sheldon had become director of the first academic training program for art conservators in the U.S. (at New York University), and Caroline was head of the Brooklyn Museum laboratory.

Their dedication to improving how art conservation is taught and practiced was total. They were true pioneers in a rapidly evolving art field. Sheldon Keck died in Cooperstown in 1993, aged 83; Caroline survived until 2007, dying at 99, also in Cooperstown.

“Una ‘Scuola’ nel Getsemani per Restauratori Palestinesi” (A “school” in Gethsemane for Palestinian Restorers), *Agf.it*, 12/16/2011

Creating an on-site school for the training of Palestinian conservators is the goal of a project promoted by the Cooperazione Italiana under the Wings of the Dove program, sponsored by the Foreign Ministry in collaboration with local Italian businesses in order to sustain development in Palestinian territories.

The initiative focuses on the formation of six Palestinian experts in the restoration of mosaics and monuments. The Italian project is aiming to create a worksite in the Church of All Nations in Jerusalem, built between 1920 and 1924 on the Mount of Olives by Italian architect Antonio Barluzzi.

The activities of the worksite will focus on the restoration of the lead roof sheets of the church and on the mosaics, which are partially detached due to water infiltration. The Italian experts will offer technical consultation in addition to providing all the equipment for conservation operations.

“La Stanza Segreta del Cardinale fra Pavoni, Civette e Papaveri” (Among peacocks, owls and poppies, the secret room of the Cardinal), *Corriere della Sera*, 12/18/2011

Considered one of the most beautiful in Rome by scholars who were able to see it after the discovery in 1985, the fresco in the Bird Room in the Pavilion of Ferdinando de’ Medici has remained largely unknown to the general public.

Now a careful restoration has brought it completely to light and Eric de Chasse, director of the Academy of France has decided to include the Pavilion in the tour of the Villa Medici.

Built in the 16th century and decorated by Jacopo Zucchi and collaborators between 1576 and 1577, the Pavilion has two rooms. The smaller, the Stanza dell’Aurora, is completely painted with allegorical mo-

tifs, grotesques and four interesting views of the Villa Medici; all within the decorative standards of the times.

The surprise lies in the vault of the second room, dubbed the Bird Room, for the multitude of birds and other animals that populate a trellis wrapped around an aviary. Restorer Luigi de Cesaris, under the direction of Colette de Matteo and Didier Reppelin has brought to light the delicate colors which were hidden by whitewash applied when Napoleon moved the French Academy to the Villa Medici in 1803 and designated the Pavilion as a sculpture studio.

“Another Collapse at Pompeii Renews Fears About Its Fate,” *New York Times*, 12/23/2011

Mount Vesuvius preserved the city of Pompeii in ash nearly 2,000 years ago, but current neglect of this Unesco World Heritage site in southern Italy is taking its toll. A courtyard column of a Roman house collapsed on Thursday, the latest in a series of crumbling artifacts at the site, Reuters reported.

Last year there were other collapses, including part of what is known as the House of Gladiators. The damage played a role in a no-confidence vote against Culture Minister Sandro Bondi earlier this year. Although Mr. Bondi survived the vote, he ended up resigning in March.

The city, which was buried by an eruption of Vesuvius in 79 A.D., is one of Italy’s most popular tourist sites. “To overcome the emergency created by these collapses,” Tsao Cevoli, head of the National Association of Archaeologists said “we need to hire specialized maintenance workers straight away. That is the only possible cure for Pompeii.” In October the European Union pledged nearly \$150 million to help preserve and monitor the site.

“Louvre’s Leonardo Was Overcleaned, say Art Experts,” *The Guardian*, 12/28/2011

The Louvre is facing accusations that it overcleaned a masterpiece by Leonardo da Vinci, leaving it with a brightness that the Renaissance master never intended. Two of France’s top art experts have voiced their protest over the cleaning of *The Virgin and Child with Saint Anne* by resigning from the Paris museum’s advisory committee responsible for its “restoration”.

Such was their concern for the 500-year-old painting that Ségolène Bergeon Langle and Jean-Pierre Cuzin – eminent former specialists in conservation and painting respectively at the Louvre – could no longer associate themselves with its treatment. A senior museum source said the experts believed the restoration had gone too far, and that steps had gone ahead without adequate tests. The restoration has divided the committee between those who believe the paint-

ing is now too bright and those who regard the cleaning as moderate.

There were also disputes over whether an area dismissed as removable repaint was in fact a glaze applied by Leonardo. Two such resignations are a major embarrassment for the Louvre as well as for fellow colleagues of the international committee, whose 20 members include two specialists from the National Gallery in London, Larry Keith and Luke Syson.

The Louvre source said that Keith and Syson were particularly keen on this restoration: “The English were very pushing, saying they know Leonardo is extremely delicate but ‘we can move without any danger to the work.’ Seventeen years ago, the Louvre abandoned an earlier attempt to clean the painting amid fears over how the solvents were affecting the sfumato, Leonardo’s trademark painterly effect for blurring contours. Since then, the British influence on restoration has helped to sway the Louvre.

The Louvre declined to comment on the two resignations, but defended its cleaning process. Vincent Pomarède, the Louvre’s head of paintings, said: “Rarely has a restoration been as well prepared, discussed and effected, and never will it have benefited from such effective techniques. The first assessment revealed the excellent state of conservation ... comforting us in the choices made.”

“Hard Times for a Tower and its Murals,” *Los Angeles Times*, 01/03/2011

Faced with complaints from neighborhood groups, docents and even one of the artists’ descendants, San Francisco has stepped up efforts to restore the landmark Coit Tower and its historical Depression-era frescoes.

No one disputes their historical value. But the works — along with their iconic Art Deco home, San Francisco’s fluted Coit Tower — are in trouble. Mineral blooms on the concrete pillar’s interior walls, a by-product of this city’s legendary fog, have marred the earth- and jewel-toned images. Their surfaces bear chips and scratches from the indiscreet hands of countless visitors. The ceiling plaster is peeling. The lighting is dim.

Faced with complaints from neighborhood groups, docents and even one of the artists’ descendants, the city has stepped up efforts to restore the tower and its murals.

The San Francisco Arts Commission has retained a preservationist to assess the damage and hopes to raise enough money to restore the works while improving lighting and other aspects of the visitor experience. Recreation and parks officials have promised to channel 1% annually from the Coit Tower earnings into a fund for mural upkeep, in addition to pledging up to \$250,000 for a one-time restoration.