

Conservation

The Getty Conservation Institute Newsletter ■ Volume 18, Number 1, 2003



The Getty Conservation Institute Newsletter

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The Getty Conservation Institute

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Jeffrey Levin Editor

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The Getty Conservation Institute (GCI) works internationally to advance conservation and to enhance and encourage the preservation and understanding of the visual arts in all of their dimensions—objects, collections, architecture, and sites. The Institute serves the conservation community through scientific research; education and training; field projects; and the dissemination of the results of both its work and the work of others in the field. In all its endeavors, the Institute is committed to addressing unanswered questions and to promoting the highest possible standards of conservation practice.

The GCI is a program of the J. Paul Getty Trust, an international cultural and philanthropic organization devoted to the visual arts and the humanities that includes an art museum as well as programs for education, scholarship, and conservation.

Conservation, The Getty Conservation Institute Newsletter, is distributed free of charge three times per year, to professionals in conservation and related fields and to members of the public concerned about conservation. Back issues of the newsletter, as well as additional information regarding the activities of the GCI, can be found in the Conservation section of the Getty's Web site. www.getty.edu

Front cover: Tourists visiting the Hellenistic and Roman archaeological site of Ephesus in western Turkey. The Ephesus theater, seen in the background, was the largest in Asia Minor. Preservation of the world's archaeological resources will ultimately depend upon greater integration of conservation into the practice of archaeology. *Photo:* Guillermo Aldana.



The Getty Conservation Institute

1200 Getty Center Drive, Suite 700
Los Angeles, CA 90049-1684 USA
Tel 310 440 7325
Fax 310 440 7702

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For too long conservation has been considered extrinsic to archaeology, rather than a basic part of the process. As a result, its potential for contributing from within to the articulation of archaeological methods and to the development of theoretical arguments has not been fully realized. But such an approach—integrating conservation into archaeological work at a site—has been central to excavations at Tell Mozan, the location of ancient Urkesh in northeastern Syria.

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The World Archaeological Congress is an international organization of practicing archaeologists, which holds meetings every four years. The fifth congress is the first to include a major theme on the conservation of archaeological sites and materials. Organized by a coalition of organizations led by the GCI, these conservation sessions are intended to reach out to the archaeology profession and to communicate a message of holistic conservation, stressing the partnership role that conservation can play in archaeology.

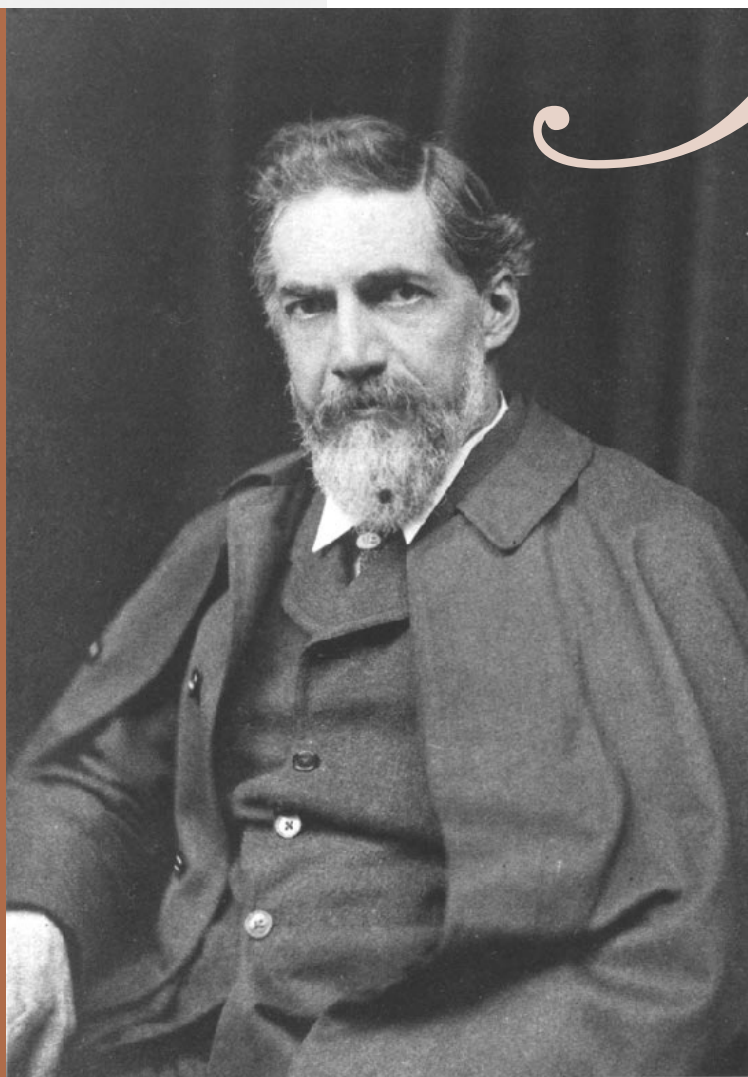
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A Responsibility for Integrating Conservation and

By Brian Fagan



Portrait of William Matthew Flinders Petrie. A pioneer in the field of Egyptian archaeology who decried the lack of attention paid to preservation, Petrie's excavation techniques—which emphasized recording the physical dispersal of objects in a site—were unique for his time. Photo: Courtesy Petrie Museum of Egyptian Archaeology, University College London.

THE DEVASTATION ALONG THE NILE a century ago was shocking. “It is sickening the rate at which everything is being destroyed, and the little regard paid to preservation,” lamented Egyptologist Flinders Petrie in 1904 in *Aims and Methods in Archaeology*. Despite vastly improved excavation methods, sophisticated remote sensing techniques, and a battery of scientific approaches, the Nile destruction of Petrie’s time is now global. The nonrenewable record of the human past is evaporating before our eyes in every corner of the world at a dizzying pace. The culprits are easily identified—unprecedented population growth, massive industrialization, urban expansion, strip mining, and deep plowing. Added to this is the damage wrought by looters and professional grave robbers feeding the insatiable international antiquities market. Yet much of the professional archaeological community still pays little more than lip service to conservation.

Petrie’s conservation strategy was straightforward: excavation and yet more excavation, with careful attention to the smallest object, and, above all, prompt and full publication. Not that Petrie was a paragon of archaeological virtue. By today’s standards, his excavation methods were, at best, rough. He recovered many objects by paying his workers for them, lest precious finds ended up in a dealer’s hands.

In Petrie’s day, antiquities legislation, such as there was, was laxly enforced. Today, virtually every nation has antiquities laws on the books, ranging from measures that protect all archaeological sites and artifacts to others that extend protection only to sites on public land. On paper there is a patchwork of legal protection for many of the world’s sites. But enforcing these laws is another matter. Effective policing of sites is expensive and, for poorer countries, an investment with little perceptible return, unless there are economic benefits from mass tourism.

the Past

Archaeology

To their credit, many archaeologists have been proactive in fostering protective legislation and in educating the public about the importance of archaeology. Public archaeology—which seeks to inform the public about cultural heritage and investigation of the past—is a growth industry. As numerous observers have pointed out, an aware public and an archaeology engaged in society are key to preserving the archaeological record. Unfortunately, these all-important conservation activities do not rank high in the archaeological pantheon of valued activities, despite the passionate engagement of many eminent and influential archaeologists.

Conserving the Resource

Mention the word *conservation* to most archaeologists and they will regale you with their minor triumphs in the field—such as lifting a delicate infant burial or piecing together a clay pot. In archaeological circles, conservation means conservation of artifacts or of buildings, rock, art, or other tangible remains. This narrow definition stems from the often-specialized nature of conservation work and the complex science that is sometimes involved. Even today, most archaeologists are startlingly unaware that archaeology and conservation are closely intertwined. They tend to categorize archaeology into artificial subdivisions: purely academic research, salvaging and protecting the archaeological record, and conservation—the latter being an entirely different activity.

The stereotype of the conservator in archaeology is of someone who mends pots, stabilizes waterlogged artifacts, or achieves miracles of restoration. In fact, conservation encompasses a much broader field of endeavor than just the care of objects. Conservation professionals include individuals with backgrounds in fields ranging from geology and chemistry to architecture and engineering. These professionals can and should play an integral role in the preservation of archaeological sites. But for that to happen, archaeologists need a new perspective on archaeological conservation, one in which conservation is the top priority whenever fieldwork is planned.

In 1973 the respected southwestern archaeologist William Lipe wrote a now-classic paper in *The Kiva* entitled “A Conservation Model for American Archaeology.” The article has become required reading for anyone concerned with archaeological conservation. Lipe pointed out that “we are now beginning to realize that all sites are rather immediately threatened, if one takes a time frame of more than a few years.” He also distinguished between emergency and “leisurely” salvage, the latter being investigations at sites “when we do not yet know the date at which the site may be lost.” Leisurely salvage was the purview of academic archaeologists but, he warned, “if our field is to last for more than a few decades, we need to shift to a resource conservation model as primary.” Obviously, archaeologists have to excavate enough to research basic problems and to keep the field intellectually healthy, but their primary responsibility should be to ensure that the finite resource base of archaeological sites lasts as long as possible.

The Lipe paper appeared in the early days of concern about the destruction of sites, and grew out of his experiences with a field that had previously been called salvage archaeology and that was becoming known as cultural resource management (CRM). The new term suggested managing the archaeological record for future generations—a far broader mandate than just the rescue of sites and artifacts from the blade of a bulldozer. This management includes not only survey, excavation, and analysis but also recommendations for long-term management of the resource. CRM was a new type of archaeology, created not by academic questions but by a need to satisfy legal mandates for the management of sites. It has mushroomed since the 1970s and is now the dominant form of field and laboratory archaeology in North America. Under various guises, it dominates archaeology in many other parts of the world as well, among them Australia, Europe, and Japan.



If trends continue, archaeology—instead of being a purely academic discipline—will become almost entirely a profession focused on managing the past. Most employment opportunities are now in private companies working under tight deadlines and strict legal requirements. CRM projects have serious responsibilities for the past, often involving decisions as to which sites are to be excavated, which are to be destroyed, and which are to be saved in their entirety. Often, budgetary issues intervene that weigh archaeological sites against multimillion-dollar construction projects.

The long-term archaeological work in the Ballona wetlands—site of the massive Playa Vista development project in west Los Angeles—is an all-too-rare example of archaeology winning. Another instance is a historic Chumash village named Xonxon'ata in central California; there, a road was rerouted, limited excavations were carried out, and precious information on an important community was saved for posterity. Xonxon'ata is an example where legal requirements helped enable a successful preservation effort. Public opinion, when mobilized, is also a powerful voice for archaeology. The saving of the Elizabethan Rose Theatre under a high-rise office building on London's South Bank resulted from public outcry rather than from legislation.

In many ways, this aspect of CRM is a highly sophisticated extension of the Flinders Petrie philosophy: dig it up before someone else destroys it. It is an attempt to salvage as much information as possible with the time, money, and methods available. In some respects, it represents the successful implementation of part of Lipe's conservation model.

But there are downsides. An explosion of archaeological data has emerged from these many projects, most of it published in what is called "gray literature"—reports of limited circulation or in cyberspace, which, despite efforts to the contrary, are effectively inaccessible to most archaeologists. To their credit, many CRM archaeologists have made determined efforts to publish their work in academic settings and to produce books or monographs; many academic archaeologists have also completed valuable research as part of a CRM project. But while the sites may have been investigated and compliance reports written, the basic archaeological data from them remains unvetted.

CRM has brought many benefits to archaeology, especially in its bold use of remote sensing and other nonintrusive field methods. Unfortunately, much CRM activity, especially in the areas of legal compliance and project management, lies outside the conventional purview of academic archaeology. A growing chasm has opened between many CRM archaeologists and their academic colleagues, who are concerned not with compliance and mitigation but with the acquisition of original knowledge. This chasm results from the outdated values of archaeology and from serious lacunae in archaeological training. If conservation was a central value of all archaeological training and practice, this chasm would be substantially narrowed.

An archaeological excavation at the Ballona wetlands in the Playa Vista section of Los Angeles, California. Increasingly, archaeology is being conducted at sites such as this that confront imminent development. The Ballona wetlands, once home to a number of prehistoric peoples, today lie amid a large

area of current and proposed residential and commercial development. Since 1989, a program of environmental reconstruction and archaeological investigations has been conducted at the site—much of it performed in conjunction with this development. *Photo:* Courtesy Statistical Research Inc.

A May 1989 overhead view of the excavated remains of the Rose Theatre in London, and a photograph taken the following month of a banner supporting their preservation, hung on the fence surrounding the excavation. The late-16th-century Elizabethan theater, unearthed after an office block was demolished for redevelop-

ment, was one of the earliest and most successful theaters of its type. The ultimate protection of the theater's remains within the new construction is an instance of public outcry ultimately leading to the preservation of an archaeological site. *Photos:* Andy Fulgoni/Museum of London and Terry Smith/Timepix.

A Conservation Ethic

In his 1973 article, Lipe pointed out that all archaeological excavation, whether CRM-based or not, erodes the database; thus, careful research designs, which incorporate conservation as a basic strategy, are essential. All archaeologists are involved with preservation of the resource, either in the long- or short-term; this means that a conservation ethic must be integral to all archaeological research.

The problem is even more acute now than when Lipe wrote his paper. Today there are hundreds, if not thousands, of researchers who are mining sites to answer purely academic—and often very insignificant—questions. This ever-expanding activity (admittedly sometimes carried out as part of a CRM project) is as devastating to the future of archaeology as is industrial activity. Every summer dozens of fieldworkers excavate yet more sites, with little concern for the most pressing problem of all—will there be sites for their grandchildren to investigate? While no one advocates a complete moratorium on excavation, it must be the strategy of last resort, and it should never be total, unless a site is about to vanish forever.

In the academy, archaeology is a science of discovery: survey, excavation, laboratory work, and peer-reviewed publication. Beneath these are—in descending order of perceived desirability—CRM activities, teaching, curating, public archaeology, and administrative roles. Conservation does not figure in the hierarchy at all, except as a generally accepted and ill-defined basic ethic, which is taught in virtually no graduate programs. While both the Archaeological Institute of America and the Society for American Archaeology have developed forthright ethical statements and policies to which their members are expected to adhere, few graduate seminars dwell on ethics in any depth.

Most archaeologists at research universities are on a treadmill of survey and excavation, publication, then more fieldwork and yet more publication. Much of this activity is driven by grants from private or public sources that, like university promotion committees, are most interested in new discoveries and their rapid publication. Almost no agencies that support archaeological research call





for a conservation plan in their guidelines for proposal. Nor do they insist on full publication before considering a further application for new fieldwork. This model of quick paper publication is appropriate for a fast-moving discipline like theoretical physics or climatology, but not for archaeological publication where—as the great excavator Sir Mortimer Wheeler reminded us years ago—the primary responsibility is to record one’s findings for posterity. Regrettably, the publish-or-perish system makes little allowance for the time it takes to complete a final report, nor are funds for such work readily available.

We archaeologists are also to blame. We would rather excavate and write stimulating provisional reports than undertake the laborious, time-consuming work of a final report. Even with all the danger signs around us, we often ignore a fundamental reality of archaeology: an unpublished site is destroyed as completely as one demolished by a bulldozer. The record can never be replaced.

Like all sciences, archaeology has become increasingly specialized, with an explosion in master’s and doctoral programs. For years, only a handful of students entered such programs. Today hundreds of people enter such programs each year, all of them working under specialist researchers who act as their mentors. Only a few graduate programs, most of them recent, are training people for a world in which archaeology is now a profession as

much as it is an academic discipline. We are long overdue for a massive reorientation of graduate training and serious population control in the number of newly minted academic specialists, many of whom end up in the CRM world and hate it. These are the last people who should be salvaging the past.

At no point in the careers of most archaeology graduate students do they receive comprehensive training in conservation. Most Ph.D. candidates have never heard of Lipe’s groundbreaking paper, let alone have read it. When questioned about this lacuna, many hard-pressed faculty say that they do not have time to include conservation in the curriculum. To which the only response must be that they need to reorder their priorities, for the future of archaeology and for the benefit of their students’ careers. It is also a matter of basic professional ethics.

Integrating Conservation and Archaeology

How, then, do we make conservation central to archaeological activity? We need major shifts in research priorities, drastic reductions in the number of doctorates in purely academic subjects, and a growth in meaningful graduate programs that meld archaeology and conservation into a seamless whole. We need to start a long-term debate about curriculum within both archaeological and conservation circles. Archaeology does not need more specialized fieldwork mindlessly culling a diminishing inventory of undisturbed sites. In fact, the basic challenges archaeology faces in the future are far more interesting and exciting.

Pueblo Bonito at Chaco Canyon National Historical Park in New Mexico. Because of the way that the first excavations of rooms at Pueblo Bonito were carried out a century ago, many of the questions that we have regarding the site now cannot be answered. During the 1990s, the

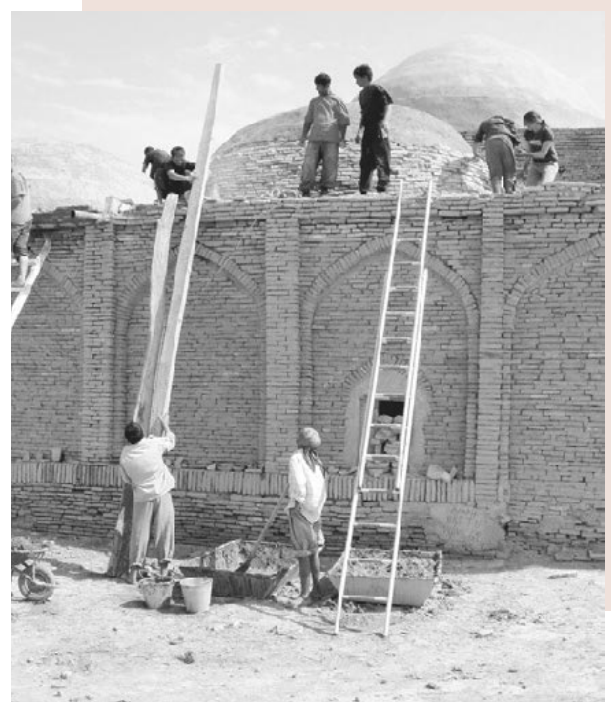
GCI collaborated with the U.S. National Park Service to investigate, develop, and field-test, on a limited scale, several protective strategies for preserving the standing architectural remains at the site. *Photo: Guillermo Aldana.*

These challenges are best addressed by integrating conservation into the very fabric of archaeological research, as part of the basic design of any project. We should never forget that even the most careful excavation destroys the archaeological record. It is all very well to develop a research proposal for the excavation of an early farming village in Syria or an Andean ceremonial center that promises fresh insights into the origins of agriculture. But in an era when the archaeological record is under threat everywhere, the first concern of any research project should be the maintenance of the site and the stakes of all those concerned with its conservation—be they archaeologists, local landowners, tourist officials, or indigenous peoples.

Some may question this priority, but to challenge it they must answer a simple question: what guarantee do we have that future generations of archaeologists will be able to build upon your field research? For example, we can never hope to check the validity of Leonard Woolley's reconstructions of the royal burials at Ur; his records are too incomplete. Nor can we answer many questions about the history and uses of Pueblo Bonito in Chaco Canyon—most of the rooms were emptied haphazardly in the early days of gung-ho archaeology. If we are to be responsible stewards of the past, we must make all research subordinate, at least in part, to preservation and conservation. At present, our protective infrastructure and professional training are woefully inadequate to the task.

Workers repairing the roof of the Mausoleum of Ibn Zayd at the Silk Road site of Merv in Turkmenistan, in September 2002. Archaeologists, conservators, and park managers are working closely together to provide an integrated approach to preserving this World Heritage Site. Here the mausoleum's

early-20th-century concrete roof is replaced with a traditional earthen roof, which requires low maintenance and provides an effective weatherproof surface that allows the structure to breathe. *Photos: Tim Williams, Institute of Archaeology, University College London.*





A project team member documenting the west face of the Castillo at the Maya site of Xunantunich in Belize. In the early 1990s, the GCI worked with archaeologists from UCLA and the Department of Archaeology in Belize on a collaborative project at

Xunantunich to address problems of conserving archaeological sites in humid tropical zones. The site was chosen in part because it offered an opportunity to integrate conservation with an ongoing excavation. *Photo: Guillermo Aldana.*

How can we better integrate conservation into archaeological practice?

First, intensify the present cautious interactions between archaeologists and the conservation community with the objective of fostering specific outcomes. Such outcomes should include a massive revamping of basic archaeological training, which would make conservation strategies central to research. Introduce archaeologists to such issues as stewardship and stakeholders, to archaeological tourism and the economics of heritage—as part of their basic academic training.

Second, foster intensive research into—and development of—nonintrusive archaeological methods to minimize excavation in the future. Important progress has been made in this area but much more needs to be done.

Third, require that all doctoral dissertation proposals make conservation the centerpiece of the proposed research. As a corollary, encourage grant-giving agencies, whether government or private, to insist on conservation plans as the first priority in all funding proposals.

Fourth, require full publication of all fieldwork *before* future excavation and surveys are funded. The term *publication* would also include specific actions to preserve both the field records and the finds from the excavations.

Fifth, drastically reduce admissions to academic doctoral programs, but foster and support graduate curricula that make conservation the highest priority.

Last, decouple archaeology from the publish-or-perish culture, and reward conservation projects as equal partners. A strong case could be made for a series of highly prestigious prizes or awards that give prominence and prestige to archaeological conservation.

No one suggests that basic research should be abandoned or is unimportant. But we need to look far beyond the immediate gratification of a new discovery or of a peer-reviewed paper published in the pages of *Science*. At present, we are not even debating the ways in which we must integrate a conservation ethic into the core of archaeological research. The sooner we begin, the better.

As the current managers of the nonrenewable resource, we archaeologists bear a heavy ethical responsibility to conserve the past for the future, while maintaining a steady but carefully considered flow of basic research, which gives the discipline its vitality. At present, conservation stands at the margins of the archaeological world. Fortunately, notable examples of basic research and conservation working hand in hand are not uncommon. For instance, excavations at the Maya center of Xunantunich in Belize during the 1990s involved not only basic research but also the conservation of the site during the excavation process. Also in the 1990s, African specialist David Phillipson included limited conservation work in his investigations of the Axumite Empire's capital in highland Ethiopia, famous for its spectacular royal stelae. But such instances are the exception rather than the rule. As William Lipe said some years ago in these pages, "Archaeologists must be conservative in their own uses of the archaeological record, so that future research can build on current work" (see *Conservation*, vol. 15, no. 1).

We have moved a long way toward implementing parts of Lipe's visionary model, but we still have a long way to go. Even faced with crisis, a great deal of archaeology still proceeds with obscure theoretical debate and with academic specialization that satisfies the publish-or-perish cosmos. Until archaeological activity is grounded firmly in a conservation ethic, archaeology is doomed to long-term extinction.

Brian Fagan is a professor of anthropology at the University of California, Santa Barbara. He spent his early career working in central Africa in museums and monuments administration. He is the author of many books on archaeology for a general audience.

Closing the Divide

A Discussion about Archaeology and Conservation

In a world where archaeological sites face a variety of threats to their survival, how much have the principles of conservation and preservation found their way into the practice of archaeology? To address this and other questions, we spoke with four experts whose work deals with studying, preserving, and managing archaeological sites, as well as with tourism at those sites.

Angel Cabeza is a professor of cultural heritage conservation at the University of Chile and executive secretary of the Chilean Council of National Monuments. An archaeologist and an authority on cultural and natural heritage conservation issues in Chile, he has worked to develop heritage management models in Chile that encourage the participation of local communities in heritage management.



Jeffrey Levin: *Traditionally, archaeology has been an academic profession focused on investigating and interpreting the past. Conservation, on the other hand, is focused on protecting and preserving that past. Are these two professions somewhat anti-thetical, given that archaeology is concerned with research and publication in a way that conservation is not?*

Tim Williams: In Britain, at least 90 to 95 percent of the people employed in archaeology are outside academia. In the last decade, most archaeologists have realized that they have a critical role in the conservation of resources so that future generations will be able to partake in the process of discovery, exploration, and analysis. Certainly within Britain, where a preservation-in-situ culture has developed over the last 10 years, most archaeologists are not in competition with the idea of conservation. It's more a matter of how you can mediate that process.

Brian Egloff is an associate professor at the School of Resource, Environmental, and Heritage Sciences at the University of Canberra in Australia, and he currently chairs the International Committee on Archaeological Heritage Management of ICOMOS. An archaeologist, he has coauthored numerous conservation plans for sites throughout Australia.



Brian Egloff: In Australia, we've moved away from traditional archaeological excavations because of the difficulty of getting the indigenous community to agree with any physical intervention with their heritage. It comes back to who owns the past. If somebody else owns the past, your intervention may be restricted. So we have very little pure academic, traditional archaeology that is answering an academic question. You are more likely to be answering a conservation question.

Tim Williams is an archaeologist and a senior lecturer at the Institute of Archaeology of University College London, specializing in the management of archaeological sites. He has codirected excavations in Beirut, Lebanon, and is currently directing a research, site management, and conservation project at the Silk Road site of Merv in Turkmenistan.



Angel Cabeza: In my country and in other Latin American countries in the last 20 years, archaeology as a discipline has also changed much. Twenty years ago, all archaeologists worked in universities or museums and depended on state grants for research. Now maybe about 30 to 40 percent of all archaeologists work for private enterprises conducting environmental impact assessments. Young archaeology professionals are working for big enterprises or for the government or communities. Some of these people who work for business also teach in the universities and do their own research. So this isn't black and white.

*Eugenio Yunis is head of the Sustainable Development group at the World Tourism Organization (WTO) in Madrid, where he works on the application of sustainable development principles to tourism, with a special emphasis on the natural and cultural heritage. His most recent book is *Tourism Sustainability and Market Competitiveness* (2000).*



They spoke with Neville Agnew, a GCI principal project specialist; Martha Demas, a GCI senior project specialist; and Jeffrey Levin, editor of Conservation, The GCI Newsletter.

Martha Demas: *So is there a divide between academic archaeologists and those archaeologists engaged in some form of management or conservation of sites? If most archaeologists are not in academia today, why is there such a strong perception of a difference between the objectives of academic archaeologists and those of conservation professionals? Is the divide more between different types of archaeologists and different types of archaeology?*

Neville Agnew: *It's clear to me that some divide still exists. I think that there are two categories at least—traditional archaeology and one more driven by an awareness of preservation. Traditional archaeologists are concerned about the discovery of information that they extract from the site. Conservation professionals—and I include here contract archaeologists—are concerned about preserving the materiality that yielded the information. So there is a dividing line.*

Eugenio Yunis: But that is a divide you find in almost any discipline. Think of mathematicians. Pure mathematicians used to be only in academia. Today many mathematicians work in computer sciences and in all those applications of mathematics. Perhaps we are witnessing a segment of the archaeologist's profession moving into that stage that is concerned with presentation to the general public—disseminating their results not only to their peers but to a wider audience, which is what should be done if we are trying to recover the past. At the end of the day, scholarly work has to permeate to the general public, raising the cultural level of society.

Jeffrey Levin: *Are archaeologists working outside of academia—those doing more applied than research-oriented work—typically integrating conservation practice into their work?*

Brian Egloff: We are forming partnerships. Applied anthropologists are realizing that they need that depth of inquiry that pure discovery research provides, and they are forming partnerships with people in academic institutions because they can provide that research depth. We in conservation are dealing with immediate matters and do not always have an opportunity to go into that depth. I have many partnerships with academic archaeologists or anthropologists at the Australian National University or other institutions that have that research depth.

Angel Cabeza: We can also draw a difference between the older generation of archaeologists and the newer one. My professors used to work alone with their students. The younger generation knows that they need a team to work. There's a requirement of the Chilean Law of Monuments that if I give you permission to work in the field, you have to refill your site—or maybe you have to rebuild the site—and when you finish, I have to go there and see if you did it well. So people go into the field with a team, and always in the team

“ . . . archaeologists are developing an integrated conservation approach because they realize they are going to be criticized if they excavate and then walk away . . . ”



Tim Williams

there must be a conservator. You have an archaeologist who is the chief of the team, but in your team is a conservator. You have more prestige if you have a team with that kind of expertise.

Tim Williams: Absolutely. Archaeology is a team-based activity. It used to be that the site director was some sort of iconic figure who made all the decisions. It's changed into a project-oriented team, which is why some of these black-and-whites about archaeologists and conservators don't apply. There's a need to assemble teams that bring with them environmental, managerial, anthropological, and conservation skills to achieve a goal. But in some sense, the academic community has been left behind because it still prizes individual research. People are not assessed as teams. They're assessed as individuals. Universities are about producing people who are valued on their individual output. So there is a bit of tension there.

Jeffrey Levin: *What more can we do to integrate conservation training, practice, and ethics into graduate education so that conservation will be effectively applied once graduates leave the university and go out into the field?*

Tim Williams: I think we've made considerable strides at the Institute of Archaeology where I work, particularly in raising the issues of ethics and values, and ideas about authenticity, the rights of indigenous peoples, and the nature and relationship of conservation. Hopefully, this prepares the students to enter that broader world and operate within the sphere of professional archaeology, expecting to work as teams and expecting to value other opinions.

Neville Agnew: *I admire what the Institute of Archaeology is doing. It's an extraordinary model. But I don't think the full integration of archaeology and conservation has happened yet. As conservation professionals going into the field, we see sites that are abandoned, sites that are neglected, sites that are eroding—and, yes, we blame the archaeologists. We say they dug it and they walked away from it.*

Tim Williams: I won't say that every practitioner of archaeology is integrating conservation into his or her work, but there's been a big change. There's a lot of development-led, development-threat-driven archaeology that is employing conservation strategies, looking at long-term monitoring, looking at how to avoid the impact of development, looking at how to balance that impact against the values and significance that are placed on the sites. And that's in professional contract archaeology. There is a relatively small number of archaeologists still excavating sites—under no threat whatsoever—for research-driven purposes. And more and more of those archaeologists are developing an integrated conservation approach because they realize they are going to be criticized if they excavate and then walk away, leaving the site an empty shell.

Neville Agnew: *To what extent does your perspective reflect only the practice in western Europe and not what we might call the developing world? When you look at the global picture and the vast archaeological resources of other countries, does the same truth apply?*

Brian Egloff: Certainly when people work within Australia's legislative framework, they are tightly controlled. To be argumentative, I could say that some of my colleagues choose to work overseas so they will not face those restraints and scrutiny.

Tim Williams: Yes, I've heard that one in Britain—people say that if you don't know how to dig, then dig abroad! But the ethic is changing. A lot more archaeologists are taking conservation on board, and more and more countries are looking to different models. I've been working in Lebanon, where the director general of antiquities has tight control over the process of excavation. They used to allow a lot of research excavation with no conservation whatsoever. Now they've tightened that up considerably. Countries like Turkmenistan and Uzbekistan and Iran are introducing conser-

vation as an integrated part of research. You won't get a license and you won't be able to dig unless those aspects are being explored.

Angel Cabeza: Archaeology has changed so much because of who pays. The university system in many Latin American countries is almost broke, so archaeologists—and the universities—have to look for money outside. The private sector, with the big projects like dams and highways, has engaged in conservation in a way that has been developed closely with archaeologists. But I agree with Neville—in their final reports, archaeologists are looking to answer different questions and, in the end, they just put in their report what is written by the conservator about what was done at the site.

Jeffrey Levin: *Shouldn't we distinguish between the involvement of conservation professionals in archaeological work and the integration of conservation into the planning of that work? It's one thing to have a conservator take care of the problems you find, and it's quite another to have a conservation professional—who is an equal member of the team from the beginning—participate equally in planning how work will be conducted.*

Tim Williams: We've still got a long way to go on that, but I think that applies to most aspects of building real project teams. A lot of people pay lip service to the idea of a project team, but it's still largely individual-led research; specialists are brought in, but they're not really seen as integral to the design of the program. Environmental archaeologists or object conservators or whatever—they're often seen as an appendage to the project, almost a necessary evil. And conservation is no different. Getting conservation in there as the underlying ethic is the big challenge—and some way off.

Brian Egloff: It depends. In a project I worked on in Laos, we were equal partners because there were 4,000 objects that had to be conserved, and we also had to conserve the structures in which those objects were placed. So there was equal emphasis on conservation of the object and conservation of the place. That was a partnership that was driven out of the nature of what had to be conserved.

Tim Williams: You can get good partnerships like that. The work that we're doing at Merv in Turkmenistan is an example of that. We have conservation specialists from CRATERre in France working with the archaeology park officials and ourselves on site management and on the archaeology. We're equal partners. There's no hierarchy, and we work as a team.

Brian Egloff: Is the training of conservators changing? To be the devil's advocate here—is the specialization of conservators at times impeding their integration, in a holistic sense, with archaeology? Because conservators are extraordinarily particular in their training.

Neville Agnew: *You're really thinking of objects conservators more than site conservators or conservation professionals. Conservation professionals come from many disciplines, including archaeology, and they do think holistically—or ought to. The conservation profession itself is not without culpability because it came out of museum objects conservation and met the archaeological profession in the field, so to speak. We're now at a point where perhaps there's an awareness on both sides that an archaeological site or anything exposed to the outdoors requires a holistic approach, because of the multiple threats it faces.*

Brian Egloff: As we train people in cultural heritage management and in objects conservation, we often find that they are applying for the same job—now called collections managers. In that part of the workplace, there's a coming together of those professionals. But we don't necessarily see the coming together of specialists in the physical nature of things with the managers of places, the same way that we find with collections.

Neville Agnew: *How well has stakeholder involvement—which involves other voices being part of decision making—been accepted by the archaeological community?*

Angel Cabeza: Most archaeologists want to do their work as in previous times—go to the site, do what they want, and leave. They don't want to see anybody there, except maybe some students from the local school so that they can feel that they are doing something for the local community. Most archaeologists see stakeholders as a problem that they cannot deal with because it means more restrictions on what they can do. In many countries, new legislation says you cannot go into Indian lands and do what you want. You must consult with the local communities—but most archaeologists are not trained to do this. We have a long way to go to change the minds of most archaeologists because they try to stay away from all stakeholders and local communities.

Eugenio Yunis: If you accept the principle of stakeholder participation, you have to accept it in full. It's a societal problem because today we have embraced the idea that everyone has the right to decide on what is happening around his environment, be it natural or cultural. And among different groups—and even within the same ethnic group—you may have different opinions about what to do. It's a complex issue that doesn't have an easy solution.

Brian Egloff: We certainly now have the obligation to be proactive. We've had contracts of up to a quarter of a million dollars to work with stakeholders as to what heritage they value in a particular piece of real estate. So it's big business. You have to get it right—because if you get it wrong, you're in court.

“ You must consult with the local communities—but most archaeologists are not trained to do this. ”



Angel Cabeza

Tim Williams: At the end of the day, archaeology, cultural heritage—it's always local. We've got to learn to really engage in communication. I've seen so many stakeholder reviews that are so patronizing in their approach or in their orientation toward a Western idea of data gathering which isn't really focused on how to engage in genuine dialogue to articulate values and ideas. They're about saying, "Well, we ought to consult the local people, so we'll send them a questionnaire. If they're able, they'll send in a reply." But that's not good enough.

Eugenio Yunis: Then you have to think of a way for people to be able to take part in this discussion in an informed manner.

Tim Williams: That's one area where archaeology has been particularly bad. We haven't done well at communicating the results of archaeological research. At the same time that we expect other people to engage in a dialogue, we only give them part of the information. We expect them to form values and ideas about significance, but we're not giving them the same information that we work with. And we

synthesize the information in such a way that we're presenting only one interpretation. We're not leaving open opportunities for different interpretations, values, and views of a site's significance.

Neville Agnew: *You would expect that the conservation of a site and tourism at that site would be natural partners. Yet that has not really transpired. Why?*

Eugenio Yunis: Because the conservation activity or the management plan for a site was defined and formulated without considering visitation of the site. That's wrong. When you prepare a management plan, you have to consider that the site will be visited and you have to determine the site's carrying capacity. Sometimes tourist operators discover a site before a site management plan is formulated, and therefore the way is open for tourism companies to do whatever they wish. The solution to these problems is considering from the start how to handle tourism. If a site is within a village or near a city, you have to involve local people because they will support the conservation of the site and must become stakeholders in the use of the site.

Neville Agnew: *And beneficiaries.*

Eugenio Yunis: And beneficiaries at the same time through different services related to the tourism industry. Now in that process, you have to help them understand the implications of tourism. Tourists may bring economic benefits if the local people are really involved in the industry—but they may also bring negative social and cultural impacts. Local people need to be aware of the possible negative impacts and decide if they want tourists and what number of tourists they want. All this has to be done in advance of the tourists, so that communities don't get tempted by the economic benefits and ignore the other consequences tourism may have. And this is up to them to decide.

Martha Demas: *But as the outside experts, your organization, the WTO, has an important role to play. There's clearly a disparity of power between the ministries of tourism, tourism agencies, and tour operators on the one hand and the ministries of culture, site managers, and the local stakeholders on the other. Part of your purpose, as I understand it, is to try to negotiate between these two and to advise governments.*

Eugenio Yunis: The role of the WTO is precisely that—to advise governments. We try to establish bridges between the tourism authority and all the other ministries that have some bearing on the tourism sector—the environment, the national parks authority, health, education. Normally the ministry of tourism is last in the hierarchy of ministries. Many countries don't even have a ministry of tourism, or it is under another ministry. Whether this understanding of the complexity of tourism reaches the upper level of

“ . . . *with tourism you can achieve economic results very quickly, and that's what tempts many national governments . . .* ”



Eugenio Yunis

governments depends more on the political composition of government than on what we can do. Fortunately—and unfortunately—with tourism you can achieve economic results very quickly, and that's what tempts many national governments as well as local authorities. In many countries it's the local authority that makes decisions about tourism. Local authorities usually have four-year terms, and they want to show quick results. One quick way is tourism. So there are all these political factors.

Neville Agnew: *While natural sites regenerate with care, archaeological sites accumulate damage that is irreversible. Is this something that the WTO is aware of with regard to tourism at archaeological sites?*

Eugenio Yunis: Definitely—but tourism development does not depend on the WTO. When we talk of the WTO, we have to distinguish between the 140 member governments that make up the WTO and the secretariat. As the secretariat, we do what the members want us to do. We pass along ideas, but in the end we are not responsible for the policies that they implement and the projects that they develop. I would go further. In many cases, not even governments

are responsible for how tourism is handled in their countries. The big tour operators make the decisions. Unfortunately, this is very common in most developing countries, where they are first for the foreign exchange and the jobs that tourism provides.

Neville Agnew: *WTO does master planning for states, which is a golden opportunity to factor awareness of conservation into the planning. How does the WTO address those kinds of requests for planning for tourism?*

Eugenio Yunis: In setting up the consulting team that will prepare master plans, we normally include—and I underline the word *normally*—the types of experts required, from the physical planner to the sociologist or anthropologist to—if appropriate—the archaeologist, conservation professional, or marketer. In some cases, the budget priorities established by the government do not allow for the experts who can advise on a site’s carrying capacity or conservation elements—but normally we do that. These master plans are then submitted to government, reviewed by government, and eventually revised or approved by government. The implementation of plans is beyond our responsibility.

Tim Williams: If we agree that archaeological sites are local, how do we reconcile that with the WTO top-down approach, coming in at a national or province level and creating these master plans? The local communities presumably are not getting consulted until the master plan is already in place.

Eugenio Yunis: We very clearly insist that the local community be consulted.

Tim Williams: For a whole province?

Eugenio Yunis: Depending on the type of country, on the social organization that they have, sometimes you work with the local authorities or through organized NGOs of local communities. But we normally try to get the involvement of local people. We are now in the process of promoting what we call Local Agenda 21—we send experts to formulate a consultation mechanism with the local community and other stakeholders in the community, not only for archaeological sites but for many other sites as well—even for beach tourism.

Angel Cabeza: Tourism is always a risk for archaeological sites, but it can also be a fantastic opportunity. For example, on Easter Island 40 years ago, the local population didn’t care about the archaeology. But because tourists started coming from all over the world, they discovered archaeology. They discovered themselves and they developed their own tourism industry and services.

Eugenio Yunis: It’s almost fully owned by them.

“ We need to make known to the widest possible audience what we are doing and how we are negotiating. ”



Brian Egloff

Angel Cabeza: Yes, and right now they are not only asking us to protect archaeological sites but also asking us for conservation. For example, the biggest project currently on the island, with money provided by Japan through UNESCO, is not for archaeological research but for site conservation. The people on the island don’t want more excavations. They want good conservation of the sites. Why? Because they want to keep the sites. They know more people are going to come. For conservation, it’s a very good opportunity. But only when you can control tourism.

Brian Egloff: Very seldom do we have what you have just described—a permanent stakeholder group. Permanent stakeholder groups are empowered because they are continuous. This puts constraints on the archaeologist or site conservator or conservation specialist, but it also has the advantage that they know whom to speak to. Community people have formed a common stakeholder group that is used to dealing with government and used to making their voices heard. In Australia, we have aboriginal land councils that we’re required to speak to. We know who the stakeholders are.

Tim Williams: It's sometimes very difficult to know whom to talk to—and these sorts of empowered stakeholder groups are a mechanism for opening up dialogue. The problem I have is that we are sometimes lulled into a belief that we've actually been brought into contact with all the potential stakeholders associated with a particular landscape. In fact, as we all know, local issues are complex, and the people who have a voice in a local community aren't necessarily the only people in that community.

Martha Demas: *How do you come to the determination as to whose stake is greatest?*

Angel Cabeza: It's a social process, and you have to look for legislation to guide you. In many cases when we listen to stakeholders, they're just a few people of the community. You have to try to listen to the silent voices of many people. If you are in the government, you have a responsibility for everybody. You also have an ethical responsibility for future generations. You have responsibility to balance this. Because heritage doesn't belong to one group, it belongs to everybody.

Brian Egloff: You have another concept here—and that is the principle of transparency. We need to make known to the widest possible audience what we are doing and how we are negotiating. A principle one often finds in the natural heritage management context is that before you can deal with a particular situation, you have to have a widely informed public.

Tim Williams: I totally agree with that transparency. By making that debate available to a broader community, you sometimes engage a group of people who didn't think they were going to be interested or be stakeholders within the process. As they find out about the process, they then do feel that they have a stake or that they do have something that they wish to contribute. But if you're only talking to a small number of people and you're keeping that information very confined, they're never going to find out about it. Then you run into that potential problem of people saying in a later stage of the process, "Well, if we'd known what you were doing, we would have had an opinion."

Jeffrey Levin: *What's underlying our discussion is the notion that archaeological sites are nonrenewable resources. Whether a site gets used up by tourism or by overexcavation, it's gone forever. How far has the awareness permeated the archaeological profession that once you use up the resource, there's no opportunity for future archaeologists to conduct their own research and to develop insights that currently elude us?*

Tim Williams: Most archaeologists view the destruction of the archaeological resource in England as under far greater threat from processes such as agriculture, dewatering, changing land uses, and coastal erosion than from archaeological excavations. They are well aware that a site is a nonrenewable resource, and they want that resource there for future generations. But they can identify much bigger reasons why large tracts of it are not going to survive. Since 1945 agriculture has been the single biggest cause of loss of archaeological sites in England. Overall, some 23,500 sites were lost through a variety of actions between 1945 and 1995. Less than 20 percent of those sites had been wholly or partly excavated prior to destruction.

Jeffrey Levin: *So even in that best of all possible worlds, where archaeology and conservation have a greater melding, are the other problems—such as agricultural activity—so overwhelming that in the end it's not going to be enough to prevent the loss of integrity of sites?*

Tim Williams: I think that the integration of archaeology and conservation will help us pass down to future generations a great deal of archaeological resources. If you're looking at what we're going to lose from the archaeological resource, I still think that excavation is a red herring.

Angel Cabeza: Where I see a problem is in the universities, what you call academic archaeology. They want to keep their way of doing things. If we want a more rapid integration between archaeologists and conservators in fieldwork, we have to have more impact in the universities and in the education of the new generations of professionals.

Neville Agnew: *Let me try to sum up. Although the old way of doing academic archaeology is changing for the better in terms of integrating conservation with archaeology, clearly more progress can be made. How archaeologists approach their work seems to depend on where in the world they are, as well as on the type of archaeology being done. As for stakeholder involvement, the practice is widespread. However, as pointed out, archaeologists aren't trained in community consultation. And mass tourism, if not well managed, presents a powerful threat, but it also offers an opportunity for the integration of archaeology and conservation. Perhaps the area of archaeology and conservation still in most need of integration is in a holistic approach to sites—that is, from planning and implementation to use and long-term preservation.*

Conservation at the Core of Archaeological Strategy

The Case of Ancient Urkesh at Tell Mozan

By Giorgio Buccellati and Sophie Bonetti

FOR TOO LONG CONSERVATION HAS BEEN CONSIDERED extrinsic to archaeology, rather than a basic part of the process. As a result, its potential for contributing from within to the articulation of archaeological methods and to the development of theoretical arguments has not been fully realized.

Such an approach—integrating conservation into archaeological work at a site—has been central to our excavations at Tell Mozan, the location of ancient Urkesh in northeastern Syria. In undertaking our work at Urkesh—the primary center of Hurrian civilization in the third millennium of Syro-Mesopotamia—we have sought to make conservation intrinsic to the archaeological process, recognizing that conservation can provide benefits that go well beyond preservation and that impact the very strategy of excavation. Having acknowledged the need to conserve uncovered fragments for the sake of documentation, and having agreed to present them in a visually coherent reconstruction, we also recognize that conservation should be an integral part of the strategic planning for a site as a whole.

An Intrinsic Component

Why should archaeologists bother to “think conservation” before they start to dig? Why should conservation be an intrinsic component of archaeological decision making?

There are at least two answers. The first is practical. The expertise of the conservator should guide the archaeologist in the choice of goals and in the determination of timing—is it feasible to save a given feature and, if so, how should the excavation proceed to minimize the need for later interventions? The second answer is more ambitious: the archaeologist can actually learn about archaeology from the conservator. The conservator has a superior understanding of the materials; his or her quick determination of the relevant properties can help excavators in their assessment of the stratigraphy within which the given feature is embedded. Additionally, the conservator has a trained understanding of the



A large hearth-shaped mud structure—or andiron—found intact at Tell Mozan. The successful excavation and consolidation of the andiron was the result of conservation considerations being integral to the overall archaeological work at the site. *Photos: The International Institute for Mesopotamian Area Studies (images V12d0817 and V14d9503).*

original integrity of the feature and the craftsmanship that created it. This can protect the archaeologist from the potentially harmful professional blind spot of concentrating so closely on the ruin as to lose sight of the monument it once was. If architectural conservation—and where appropriate, reconstruction—is considered as only an extrinsic intervention that takes place long after the ruin has been cleared, then the archaeologist is deprived of a possible vision of the site’s past. If, on the other hand, the original integrity of the structures is envisaged during the process of excavation—in collaboration with the conservator—then the archaeologist’s understanding of the remains under excavation is enriched.

Similarly, why should conservators bother to “think archaeology”? Why should an understanding of stratigraphy become part of their mind-set? The answer mirrors the one given to the first question—namely, that conservators should be able to learn about their profession from archaeologists. The process of stratigraphic analysis by which archaeologists disentangle structures or objects from the ground is in itself constitutive of the meaning ultimately attached to these structures or objects. A shard scatter does not exist only as a potential jar that the conservator might piece together. The dynamics of the breakage are intimately interconnected with the dynamics of the reconstruction. To understand this interaction fully, conservators should have more than a passing experience with archaeology. They should receive some specific training as archaeologists in order to develop an understanding of stratigraphic analysis. Just as they learn specifics of chemistry in the laboratory, so they must learn firsthand, on an excavation, the dynamics between emplacement and deposition—how things are in the ground now and how they came to be so in antiquity.

In our excavations at the site of ancient Urkesh, we have consistently incorporated conservation into planning and implementation. The current major effort is the excavation of the Urkesh Royal Palace, a vast structure built around 2250 B.C.E. The conservation program—funded by the Samuel H. Kress Foundation and implemented with the collaboration of the Opificio delle Pietre Dure in Florence—has, among other things, resulted in an effective and economical project of mudbrick wall conservation in the Royal Palace.

This program goes back to 1990, to the beginning of excavations in this area. As a result of the conservation efforts made, the walls are readily available for examination and study, while being maintained in a state of preservation that hardly differs from when they were first uncovered.



Left: A general view of the service wing of the Royal Palace, looking southwest. Tightly fitting canvas tents cover the metal cages to provide protection for the walls. *Right:* The covers can be quickly lifted to reveal the state of the walls. *Photos:* The International Institute for Mesopotamian Area Studies (images V13d8402 and V13d8567).



Fieldwork at Tell Mozan

Very often on archaeological digs, conservators are considered simply technicians and are expected to stay in the conservation room all day gluing pieces together. As a result, they do not acquire a feel for work in the field nor knowledge of how objects look when they are still in the ground. This is why it is necessary for conservators to have some field experience—to know how to move within the excavation. The conservator on site must be flexible and able to work in the field as well as in the lab on short notice, since there are often urgent cases at the excavation site. For example, archaeologists at Mozan asked the conservators to save a very fragile piece, a burnt wood log, requesting that the log be lifted as a whole from the ground. However, the conservators, based on practical considerations, believed that the piece was much too delicate to be removed. In this instance, the needs of both the conservator and the archaeologist were met with a solution that preserved the object in the ground but left it in a state where experts could examine it in situ.

Another notable case was that of a large mud structure shaped as a hearth, called an andiron by comparison with other similar objects typical of Anatolia. The piece was found intact in the ground, but the clay, not being baked, was exfoliating and crumbling very quickly due to the rapid change in its environment. In order to save what looked like a unique find, the object was lifted as a whole with a large lump of soil around it, well wrapped in cotton sheets, and carried to the excavation house on a wooden ladder. It was then excavated and consolidated very slowly and was successfully saved as a whole piece.

Clearly it is extremely important to create a genuine exchange of information that can illuminate the needs of the conservator in the field and the expectations of the archaeologist. They do not always meet, but it is important to try. This is all the more important when dealing with permanent features in the ground, such as walls and hearths. The walls of the Urkesh Royal Palace at Tell

Mozan are largely of mud brick, except for the stone substructure, and subject to damage by atmospheric elements. If left exposed, the walls will crumble and disintegrate within a few years.

To mitigate this deterioration effectively, archaeologists and conservators on the project jointly developed a new and relatively low-cost type of protection in 1998, based on the use of local materials and the ready availability of local craftsmen (this followed a series of experiments dating to 1990). The new protection system involved constructing metal frames or cages that follow the profile of the walls and rest on the surface without affecting the stratigraphy. The frames are then covered with a thick, waterproof fabric that the local population uses for tents. The first test with this new system was made on just a few walls. It produced what looked like a virtual reconstruction of the building—except that it was physical as opposed to virtual.

After the system proved successful during the winter season of 1999, a massive operation was begun to cover the entire exposed palace walls by the same method. The tents were tailored for metal structures that were constructed by a local smith with the help of a local architect, who also served as the representative of the directorate general of antiquities and museums. The tents—sewn in the excavation house and applied over the metal cages—can easily be lifted to reveal the walls in their original state. One of the highlights of this system is its complete and relatively fast reversibility. For instance, to take aerial photographs of the site, the whole building can be uncovered and the metal structures removed in a day.

In 2001, a systematic program to monitor the conditions of the walls was begun in order to determine if the covering system was working and how it could be improved. In order to have a clear sense of the humidity and temperature fluctuation throughout the year, monitoring was carried out from summer 2001 to summer 2002 by a project assistant who is a resident of the nearby village of Mozan. He kept a precise record and provided a chart of the values read from a hygrometer and thermometer twice a day, every day.

Two views of the metal cages or frames that encase the Royal Palace walls as part of a preservation strategy developed and implemented jointly by the archaeologists and conservators on the archaeological team. Set close to but not touching the walls, the frames rest on the ground without intruding into it. The components are modular for easy removal, yet interlocked to provide stability. *Photos:* The International Institute for Mesopotamian Area Studies (images V13d8521 and V13d8662).

The main problem turned out to be the effect of strong wind against the tent material. During frequent sandstorms—or even just normal strong winds—the tents, not being fixed at the base, tended to slap vigorously and repetitively against the walls themselves. The combined effects of wind and rain caused some smearing of the wall surface so that the bricks' edges were no longer visible. It was very useful for the conservator to be on site during an episode of strong wind to observe the process that caused the damage, in order to plan a different system to secure the tents to the external metal cage. The same was true for a second problem involving the presence of stagnant water on top of the canvas and along the sides of the walls. Solutions to these problems were developed and carried out through close cooperation between the project's archaeologist and conservator.

The conservator's responsibility in the solutions implemented included supervising the changes in the covering technique and monitoring conditions. Monitoring involved taking digital photos of every wall and preparing a series of notes in the form of a diary. During the last two years, inspections were made three to five times per season, every time with a particular objective in mind—for instance, checking the state of the tops of the walls or checking the conditions of the fabric after rain.

It is anticipated that the method for protecting the walls will work well over longer periods of time, although a certain level of maintenance is essential, since the fabric is affected by aging. In 2002, some of the old fabric was replaced with a new type that was suggested by the tent maker. The new fabric has been tested and appears perfectly waterproof. In summer 2003, the resistance of the fabric will be checked, and it is hoped that this new material will prove more durable and protective than the old one.

The monitoring of the walls and of the covering method will continue. We hope that the result will be optimal, so that with a known, standard level of maintenance, we will be able to preserve the palace walls of this very ancient site indefinitely. The results obtained thus far demonstrate the virtue of embedding conservation in the process of excavation itself. In doing so, we not only safeguard a ruin in the state in which it was found but also obtain a richer understanding of the cultural whole of which the fragment gives evidence.

Giorgio Buccellati, codirector of Urkesh excavations, is professor emeritus in the departments of History and of Near Eastern Languages and Cultures and director of the Mesopotamian Lab at the Cotsen Institute of Archaeology, University of California, Los Angeles. Sophie Bonetti is the director of conservation of the Urkesh/Mozan Archaeological Project and an independent conservator based in Florence, Italy. She is a consultant on a number of different international conservation projects.



Conservator and archaeologist checking the walls after a heavy rain. A metal basin suspended from the trellis collects water seeping through the tarp. The close cooperation between the conservators and archaeologists on the team is considered critical for the success of the program. *Photo:* The International Institute for Mesopotamian Area Studies (image V15d7562).

Of the Past, for the Future

By Neville Agnew



A Coalition for Change at the Fifth World Archaeological Congress

PULITZER PRIZE–WINNING AUTHOR and biologist Edward O. Wilson speculates in his book *In Search of Nature* that we are genetically predisposed to think only one or two generations into the future. Always an intellectual adventurer, Wilson, in his latest book, *Consilience*, strives to make a case for the fundamental unity of all intellectual disciplines. The essence of these two ideas—overcoming our blindness to the needs of generations yet to come, and a holistic approach to how we should meet these obligations to the future—increasingly underlies conservation thinking. Conservation is a futuristic activity vested in the belief that we today, who have the power to safeguard or degrade what is of value to society, should be good ancestors for future generations.

It is this philosophy that has prompted the Getty's current partnership with organizations from around the world to present integrated conservation approaches at the Fifth World Archaeological Congress (WAC-5) in June in Washington, D.C. The congress—a worldwide organization of practicing archaeologists—holds meetings every four years in a different part of the world. Collaborating with the organizers of WAC-5 are the Smithsonian Institution's National Museum of Natural History and the National Museum of the American Indian, as well as the Getty Conservation Institute. The fifth congress is the first to be held in North America—and the first to include a major theme running throughout the congress on the conservation of archaeological sites and materials.

Terra-cotta soldiers standing guard at the burial complex of Emperor Qin Shihuangdi, near Xi'an, China (detail). Discovered in 1974 by farmers drilling a well, the site has yielded more than 8,000 unique life-size soldiers and horses. Spectacular discoveries such as this one can encourage the impression that the world's

archaeological resources are somehow inexhaustible. But because the number and kinds of sites that remain to be discovered are unknown, it is necessary to apply the kind of husbandry of resources now exercised in the fields of the environment and ecology. Photo: Dennis Cox/Timepix.

A Limited Resource

Among all the categories of cultural heritage under threat, the archaeological resource—artifacts and the sites from which they came—is a repository and storehouse of information that is increasingly in jeopardy. Since time immemorial, sites have been exploited for treasure, looted for objects, destroyed out of idle curiosity, and mined for raw building materials. So great are the remains of the ancient civilizations of Egypt, Greece, China, and the Americas as to seem, like the resources of the oceans, inexhaustible. Perhaps this notion is encouraged by spectacular discoveries that continue to be made—for example, in the KV5 site in the Valley of the Kings in Egypt, the Xi'an terra-cotta warriors in China, and many others.

Yet there are many other instances of apparently inexhaustible resources being depleted. The oceans are showing evidence of severe depletion and pollution, our own gaseous “ocean”—the atmosphere—is stressed by carbon dioxide and pollutants, and the forests continue to fall. Is archaeological heritage to be any different? We do not know how many and what kinds of sites remain to be discovered. In the fields of the environment and ecology, husbandry of resources is the catchword. We should apply the concepts and methods of these fields more thoroughly to preserve the archaeological heritage, for lost sites, like extinct species, can never be regained.

Humankind's curiosity about its own past gave rise to archaeology as a discipline. Thought of as the great “book” of the past, the archaeological record is being consumed at an accelerating pace. Multiple new forces now converge to degrade or destroy that record—development, mass tourism, agriculture, aggressive archaeological excavation, war, and looting for valuables. Like any ancient document, the archaeological record is fragile. It should be read and handled with extreme care because all damage is ultimately irreversible.



Excavation of a 10th-century abbey in Europe in 1985. At the end of that fall's archaeological season, the excavated human remains seen here were left exposed and unpro-

tected. It is only very recently that the concept of fully integrating conservation into archaeology has begun to permeate archaeological practice. *Photo: Neville Agnew.*

Conservation at WAC-5

When the GCI was invited by the academic chair of WAC-5 to organize sessions on conservation throughout the congress, an unparalleled opportunity presented itself. Here was an invitation to reach out to the archaeology profession and to communicate a message of holistic conservation, stressing the partnership role that conservation, broadly defined, can play in archaeology, particularly if brought into the process from the beginning. The GCI decided, with participation of staff members from the Getty Research Institute and the J. Paul Getty Museum, to seek a coalition of partner institutions (see sidebar) from around the world to demonstrate and present to the archaeological community the case for conservation's role in archaeology.

The conservation sessions will run each day of the congress. There will be three plenary addresses by eminent archaeologists who support conservation of archaeological heritage, with a total of 12 panel sessions of between 90 minutes to two hours each. As much as possible, professional archaeologists will present the case for conservation by speaking from their own knowledge and experience.

The themes of the conservation sessions are intended to address most of the major issues facing the survival of the archaeological heritage today. Among these are: the threats to archaeological World Heritage Sites; the increasing (and appropriately so) demands of stakeholders for a voice in decision making about the care and use of sites and artifacts; the challenges facing the conservation of archaeological collections; mass tourism to iconic sites and the sites' exploitation for economic benefit; technical responses to sites at risk—how one assesses the best types of intervention, from sheltering a site to its reburial; innovative approaches to site preservation (both pros and cons), from private acquisition of a site to protect it, to privatization of national heritage (a step that has been greeted by some with outrage); meeting the challenges of rapid economic growth in China today; and the management of archaeological sites and rock art in the southern African subcontinent. Descriptions of these and other subthemes are posted on the WAC-5 Web site (www.american.edu/wac5).

Rather than present papers or case studies at WAC-5, the representatives of the partnering organizations with the GCI are forming panels—each addressing a particular topic—with five to six well-known professionals presenting the issues and entering into dialogue with the audience. Each topic will be introduced by short presentations to define the issues. After the topic is elaborated upon in responses by two other panelists, the discussion will be opened up to the audience. The intention is to publish the presentations and summaries of the discussions in the One World Archaeology series as the permanent record of the sessions.

A Partnership for Preservation

It is hoped that the conservation presentations at WAC-5 will help undo the artificial fragmentation between archaeologists and conservation professionals—two groups that the coalition of conservation partners for this initiative regard as natural partners. Like so many other disciplines, they have tended to go their own way as specialization became the rule. If this separation is reversed, meshing of the two will work powerfully to secure the archaeological record for the future, while allowing its study and appropriate current use for the benefit of society.

In addition to increasing awareness among archaeologists of the critical role conservation should play in archaeological practice, other benefits will derive from this initiative. For the first time, a coalition of leading conservation organizations is coming together to present a unified viewpoint. This step itself will strengthen the conservation field. Further, by drawing panelists for the sessions—between 40 and 50 specialists from many different disciplines, all with knowledge and experience in integrated approaches to conservation—the initiative will convey the message that conservation and archaeology are on an intellectual par. The old view of the conservator's role at an excavation site of gluing together pot shards is obsolete and should be replaced by one of a conservation-archaeology partnership that will more effectively safeguard the archaeological heritage that both professions wish to preserve for the future.

Neville Agnew is principal project specialist with the GCI's Field Projects department.

Left to right: Large groups of tourists at the Acropolis in Greece, the main temple at Abu Simbel in Egypt, and the Castillo at the Maya site of Tulum in Mexico. One of the sessions on con-

servation at the Fifth World Archaeological Congress will focus on mass tourism to iconic sites and the sites' exploitation for economic benefit. Photos: Guillermo Aldana.



WAC-5 Partners

The organizations working with the GCI on the WAC-5 conservation sessions include:

- American Institute for Conservation
- Australia ICOMOS
- English Heritage
- ICCROM
- Institute of Archaeology, University College London
- Council of National Monuments of Chile
- South African Heritage Resources Agency
- State Administration of Cultural Heritage of China
- US/ICOMOS
- World Heritage Center of UNESCO
- World Monuments Fund
- World Tourism Organization

Additionally, two delegates from Afghanistan—one from the National Museum in Kabul and the other from the Afghanistan Institute of Archaeology—have been invited, in collaboration with Wellesley College and New York University, to present the enormous problems they face in the aftermath of years of war and destruction.

Directors' Retreats

Participants at the first annual GCI Directors' Retreat for the Advancement of Conservation Education—this one held in collaboration with AIC. Photo: Katharine Untch.



The first annual Directors' Retreat for the Advancement of Conservation Education was held October 10–12, 2002, at the Airlie Center in Warrenton, Virginia. Organized by the Getty Conservation Institute with the American Institute for Conservation of Historic and Artistic Works (AIC), the retreat focused on needs and strategies for AIC's newly expanding national program for midcareer professional development for conservators, launched with a generous endowment gift from The Andrew W. Mellon Foundation.

Since 1987 the GCI has organized meetings, seminars, and related projects with the aim of supporting the teaching of conservation. One such event was an ad hoc meeting of conservation educators organized in April 2000 to consider current and emerging needs in conservation education internationally, for both movable and immovable heritage (see *Conservation*, vol. 15, no. 2). Participants at the April 2000 meeting discussed the need for more opportunities for communication among directors of education programs, leading to a better exchange of ideas and information, as well as strategic thinking across institutions.

In response, the GCI has initiated a series of annual retreats intended for directors of academic programs in conservation or heads of organizations whose missions include conservation education.

The primary goal of the Directors' Retreats is enhancement of conservation education through exploration of issues that reflect and support developments within the broader fields of education and conservation.

In attendance at the October 2002 retreat were directors of academic programs and professional organizations providing conservation education. Throughout the three-day event, participants explored in-depth issues related to midcareer educational needs. The retreat resulted in an abundance of ideas, resources, and strategies, providing new insights and direction for AIC's Professional Development Program. A final report is available on the Getty Web site at www.getty.edu/conservation/resources/reports.html and through the AIC Web site at aic.stanford.edu/profdev/dretre.pdf.

Members of the international conservation community who are engaged in educational activities are invited to submit proposals for working with the GCI on an upcoming retreat. Further information on the Directors' Retreats program, including how to apply, can be found on the Getty Web site at www.getty.edu/conservation/activities/drsretreat.

L.A. Historic Resource Survey Project

In November 2002 the Los Angeles City Council approved a motion calling for the creation of two committees “to develop and direct the goals of a comprehensive survey of historic resources and a citywide preservation program.”

The motion was a response to a Getty Conservation Institute study conducted in 2001 that assessed the purpose and value of a comprehensive citywide historic resource survey in Los Angeles. In the wake of the passage of the city council motion, the GCI is working with the City of Los Angeles and a wide range of stakeholders on a two-part planning project that will examine the basic components of a citywide survey and the steps necessary to undertake such a survey.

The GCI’s survey assessment found that only 15 percent of the City of Los Angeles has been surveyed and that many historic properties and districts are unrec-

ognized, underutilized, and frequently threatened (see *Conservation*, vol. 17, no. 1). The report identified strong momentum in neighborhoods and commercial areas to invest in historic properties and confirmed broad support for a citywide survey from the city’s real estate, business, and community interests. The assessment also noted that at this time there is no one city agency with the authority or funds to conduct such a survey (a copy of the report can be downloaded at www.getty.edu/conservation/resources/reports.html).

As part of its involvement in the newly launched Los Angeles survey planning project, the GCI will assist the city with research on survey goals and methods. This research includes development of:

- a historic context statement for evaluating the significance of individual properties and districts, relating the architectural, historical, and cultural

development of the city to its physical form;

- historic resource criteria to identify what is significant in the Los Angeles built environment (criteria such as distinctive architecture, historical association, and cultural significance will be defined and will conform to city, state, and federal guidelines);
- survey standard guidelines for how the survey will be conducted—how data will be gathered, what level of research will be completed, and the nature of community participation;
- technological support options to make use of the city’s technology, including Geographic Information System (GIS) and Zoning Information Map Access System (ZIMAS) for city agencies and community users;
- preservation incentives to help owners who wish to invest in their residential and commercial historic buildings.

View of Western Heights, a Los Angeles historic district. Historic districts have been established in areas of the city with architectural, social, and economic diversity. Photo: John C. Lewis.



Museum Lighting Meeting

Once the city approves the proposed methods, a pilot survey will be undertaken to test and refine those methods.

The GCI will serve as an information resource to the city's committee process, sharing its research with the city staff working committee and the committee of civic leaders and assisting in the preparation of the survey plan. Ultimately, it is hoped the historic resource survey itself will be an ongoing project within the city. The goal of the citywide historic resource survey is to obtain and use data on the city's historic buildings and districts as part of its cultural heritage, land use planning, and community development programs, while also stimulating community interest and investment in historic properties.

As a companion project, the GCI will publish two guidebooks of incentives for historic preservation in Los Angeles—one for homeowners and one for commercial property owners. These publications will help property owners understand the economic benefits of having their property identified as historic and the incentives available to maintain and invest in their property.

On October 21–22, 2002, the GCI Science department hosted a meeting of experts to discuss museum lighting—in particular, lighting for old master works of art on paper. Attending the meeting were conservators, conservation scientists, curators, and lighting engineers from Canada, England, New Zealand, and the United States.

For many collecting institutions, there is keen interest in maximizing the display of old master drawings, while at the same time employing measures that will continue to preserve them while on exhibit. During the two-day meeting, discussions concentrated on five questions with respect to the lighting of old master drawings:

- Could a light source be designed that would be safer and/or provide longer exhibition periods than any current lighting system?
- Could a light source be designed that has comparable or superior color-rendering capabilities to existing lighting systems?
- How could the damage potential of alternative light sources be better assessed?
- Could a new light source be built—and would it be supported by a manufacturer and distributor over the long-term?

- Whether or not a new light source could be feasibly made at this time, could the display environment be significantly improved to reduce photochemical damage to light-sensitive artifacts? Is an oxygen-free environment the only way this can be done?

By the conclusion of the meeting, the group had identified five to seven possible research projects that would address these questions and that could ultimately lead to better protection for old master drawings on display. The research identified would focus primarily on issues of light filtration and anoxic environments. Meeting participants are currently preparing proposals for these projects.

Experts at a GCI-hosted meeting discussing specific research needs in the area of museum lighting for old master drawings. *Photo: Nancy Kaye.*



Workshop on World Heritage Site Management

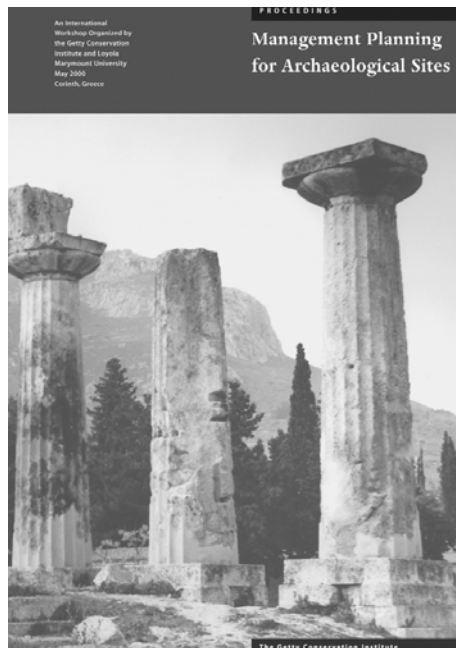
In November 2002, the Getty Conservation Institute, English Heritage, and UNESCO's World Heritage Center (WHC) organized a workshop in Padua, Italy, on World Heritage Site management. This was one of nine associated workshops held in different Italian cities in the days preceding the International Venice Congress—organized by UNESCO's WHC and the government of Italy to mark the occasion of the 30th anniversary of the Convention Concerning the Protection of World Cultural and Natural Heritage (the World Heritage Convention).

Thirty-three experts from 17 countries participated in this site management workshop. Working in small discussion groups, participants examined World Heritage site management needs, reviewed existing site management guidance, and identified the major gaps in site management tools and guidelines. At the conclusion of the workshop, recommendations were adopted with the aim of increasing the professional capacity of those responsible for World Heritage Site conservation for the future.

For a complete list of the site management workshop's recommendations, as well as information on the associated workshops and the International Venice Congress, please visit the World Heritage Web site at whc.unesco.org/venice2002/.

Management Planning for Archaeological Sites: Proceedings of the Corinth Workshop

Edited by Gaetano Palumbo and Jeanne Marie Teutonico



Archaeological sites around the world are threatened by a variety of forces, including population growth, development, urbanization, pollution, tourism, vandalism, and looting. Site management planning is emerging as a critical element not only for the conservation of this heritage but also for addressing issues such as tourism and sustainable development.

This book reports on the proceedings of a workshop held in Greece near the ancient site of Corinth, where an international group of professionals gathered to discuss challenges faced by archaeological sites in the Mediterranean and to examine management planning methods that might generate effective conservation strategies.

Part one contains background papers addressing threats to the archaeological heritage, the concept of heritage values, and a methodology for the conservation and management of archaeological sites. Part two features case studies in which site management plans have been developed and implemented or in which their use is under discussion. Cases include Hadrian's Wall, England; Chan Chan, Peru; Masada, Israel; Petra, Jordan; and Corinth. The book will be of interest to architects, archaeologists, site managers, and all those charged with the conservation and management of the archaeological heritage.

Jeanne Marie Teutonico is associate director of the GCI. Gaetano Palumbo is formerly senior lecturer at the Institute of Archaeology, University College London, and currently the director of archaeological conservation at the World Monuments Fund in Paris.

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15 color and 2 line illustrations
ISBN 0-89236-691-5, paper, \$35.00

This GCI book
can be ordered online by visiting
www.getty.edu/bookstore.

New Chief Scientist



In January 2003, Dr. Giacomo Chiari joined the staff of the Getty Conservation Institute as chief scientist. He assumes overall responsibility for the Institute's Science group, which includes research sections devoted to building materials, collections and museum research, analytical technologies, and environmental science.

Dr. Chiari comes to the GCI from the University of Turin in Italy, where he was a professor of applied mineralogy. He has had a distinguished career in mineralogy, devoting most of the last 25 years to research regarding the conservation of cultural heritage. His scientific contributions to the field include extensive work in crystallography, seminal research into the chemical and mineralogical characterization of earthen building materials and methods for their treatment, and the development of methods for dating mural paintings and identifying their pigments. In addition, he has worked on an array of important works of art and architecture, including Michelangelo's *Last Judgment* in the Sistine Chapel, the sites of Pompeii and Herculaneum, the earthen architecture of the Hadramawt region of Yemen, the painted reliefs of the Huaca de la Luna in Peru, and the World Heritage City of Trinidad, Cuba.

Kathleen Louw

Department Coordinator, Field Projects



Dennis Keeley

Thomas Shreves

Reference Librarian, Information Services



Dennis Keeley

Kathleen Louw serves as department coordinator for GCI Field Projects, coordinating conferences, overseeing budget preparation, drafting project agreements, and supervising other coordinators in the department.

Born in Binche, Belgium, Kathleen lived in Brussels until age 11, when her father, an economist with the European Economic Commission (EEC), went to work in Washington, D.C., for three years. She and her family made a number of trips throughout the United States, traveling west and visiting national parks. The experience instilled in her a lifelong love of travel.

In 1981 Kathleen entered the Catholic University of Louvain in Belgium where she majored in economics, a reflection of her interest in understanding international relations and the plight of developing countries. Following graduation, she

went to UCLA for a year to study Russian, a language she had taken up at age 16. After an internship at the EEC, she moved to Moscow in 1988 to serve as deputy representative of Generale Bank, assisting Belgian and European companies in Russia with contract negotiations and export payments. Two years later, she returned to Los Angeles, where she worked for the city's Cultural Affairs Department before coming to the GCI in 1992 as a freelance editor of scientific abstracts in foreign languages for *Art and Archaeology Technical Abstracts*. The following year, she came on staff as a coordinator with Field Projects.

In her 10 years with the GCI, Kathleen has worked on a number of projects. Among her favorites were a 1997 international conference on the Royal Palaces of Abomey in Benin, the 1998 production and installation of an exhibit at Olduvai Museum in Tanzania, and the 2000 Abomey exhibit at the Kennedy Center.

She enjoys working on large international events and learning how partner countries do their work. She is currently handling GCI coordination of the international conference on the conservation of Silk Road sites, to be held in China in August 2003.

In 1998 Kathleen took a three-month community service leave to pursue humanitarian work for Doctors Without Borders, coordinating the installation of an exhibition on the impact of war on children, as well as a public awareness campaign on malnutrition in Sudan. Over the years, she has taken courses in interior design—an interest that dates to her childhood, when she would sketch the layout of imaginary houses for her amusement. And in 2000, she entered motherhood, giving birth to Tejomay, her son with Jason, her partner of 10 years.

Tom Shreves is part of the GCI's Information Center staff, where he provides specialized research support to Getty staff and professional conservators from around the world. He conducts research and analysis using a wide variety of scientific and technical resources and also works with Getty Research Library staff to coordinate the acquisition of conservation-related materials for the Getty's collections.

Born into a large family in Clarksburg, West Virginia—he and his twin sister were the youngest of seven—Tom grew up with parents who were avid readers and avid gardeners. As a child, Tom spent many hours in the family's garden. Books, too, were a great attraction, and beginning at the age of eight, he would walk to the local library two or three times a week. Around the same time, he took up the cornet, and by high school he was a member of the concert and marching bands.

At Marshall University in Huntington, West Virginia, he majored in geography, as well as found time to build his own loom and study tapestry weaving with a well-known local artist. After graduating, he worked for several years as a library clerk in a local public library. Then, in 1983, he attended graduate school in library science at the University of Tennessee.

At the end of 1984, he was hired as a coordinator for the West Virginia State Library Commission, managing the Huntington State Hospital library and coordinating services for 11 other libraries in hospitals, prisons, and juvenile detention centers. He found it particularly gratifying to help patients find materials that could assist them in developing needed skills. Four years later, he took a job at a rural county library in Ohio, ultimately becoming head of information services. In 1990 he was hired as an information specialist

and archivist with the American Ceramic Society, also in Ohio. Over the next seven years, he managed the society's library, which included developing an online database and organizing and maintaining the society's archives and photographs.

In 1997 he moved to Los Angeles and joined the GCI. Among his responsibilities, he especially enjoys working with scientific and field project staff to provide them with information resources needed for particular projects.

He is currently finishing his graduate degree in library and information science. While life in a Los Angeles townhouse doesn't leave much room for gardening or weaving, Tom does do needlepoint and grows miniature orchids in container gardens on his terrace.

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