

**ARCHAEOLOGICAL INSTITUTE OF AMERICA 115<sup>TH</sup> ANNUAL MEETING  
CHICAGO, ILLINOIS  
JANUARY 2-5, 2014**

**Interdisciplinary Studies: Archaeology and Conservation**

**Workshop Summary**

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## **Table of Contents**

<b>Structure and content of the workshop.....</b>	<b>3</b>
<b>Major points arising from the panel discussion .....</b>	<b>5</b>
<b>Panel schedule .....</b>	<b>7</b>
<b>Abstracts .....</b>	<b>8</b>
<b>Speaker and moderator biographies .....</b>	<b>13</b>
<b>Appendices .....</b>	<b>20</b>
<b>Appendix A .....</b>	<b>21</b>
<b>Transcript of panel presentations .....</b>	<b>21</b>
<b>Appendix B .....</b>	<b>41</b>
<b>Transcript of the panel discussion .....</b>	<b>41</b>

**The workshop was generously sponsored by the Archaeological Institute of America Conservation and Site Preservation Committee and the Getty Conservation Institute.**

## Structure and content of the workshop

### Interdisciplinary Studies: Archaeology and Conservation

Sunday, January 3, 2014 2:45 pm to 5:15 pm

The organizers of the workshop were *Alice Boccia Paterakis*, Japanese Institute of Anatolian Archaeology, Turkey, *Claudia G. Chemello*, Co-founder/Senior Conservator Terra Mare Conservation, LLC, *Thomas Roby*, Getty Conservation Institute, and *Stephen Koob*, Corning Museum of Glass.

The goals of the workshop were to foster the growing awareness of the benefits of interdisciplinary studies in archaeology and conservation university programs and to promote the development and implementation of such courses into the curricula of these departments. There are approximately eight graduate programs in North America that offer a degree in the conservation of art, architecture, or archaeological materials. Most universities offering degrees in archaeology are not privileged with a conservation department on campus and many fall short of including conservation in their archaeology curriculum. Conservation programs in North America can likewise benefit by a review of course requirements in their archaeological conservation curricula and the incorporation of fundamental education in archaeology. One of the goals of this workshop was to lay the groundwork for the advancement of education for future archaeologists and conservators.

The panel was comprised of archaeologists and conservators involved in education who presented the current state of training in archaeology and conservation in their institutions.

The panelists were asked to present the following issues:

- the current state of interdisciplinary studies between archaeology and conservation in their institution
- their recommendations for increasing conservation education for the archaeology student and archaeology education for the conservation student
- their suggestions highlighting areas of conservation knowledge most needed by archaeologists and those areas of archaeology knowledge most needed by conservators for the drafting of future curricula.

The transcript of the panel presentations is included in Appendix A

Following the panel presentations a discussion session was held involving the panelists and audience that touched upon many topics including 1) the drafting of a list of fundamental interdisciplinary requirements for archaeology and

conservation education and 2) the formation of a working group for the drafting of educational guidelines for universities after the workshop. By soliciting presentations from both archaeologists and conservators a holistic view of the situation today in academia was provided. This collaboration encourages and promotes the careful consideration of the needs and requirements of both fields by both professions.

The panelists gave 10-minute presentations based on their experiences as educators and specialists working in international field projects:

- Ioanna Kakoulli from the UCLA/Getty Program on the Conservation of Archaeological and Ethnographic Materials described the interdisciplinary curriculum of this UCLA/Getty Interdepartmental Degree Program in conservation.
- Frank Matero from the University of Pennsylvania addressed the graduate level courses and internship programs offered by the University of Pennsylvania's Program in Historic Preservation in archaeological site conservation.
- John Merkel from the Institute of Archaeology, University College London, addressed the conservation courses offered to undergraduates at UCL including "Conservation for Archaeologists".
- John Papadopoulos from UCLA discussed the approach to the conservation of the burial tumulus of Lofkënd in Albania involving site preservation, conservation work in the laboratory, and conservation and reconstruction in the field.
- Elizabeth Pye from the Institute of Archaeology, University College London, introduced the conservation courses offered to archaeology undergraduate and Masters students at UCL, and the introduction to archaeology for specialist conservation Masters students.
- Chris Ratté from the University of Michigan discussed site conservation at the Aphrodisias (New York University) and Notion (University of Michigan) field projects in Turkey and addressed the challenges of site management.

- Brian Rose from the University of Pennsylvania spoke about the conservation challenges posed by the archaeological sites of Troy and Gordion in Turkey and the development of sustainable conservation programs for these sites.
- Kent Severson from the Shangri La Center for Islamic Arts and Cultures described the short course in archaeological conservation offered by the Conservation Center of the Institute of Fine Arts at New York University since 2003.

## **Major points arising from the panel discussion**

The second half of the workshop consisted of a discussion between panelists, moderators and the audience. Please see the summary that follows.

The audience consisted of a fairly even representation of archaeologists and conservators as determined by an informal show of hands. During the discussion the question was raised regarding inadequacies and gaps in knowledge: the overall consensus was that archaeologists would benefit more from increased knowledge about conservation than would conservators from more knowledge of archaeology.

In the ensuing discussion of various ways and means to incorporate conservation into the archaeology curriculum suggestions were made while considering undergraduate and graduate degree programs in archaeology as distinct entities in their own right. Suggestions for ways in which conservation may be included in the archaeology curriculum as obligatory courses were presented:

- introduce conservation courses outside the normal academic year, for example during summer field schools,
- hire traveling lecturers in conservation in lieu of permanent conservation faculty,
- make conservation classes a prerequisite for admission to graduate programs in archaeology,
- substitute conservation for another subject (such as an ancient language) in the qualifying exams for PhD students,
- introduce undergraduate degree programs in archaeology (that include a conservation component) that are almost nonexistent in the USA,
- offer interdisciplinary classes in, for example, materials science, digital technology, and archaeometry that are attended by both archaeology and conservation students.

It was pointed out that the goal of education is having knowledge about each other's specializations, i.e. archaeology, conservation, material science, etc. in terms

of what it can offer and how it can be used to advantage, not training one person to be proficient in two or three specializations. Therefore the next course of action will be to identify the requisite knowledge that will benefit most the archaeologist and the conservator about each other's field. One means to help achieve this is to encourage more joint publications in archaeology and conservation.

It became clear during the discussion that in our changing world the role of site manager is becoming a profession in its own right, distinct from that of excavation director. The question was raised, can one course cover the interest of all three professions: archaeology, conservation and management? Some universities are now offering site management classes to both archaeology and conservation students. Another specialization, director of the archaeological project, is emerging in addition to and as distinct from site manager and excavation director. University programs are taking these developments into account and are adapting to the changing responsibilities of and approaches to archaeology and conservation today while keeping in mind the current needs and opportunities of the job market. University education is challenged to keep up with this growing number of specialisms related to the preservation of the archaeological heritage.

The final point of discussion concerned the credentials of the professional archaeologist. It was suggested that a means to ensure requisite conservation knowledge would be to include conservation in the eligibility requirements of the archaeologist for registration in the Register for Professional Archaeologist (RPA). One of the goals of the RPA is to achieve high standards of professional conduct in archaeology. The RPA was described as an organization with steadily growing numbers of registered archaeologists, therefore it was suggested that the RPA could be a good forum for including conservation into the credentialing process.

The discussion concluded with volunteers from the audience who signed up to contribute to future activities in the form of a working group.

The transcript of the discussion is included in Appendix B

## Panel schedule

Archaeological Institute of America 115<sup>th</sup> Annual Meeting, Chicago, Illinois, January 2-5, 2014.

### Session 3G: Workshop

#### Interdisciplinary Studies: Archaeology and Conservation

Sunday, January 3, 2014 2:45 pm to 5:15 pm

2:45-2:50	Introduction and Opening Remarks <i>Alice Boccia Paterakis, Tom Roby Moderators</i>
2:50-3:00	Archaeological Conservation Strategies at Troy and Gordion <i>C. Brian Rose, University of Pennsylvania</i>
3:00-3:10	“All things Useful and Ornamental”: Praxis-based training for Archaeological Site Conservation <i>Frank Matero, University of Pennsylvania</i>
3:10-3:20	Archaeology and Conservation: A Three-pronged Approach <i>John K. Papadopoulos, Cotsen Institute of Archaeology, UCLA</i>
3:20-3:30	Frontier Conservation Education: Excellence, Innovation and Leadership <i>Ioanna Kakoulli, UCLA/Getty Program on the Conservation of Archaeological and Ethnographic Materials</i>
3:30-3:40	Site Conservation in Turkey <i>Christopher Ratté, University of Michigan</i>
3:40-3:50	A Short Course in Archaeological Conservation at New York University <i>Kent Severson, Shangri La Center for Islamic Arts and Cultures</i>
3:50-4:00	Conservation and archaeology: encouraging engagement <i>Elizabeth Pye, Institute of Archaeology, University College London</i>
4:00-4:10	Undergraduates help with Archaeological Conservation <i>John Merkel, Institute of Archaeology, University College London</i>
4:10-5:10	Panel Discussion with panelists, audience and moderators
5:10-5:15	Concluding Remarks <i>Alice Boccia Paterakis and Thomas Roby Moderators and Panelists</i>

## Abstracts

### ***Frontier Conservation Education: Excellence, Innovation and Leadership***

*Ioanna Kakoulli, UCLA/Getty Program on the Conservation of Archaeological and Ethnographic Materials*

Conservation is an ancient and relatively new undertaking. Activities in conservation include examination/analysis of objects, documentation, treatment, collections care, access, and dissemination and require knowledge and skills across a variety of fields from the social sciences and the humanities to the natural sciences, and engineering. The conservation of heritage materials is therefore a truly multidisciplinary endeavor.

The UCLA/Getty Interdepartmental Degree Program (IDP) is the youngest of the conservation graduate degree-granting programs in North America with a very specific and unique focus on the conservation of archaeological and ethnographic materials. The program's interdisciplinary curriculum includes two years of rigorous coursework combining research with laboratory and field simulations and conservation practice and an eleven-month internship in a museum and/or in the field. The academic curriculum can be broadly divided into three thematic units: 1) Materials chemistry, properties and deterioration; 2) Conservation documentation and scientific investigations; 3) Archaeological methods, ethnography ethics and site preservation. The courses at the UCLA/Getty Conservation IDP are multilisted with other departments across campus thus enriching the students' experience. Housed within the Cotsen Institute of Archaeology and the Getty Villa, the UCLA/Getty IDP has significant advantages. Students both from the conservation and archaeology programs at UCLA are enriched by direct interactions with faculty and researchers from the Cotsen Institute of Archaeology and other departments across campus as well as Getty Museum Conservation Department and the Getty Conservation Institute's Science Department and Field projects.

The UCLA/Getty Conservation IDP provides an excellent platform for education, research, and sustainable resources for the preservation of material culture and supports discovery and innovation through research that transcends the boundaries of traditional disciplines. It uniquely trains the next generation of conservators in the best practices and methods of cultural heritage conservation through various pedagogical approaches and positively impacts the community by engaging with a more informed public that would seek to protect cultural heritage from imminent threats.



***“All things Useful and Ornamental”: Praxis-based training for Archaeological Site Conservation***

*Frank G. Matero, University of Pennsylvania*

Archaeological sites constitute a large percentage of the world’s built heritage and their conservation, display, and management require special advanced knowledge and skills. Despite their widespread occurrence and need, programs in education and training have been limited to a handful of organizations such as UNESCO/ICCROM, ICOMOS, Institute of Archaeology, University College London and the Getty Conservation Institute. Since 1991, the University of Pennsylvania’s Program in Historic Preservation has offered specialized graduate level courses in archaeological site conservation and in 1995 began an additional summer field internship program to train American graduate students in archaeological site conservation. Although only a few academic programs in heritage conservation offer special courses in archaeological site conservation and management, their availability is limited to matriculated students or specific to their locale. As a result, international students and professionals have little recourse for advanced training in the subject and few have the time or financial resources to pursue full-time academic degrees.

In 2010 a three-week intensive field-based summer program, ideal for practicing professionals and international students with limited time, was launched to provide archaeologists and heritage specialists the opportunity to gain expertise in the conservation and management of archaeological sites. The curriculum draws from a wide range of published literature and laboratory- and field-based exercises applicable to national and international contexts. Topics include the history and theory of site conservation, documentation and recording methods, site formation and deterioration, material and structural analysis, diagnostics, and a broad range of intervention strategies including stabilization, interpretation, and display. Students gain the necessary knowledge and skill sets to develop, execute and manage a site conservation plan, now required by many international and national authorities for heritage sites.

***Undergraduates help with Archaeological Conservation***

*John Merkel, Institute of Archaeology, University College London*

Interdisciplinary aspects for archaeology and conservation are under renewed further development at the Institute of Archaeology at University College London (UCL). There are a wide range of academic programs and courses which address

conservation for archaeology and museums. Within the Institute there have been recent purchases this academic year of XRD and FTIR (in addition to existing SEM/EDS facilities) as well as employing a new member of staff (Dr. Caitlin O'Grady) with additional interdisciplinary research and teaching in conservation. This new analytical equipment is used foremost in conservation and ancient technology research by post-graduate students and staff.

Undergraduate students have the opportunity to take the optional course entitled "Conservation for Archaeologists" which is taught by all conservation staff in the Institute along with invited guest speakers. The course is one unit which is equivalent to 36 hours of lectures, 4 hours of museum visits, 2 hours of tutorials and 4 hours of practical sessions with additional requirements for reading, two essays and examination. The course aims are to provide a wider understanding of archaeological conservation and incorporate conservation better within archaeological projects.

In our undergraduate course "Conservation for Archaeologists", the point is made that some conservation treatments should be reserved for conservators. Archaeologists should know when a professional conservator would be needed on site, but nevertheless be prepared to undertake some tasks like lifting, consolidation and packaging. Archaeologists should also be familiar with the deterioration of materials in various burial conditions and storage in order to anticipate conservation needs for planning and appreciate potential outcomes for treatments today. The undergraduate course includes outlines for the history of conservation for ceramic, stone, metals and organic materials to help students recognize past treatments. However, the course does not provide practical training and experience with investigative and remedial conservation treatments, such as cleaning, stabilization and reconstruction. Lectures stress both the ethical care of objects and the contribution that the conservator can make to a fuller understanding of objects and archaeological sites.

### ***Archaeology and Conservation: A Three-pronged Approach***

*John K. Papadopoulos, Cotsen Institute of Archaeology, UCLA*

On the basis of the UCLA-Albanian Institute of Archaeology project at the prehistoric burial tumulus of Lofkënd in Albania, this short presentation will focus on three aspects that should be critical to any project:

- Conservation in the field

- Conservation in the laboratory (particularly in countries with poor infrastructure), including long-term storage
- Conservation of the site at the conclusion of excavations

For field conservation, the presentation will focus on excavation protocols involving the use of wooden tools to minimize damage to human and animal skeletons, as well as block-lifting of fragile finds. Laboratory conservation will overview the protocols put in place by the project conservator, Vanessa Muros, including the treatment of ceramics and terracotta objects, unfired and poorly fired daub, metals (bronze, gold/electrum, iron, as well as bimetallic finds), faience and glass, lithic tools, bitumen and other organic finds, as well as their labeling and analysis. The training of student conservators, together with the long-term training of an Albanian conservator will also be discussed.

Finally, the presentation will review our reconstruction of the Lofkënd tumulus. When a monument is excavated it removes a piece of cultural property from the landscape. Consequently, we included the maintenance of monumentality in our initial project design, by setting funds aside to rebuild the tumulus. In reconstructing our excavated tumulus, we found that we could leave the monument in place and give it added value from the new knowledge of its relevance to local people, not to mention the revival of a dying craft: the making of mud brick.

### ***Conservation and archaeology: encouraging engagement***

*Elizabeth Pye, Institute of Archaeology, University College London*

This short contribution will outline the introduction to conservation provided for archaeology undergraduate and Masters students at UCL, and the introduction to archaeology for specialist conservation Masters students.

It will comment on: the need for conservators to understand the wider archaeological research context, and research questions; the nature of the service conservators can provide in support of archaeological research; and how to work alongside archaeologists most effectively in the field. It will explore briefly: the nature of conservation as a discipline as well as a technical specialism; the advantages for archaeologists to understand the role of conservation in interpretation and elucidation of objects, and its potential to contribute to archaeological research.

Finally it will recommend consideration of a joint publication focused on demonstrating the aims of each discipline and the strengths of interdisciplinary activities.

## ***Site Conservation in Turkey***

*Christopher Ratté, University of Michigan*

This presentation will address issues of site conservation at field projects in Turkey, sponsored by my former institution (NYU) and my current institution (Kelsey Museum of Archaeology, University of Michigan).

At Aphrodisias, where archaeological investigations have been carried out by NYU since 1961, I participated in a number of efforts to conserve buildings on site and to improve visitor experience of the ancient monuments. Key to these efforts were the institution of procedures of lime-mortar wall-capping that could, in the future, be carried out by trained local workmen under the supervision of the local museum, and the redesign of circulation through the site so as to give visitors a better experience of ancient spaces while maintaining the integrity of the archaeological remains.

All archaeological projects in Turkey face increasing demands for the conservation and restoration of ancient buildings in the interest of touristic development. The Kelsey Museum has recently submitted an application to begin a new archaeological project at the site of Notion on the Aegean coast, and this proposal incorporates site management into the research program from the start, including security, conservation, accessibility, signage and circulation, landscaping, and feasibility studies for the restoration of the Theater and other major monuments.

While it is now generally accepted that archaeologists must recognize the interests of multiple interests and stakeholders in the investigation of archaeological sites, from the economic needs of local residents to the interests of tourists, states, and international organizations such as UNESCO, the role that archaeologists should play in the coordination and management of these interests and stakeholders remains a matter for discussion and debate.

## ***Archaeological Conservation Strategies at Troy and Gordion***

*C. Brian Rose, University of Pennsylvania*

At multi-period sites such as Troy and Gordion, not every building uncovered during excavation can be preserved, and some are partially dismantled in the search for earlier historical levels. At the same time, the material remains of the successive settlements need to be signaled to the visitor, so that the complex history of the site can be comprehended.

These goals are complicated by the fact that most of these multi-period sites were partially excavated during earlier periods, which means that few of the walls had been stabilized and many have already tumbled. As Mediterranean and Near Eastern countries increasingly emphasize the necessity of stronger conservation programs at archaeological sites, conservators and archaeologists need to work together more closely than ever before to determine the best sustainable conservation programs that can ideally engage the surrounding residents as stakeholders in the site's maintenance.

### ***A Short Course in Archaeological Conservation at New York University***

*Kent Severson, Shangri La Center for Islamic Arts and Cultures*

Since 2003, the Conservation Center of the Institute of Fine Arts at N.Y.U. has conducted a week long training workshop in archaeological conservation to prepare students for their first field experience. To help students make the jump from the classroom to the reality of work on active archaeological sites, the course focused on what it is that newcomers really need to know to be effective in the field. The course was followed by a season at an active archaeological site such as the Harvard/Cornell Sardis Expedition, the New York University Aphrodisias and Samothrace Excavations, as well as projects in Italy, Greece and Egypt.

## **Speaker and moderator biographies**

**Claudia Chemello** is co-founder and senior conservator of Terra Mare Conservation, LLC. Prior to working in private practice, she was senior conservator at the Kelsey Museum of Archaeology at the University of Michigan from 2006 – 2013. She has also worked for the Agora Excavations, American School of Classical Studies at Athens and other international cultural institutions. She received her BA in Egyptology from Macquarie University, Sydney and her MA in Applied Science (Materials Conservation) from the University of Western Sydney. She has provided conservation for numerous archaeological excavations in the Middle East, Central America and the Mediterranean.

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**Ioanna Kakoulli** received her PhD in archaeological sciences from the University of Oxford

and her Master's in conservation science from the Courtauld Institute of Art, University of London. She is an Associate Professor in the Department of Materials Science and Engineering at UCLA and Chair of the UCLA/ Getty Degree Program on the Conservation of Archaeological and Ethnographic Materials. She directs the activities of the Archaeomaterials Group and the Molecular and Nano Archaeology Laboratory at the Henry Samueli School of Engineering and Applied Science at UCLA established through NSF and UCLA funding, specializing in two scientific pursuits: Archaeometry and Conservation Science.

Prof. Kakoulli conducts research on material culture that intersects traditional and advanced scientific techniques at multiple scales and focuses on reverse engineering processing studying the relation between microstructure and properties to understand ancient technology and trade in antiquity, as well as environmental and diagenetic alterations and their effects in the preservation of artifacts. She has published extensively and authored a peer-reviewed monograph as well as, book-chapters, scientific articles and invited conference papers. She is a resource person for ICCROM in Rome; consultant for Homeland Security Investigations; member of US State Department delegations on Science & Technology; foreign expert for UNESCO missions on the preservation of cultural heritage, and trustee member of the Cyprus American Archaeological Institute (CAARI).

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**Frank G. Matero** is Professor of Architecture and former Chair of the Graduate Program in Historic Preservation at the School of Design, and Director and founder of the Architectural Conservation Laboratory at the University of Pennsylvania. He is also a member of the Graduate Group in the Department of Art History and Research Associate of the University Museum of Archaeology and Anthropology. From 1981 to 1990 he was Assistant Professor of Architecture and from 1985-1990, Director the Center for Preservation Research in the Graduate School of Architecture, Planning, and Preservation of Columbia University. He received his graduate education in architecture and preservation from the Graduate School of Architecture, Planning and Preservation of Columbia University and in art conservation at the Institute of Fine Arts, New York University. From 1988-1995 he was lecturer in Architectural Conservation at the International Center for the Study of Preservation and the Restoration of Cultural Property (ICCROM) in Rome and is currently senior lecturer for Restore, New York City.

His teaching and research is focused on historic building technology and the conservation of building materials, with an emphasis on masonry and earthen

construction, the conservation of archaeological sites, and issues related to preservation and appropriate technology for traditional societies and places. Publications include over 50 articles and book chapters on architectural conservation. He has consulted on a wide range of conservation projects including the fortifications of Cairo and San Juan (Puerto Rico), Drayton Hall, the Guggenheim Museum and Trinity Church (New York), the Lincoln and Jefferson Memorials, Ellis Island, and the missions of California and Texas. His archaeological site work includes many sites in the American southwest including Mesa Verde, Casa Grande, Bandelier, Salinas Missions, El Morro, and Fort Union and Fort Davis and Indian Key in Florida as well as the Phrygian capital of Gordion and Catalhoyuk in Turkey, and Chiripa in Bolivia.

He is a Professional Associate of the American Institute for Conservation of Historic and Artistic Works and former Co-chair of the Research and Technical Studies Group and founder and editor in chief of the international conservation journal, *Change Over Time*. He has served on the editorial boards of *Conservation and Management of Archaeological Sites*, *the Journal of Architectural Conservation*, and *Cultural Resource Management* and on numerous professional boards including US/ICOMOS, Heritage Preservation, the Frank Lloyd Wright Building Conservancy, the AIA Historic Resources Committee, and the Fairmount Park Historic Preservation Trust, and The Woodlands.

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**John Merkel** has been a Lecturer at the Institute of Archaeology, University College London (UCL), since 1988 specialising in interdisciplinary teaching and research for conservation and archaeometallurgy. He has now supervised thirteen Ph.D. students and numerous MA and MSc. dissertations.

His academic training in conservation (1988) and Ph.D. (1983) were both completed at the Institute of Archaeology. His undergraduate degree (archaeological geology) was from the University of Cincinnati and his MSc. (ancient studies) is from the University of Minnesota. Between 1984 and 1987, John worked as a research assistant at the Peabody Museum, Harvard University.

At UCL, he has coordinated and taught in the undergraduate course “Conservation for Archaeologists” for some 13 years. This course attracts some 25 students per year mostly from archaeology at the Institute, but also from ancient history, anthropology and other departments, for example, from the School of Oriental and African Studies (SOAS) in the University of London. The course also attracts international students from the USA in the Junior Year Abroad programme. In conservation teaching at UCL, John focuses foremost on metals and documentation.

His continuing research interests in conservation include corrosion of metals from archaeological sites, mixed corrosion inhibitors for stabilisation of copper alloys and effects of cleaning on depletion gilding. Analytical techniques used in his research include XRD, XRF, AAS, ICP and metallography. His teaching in archaeometallurgy includes parts of the archaeometallurgy MA. and MSc. courses with his research topics predominately on Bronze Age smelting experiments, Islamic production of crucible steel and Sican Metallurgy in Prehispanic Peru. He is currently working with co-authors toward completion of two books related to the prehistory of metal use.

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**John K. Papadopoulos** is Professor of Archaeology and Classics at the University of California at Los Angeles, former Chair of Classics and current Chair of the Archaeology Interdepartmental Program. His research and teaching interests include the Aegean, as well as the eastern and central Mediterranean in the Late Bronze and Early Iron Age into the Classical and later periods, Greek colonization, the topography of Athens, and the integration of literary evidence with the material record in the study of the past. He has excavated or conducted fieldwork widely in Greece, Albania, Italy, and Australia. He is the author or editor of nine books, over 80 articles and some 35 reviews.

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**Alice Boccia Paterakis** has served as Director of Conservation for the Kaman-Kalehöyük, Yassihöyük, and Büklükale excavations in Central Anatolia, Turkey, for the Japanese Institute of Anatolian Archaeology since 2008. Prior to this, she served as Head of Conservation for the Ancient Agora Excavation and Museum in Athens, Greece, for the American School of Classical Studies from 1986 until 2004. She was awarded the Rome Prize, the National Endowment for the Arts Fellowship in Historic Preservation and Conservation, by the American Academy in Rome in 1999-2000. In 2004, she was awarded a Conservation Guest Scholar Fellowship by the Getty Conservation Institute and in 2005 a Fellowship in the History of Art from the Samuel H. Kress Foundation. She was granted a Samuel H. Kress Conservation Publication Fellowship for preparation of the book entitled *Volatile Organic Compounds and the Conservation of Inorganic Materials*. In 2007, she contributed to the University of Pennsylvania's Gordion Furniture Project in Ankara,



Turkey. In 2013, Dr. Paterakis became a lecturer in the Art Conservation program at Scripps College, Claremont, CA, where she teaches Archaeological Conservation. She has served on the Directory Board of the International Council of Museums – Committee for Conservation (ICOM-CC) and on the AIA's Conservation & Heritage Management Committee. She holds a M.A.C. in Conservation from Queen's University, Kingston, Ontario, Canada, and a Ph.D. in Conservation from the Institute of Archaeology, University College London. She is a Fellow of the International Institute for Conservation (IIC) in London and the American Institute for Conservation (AIC) in Washington, D.C.

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**Elizabeth Pye** is Emeritus Professor of Archaeological and Museum Conservation, at University College London Institute of Archaeology where, before her recent retirement, she taught both theoretical and practical aspects of heritage conservation. Her current research focuses on practical and conceptual effects of physical access to museum objects. She is author of *Caring for the Past: Issues in Conservation for Archaeology and Museums*. London: James and James (2001), and editor of *The Power of Touch: Handling Objects in Museum and Heritage Contexts*. Walnut Creek: Left Coast Press (2007).

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**Christopher Ratté** is a Classical archaeologist, specializing in the archaeology of western Turkey. He was educated at Harvard University (B.A. 1981) and the University of California at Berkeley (Ph.D. 1989), and taught at Florida State, NYU, and the University of Pennsylvania, before joining the faculty of the University of Michigan in 2006. He is currently Professor of Classical Archaeology in the Departments of Classical Studies and the History of Art, and Director of the Kelsey Museum of Archaeology.

Ratté is the author, co-author, or editor of four books and more than 30 articles and excavation reports on the archaeology of Turkey. From 1980 to 1992, he was a member of the Sardis Expedition (serving as Assistant Director from 1989-1992). From 1993 to 2005, he supervised the excavations at Aphrodisias (serving as Field Director from 1993-2005, and as Co-Director from 1999-2006). From 2005-2009, he directed an archaeological survey of the region around Aphrodisias. Together with Felipe Rojas (Brown University), he recently submitted a proposal to begin a new field project at Notion on the Aegean coast

of Turkey. From 2009-present, Ratté has also been directing an archaeological survey of the region around Vani in western Colchis (Republic of Georgia).

Ratté's research focuses on the role played by the built environment, from individual monuments to entire social landscapes, in the definition and articulation of social and cultural identity, especially in regions on the peripheries of the Greek and Roman worlds – for example, on how masonry techniques helped to articulate the cultural identity of the Anatolian kingdom of Lydia, on the role played by city planning and urban development in the “Romanization” of Aphrodisias, or on how the social organization of Colchis is expressed through regional settlement patterns.

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**Thomas Roby** is an architectural conservator in the Field Projects Department of the Getty Conservation Institute (GCI) where he is manager and co-instructor since 2001 of the training project for in situ mosaic maintenance technicians in collaboration with the Institut National du Patrimoine of Tunisia. While at the GCI he has also participated in archaeological site conservation projects at Copan in Honduras and in the Valley of the Queens in Egypt. Prior to joining the GCI, he worked in private practice, primarily on archaeological sites in the Mediterranean region.

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**C. Brian Rose** is James B. Pritchard Professor of Mediterranean Archaeology at the University of Pennsylvania and Curator-in-Charge of the Mediterranean Section of the Penn Museum. He received his B.A. from Haverford College and his M.A., M.Phil., and Ph.D. from Columbia University. Between 1988 and 2012 he was Head of Post-Bronze Age excavations at Troy, and English language editor of *Studia Troica*. He has authored or edited four books on the archaeology of Troy and Gordion, and another on dynastic commemoration in the early Roman Empire. Between 1994 and 2000 he was an Academic Trustee of the Archaeological Institute of America, then First Vice-President (2002-2006) and President (2007-2011). He was Deputy Director of the Penn Museum between 2008 and 2011, and is a trustee of the American Academy in Rome.

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## **Appendices**

**Appendix A:** Transcript of the panel presentations

**Appendix B:** Transcript of the panel discussion

## Appendix A

### Transcript of panel presentations

#### ARCHAEOLOGICAL INSTITUTE OF AMERICA 2014

**BRIAN ROSE:** Thanks to Alice and Tom and Steve and everyone else for inviting us to be part of this and to all of you for coming today. There are several points I wanted to make briefly since Alice has made it clear to us that we should be brief in our comments but several points that I wanted to make in the course of this talk, one is that it really is essential that archaeologists take some sort of formal training in conservation while they're in graduate school and as an example of that, or as proof of that, I'm going to show some episodes from my own life as an archaeologist so this will have a quasi-biographical component and I show you what I did wrong and what I hope I did right in the course of the last 25 years of being an archaeologist primarily digging in Turkey. And again I've given my conclusion right at the beginning. It's essential that archaeologists get training in conservation ideally before they go into the field and deal with monumental sites.

I have had the good fortune to deal with three monumental sites, the good fortune and also the burden of dealing with three monumental sites in the course of my career, Aphrodisias as a graduate student and Troy and Gordian as a regular professor of archaeology. When I started in archaeology as a graduate student at Columbia, it wasn't that Columbia didn't have courses in conservation, Frank Matero was teaching then I think, but we were never encouraged to take those. I remember one of my professors, Richard Brilliant, saying you can figure this out on your own. And most of the other archaeologists with whom I spoke adopted the same point of view. You can figure it out without the necessity of any formal training. Some of them even, this was in the late 70's, some of them even made a point about gender. This is something that more women do than men and let me just say look at the gender divide in this room. Nearly all of you in the audience are female and a hefty number of the speakers are male and I'll leave it to you to discuss that at a later point, but as a result of this, as a result of there being an inclination on the part of my colleagues not to do any training in archaeology, we were clueless for a good bit of our time at these large excavations. So if I show you a slide of me in 1980 which would cause some to laugh, when I got to the site, Kenan Erim, who was the director at that point said well we don't have conservators, there's really no need to have conservators, you'll figure it out. So he gave me a pack of dental tools and said here's another stack of coins, just start cleaning

them. And I thought is this the way it works, I just use dental tools and conserve the coins, and I hate to think how many coins I've destroyed in the course of learning how to clean them. And obviously this isn't the way to clean them. And as we dug the Sebasteion which is what we were digging in the early 80's, as we were digging down, he said that we should be restoring the building, do any kind of anastylosis of the building as we were digging down so even before we got to the floor of the building, the base of the building, even before we knew what we had, and so you see us re-erecting one of the drums of one of the columns of Sebasteion, you see Sebasteion as it looks now after a very well appointed anastylosis. But at the time, we did a lot of damage to the Sebasteion, virtually everything that we did had to be re-done again when the decision was made to do the anastylosis. And Kenan, the director, realized this and said well I'm going to send you all off to Ephesus where they know what they're doing in terms of architectural conservation and restoration and you'll learn from them. And I did have the good fortune of learning from Friedmund Hueber who had restored the library of Ephesus and at that time, in the early 1980's, was restoring the gate of Mazeus and Mithridates at Ephesus, a gateway to the Agora built in 43 BC. And so I was able to learn something about the Charter of Venice, do's and don'ts in architectural conservation through the kind of internship that I had at Ephesus. And by the same token, when Friedmund Hueber was trying to decide where to put some of the statue bases, this was something that I had done a lot of work in and so I was able to tell him from an archaeological point of view it would have to be in this position, it could be technically based on the cuttings in either this position or this position but you should conserve it here, you should install it here because of the following historical arguments and archaeological evidence. And so it was clear to me then that this was really a mutually beneficial system where archaeologists should really be learning something about conservation and conservators really should be learning something about archaeologists. And we had the good fortune at Ephesus of learning from the mistakes that had been made at Ephesus with the ghastly concrete reconstructions of the Trajanic nymphaeum and the Monument of Memmius from the late first century BC.

And then it was time for me to go to Troy and as I began as an archaeologist at the University of Cincinnati and I started the Troy project with Manfred Korfmann in 1988, and this was a multi-period site, very different from anything I had faced in Aphrodisias and Ephesus and I had never dealt with monumental mud brick before nor with this very soft stone called marl of which we had an enormous amount. And so finally I just brought someone from Ephesus to the site and said I don't know how to deal with it and he was really my only link to architectural conservation at that point. And gradually we were able to develop a system that I like to think succeeded in protecting these very soft stone walls. What we didn't know how to do was protect monumental mud brick structures and in the end we did simply what I knew they had done at the Zigarot of Ur, facing the ancient structure with modern mud brick but we had object conservators at that point at Troy, we

didn't have architectural conservators so our object conservator, Donna Strahan, made a phone call to Frank Matero as I recall at that time in the late 90's and we developed this system for protecting mud brick. But at the time I realized that I needed to do something more substantial to learn how to protect these things. And there were a lot of mistakes that we made when my colleague, Manfred Korfmann, would overrule the architectural conservators who ultimately did come to the site. The restoration of this cave, which some would call the destruction of the cave, excavated by Schliemann and probably dating to the late Bronze Age is a case in point. At Gordian where I work now, and I work with Frank Matero so I have training on the ground all the time, one of the things that we have to do frequently, any of us who work in Turkey, is go to the Ministry of Culture and Tourism and explain what we're doing in conservation because they now want us to devote 80, 90, 95%, 99% of our time to conservation activities. There's a new trend in Turkey among the officials in the Ministry of Culture and Tourism for us not to dig at all or if we have to dig, to only dig in trenches that have already been opened, not to open any new areas until we've conserved everything that had been left exposed by our predecessors. And I find that I have a team of wonderful architectural conservators but there are times when I'm on my own. I have to go to the Ministry and they say what precisely are you doing to protect the mud brick walls of the terrace buildings, the industrial corridor of Gordian in the 9<sup>th</sup> century BC or how are you conserving the world's oldest polychromatic pebble mosaics and I have to know the strategy, I have to know something about the actual tools, techniques, materials that we're using in order to make it through that meeting. So, as I say, I've learned on the job over a very long time but it's not an adequate system. What we really need is some sort of intensive summer training program for archaeologists in conservation. And there are such special skills courses that have been started at the American Academy in Rome in the summer, architectural documentation, we really need one on conservation because you don't really have time to do it in the course of your graduate training. You're learning Greek, Latin, French, German or at least you're perfecting them as well as taking courses that will lead you into your dissertation so you don't have a lot of time to do architectural conservation. Doing something intensive in the summer, the way some people do intensive Latin or Greek summer workshops, is really I think the way to go. And so I'll end my comments there since I'm close to 10 minutes.

**ALICE BOCCIA PATERAKIS:** Our next speaker is Frank Matero. The title of his talk is "All Things Useful and Ornamental, Praxis-Based Training for Archaeological Site Conservation".

**FRANK MATERO:** It was accidental actually that the order of today was Brian first and me second. You'll be happy to know I won't be showing you many images of Gordian. And I suspect we'll all actually be taking very different tacks this afternoon in terms of interpreting what the panel has put before us. The title of my talk may sound a bit strange. I don't think there's anything one can do at the University of Pennsylvania not referenced

back to Benjamin Franklin. And the quote comes actually from his proposals relating to the education of youth in Pennsylvania written in 1749. And in that discussion about what was the requisite body of knowledge for young scholars, he wrote that art is long and time is short and of course this audience knows that he did not invent it, it actually comes from Hippocrates in terms of this description of the training necessary for a medical professional. But the point is well taken particularly when I think about what's required for conservation and particularly conservation of archaeological sites. He wrote, "we must learn all things useful and ornamental" and as a teacher for me that means core and elective. And so Brian actually, the point he ended on I think is a very important one because the question I think before us today will be is it an elective that one takes after one's primary education or is it something that's embedded within? I think the results are different in terms of how you apply it.

So I'm going to begin, we've been asked to address three points and I'll get to those in a minute, but I wanted to come clean on my assumptions when I entered the room today. And the first one is a conservation program for site and finds is a non-negotiable fundamental requirement for any excavation. And I hope that some of these will provide us with a good opportunity for conversation later. The second assumption I come here with is that project leadership is shared through co-direction in archaeology and conservation. I think you cannot have it any other way. I think conservation becomes subservient, that's the model currently in many places. I don't think that should be the case. They are separate bodies of knowledge, they are separate responsibilities. And of course, as many of you know, conservation is now a requirement at least on paper for many countries. Thirdly, that conjoined research and training are required components of any site based project. That absolutely has to be embedded in a conservation plan and in any site work. And fourthly, both academic and legal changes are necessary to affect professional change. This is probably the most important, that's why we're here, and I'm afraid it is the most serious and difficult of the four assumptions I have.

So the issues that we were asked to reflect on were the following: The current state of interdisciplinary studies at our institution in terms of archaeology and conservation, the recommendations for university training that we would make in this area, and what is that requisite body of knowledge that is required for such a program or a course?

So let me, if you can remember those, let me turn to the first, the current state of interdisciplinary studies between archaeology and conservation. Since 1991, actually my arrival at Penn, I offered the first course there on archaeological site conservation. It was a semester long 14 weeks and it was really run as what we call a studio seminar. The first half of the course were readings, discussions on topics you can imagine, we'll get to those later, and then the second half turned into a studio. A studio for those of you who don't know is a design school pedagogy. It is a common problem that everyone participates in. They share knowledge but they also do their independent work and it is focused on a



problem. That problem in our case is a site. Sometimes the site was distant, we could not visit like Teawenoku or Gordian, that's how Gordian actually started sometimes and now more currently it is a site that we go to and the one that we have been going to most often because of its long traditions and history and ease of access is Mesa Verde here in the United States.

In 1995, I then took the course and developed a field based summer program, we started that at Catalhoyuk, you see an image here from 1995, Cassie Meyers, myself, and Turkish and English and American students that were working at the time. And then brought it also to Gordian in 2005 where we have been ever since, where we have completely brought this now into both the academic year as well as a summer program. Most recently, in 2010, realizing the necessity to provide some kind of opportunity for practicing professional archaeologists and conservators through generous funding that the Penn museum received and the School of Design, we have been able to offer a four-week intensive summer course again based at Mesa Verde because of the English language and the ease of access and also the 100+ years of experience in terms of physical on the ground conservation, site management, issues of indigenous populations and stakeholder, it's really a perfect site to do this. We have had students from Peru, from Colombia, from Cambodia and these are the interns from last year, we went through again an intensive four-week course. This year we will be able to augment that then with the ability for these interns to go on then to their respective home sites where they can then work with a conservator taking what they've learned and apply them under the aegis of a project director and a conservation team. So that's where we are in terms of the current state of interdisciplinary studies.

In terms of recommendations for university training, I have just one image for this. My belief is that it should be required for all PhD archaeology students, anthropology students. These are the future project directors. If we don't start there, I think we're not going to be able to achieve our goals. And so this year for the first time, I literally just finished the course a week ago, two weeks ago at Penn, we had five PhD archaeology students from a variety of programs at Penn and six conservation specialists, my students. This was really a first, an almost even distribution of interests, skills, expertise, knowledge and again we brought them to a site in the last five weeks of the course preceded by I think some very interesting conversations. This is how we change practice. We change it in the classroom while these students are learning to be professionals. I think that really is one of the best ways, not the only way certainly. What Tom has been doing at the GCI, I think we have to be clear on who is responsible for what. Are we training critical thinkers? Are we training technicians, volunteers, students, professionals? We have to be clear. We have to know that audience. And I'll lastly end on the third question, which is what is the critical conservation knowledge? My experience has been conservation, as a general rubric needs to be taught in terms of a four-field approach or a four-content approach: History, theory,

technology, and praxis. And the diagram clearly illustrates it is the core that is the sweet spot, that is where it all comes together and I think in terms of what we're discussing today it is appropriate.

I'm just going to end with ultimately what we're driving for is a conservation plan. We use the words conservation and management plan, but they mean different things to different people and they involve a fairly large number of individuals. And so you see something like this for Gordian which was begun in 2005, this was just getting ideas out on the table, meets everything from all the primary components to who are the communities, what are the major issues, issues of economics, of development, and the question that rightly is asked by many project directors is why is this my responsibility? How far do we have to take this in terms of our obligations ethical and moral? So what does that look like on the ground, this is what it looks like on the ground at Gordian. We literally have had to put on the map the phased plan over time with all the necessary on the ground operations. The question is who does what? We've got trained conservators, we've got trainees who are largely Turkish laborers, we've got students, we've got archaeologists. Who does what? This is key to know and understand.

My last comment has to do with what I'm most interested in now, this is what happens when you get bored with the technology, which is interpretation and display. It is really the hybrid child of what we're talking about today. I believe archaeologists write the narration. They are the ones who should script the site. But it is often the conservator with other allied professionals who know the language of that narration and so here Brian and I, Brian wrote the text, we literally on the ground decided where that text, where that story should be told but I would say that in a case of Gordian and many sites, it is actually left to those who deal with environment, architects, engineers, conservators to a certain degree if we're talking about sites, just the way they do for objects in a museum, the interpretation on the ground is really a function of design. How to make the most out of the site to tell the story that needs to be told. Not with the language of the museum I have to say. So with that, I'll end it there.

**ABP:** Our next speaker is John Papadopoulos. The title of his talk is "Archaeology and Conservation, A Three Pronged Approach".

**JOHN PAPADOPOULOS:** I wish to present a four pronged approach, focusing on three primary issues and throwing in a fourth: that is conservation in the field, conservation in the lab, particularly in countries where something as basic as electricity can be a tough thing. Typically in Albania, which is the project that I'm going to be focusing on, the electricity would stop at 10 AM and would restart at about 8 PM. And also conservation at the site at the conclusion of excavations. And also the publication, and this I think is the most important thing, that we've actually in our recently published volume (J.K. Papadopoulos, et al. *The Excavations of the Prehistoric Burial Tumulus at Lofkënd, Albania*, Los Angeles 2014) on the excavations at Lofkënd in Albania, the conservator is

actually responsible for four chapters including the chapter on the conservation (Vanessa Muros: Chapters 5, 11, 12, and contributed to Chapter 10). At Albania, the location of the site, I can go through fairly quickly. This is the mound, and this is taken from about 2 kilometers away, and I showed this view simply because of the monumentality of the place. You can see this mound from kilometers away and one of the things from the very beginning of the project my co-director and I did not want to eradicate this monument from the landscape. So we actually had budgeted from the very beginning to reconstruct it at the end of excavations. This is a land of mounds, the nearest mound a burial trimulus that had been excavated was at Patos in 1976. This mound no longer exists and, in fact, the site where it was based is now completely covered over by modern houses.

Here's a view of the site. It's a little bit like Sylvester Stallone. Now I come from Los Angeles and I was in a restaurant and Sly was sitting at a table behind me and from the back the guy had like a head, no neck, and vast shoulders. And it was one of those serendipitous moments, we both got up at the same time and this humongous human being came up to here (i.e., barely reaching my chest!). I'm not exaggerating. I said you can go to the toilet before I do! So the site is a little bit like Sylvester Stallone. It looks big from afar but it's actually really small. It was a very controlled excavation. We divided the tumulus into four sectors, putting an Albanian and a UCLA grad student in each sector and let them dig their own grave. And to some of the finds very quickly. It's a real palimpsest of tombs and you can see one tomb here cutting through this and in the end there were 100 tombs, 156 individuals. And this gives you a picture of how complex the arrangement of the burials were.

From the very beginning, the protocols in excavations we had established, in addition to normal excavation protocols, the use of digging graves only with wooden tools, and that is to minimize damage to the actual human remains. There were always three conservators and a lot of the conservation was done in the field particularly in terms of block lifting fragile things and here you see a bronze diadem being lifted and here is one of those bronze diadems.

As far as the lab was concerned, our facilities were pretty nice. We actually stayed about 26 kilometers away from the site. This is the dig house built by the Albanian and French colleagues. It's based at the archaeological park of Apollonia and we also had access to some rooms in an old 11<sup>th</sup> century Greek Orthodox monastery which you also see here.

Vanessa Muros, our head conservator, was instrumental to the project. She is one of the conservators at the UCLA Getty Conservation program at UCLA and she was a part of the project from the very beginning. In addition to penning the sections on the conservation techniques, she also did analyses of glass, glass paste and other small finds. And one of the things we were particularly proud of was the training of students. We always had two students accompanying Vanessa and we also trained (Alma Bardho), an Albanian scientist who is now the chief archaeological conservator in their country. And

this is one of the block-lifted finds. Vanessa Muros as conservator also did a study of the textile pseudomorphs and this was yet another chapter and together with David Scott did a metallographic analysis of the metal finds storage. Now this was really tough and the storage facilities we were given were very poor. There was very little in terms of humidity control, and the idea was to store the material for about 2-3 years and then move it all to the safety as it were of the Institute of Archaeology in Tirana (the capital of Albania) to a more sort of museum context. So it involved all sorts of packings, I won't get into details and Vanessa is really the person who should talk about these but we also encased a lot of metal objects in vacuum sealed packs.

The final thing I want to discuss is how we reconstructed the tumulus at the end. Now during the excavations, we kept the baulks in place. So at the end of every summer, we would back fill, we would come back the next year and it would be a mound and we would just take out the back fill and start again. And this was a very good idea because it preserved the finds, it avoided looting and so on and so forth. But what happens when you take away the baulks? Well the beauty was that we had a fully digital plan and a three dimensional model of the site and here again I want to draw attention to its monumentality, its visibility. And so we looked at various alternatives, and I got advice from a number of conservation specialists, and they were all very expensive, very elaborate reconstructions that just didn't seem to make sense in the context of Albania. Now just even getting a jeep up to the site was challenging. So what did we do? Well we had an idea. Why don't we use the actual matrix of the tumulus and so I asked the local workman if there's an old guy in the village that can make mud bricks. And they said: we all can. So the young men here, there is no water on the site, were bringing up water, the older men were treading and we made 2,000 mud bricks of the soil from the matrix of the tumulus and here are some more photographs of the making. And this was published in *Antiquity Magazine* so you can go and read it. And we reconstructed the baulks and so we left the tumulus as it was and here it is one year after its reconstruction.

**ABP:** Our next speaker is Ioanna Kakoulli and her title is "Frontier Conservation Education, Excellence, Innovation, and Leadership".

**IOANNA KAKOULLI:** Good afternoon everybody. I'm truly delighted to be part of this panel and I would like to take this opportunity to thank the organizers for this invitation. As we all know, although conservation is an ancient practice, it has only entered the academic world with the establishment of professional and degree programs in various countries, including North America. While a decade or two ago the two disciplines of archaeology and conservation might have been relatively distant from each other, in the more recent years, there is more integration between the two. This relation, however, differs from country to country and even between regions. However, even with the progress that been made to date, archaeology and conservation as distinctive disciplines echo a little bit the concept of the two cultures introduced by CP Snow in '59 pointing to the

lack of understanding that exists between the scientists and he meant more the physical scientists and then non scientists. In the particular case of archaeology and conservation, the issue underlies between different foci. On one hand, the purely theoretical research that characterizes archaeology and on the other hand, the object based inspired technical research and practice that is typical to conservation. But can conservation ultimately be the link that brings more disparate disciplines together?

Now, I would briefly like to turn our attention to academic curricula and discuss our program at UCLA. At UCLA, we are perhaps in a quite unique situation where both the conservation and archaeology programs are housed within the Cotsen Institute of Archaeology and they are very closely linked to its activities. The two programs have common core faculty and offer courses that are opened to both cohort of students. Beyond the formal courses taught on campus and in summer field schools, the programs encourage and provide support, financial and other, to graduate students from both programs to work together in research projects and in field activities promoting awareness of the importance to cultivate an appreciation of each other's discipline and to understand the benefits of such "marriage".

Due to the focus of the UCLA Getty Conservation Program on archaeological and ethnographic materials, the majority of the students entering the graduate program come from an archaeological or anthropological background and therefore have quite a strong knowledge of archaeological principles and theories. However, to make sure that all students are at the same level and that they also have the science foundations necessary to become conservators, the program enforces strict criteria for admission. Students with an archaeological background need to have a year worth of two chemistry courses (organic and inorganic) and scientists need to have a year of archaeology and a year of anthropology amongst some other criteria of language and pre program conservation work experience.

Our vision to conservation education follows an iterative approach and we are committed to provide excellence through a variety of teaching and learning modes to enhance comprehension, creative thinking and leadership among our students. For the graduate degree at the UCLA/Getty Conservation Program, students have to complete a very rigorous taught coursework of 106 units within two years consisting of courses in applied science, conservation, ethnography, archaeology, and documentation. They also need to complete an MA thesis and an eleven-month long internship that should combine museum and field activities as well as research.

Our courses that are also open to archaeology and anthropology students offer a variety of experiences to students introducing them to important conservation concepts in the field. Here we see two examples both of which have used experimental simulations in teaching. The one on the left mainly designed for the conservation student aimed to teach them how to record and how to excavate archaeological materials - Actually this work was done at the backyard of the Getty Villa. The exercise was led by archaeologists and

archaeology students. The images on the right show the training of both conservation and archaeology students in triage conservation procedures. Here we see examples of block-lifting in the field. The class also tackled aspects of looting, conflict and disaster mitigation and how students in conservation and archaeology can offer expert training to other professionals, military and humanitarian groups to assist with archaeological preservation in emergency situations. These are two more slides of the block-lifting exercise showing materials and techniques in the field as well as in the lab. Again these are the simulations that we have done at the Getty Villa.

Through our internship program, conservation students are exposed to work side by side with archaeologists and archaeology students, thus enriching their knowledge on the tangible and intangible values of material culture. On the left, we see extreme conservation where students repelled by ropes are rescuing mummified human remains from a cliff in Chile - that was a project that I was co-directing up to 2008. The top right image shows our students working side by side with archaeologists from the LA County Parks and Recreation to record rock art at the Vasquez Rocks Park using special imaging techniques, enhancing the features of the pictoglyphs and the petroglyphs. The image at the bottom right, shows one of our students at the UPenn Museum of Archaeology working on an Egyptian funerary mask.

The involvement of students both from the archaeology and the conservation programs in professors' research groups help develop collaborative activities not only among them but also with the broader student body and academics at the university. In my group, for example, students apply innovative research to analyze archaeological materials within three scientific pursuits: archaeometry, conservation science, and forensics in art and archaeology. In these images here, you see a conservation student examining with forensic lights the Orpheus sculptures at the Getty Villa and at the bottom images, a Sicilian disk with the Head of Medusa dated to 200 BC. The illumination of objects under different lighting conditions can reveal important features of interest to conservators and archaeologists alike.

In this short presentation, I wanted to give you an overview of our program and how we attempt to fulfill the need to educate the next generation of archaeological conservation professionals. I look forward to our discussions that will follow as to how we can better integrate conservation and archaeology in academic curricula, how we can better educate students at the interface of modern concepts of conservation and scientific archaeology in an attempt to understand and preserve evidence of past human life.

**ABP:** Our next speaker will be Christopher Ratté, who will be talking about site conservation in Turkey.

**CHRISTOPHER RATTÉ:** Thank you very much ladies and gentleman. I'm going to overlap a little bit here with Brian. I don't think we'll be repeating each other, and the differences are interesting. I'm going to talk about site conservation at two ancient cities in Turkey, Aphrodisias in the Meander River Basin and then Notion on the Aegean Coast. Aphrodisias was founded in the Hellenistic period and occupied through late antiquity. It's named after the patron goddess Aphrodite, and the local center of that goddess was its major claim to fame. It was never a large city. It had a population of about 15,000 at most, but it was an agricultural and administrative center and its very remoteness from strategic and more important places left it unusually well preserved.

Very substantial excavations in which Brian participated focused on the monumental civic and sacred buildings of the center of town and were carried out under the direction of the Turkish American archaeologist, Kenan Erim, from 1961 to 1990. I supervised a new program of field research from 1993-2005 with the aims of studying and conserving the buildings excavated by Erim. As far as site conservation is concerned, this meant two things, one positive, one negative. On the positive side, it meant capping exposed walls, repairing marble structures, and redesigning circulation through the site so as to make the excavated monuments more accessible to tourists while at the same time protecting them from deterioration. On the negative side, it meant resisting pressure from the Turkish authorities and others to carry out new large-scale excavations and to undertake large-scale reconstruction projects. The map on the left shows the system of tourist paths we created at Aphrodisias in the late 1990's and the early 2000's. Those of you who visited Aphrodisias before this time know that in spite of the site's extraordinary preservation, access to the ancient monuments was in fact very limited. You could walk around the restored gateway to the Sanctuary of Aphrodite, but the actual Temple of Aphrodite was off limits. You could look down on the Agora, but you could not walk through it. The reason these places were closed off was simply that there were no safe pathways through them: no pathways that were both safe for the monuments and safe for the visitors. Monuments needed basic conservation; crumbling walls needed to be capped; unstable elements needed to be stabilized; portable objects such as small architectural fragments needed to be picked up and stored away for safe keeping; and we needed to build stairways down into the excavations, fences around the edges of deep trenches, and clearly sign posted walkways to prevent visitors from getting lost and confused -- and I certainly agree with Frank that the community that was best suited to mediate between the archaeologists on one hand and visitors on the other were the architects and the artists involved.

So to repeat, at Aphrodisias I wanted to avoid large-scale excavation and reconstruction, because I did not think that we should be designing our approach to site presentation or to basic research in order to satisfy what we thought were the expectations, or what the Turkish authorities thought were the expectations, of visitors.

We didn't want to be saying, in other words, that this is what the public thinks archaeology is, so that's what they're going to get. On the contrary, we wanted to inform visitors about what archaeology really is and does. We wanted to offer the casual visitor the opportunity to explore the site in the same way that those of us who work there could, to wander around the ancient buildings, to explore the ancient open spaces. We wanted to help a visitor through signs and explanatory panels to imagine in the same way as archaeologists what these places looked and felt like in antiquity. And we had the luxury of working with a site that had already been extensively excavated and conserved.

So now on to Notion. Notion is a largely unexcavated site where Felipe Rojas of Brown University and I are hoping to start a new archaeological project next summer. Here in contrast to Aphrodisias we are embracing reconstruction and development as essential to the protection of this site, and we are making the production of a site management plan one of the first things we do, rather than something that we turn to once we finish digging. Notion was occupied from the early first millennium BC until the Middle Ages, and it played an important role in the history of the surrounding region in all periods from the Ionian migration to the fall of the Roman Empire; so it's a great laboratory for the study of the Greco Roman city over the long term in Anatolia. Unfortunately, it's also subject to occasional illicit excavation, and the coast both east and west of the site is frequented by smugglers. The first objective of a site management plan is to secure the preservation of the site, but we also hope that it will pave the way for responsible development of its touristic potential in connection with the attractive harbors on both sides of the city. The site occupies these two peninsulas here going back more or less to this point. This is a harbor with a very popular beach to the west, and here to the east is a much smaller cove, which is frequented by pleasure boats that come up the coast from Ephesus.

We're going to develop this site management plan in close consultation with the local community and local authorities including the Jandarma (that is, the state police who are responsible for public security in rural areas that don't have their own police forces) and the Izmir Museum, which has ultimate authority for the site. And it will have the following major foci: security, conservation, access to the site, development of signage and tourist paths and landscaping, and feasibility studies for the restoration of the theatre and other major monuments. -- let me go to the next slide, which is a view looking from the site over the river that divides the site from the beach; one of our projects is to bridge this river and bring visitors to the site from the beach; and here is a view that shows one of the few monuments that has been partially excavated, the Bouleuterion and then in the background the theater. It has to be admitted that reconstruction of the theater is not really likely to add hugely to our knowledge of Greek and Roman architecture. It's the kind of project I would have resisted at Aphrodisias, but I'm embracing it here because it's essential to provide the site with a kind of a signature monument, in order to develop local interest, to



develop a local sense of ownership of the site, and to develop its touristic potential, and that I think is crucial to the long-term preservation of this site.

**ABP:** Our next speaker, Kent Severson, the title of this talk is “A Short Course in Archaeological Conservation at New York University.”

**KENT SEVERSON:** Well it’s good that I followed Chris Ratté, the first person I ever met when I first walked onto an archaeological site to work 30-something years ago was Chris Ratté.

I was introduced to archaeological conservation by Larry Majewski, seen in this photograph here, a long time director of the New York University conservation training program and he took me to Sardis where I worked for two seasons as a student along with Ray Beaubien in ’83 and ’84. He always had an insatiable curiosity about how things were made and what was happening to them. And he always encouraged us to try unfamiliar treatments. He was always upbeat and he was McGivering long before there was a McGiver. And so in working with archaeological training and training students, I’ve always tried to instill the spirit that Larry Majewski left with us. So in 1989, I was asked back by NYU to take over supervision of conservation students in the field, primarily at Sardis but eventually at Samothrace and then at Aphrodisias and I shared these duties with Steve Koob, sometimes overlapping and sometimes working on parallel tracks and it occurred to us that we were repeating ourselves and we were wasting precious field time on things that might be taught in the classroom. So in 2003, at the suggestion of Norbert Baer and Michele Marincola, we put together something like a small field school to help prepare conservation students in advance of their fieldwork. In charged with developing the program, I came up with a short course in archaeological conservation, or as we came to call it the Boot Camp. The course is held at the Conservation Center of the IFA in New York and it consists of one week in the middle of May, squeezed in between finals and departure for the sites. Now as previous speakers have touched on, like archaeology students who have no time for conservation, the conservation students have no time for archaeology and so many of the people that were tapped to go to the sites and work there really had no concept of what archaeology was about, what they might find, how they might deal with it. Participants typically consist of 5 or 6 NYU students from all kinds of specialties, so we’ll have paper conservators and people that are going to specialize in paintings come out to the sites. And actually I always felt that students from other specialties have a lot to gain working on archaeological sites. The program is open to students from other programs like Buffalo and Winterthur and sometimes Boston Museum of Fine Art interns.

In 2010, there were about ten students in the course, half NYU and half others. There’s not much time in a week so topics have to be selected very carefully. I try to make them site specific in dealing with materials of ancient culture in Eastern Mediterranean where most of these students are going which includes, of course, a lot of Roman material. Now the goal of this short course is just to try to get everyone focused on archaeological

materials which are not part of much of NYU's curriculum, unlike UCLA where the whole thing is about this, and this is a big problem in that students were being asked to go out to the sites just cold. So we try to get everyone exposed to some literature through some readings, but what we're really trying to do is prepare students to make decisions about treatments, sometimes independently, based on sound methodology. We're trying to familiarize students with materials they might encounter and treatments they might reasonably accomplish and basically to get students organized so that they can cope with life on site and working with archaeologists. Major tests include Cronyn's *Elements*, Torraca's books are really great, a series of lectures were given. Here you can see one of the very early programs, Steve has always been participating in this and Ray Beaubien and whoever else was around that I could get together. And these are mostly organized by material, glass section, ceramic section, metal section, and then a series of labs using some of the techniques and tools that they might encounter on site. So this course has been delivered every year since inception in 2003. I stopped doing it two years ago when I moved to Hawaii, but it continues to be ably managed by a former participant and NYU graduate, Anna Serota.

So, a typical week includes introductions to the course and to specific sites often with presentations by site directors, Chris Ratté, Jim McCredie, he always came to talk about Samothrace, and this initiated this connection between the archaeologists and the conservators that was very invaluable when on site. And we also introduce some basic tenets of archaeology, what is stratigraphy and how do excavations happen, and characteristics of the burial environment. And for many students this is their first exposure to anything about archaeological excavation so it is extremely valuable.

The ceramics and glass section, often times taught by Steve, Tony Sigel or myself, it's good for students to hear different voices because everybody's got their own kind of angle. Some of the work was done in mockups. A lot of students had never mixed up a bowl of plaster of Paris before. So you can see how this might be very valuable.

This is Ray Beaubien in one of our workshops where she typically gave a section on organic materials including some terrific lifting techniques. And many other things that we taught were immediately put into play in the following weeks when the students went off to sites. We did a section on metals. In a short week there's not much that you can do but it does give us an opportunity to introduce some of the simple analytical techniques, what did Ray call them, low tech analytical techniques which are typically all you have on archaeological sites. We gave students exercises in joining stones, orienting a blind dowel. Many of these students had never run a drill before, they didn't know anything about drill bits. So everything became very valuable. Stone cleaning, power tools, they love the power tools, who doesn't like power tools, right?

A big section on lime technologies because so much of the eastern Mediterranean it's all about lime and things that you do so we spend a lot of time on that and then it comes in handy when working on mosaics and wall paintings.

Finally, at the request of the faculty and the directors of the sites, we talk a lot about life on site, safety issues, but also the idea of a site as teamwork and working with the archaeologists and learning what their needs are and letting them know what the students of conservation needs are, all those things needed to run a project smoothly. So in addition to providing a little background in the literature and getting the students some practice in hands on skills, we hope that we give them enough confidence so if they go to the field and begin to apply abstract conservation methodology in real life situations where their decisions have a profound impact on the survival of artifacts.

Thinking on your feet under less than ideal conditions is probably the most difficult part of archaeological conservation but also one of the most important experiences that students have come away with.

**ABP:** Our next speaker is Elizabeth Pye, "Conservation in Archaeology, Encouraging Engagement."

**ELIZABETH PYE:** I wanted to add to my biography, which is pretty brief in the handout, that I trained initially as an archaeologist and then as a conservator. I spent most of my career at University College London where there's been a conservation lab and conservation teaching alongside archaeology since 1937. In reflecting on this with reference to this particular session, I realized that engagement between archaeologists and conservators for all of the students has actually become less easy to achieve as the bigger the Institute has become, and the more complex each of the subject areas has become. In 1937 all the archaeologists did some conservation and we can't really claim to do that now.

I'm going to talk about the Master's program that we provide and my colleague, John Merkel, who is going to follow me, will talk about the undergraduate course. Our Master's program has developed as a training which has evolved from a certificate to an undergraduate degree and there are now two Master's programs: an MA in Principles of Conservation and an MSc in Conservation for Archaeology and Museums. It's a two-year MSc and includes a ten-month internship. I should emphasize that we don't focus purely on what you would call conventional archaeological material, we range quite widely over museum collections and our focus is on objects, although we do introduce students to the concept of work on sites in general. The MA degree can be taken as a stand alone degree, or as a precursor to the MSc (the MA is a requirement for the MSc). The two degrees together provide a professional training in the practice of conservation and this slide shows two aspects of the training, a seminar on the left and the lab work on the right. One year of lab work is followed by an almost one-year internship, so there's a lot of practice there - the students always complain about being overworked, they're probably right!

We accept students with first degrees in archaeology, anthropology, history of art, but they are also required to take some chemistry as well, and if we accept chemists (and we welcome chemists) they must have some kind of preparation in archaeology or they must have already shown an active interest in archaeology. For those who don't have an archaeological training, we require attendance at one of our first year undergraduate core courses covering key concepts and aspects of practice in archaeology. And whatever their background, for those with no field experience, we encourage participation in an excavation, either as excavator or as conservator, depending on what stage they are at in their training.

This shows a slide of conservation students at Çatalhöyük. I think it's very important that conservators understand the wider archaeological research context and the research questions that the archaeologists are asking about the site so that they actually know how they can contribute information relevant to the project and vice versa. Equally archaeologists need to understand the nature of the service that conservators can provide in support of archaeological research and I would emphasize here, which I think has been touched on already, neither party should consider that providing a service, which is what conservation does, is somehow subservient or implies lack of skill or academic rigor. I know that many of us have experienced this problem. Between 2003 and 2012, I led the conservation team at this very well known Neolithic site Çatalhöyük, we always involved teams of our conservation students, and trained Turkish students as well. I found this a very interesting experience having known about the site since my initial training as an archaeologist. I was excited to be involved and had hoped to work in a very collaborative manner. But I found that it was actually quite difficult to convince the specialists working on, say, animal bone or ceramics of the value of conservation approaches. It was only gradually by showing the ceramics specialists what we could do that they became convinced that by handing their ceramics over to us we would reconstruct them accurately and with conservation grade adhesives. Eventually they became very interested and impressed by what conservation students could achieve. My feeling is that discussion of conservation's contribution to achieving archaeological research happens too infrequently, and perhaps as conservators (and I speak as a conservator), we have not often been successful in communicating the potential of conservation to archaeologists.

My next slide will be very familiar to at least one person in the audience. This is the extraordinary 7<sup>th</sup> -8<sup>th</sup> century Anglo Saxon hoard, the Staffordshire Hoard, discovered by a metal detector user in 2009. This is the subject of the collaborative conservation and research project awarded the AIA Conservation and Heritage Management Award this year (to be presented this evening) for its communication of conservation - through a blog and so on. I sat on one of the specialists' panels, but there were two panels, conservation and research, why not one panel? We did have joint meetings and I think we should have had more joint meetings. However there was a sort of assumption that these were two

completely separate activities. In fact conservation training engenders very important observational skills and a good knowledge of the materials of pre-industrial technologies and the information we can get out of objects is really very important in terms of what conservators can achieve, and contribute to a project. But sadly, very often this type of work is invisible and I want to finish with two slides of another Anglo Saxon site, a 7<sup>th</sup> century Anglo Saxon burial chamber discovered in 2003 in Essex. This is what it looked like during excavation. The involvement of conservators right from the beginning within the excavation meant that it was possible to retrieve, conserve, and interpret all sorts of tiny traces, soil impressions, tiny traces of organic materials, so build up a detailed picture, with the archaeologists, of this as the contents of the burial chamber. Objects are information and conservation maximizes this information and I think it's very important that we're able to communicate that!

I want to make just one final point. I think that as each of these disciplines develops, we tend to talk to ourselves and not to each other, but conservators should talk to archaeologists and vice-versa. We tend to have specialist publications and specialist conferences, but we need to have much more joined up research. I hope that this is the beginning, here, of this kind of engagement.

**ABP:** Our last speaker today is John Merkel. His title is "Undergraduate's Help in Archaeological Conservation."

**JOHN MERKEL:** As you heard from our previous seven speakers, there are many different approaches in trying to provide some conservation training to archaeologists. In the next seven minutes, I will quickly present an overview of our UCL Institute of Archaeology undergraduate course as well as some of the selected syllabus details. I think this is very important because within the framework of the course we do try to address many of these issues in terms of what an archaeologist should do and what a conservator should do as well as the practical aspects of how these activities overlap. So with the Conservation for Archaeologists course at the Institute, it's an option, it's not required. We have some 25 students, this is approximately a quarter or so of the Institute's students. The course is provided with 18 two-hour lectures. And it is a rigorous program. At the Institute of Archaeology, we have 5+ staff members in archaeological conservation and the range of activities and the detail are represented. I think at a very high level for the undergraduates.

Now in this presentation, I've taken it mostly from our course handbook which is online for the students; all the lectures are online as well too. And I've tried to highlight some of the key issues so I have a lot more text on my slides than we'll need right now, but it allows you to read around them if you like as well too as I'm speaking. On the cover of the Course Handbook, these are examples of some of the projects that we've had at the Institute of Archaeology, and as one can imagine, and also from Liz's presentation, we do work on a lot of Anglo Saxon material. The aims of the course really are to present

conservation within its place in archaeological projects, to enable students really to assist with fundamental activities under supervision on excavations. This is important in terms of supervision. We want students to be able to initiate and know what to do and also what they shouldn't do, to avoid some of the mistakes that have taken place before. With practical aspects, the objectives include fundamental ethical principles, an overview of conservation planning and conservation activities. We want students also to be able to assist with first aid on site. There will never be enough conservators to go around, so we think it's very important for our undergraduates to have the ability to initiate lifting projects, for example. The more complicated the project, the more assistance they'll need, but they should be able to initiate the projects with recommended materials. So lifting, consolidation, limited consolidation are all important again along with our recommendations and their experience.

Next, to provide documentation on visual examinations and straightforward condition assessments of artifacts, we want students to be able to recognize active deterioration and know what should be done to remedy the situation.

Next, understanding principles of preventive conservation, environmental monitoring, packaging, so that they can provide advice on long-term storage of archaeological materials.

Now, I want to present quickly the series of lectures. The introduction had been done by Liz Pye for many years, which was very important for setting up the background, introducing students to what happens. This past year Renata Peters and I did the introduction, together. Next, I lectured on the context of burial and excavation. This provided some of the undergraduate-level chemistry that goes along with many of the deterioration processes. Why is some chemistry important? Well, students need to know what to anticipate during excavations of sites from different environments. The chemistry is very straightforward. And the chemistry behind the deterioration processes also serves as an introduction to many other aspects of conservation materials.

Next, we had a condition assessment lecture by Renata Peters, then another staff member, James Hales, did consolidating, lifting, handling. I did a practical session on lifting with the students. Next, we include conservation of archaeological sites. Tim Williams presented this topic, again another specialist at the Institute. He did a survey through two hours on what's been done on sites, including some of the priorities and successes. I sit in on all of these, so I also get a very good first year education in conservation; year after year.

The next lecture is conservation on excavations as well as conservation lab work. This again investigates that interface between what students should do/can do on site, and when they need a conservator.

The next lecture on packaging and transport, is presented by James Hales, again. Preventive conservation and use of some of the equipment for monitoring environment are covered. And finally, at the end of the first term, I do a lecture on chemistry in conservation

and long-term analytical options. Some conservation techniques will affect analytical data, so it's important that students know what these principles are and what they should be concerned about, for example, consolidation. How does consolidation, for example, affect radiocarbon dating, as well as other studies on organic materials.

I think is very important for undergraduate conservation students to have some sense of the history of conservation. I remember as a science student I was always wondering what have the conservators done to an object. Why does it look the way it does? Having worked in a number of museums, very often technical studies are about unraveling the past conservation before even attempting to understand the ancient technology. Therefore, we start the second term with conservation of ceramics and glass. We have a practical session on ceramics; reassembling flowerpots with conservation adhesives. Dean Sully teaches conservation of organic materials. On stone and mosaics, we had Tracy Sweek from the British Museum lecture. Later in the term, we had visits over to see what she was doing at the British Museum as well as visiting other departments at the British Museum. We also have a visit to conservation at the Museum of London. The two museum visits are actually very important because they give the students a chance to see professionals at work. The undergraduate archaeology students are also invited into our MSc conservation laboratory to see what's going on. We also include lectures on museums and collections. Dean Sully lectures on these topics. Kathy Tubb then covers conservation and the trade in antiquities. And finally we have a review at the end of the academic term and a session on final examination and preparation. The workload, you can see is 36 hours of lectures as well as tutorials, practical's, and visits. Included for coursework, we have two essays as well as a final exam.

I thought you might want to see a few of the essay options. This is an interesting one on the list: write a report on conservation undertaking for one or more excavations. This essay would include interviewing several excavation directors or senior members on staffed on excavations and then assess what some of the conservation priorities were for a project. With the second essay, we've started introducing how has conservation contributed to the display as well as one's understanding of an object; also using online databases the British Museum. Students start investigating conservation histories, the biography of objects. This essay topic has been very popular with the students.

There is a final 3-hour written examination, which I think is actually very important, and students get to select three of six questions to answer. One, for example, "why is the knowledge of ancient technology advantageous for conservation"? And they get to write for about an hour on each of the three questions in an exam. The other questions are quite challenging, too.

These were the key points to summarize from the syllabus. I wanted to really emphasize what we think is important for the undergraduates in conservation for archaeologists. This is quite different from our Master's training. As I mentioned before,

there are never going to be enough conservators available, so archaeology students in this course develop appropriate conservation skills and understand relevant conservation activities on site. There are a number of different solutions or ways to teach conservation for archaeologists. To summarize again, as noted before, some conservation training may be useful to students in archaeology. This presentation is just one of our approaches to archaeological conservation and how we deal with teaching for undergraduate archaeology students at UCL Institute of Archaeology.



## Appendix B

### Transcript of the panel discussion

**ABP:** Thank you all panelists for your wonderful talks. Now we're going to go right into a discussion session and I think we'll have John, do you mind moderating the beginning of it? John will moderate and we'll have a few questions from the audience before we get into more nitty gritty topics.

**JM:** Now there are many ways we can approach this discussion in terms of specific issues, but I think let's just start with questions from the audience. You may ask any of the panelists, direct your question to one panelist or just as a group and if we decide to speak up on something, please join in and make your point for the answers, too. So, first questions please, anyone.

**LISA FENTRESS:** I'm President of International Association of Classical Archaeology (AIAC) and I run a website called Fastionline which reports on archaeological excavations. We now are in collaboration with ICCROM and Stefano De Caro is starting in collaboration with the site of Fasti, Fasti conservation, which is going to include GIS short reports of conservation throughout the Mediterranean. And there will be a journal that goes with Fasti conservation which is looking for reports, interim reports, methodological articles. It's just starting out but keep your eyes peeled and please, I hope that all the conservationists in the room will participate and think about this opportunity.

**ABP:** Can you spell that for us please.

**LISA FENTRESS:** <http://www.fastionline.org/> and the idea really is to blend archaeology and conservation through the two maps that will be superimposed, red will be digging and blue will be conservation.

**EP:** Can I follow up on that? I think this is an excellent venture and if I had time I would also have said that I think we need some joint publication, we need some good case studies to show how conservation and archaeology have worked together and can each benefit. And this is going in that sort of direction.

**JM:** In the syllabus, we're concerned that if one new topic goes in, something else often has to come out. So we do feel there's some competition between many of these specialisms within the UCL Institute of Archaeology, too. And, one of the key points is deciding where does conservation fit?

**BR:** I have a question for Kent.

**KATHARYN HANSON:** I was just going to add, my name is Katharyn Hanson, I'm at the Iraqi Institute for the Conservation of Antiquities and Heritage and I run the archaeological site preservation program there. I just started this past April. My

question or encouragement to everyone on the panel, it has been excellent and amazing, and as you continue to do this discussion, I just want to encourage you to think about including professional archaeologists, local professional archaeologists. We teach Iraqis who work for the Kurdish regional government and we teach folks who work for the state department of antiquities and heritage of Baghdad and that has been very productive. I just want to encourage you to work with some of the local professionals too.

**FM:** I think the task for us was very specific about academic higher education training. But I think the point is that we have to fix the problem now which is getting to current practicing professionals. We have to be proactive and change the way sites are run and that includes students who today will appreciate and understand the value of conservation before they become site directors. No conservator will become a site director for an archaeological site but an archaeologist will and they need to get some of that understanding and knowledge and vice versa, as has been said, and I don't actually know how successful that has been for conservation students to have appropriate courses in theory and method of archaeology. It is critical.

**ABP:** So that's the main interest today, we'd really like to hear from you panelists with your expertise and so many years of experience, in your experience what do you find lacking in knowledge of the conservator, for example, and vice versa, conservators, what do you find lacking, what aspects would you focus on, what would you recommend? You archaeologists, what do you find lacking in the conservators when they're working with you? They may be lacking in knowledge of excavation technique, surveying techniques, or perhaps they're perfect and they're not lacking in any knowledge. We'd like to hear from the conservators as well.

**FM:** Could we get a sense of who's in the audience? How many archaeologists are here? How many conservators? How many other? It's a good mix, a very good mix. Thank you.

**JM:** Who'd like to respond to these questions?

**BR:** You asked about excavation technique. The conservators are often better diggers than we are because obviously the conservators are more sensitive to what can be damaged. So I've had great success working with conservators from day 1, as you will have seen, and I should have worked with them from day 1 and I did not but I would say it's essential for archaeologists and conservators to meet before the season gets underway, certainly before the project gets underway because the conservators need to understand what our goals are, what our objectives are and often those are tied to the goals and objectives of the Ministry of Culture and Tourism. So there are some things that a conservator might want to do that we just can't do because we're dealing with a larger stratum of administration that they might not know about or understand unless we explain it to them. So you

need to have a common set of priorities at the beginning of every season and I think that's something we fall down on from time to time.

**IK:** I have had great experience with archaeology students at UCLA but what they whispered just a minute ago was that we need to enforce the archaeologist to take conservation courses. I have to say again that we had many archaeologists who took conservation courses, both to do practical conservation especially these ones that are very interactive, that they have to do with actual field conservation methods, and even scientific oriented ones that we cross list with engineering students because they wanted to understand the materiality of the objects. But I still feel that maybe in their curriculum apart from Archaeology Core 1, 2, 3 that we have at UCLA that they should also have to take one conservation course.

**ABP:** That was one of my main questions. How do we go about making some of these courses obligatory? It's certainly not up to the individual, it's up to the various departments to agree that it's necessary enough to make it an obligatory course.

**FM:** Well Brian made the comment that there's already so much that a graduate student needs to take, including the ancient languages, in terms of classical archaeology. It's all a negotiation and you know what that's like at a faculty meeting or a curriculum committee meeting. What it suggests to me and it is maybe a point to talk about which is the School of Design where I teach has voiced the mantra of interdisciplinarity since its founding in the 1890's. Architecture with studio art with landscape was with planning. These in other places are complete separate and disparate programs outside of a single school. So we talk about it a lot, we think about it a lot, but the reality is that when it comes time to bartering for actual courses in the curriculum, it's really, really difficult and so we have talked a lot about and have actually implemented what is the new pedagogy in the United States which are dual degrees. Now people are racking up several Master's in the space of one and a half times what it would take for two separate degrees. So the question is there actually a difference if an archaeologist trains an archaeologist and takes a course in conservation or does some kind of postgraduate training, or is that different from if that training is embedded in their training to becoming an archaeologist. I think there is a difference actually. And it gets to the point made before which is it's too late for some but not for current students.

**MAN:** So which do you prefer and why?

**FM:** I think the model of an embedded is better but the problem is, I'll get to the why in a minute, but the problem is timing. We're grappling with this at Penn right now. However, I have to say the experiment of the course I just taught, we had six PhD anthro archaeology students in the course so it is possible. Why is it better? Because it develops better critical thinking.

**BR:** Kent, at NYU, did you have archaeologists from the IFA or Chris could answer this too, did you have archaeologists from the IFA who were taking any courses at the conservation center which is admittedly across the street and would they have been welcome to your intensive week long pre excavation season course and did any of them take advantage of that?

**KS:** They never did. We've never had an archaeology student take the conservation course and they would have been welcome I think. As far as I'm concerned they would have been very welcome. One of the things, they never took the short course, but they do take courses during regular term time at the conservation center. NYU sponsored a symposium some years ago at Abu Dhabi that was kind of similar in topic and I talked about this short course that we'd be giving and one of my colleagues in the back said how dare you suggest that one week of training is sufficient. And you have to understand, the one week that we do is not just that one week, it's part of the greater program that the conservation students have which involves a lot of chemistry and then many of the things that have been mentioned and described in these other things, it's really just a way and really kind of a stopgap, I don't think it's the solution but it's a way of at least doing something and I've always felt that something is better than nothing. So getting conservation students up to speed with archaeologists is very useful. I think actually ultimately archaeology students and conservation students have to take classes together, we have to have some courses in common.

**JM:** We have tried to embed the conservation in the undergraduate degree. We do have one or two students that do continue and go into the MA sequence.

**KS:** But the thing is that the people that you meet in graduate school are the people that you're with for the rest of your career and so if you can get these two professions to connect early on I think that's really going to be part of the greater solution.

**JP:** Yeah, I'd like to add to this a little bit because I think, Brian made the point very well that to become an archaeologist and to get a PhD in archaeology, typically in the Mediterranean, you have to take two ancient languages, pass exams in two modern languages, and then also now, according to Frank, do an MA in conservation and I think this binary, and do it in three years and go out and get a job and I think this binary situation is really I think a little bit too, how can I say, constricted inasmuch as that many archaeological projects now are based not on excavation and they're not based on big Mediterranean sites, we're looking much more at geophysics, geomorphology, and also environmental studies. And in those types of projects, conservation is an important part, site presentation is still a very important issue, but it's not as important as the types of sites we've really been focusing on. So archaeology is not just the big site. And as chair of the archaeology IDP at UCLA, I had to read the riot act to our students like two modern languages,

two ancient languages, do this, do that, you've got to take anthropology, we've got built into the system lab courses. I mean it gets to the point where how long is this degree going to be?

**FM:** Sorry, John, just to correct a point. I think you misunderstood what I said. I said that I thought it was necessary for a student of archaeology to take a course in conservation, not another degree. I think one of the problems we often face is trying to find one course that satisfies all the needs. I think there are courses, as the UCL program suggests, there are courses for heritage managers, there are courses for conservators, there are courses for archaeologists. They're all on conservation but they understand there are different knowledge skill sets for each of those three categories of professional expert and I think we get into big trouble, there are also training programs for technicians and Tom can speak to this with respect to the mosaics work that they've been doing, training they've been doing. I think we get in a muddle when we confuse it. And I think partly this has been a problem for conservators who don't have certification, who don't have licensing, who really need to get their act together to be taken seriously as a discrete field and profession.

**TOM ROBY:** I'll follow a comment. Tom Roby of the Getty Conservation Institute. The question for the conservators and their training. When we talk about archaeological conservation in the past, traditionally it's been really more objects focused, artifact focused and Brian you mentioned that in the beginning the first conservators were art objects oriented ones and then you started to deal with all those sites and so then you had archaeological conservators. My question is whether you think we should expand our training in archaeological conservation so that it includes more of a focus on sites or is it something that should be kept more as a separate discipline?

**BR:** You ideally want to do it all. I was going to say John's comment about the semester not being long enough or the academic year not being appropriate for all the courses that we need to take, that's why I would advocate more some special summer courses that are intensive courses in conservation. I don't know, but if you had one of those and it lasted for three weeks, not longer so the person in question could go out into the field to a field project that he or she would have to do in order to satisfy the requirements of the program, could you do both, the fundamentals of object conservation and site conservation in three weeks? That would depend on Frank.

**FM:** There is no rushing maturity of thought.

**KS:** I can say that when Norbert Baer and Michele Marincola suggested that we put together this short course, Norbert had like stars in his eyes. We're going to have this field school thing where we can do two weeks or three weeks at NYU and then we go off to one of the many sites that are associated with NYU or others for

that matter. And it was going to be this much grander thing but we could never find money to pay for it.

**EP:** Can I come back to the question of embedding. I think that's really important. I think it's difficult in practice but until conservation is embedded, it may still be this thing that's an option or is the subject of a kind of additional training, not part of the original concept of archaeology. And I said at the beginning that I trained initially as an archaeologist and then became a conservator. I still think of myself as an archaeologist but an archaeologist with expertise in conservation and I think it could work the other way. I think that is very important. The business of somehow stopping separate, it actually saddens me enormously because so much can be gained by proper engagement.

**STEVE KOOB:** As you know I started out the same way and I got a Master's degree in classical archaeology. I was a PhD dropout for those of you who are thinking of alternate careers. And certainly it prepared me extremely well for going into archaeological conservation. Now the program that we took back then was a three-year program. It was very different, it was a BA program or BSc program, they have shortened it now to these two different types of Masters programs, but it was also called Conservation of Archaeological Materials in materials science. And that's a fascinating term because materials science is definitely really interesting to archaeologists as well as conservators. Knowing how materials behave and deteriorate and preserve, it's very complex but it's a fascinating thing that we emphasized in all the courses that we took. And I think it prepares you so well for going out in the field and working in either respect.

**ABP:** Maybe that's the key link. If we could have all the programs include material science we would automatically be talking about conservation as well.

**IK:** Our course is definitely very science oriented but the conservation students can take these courses because they have the science background because it's required. The archaeologists, some of them do have double majors, we get often students with physics or chemistry and anthropology but not all. So for them it can be more challenging because we don't start from the beginning what is the atom, we just go to applied science, assuming that everybody has some sort of understanding. This year, however, we changed the curriculum at UCLA and we introduced a class "Science Fundamentals" and something like that could be taken by archaeologists too and they can build with a little bit more extra work, the necessary background that they can follow any of the other courses effortlessly. And I don't know, John, I was thinking that our system at UCLA, since the archaeology students are required to take lab courses, maybe we should say one of them should be conservation.

**JP:** We can certainly do that.

**ABP:** Now that we have you together!

**JM:** I was going to say the way we tried to resolve that at the Institute was we had a chemistry course for archaeology of conservation but there's no lab component to it. We've been talking about adding a lab component to that class, especially for health and safety if nothing else. To respond to Brian's point earlier, it's the manual skills that are so slow to develop than the knowledge so, for example, in the MSC for the conservation training, students will work on some ten objects but across the whole year and this is very important, building up that confidence and the experience of talking with all the staff about what's important and trying to link that, internalize that, and decide what their discussions are and how to justify them.

**EP:** I just wanted to come back to the material science issue and I am convinced that even if you don't have a scientific background what we could be doing is demonstrating the potential, what can we learn by using scientific techniques, we don't have to teach people how to do it, we can show that by application of these techniques you can learn a huge amount about materials, technologies and so on and, after all, in many professions there are individual specialisms, they don't all try to do each other's jobs and perhaps that's a problem here, that we can't all be conservators and archaeologists, and material scientists. But we need to really show how those can all work together well and what they can each contribute.

**LAURA CONGER:** I'm a recent graduate from MSC in archaeological materials and material science from UCL as well as the University of Minnesota so I've been on both sides of all this conversation that's going on and what are your thoughts about doing something at an even earlier level, almost all archaeological students whether they're undergraduate or graduate are required to take field school. In the field work, which would include a little bit about rescue conservation to apply in the field but also doing some post ex work as well. Once you bring objects back to the institute that you're associated with, what you do with them then and that would be more of the conservation in the lab. Can you talk on that?

**ABP:** That sounds like a great idea to me.

**JP:** The training at the undergraduate level is certainly the way to go. One of the biggest problems, however, with this country is that the United States is one of the few places, with the possible exception of Boston University, there are no departments of archaeology. So you either have to become a forefield anthropologist, you have to be either a classicist or a near Eastern archaeologist, that involves Near Eastern languages as well, or whatever. So we don't have that luxury that you all have at UCL where archaeology is something that's taught at the undergraduate level. We just don't have that. And so we're actually forced to have this training when it's perhaps too late at the graduate level. We don't have a choice. I think it would be great to have undergraduate courses that include, together with

anthropology and archaeology, that include a conservation component, but we don't have that luxury.

**IK:** I think for us in the US, the only way to do that is through field schools.

**ABP:** Introduce conservation components into the field schools. Is anybody doing that now? You may be the only one.

**LEE ANN GORDON:** I work at a field school at the **Athienou Archaeological Project** (AAP) on Cyprus that has been going on for over 20 years where we always introduce a conservation component. As in the Athenian Agora where there is a conservation component to the training. At AAP the students have a special lecture and they all spend one to two days in the lab learning about conservation procedures and philosophy and things like that. It's not great but it's something.

**LISA FENTRESS:** I was thinking that I have done a course for conservators, professional conservators who are loathe to take on students as well as the work. And I have had great success both at Cosa and now at Utica with having a conservator on site taking 3 or 4 students at a time for mosaics conservation. This is great. But I think that conservators have to be slightly more open to the idea that just as no archaeological project should be done without student volunteers, the conservation of mosaics and wall plaster can be done also as teaching.

**JP:** I would not invite a conservator to my project if that conservator was not taking students.

**FM:** The problem is thinking about the obligations that conservator has to the work, to the site, to the objects, to the heritage of that place. It's a full time job to train so if you're responsible for doing conservation for the site director and for the site to take on training then means that there has to be some understanding that half the amount of work will occur because the other half of the time will be spent in training. And I think this is where conservation training gets into very big trouble and I would even say that all the examples, every time I hear someone say well we have conservation training on our site, and I assume in your case you meant conservators were coming or did you mean archaeologists were coming to experience conservation? So you had conservation students coming?

**LEE ANN GORDON:** No, they were undergraduate archaeologists who were getting an overview of what conservation involves.

**FM:** OK, good, I'm glad.

**JP:** That's what most field schools are.

**LEE ANN GORDON:** But it is exactly what you're saying. I'm the sole conservator there and it takes a huge amount of my time so it is something that was difficult, I think that the directors thought they were going to get more work done. So there's a discussion, that's not the scenario.

**FM:** And remember, I did say in my presentation that I think you should not run a project without training and research, or some research component. But to



the point I was going to make which is I think one of the messages that archaeologists walk away with when they only see conservation in the field is it's a group of plumbers. And I don't think they really get the opportunity to talk about the theoretical, the research questions, the theory behind, the long history of conservation. That takes place in the classroom. You can try to do it in the field but the field, as Cap Sease said, planning is the difference between a disaster and a bad day. You have no time to really indulge in some of the things. I mean what Chris presented today I felt was, I was expecting some reaction. I think it's very provocative. I won't tip my hand which way I think one way or the other but the idea of justifying excavation for the greater good of the sustainability of the site, I think that's very progressive thinking but I suspect there might be some differences of opinion on that because we've been talking very much now, we haven't gotten our heads out of the trenches. The question that often comes up in the last few years at Gordion and many sites lately, I'm surprised the archaeologists here haven't mentioned, is how much more responsibility does an archaeologist need to take regarding the obligations to the local community, to the environment, to single handedly archaeology is looked at as raising the gross national product of any country. It really is getting incredibly complicated in terms of satisfying stakeholders, being responsible for economic development, so on and so forth. These are things I think are part of any kind of conservation heritage training. They rarely get discussed in the field.

**EP:** I completely agree. I think the emphasis in the field in terms of conservation of objects is getting the objects out safely and making them safe as it were. But as you say, there isn't really any chance to discuss the wider discipline of conservation, the philosophical and ethical aspects. And that's largely invisible so again that means that we're not getting enough interaction.

**IK:** I would disagree. It depends how the field school is set. If it's an archaeological field school that has ...

**WOMAN:** I'm sorry, I'm not talking about a field school, I'm just talking about practice in the field.

**WOMAN:** I think because I experienced that when I was codirecting this project in Chile we had an archaeological field school but we had also in a parallel conservation field school so in order to do a field school, it's like an 8-12 unit course, it has to have its own intellectual research merit. So once you structure that for conservation, you're able to provide the theory of conservation or the things that normally you won't be able to do in the field but if you're in an archaeological field school and you are the sole conservator and you have to train the archaeology students within that realm that they have to do their theoretical thing for the archaeological site, then yes, it becomes conservation for plumbers. But if it's a conservation school per se, it gives that possibility to give them that reading

material to devote the time, even if you're in the field to still benefit, I'm not saying it substitutes what you can do in the academic year, but I think you can make a best start of it, if it's a dedicated field school for conservation. And students can be archaeologists obviously because that's the target group, so then they can apply but then they will learn about conservation principles and methods.

**FM:** Sure, but I suspect the more typical case is most archaeologists experience conservation in the field with a single conservator and perhaps a group of students and getting back to the point of the session today, which is how are we going to change things, I think we change them by bringing them back to education where they are instilled at an earlier, sooner embedded system.

**MAN:** from Birmingham Museum: I do think it's really important that we publish with the archaeologists, I know this has been brought up, we are the first ones to be culled out of any publication, I can count on three fingers how many publications, an archaeological journal and I think there's a big difference. I was trained as an archaeologist and then moved into conservation. There's a difference of language that we use as well, which often has barriers between the two of us. I think it is problematic. I've seen archaeologists and conservators who have conversations where they clearly walked away going I have no idea what that person was talking about. Only through publication and being seen as equal specialists as well along with the ceramicists and the bone experts that we can achieve them.

**FM:** I nearly fell over when Harter asked us to contribute essays to the first series of monographs that came out on the reopening of that excavation.

**BR:** I would have said that it's getting more and more common jointly authored publications with archaeologists and conservators working hand in hand. Certainly we've always done this at Troy and we're not by any means unique so you're right it's not happening with the rapidity with which it should happen but I think it's becoming a lot more common than ever before.

**ANNA SEROTA:** Ann Serota from the Metropolitan Museum of Art. I think an interesting area of intersection of conservation goals and archaeologists' goals we're seeing in the advent of new digital technology and the implementation of new imaging techniques and things like this to our work. You see both conservators and archaeologists doing things with photogrammetry and RTI and multispectral imaging and in my opinion that might be a fruitful way to bring people together. I'm currently helping to co-plan a course at NYU for conservation students, IFA students and Columbia historic preservation students on the integration of new digital technology into our work flow and I'm wondering if anyone has any thoughts on this, on the utility of this, what might be included and if this type of course may answer some of these problems.

**ABP:** Ioanna are you planning a similar course?

**IK:** I have one.

**FM:** We have one as well.

**MARC WALTON:** I love this analogy of plumbing because if you're buying a house who the hell cares about your plumbing inside your house, you just walk in and use it. So having the conservators just do the plumbing of the site, an archaeologist will never care about that sort of thing. But the power of conservation, and I speak as someone who has trained as a conservator, I abandoned it and became a material scientist, is that it has an interpretive ability and that interpretive ability to put an object in context, to understand it deeper, is something that an archaeologist can really use. So the actual looking at the object is in the real house of the conservator, so I'm wondering how do you integrate that looking, that analysis, the disciplines in conservation into the laboratory, integrate them back into the academic field.

**ABP:** That's a really good question. I've been struggling with that one my whole career.

**EP:** Can I comment on that? It goes back to a comment earlier about having a real discussion right at the beginning of the project about what are the aims of the project and including the conservators at that stage and for me the most interesting project I worked on was a project in Spain working on wall plaster and the archaeologist said I want to know whether this wall plaster is thoroughly Roman, this was an apparently Roman site, or is it actually very much influenced by local practice. In other words, he was asking the question how Roman was this Roman site and for me that was a really interesting question. And I was included right in the beginning with the other conservators I was working with and we had this focus, when conserving this wall plaster we needed to try and answer this question. And that to me is what it should all be about.

**JP:** But I think Marc's comment is, where is the division between a conservator and a material scientist because in many projects we do have ceramics specialists who are doing all sorts of analysis like petrographic analysis, we have all sorts of metallurgical specialists who are doing metallography on metal objects. And these specialists are part and parcel of the project from the very beginning. So I think that's actually happening. I don't think that's something that is a problem to be brought back into the field. I'm not sure if you need a conservator to do that. That's a material scientist and that's why we have, I mean in this new project in Greece, just to publish old material from the site we had 26 different specialists. And they're there from the beginning. And a conservator, our conservator, Vanessa, was involved in at least 3 or 4 of those projects.

**FM:** Conservation embraces many of the scientific tools to answer its own set of questions but it's precisely at the beginning when archaeology comes clean on its research agenda, conservation can suggest where those research questions might be

aided or shared in terms of their own and then you can get some really interesting things happening. If we were at a conference on conservation science, I think there would be some objection to suggesting that a material scientist actually does petrographic analysis of ceramic objects. I think one would say no, a petrographer does, not a material scientist. A specialist in that field. And very often archaeologists become petrographers to study the very questions they want to know. So I think we run the risk in many areas of specialization when we generalize it. It's true, the primary objective of conservation is to prolong the life of the thing, of the object, of the place, there are many ways to get there. I would think archaeometry is one of the great common spaces, common ground that archaeologists and conservators could share but not all conservation is archaeometry and not all archaeology is archaeometry.

**JM:** That's another important gap. For example, at the archaeometry conferences there is very little conservation in that as well too.

**FM:** For good reason. They're not trained as conservators.

**JM:** But there are overlapping interests. For example, with metals, understanding metals, understanding deterioration, that's all again part of understanding the technology and that ties in with the reconstruction, interpretation of debris from a site. So I very much agree with that point.

**JM:** With all the new analytical techniques that are out and available, scanning, the new smaller portable units for XRF and XRD in the field, I think this is going to be another area where again there are conservation problems that can be answered as well as the archaeometry questions that could be answered with the same equipment.

**ABP:** What about making a brief list of all the major points we've touched upon so far in this workshop? I'm going to write them down. So let's summarize some of the suggestions, recommendations that we've been making so far. One was to introduce conservation into the field schools, that's one I have down, what were some of the other recommendations?

**BR:** Well I was recommending a special skills conservation course, an intensive conservation course for archaeologists in the summer, possibly three weeks long or something of that sort. Of which there could be many. One wouldn't be sufficient.

**TOM ROBY:** What would you think would be a good focus for that training? Would it be more knowledge of materials and behavior of let's say soils and landscape or would it also include something like also conservation planning. I mention that because it often is a type of course that we're doing for site directors around the Mediterranean.

**BR:** I think that would be more valuable, the latter, conservation planning because that's the sort of thing that many of us still, we've now gone some distance

in our fields but many graduate students still are not getting this in the course of their graduate education and so doing something like that over the course of 2 or 3 weeks I think would be indispensable.

**IK:** One of the courses we offer at UCLA which is the most popular among archaeologists is issues in the preservation and management of archaeological and cultural sites. And it's extremely popular among archaeologists.

**JP:** And that's a 10-week course.

**IK:** It speaks about the planning, the issues, the preservation in the long-term. It's elective but we have many archaeology students that take this class together with the conservation students which is really nice.

**WOMAN:** That sounds really valuable because it sounds like it includes that kind of site-side focus.

**IK:** And it's a seminar so students can discuss, have ideas, and then they have to make, actually Charlie gave a lecture about that and I think the students really appreciate that and then they learn and they have to develop their own projects and have to give a presentation first and identify the significance and values of sites and then a second presentation of what are the recommendations for sustainable preservation for the site.

**FM:** I think it's really interesting that up until this moment I think when the word conservation was used most assumed it was material focused and driven and that is in fact not the definition nor really does that define the field. But I think that's the reality and the perception on an archaeological site. And even if you choose to ignore the site and the implications and responsibilities of digging that site, if you even just think of an object there are responsibilities that embrace everything from pre-planning to preventive conservation which includes environment, the outcome, the fate, the interpretation, who owns it, all of those things are part of what we just defined but yet we have been so fixated, and I think this is the history of our problem, we've been so fixated on the materiality and what we do to a thing that we've completely shot ourselves in the foot. And the field doesn't define itself that way anymore.

**JP:** Marc's point is actually an important one because I think business management, and in some cases international law, is just as important as material science in the training of an archaeologist.

**EP:** Can I just say that's why we introduced an MA in principles of conservation, now that's not aimed specifically at archaeologists but it's to bring in all these things, the much larger picture as you were saying. And also I would add we have a companion MA which can be taken as an option in site conservation with all the management and so on issues. The whole of the subject area has expanded so much and that again makes it very complicated to allow everybody to get a bit of everything.

**ABP:** I came into this workshop today thinking that it would be more of a 50/50 split down the middle, viewing problems on both sides of the fence. We seem to be concentrating primarily on introducing conservation to the archaeologist and not vice versa so perhaps conservators are getting plenty of archaeology training and they're not lacking in knowledge they need to work with the archaeologist overall. It sounds like the conservation students at UCLA and UCL, if they don't already have knowledge of archaeology, then they have to acquire it during the program. Is this the case?

**EP:** At an earlier stage in the discussion I was going to say that I think some conservators haven't had enough experience of working as conservators on site, they may have an archaeological background, but I think it's rather different that they need to keep in mind the aims of the excavation and not hold up the excavation for days on end while doing a complicated conservation process. The team working is essential.

**JP:** And the other thing that we have not really discussed is that the professional big funded dig is the exception, it's not the rule. In most countries it's rescue excavation and that's most of the archaeology in most countries of origin and there you've got landowners, bulldozers breathing down the throat and that creates a whole different thing. Forget the conservation. It becomes this incredible pressure and how do we come to grips with that? That's the reality.

**KS:** At the moment you say forget the conservation, that's where you say OK, how can we best use our knowledge of materials and things to save as much as we possibly can and those of my generation we're laboring under a lot of bad attitude toward conservators by archaeologists because there are many generations of conservators who say no you can't do that, this is going to take six months. As soon as a conservator says something like that then they're out of the dialogue. They've excused themselves from the room. And I think what conservators, we have a little catching up to do still, but making sure that what we recommend is practical and what we recommend fits and suits the site and suits the needs of the archaeologists. It's all about getting that communication going between archaeologists and conservators, especially early on.

**ABP:** From the very beginning.

**KS:** I had the opportunity a few years ago, a small opportunity, to teach courses at Bilkent University, it's an English language university in Ankara, Turkey, to teach conservation to archaeology undergrads, 14 weeks. This is good. And the other one that I got to do, and imagine such a thing, I was teaching a kind of introduction to archaeometry, it was like science and archaeology to mix science students and archaeology students. We have both in the same class at the same time. You can do this and you kind of have to dumb certain things down.

**JP:** But you can do it in Turkey where there are archaeology courses. This was my point. And that's really in all of Europe and in the rest of the English speaking world, that is reality. There are archaeology departments.

**STEVE KOOB:** What's the holdup that prevents it from being introduced into an art history department? I don't see the necessity that you have to have an undergraduate degree in archaeology to provide courses like this or even conservation courses. I mean, it should be available for others.

**WOMAN:** A thought on the undergraduate experience. I am currently a law student at De Paul University but I had my undergraduate in classics and archaeology experience in two summers and I'm curious, I don't know if institutionally it's difficult, but for a graduate program you have these requirements for languages in art history, is it possible to include science courses in the future to try and start this institutional change and some knowledge at least on conservation and material sciences.

**FM:** So add that as part of the graduate training?

**WOMAN:** Well require it for undergraduate program as opposed to trying to shove that into your graduate degree since you have so little time, make that part of the undergraduate experience. Med students have certain courses they know they have to meet to get into medical school. Perhaps try something similar where, it would take time, but change the admission requirements for certain graduate programs. Say we'd like to see some of this also so that you've got perhaps some foundation as opposed to trying to compensate later on down the road, early on in their education.

**FM:** You're talking about for archaeologists or for conservators?

**WOMAN:** Perhaps both.

**FM:** Well conservators already have prerequisites. That's an old requirement.

**WOMAN:** Yeah, for archaeologists.

**JP:** Archaeologists also have prerequisites, I'm sorry. It's not as if they don't. In fact I'm glad you mentioned De Paul because I think one of the really great people there is Patty Gerstonblith and the sort of things that she represents in terms of legal avocation. I mean Nancy could probably speak to that as a past president of the AIA, so could Brian more than others that this is in fact such an important component of saving archaeological sites and landscapes.

**FM:** And it's just as important as conservation I would say and equally complex.

**JP:** And that's why I'm saying it's not a binary thing between archaeology and conservation. It involves much more than that.

**WOMAN:** I would argue that the definition of what is an archaeologist has to change. That we have to have a much broader based education. You mentioned

business school, once you get to the point of managing these projects, what background do archaeologists have in fundraising, in managing?

**JP:** None! You develop it.

**WOMAN:** You have lots of background in being able to tell Late Helladic 3B from Late Helladic 3C.

**JP:** But if you don't raise the megabucks, you're not going to go anywhere.

**WOMAN:** That's right. So maybe we need to be thinking about what is the training that someone who wants to be the director of an archaeological project needs as opposed to the archaeologist who is actually working hands-on on the site on a day to day basis. Because I think we've reached the point where we're all at the Peter Principle, we've reached the highest level of our competence and trying to do the best we can by, we all have little bits of knowledge of conservation and geomorphology, of the law, all of these things but none of us were ever trained in that. We are trying to learn it on the job.

**CHRIS RATTÉ:** I just wanted to say (and it pains me to say this), but I think one of the answers is that archaeologists have to relinquish some authority. Now that we all embrace the idea of site management, now that we all embrace involvement of local stakeholders and so on, the old fashioned idea that the director is the king and master of all trades and so on at the site, it's just not possible. So as Frank was saying, there's just got to be more in the way of sharing authority with the people who have these different kinds of expertise.

**WOMAN:** But you have to have the vocabulary first so that you can have the conversation and until you get that vocabulary you can't even talk to a geologist because they have no clue what you're talking about and you might not understand what they're talking about, for example. So where in our academic curriculum do we provide that kind of interface and that kind of training? I don't see it happening in most of the programs in the US.

**WOMAN:** My Master's program starts in August in Greece next year in heritage management. So I wonder has heritage management held us between the two subjects to bridge them again. We talk about art courses to fit into historical studies???

**JP:** Which program in Greece?

**WOMAN:** It's a new program, it's been around four years, it's a joint venture between the Athens University Economic and Business and the University of Kent which is their archaeology programs. And everything that I hear from you guys is everything a heritage manager would focus on to a point.

**FM:** Well the program that you say is relatively new is just one of hundreds that reflect this shift in terms of what's going on. Now the problem is heritage is a very big category. The old paradigm is to manage something you have to know the something. So it assumed that if you were an archaeologist you could manage



archaeological sites. We now know that that's not necessarily true. I actually still believe, I do believe to manage something well it would be a good idea to know about that thing. But there are many programs and there's an argument to be made that management is not an innate ability, it's something that can be learned and knowing all the parts that go into it are something that can be learned as well. So the thing is heritage is such a nebulous and difficult, it's a slippery slope in terms of what's out there, I would hope that in this training it will be focused on classes of heritage that make them distinct and different and therefore change their management style. But what you describe is exactly the paradigm shift that's happening that was addressing your point. But I think it's happening. Getty's been talking about conservation management plans for a decade. The problem is nobody knows what they really mean or what they look like on the ground and I think that's why we're here today which is to say it probably needs some formal education thrown at it. It's not just going to happen because you want it to happen or because you read a book or because you hire a Wharton graduate who knows business. It's not going to happen.

**EP:** What we're talking about somewhat parallels with what's happened over the last say 20 years in museums where the shift from the specialist curator whose subject was 18<sup>th</sup> century ceramics to a museum of studies training which embraced many of the things that we've been talking about so are we looking at something a lot more like that which also embraces how to run an excavation and how to fundraise and all those things. And I would like to add that just because we are in a Department of Archaeology doesn't actually give us any great advantages because the archaeologists and the conservators still tend to work somewhat separately. We don't engage as much as I would like to see and I think it is because we are all pursuing, it's partly the academic structure, but I don't think the lack of an archaeological department is the major problem. I think the fact that you seem to see us as having major advantages, I don't think we do. I think it's a shift in the way we deal with archaeology and conservation.

**JP:** Well I think the sort of course that John was teaching at the undergraduate level was something that I'm certainly envious of and that would go a long way in resolving a lot of the difficulties we have in this country.

**EP:** But it's not compulsory. I would have liked to see it as compulsory for all our undergraduates and I agree with Steve, I don't see why that kind of course couldn't be introduced even in an institution that doesn't have a specialist archaeological training.

**JP:** Well I can tell you many reasons. Like in the Department of Classics, for example, if push comes to shove and there's a position up for grabs, it's going to be somebody doing the use of the subjunctive in Herodotus or in Libby, not somebody...

**EP:** We are having exactly the same problems in archaeology and conservation apparently embedded, if there's a position vacant, it's a real fight to have another material scientist or another conservator. So I'm afraid it's the same everywhere.

**WOMAN:** I think maybe we could push more, for example, a lot of rote undergraduate degrees require that you take a science course, that you take credits in ethics or other things like that. Could we maybe make a push for being part of the archaeology department or the anthropology department which includes all four subjects in the US. Do something with art classes, let's say, you can get your science credit by taking a class that is material science or conservation science for archaeologists or for anthropologists, so you do get credits for that and maybe heritage site management or ethics within archaeology or conservation.

**JP:** But within the structure of most US universities, where would that person who teaches that course reside?

**BR:** Are you talking about undergraduate or graduate education?

**WOMAN:** Mostly undergraduate. It wouldn't be anything that would make you an expert but at least introducing the topic so that it puts you as an undergraduate you're talking about larger issues that you would have to have an education in anyway but they are now pertaining and using the language of your chosen field of study.

**IK:** The courses we taught at UCLA that they were open to undergraduate anthropology students they could take credit for it. So the class was offered through the conservation program but it had an undergraduate component. And the anthropology allowed the students to rack up the credits for that class they took, so it contributed towards one of their core courses that they were supposed to get for graduation. So I think it depends on the departments, how the structure of the university and how flexible that is and whether you have that person who can offer that course. I think that's where the problem lies. Who's going to teach that class.

**JM:** It's really very much reaching a threshold where there are enough staff with specialisms that people can provide some of these courses in some of these topics. At the Institute, we have tried some experimental courses that have lasted a few years and we've stopped them. But what's successful of course continues. And, for example, conservation to quick followup to these points about requirements. Conservation has changed so much in the years that I've been at the Institute as well too. We no longer have one year of undergraduate chemistry as a requirement to get in the course. Liz was very careful as she phrased what the requirement is. And the reason on that is that there's a shift away from simply material science in conservation and we have such a wide range of activities it seems a shame to exclude someone with interests in conservation because they haven't done one aspect. They could be very strong in law or some other aspect like that. We've

included conservation in the law, for example, as one of the topics by a conservator who is now specializing in that area.

**BR:** I have to go.

**WOMAN:** I think the point you raised about having courses that fulfill other requirements of an undergraduate education and I think at the University of Delaware where they have an undergraduate degree in conservation, some of their science classes fulfill that very basic undergraduate degree. They've made a science class that's specific to conservation but it's still covering whatever the chemistry, like you can take Intro Chem. I think those things are possible. For a physical science, I took intro to anthropology or cultural evolution or something as undergrad that in my archaeology training counted for science. I think you could do that moving towards conservation as well but the point is who's going to teach it and that leads into my next comment that there were many conversations in the conservation community last year at the AIC and in a meeting there was a room with I think over 60 people who were there because they teach their conservators that work at museums, private institutions, whatever, and they teach an undergraduate class here or there, they're not permanent faculty but there are tons of conservators teaching right now.

**ABP:** What about the idea of traveling lecturers? Instead of having to hire someone onto the faculty.

**JP:** Itinerant

**ABP:** They can travel from program to program.

**JP:** Who's going to pay for that?

**ABP:** The Mellon Foundation, we could approach them.

**JP:** Or the Getty Conservation Institute.

**JM:** I'm going to add quickly the reverse of that as well too is when faculty members are pushed into doing something for which they're not qualified and there are examples like that where there's a need in a department for conservation and maybe someone because they've done science in archaeology they're really not qualified to do a conservation course. There are other professionals that are out there that can.

**WOMAN:** I want to make a quick suggestion. If you wanted to include more in a PhD program level, qualifying exams are a really good way to kind of open up what students experience and so in lieu of an ancient language maybe they would allow students to take a qualifying exam in conservation, I did it for legal issues, not that I didn't enjoy ( ). But I was really grateful to be able to substitute it. So that might be a possibility.

**ABP:** Well this might be a good point to start talking about the possibility of perhaps bringing up the idea of establishing a working group that might work on these issues in the course of this new year, perhaps with a followup workshop at the

next annual meeting. I'm not committing myself to anything but I think it would be a great idea for those of us here who might be interested in participating in such a working group or at least being informed as to what's going on in the working group, perhaps making suggestions. I did want to pass around a couple of sheets if people are interested you can just sign up with your name and email address on the sheet because I think there's a lot of work involved in just hammering out, trying to summarize what we've all said today and where to go from here. I'll start with you if you're interested, no obligation of course.

**TOM ROBY:** One more question for the panelists. Mainly for those who are representing UCLA and UCL where I think we have representatives that are both involved in education of archaeologists and conservators, I'm wondering whether, my concern is I think again as with Brian, we're trying to put too much on the plate of the archaeologists and their training, whether they're getting conservation, we're also trying to put too much on the plate and I'm interested to hear comments particularly from Ioanna at UCLA where I think more than other programs is an attempt to deal both with objects, archaeological objects.

**IK:** Let's hope that the students will not go and make a lawsuit against me at some point! Because the credits that they're required for conservation students for graduation are beyond and above. We've had problems even to pass it through the system of Graduate Division. There are so many units but we couldn't exclude anything. Oh, they need this, they need this, so in the end we ended up with an overwhelming curriculum even with the new one, we just launched a new curriculum this year and the way we did it was to offer a PhD degree and see how we can adapt this current curriculum by making some optional classes rather than have everything compulsory if we're going to have different majors. But this is at the very sort of beginning of discussions but yeah we offer a very overwhelming curriculum that spans across different disciplines. And because we are an interdepartmental degree program and we are not a department, we have the flexibility to take people from around campus in other disciplines, more traditional disciplines and that's interdisciplinary.

**TOM ROBY:** Are your graduates finding employment?

**IK:** I think we have done really well. So far, I think our students are all very well placed. The problem is that even conservation now is saturating the market so you need to start looking what's the new open niche, where can you expand and actually in February we have a meeting, the conservation programs in North America, to discuss the future of our programs and what degrees we should offer and how we should do it and coordinate a little bit better. But it's definitely an issue and something that we're all concerned with and how the students are going to be employable and where.

**JM:** At UCL there's new MSC programs, as MA programs develop, these are specialisms that again are distinct from archaeological conservation, so site management is another MSC, forensics is another MSC. There are some areas of overlap and students do have some ability to do options within the different programs but there's a core for each one of those Master's degrees.

**EP:** There are MA in principles of conservation and the MSC in conservation for museums have been running now for about 10 years and I think didn't say but I'm now retired so I'm not really speaking for the rest of the team but I think the move is to now to review them and review them in the light of what's happened in the last 10 years to conservation and should some of that change develop in different directions.

**FM:** Maybe to look at it from the other direction. I know with the more sanctioned professions like engineering, architecture, medicine, divinity there are recognized boards and organizations that identify what the requisite body of knowledge is which then informs the curricula for programs. If a group like AIA said this is required, some knowledge of conservation is required in the training of anyone who sets foot running an archaeological site, the power of the AIA and the AIC and other groups could then begin to put pressure on federal government, on funding, institutions to say you should not hire someone without these credentials because their program required this in the curriculum. I think that's the other way to do it. It works for the other professions. It certainly could work. Conservation is a bit stalled at the moment on this but for archaeology since AIA is a content specialty group that would be a good place for it to come.

**NANCY WILKIE:** The AIA has had these discussions over the years and we have shied away from becoming a credentialing organization; but there is an organization in the United States called the Register of Professional Archaeologists, RPA, that partially serves this function. To become an RPA you do have to meet certain criteria—you have to have at least a Master's degree, you have to have a certain amount of field experience, you have to have written a dissertation or major publication that shows that you can incorporate many different aspects into your archaeological research. Many states now require contract archaeologists to be RPA's. RPA has taken over that function because archaeologists can be sued if they don't do things properly. Some of the lawsuits that have come before RPA have been things like not paying the Social Security of their employees so it's not just bad practice, archaeological practice, it's bad business practice as well. So I think that you could approach RPA and get RPA to change some of the wording of the standards that RPA's have to meet. I was on the committee that wrote the standards for RPA years ago and at the time we only had about 600-700 RPA's in the United States. Now there are more than 2,000 and they're registering several hundred a year. As a matter of fact there's a booth here and we encourage you to stop at their

booth and get their literature. They're trying to get more AIA members to become RPA's. The AIA was a founding member when it was called SOPA—Society of Professional Archaeologists. Then it became ROPA—Register of Professional Archaeologists. When people began making fun of this SOPA/ ROPA thing, we thought OK, we'll just go to RPA and keep it at that. The AIA not only was a founding member of RPA, but we also contribute a lot of money to it, so it's in our interest to get AIA members to become Registered Professional Archaeologists because a lot of the dues of our members goes toward supporting RPA. RPA needs the support because if there is a lawsuit against an RPA, they will undertake it. The AIA has shied away from credentialing anybody because of this legal problem. So we basically put that on the back of RPA.

**EP:** But could AIA make recommendations as to the range?

**NANCY WILKIE:** Oh yes, Andrew Moore currently is our representative on the RPA board. The RPA board consists of representatives from the Society for American Archaeology, the Society for Historical Archaeology, and the Archaeological Institute of America. There are about 5 or 6 organizations that have a representative on the board and so we have a lot of power. You just need to have somebody set an agenda that we can push. So this is a good forum for getting them to include conservation as a part of their credentialing process.

**EP:** We have managed to achieve accreditation of conservators in the UK. It took a very long time for all the reasons, particularly the legal reasons. But that has defined what the conservator should be, the range of skills and knowledge that a conservator should have. It also recognizes specialisms within conservation, so preventive conservation.

**NANCY WILKIE:** The RPA tried that when it was ROPA. It had specialties and you could become a Registered Professional Archaeologist and then list various specialties that you had to prove that you were competent in and trained in. That became just a nightmare to administer because you had to have someone who could say this person's trained in conservation, this person's trained in field work, this person's trained in archaeozoology, or whatever specialty that we were coming up with. So when the last revision of their standards was put in place they got rid of all these specialties because the concern was not so much that RPA wanted to be a credentialing organization as it wanted to be an organization that encouraged the highest standards and best practices and ethical practices in archaeology. By making these other requirements for specialties within RPA, people were shying away from joining. Once we opened it up and said the main commitment you have to make is that you will not do archaeological work that you are not qualified for, the number of members rose dramatically.

**EP:** Well yes in a sense that's what we've done. You are an accredited conservator but the organization recognizes that some people might have strengths

in one area. I'm an accredited conservator from my teaching and training and managerial aspects but I'm labeled in the same way as any other accredited conservator. So it can be done. It is difficult but it can be done.

**ABP:** Are there any other questions, comments? I'd like to thank our panelists for coming and braving the horrible weather. It's very much appreciated. This has been a very beneficial workshop session and it gives us lots of food for thought. Hopefully some of you have signed up for the working group so we can pursue these ideas further and try to get somewhere, try to come up with some means to include more conservation where it's needed. Also I wanted to thank the co-organizers, Steve Koob, Tom Roby and unfortunately our other co-organizer, Claudia Chemello didn't manage to make it over, she was stranded in Charlotte, North Carolina for 20 hours, could not get a flight and had to turn around and go home. So she was very disappointed not to be able to come. But she also contributed in a big way to today's workshop. So is there anything else we want to say?

Everyone: THANK YOU