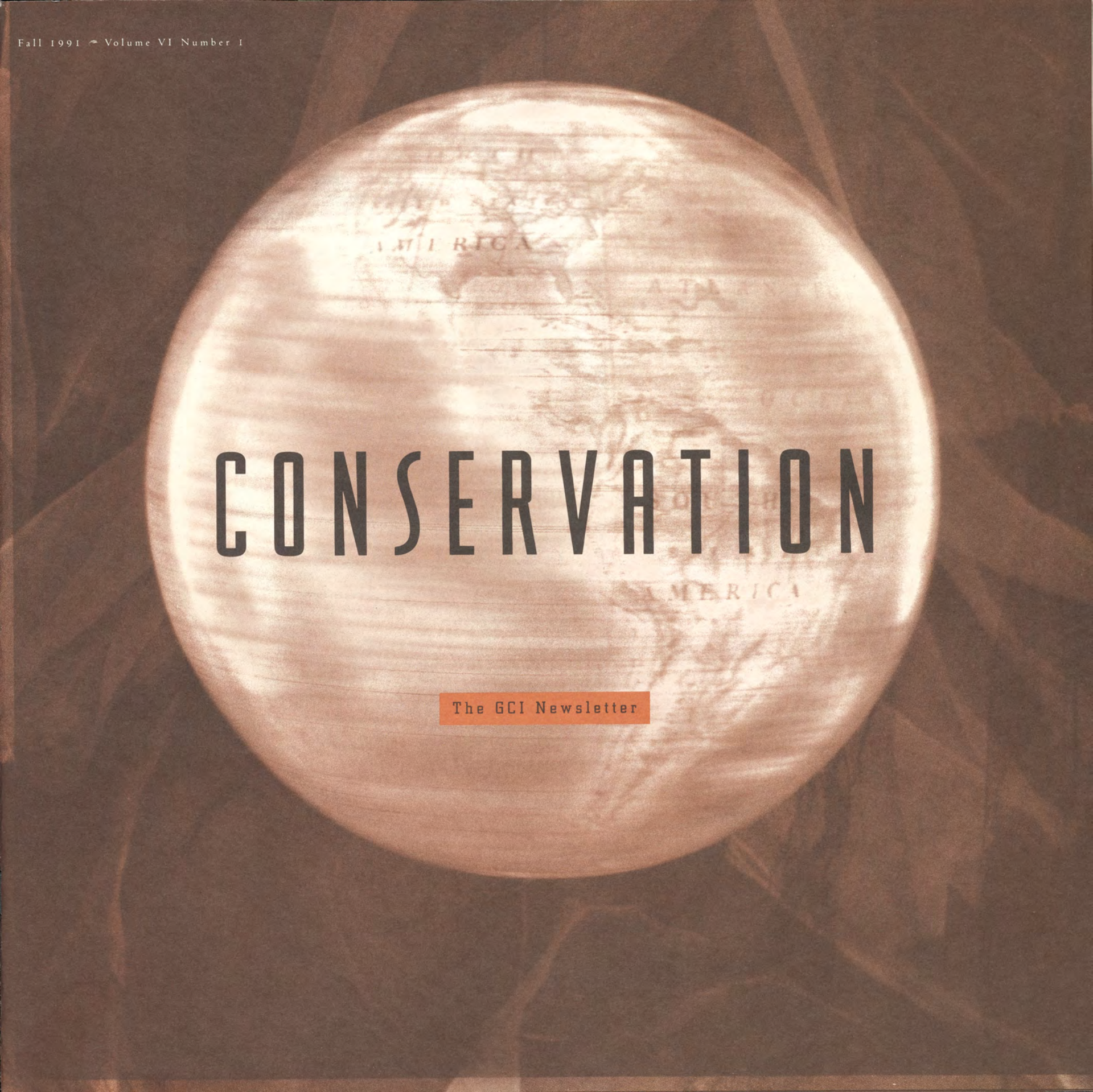
Fall 1991 • Volume VI Number 1



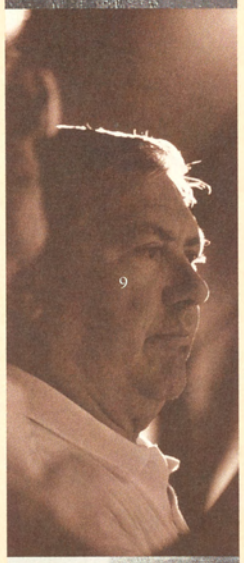
CONSERVATION

The GCI Newsletter

CONSERVATION

Contents

This issue inaugurates a name change, an expanded format, and a broader editorial perspective for the newsletter of the Getty Conservation Institute. Now called *CONSERVATION, The GCI Newsletter*, the periodical seeks to address a larger audience by providing enhanced coverage of conservation issues, along with updates on GCI activities, in English- and Spanish-language editions. Volume VI will include this issue only. Three issues per volume will resume with Volume VII.



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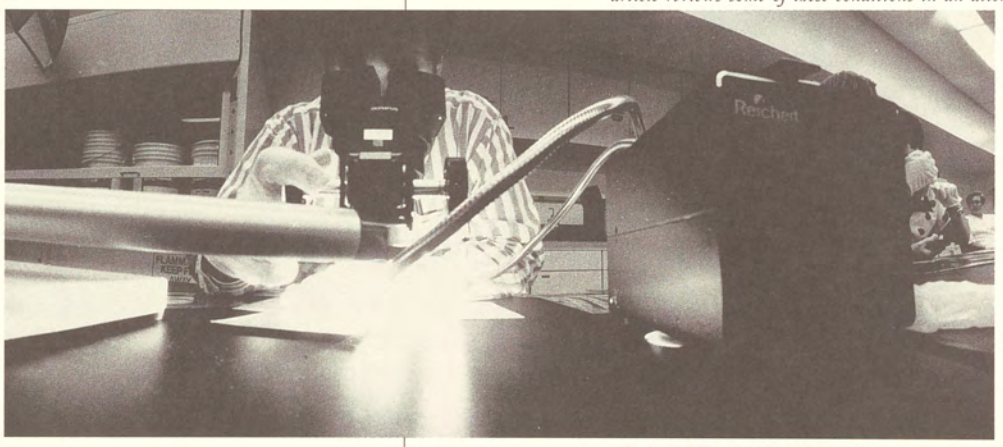
THE FUTURE OF CONSERVATION

In October 1930 nearly two hundred museum directors, art historians, and scientists gathered in Rome for a unique international conference. Held under the auspices of the International Museums Office of the League of Nations, the conference had as its stated purpose "the study of scientific methods for the examination and preservation of works of art." At the end of five days, conference participants confirmed "the utility of laboratory research as an aid to the study of the history of art and museography..." Science in the service of art was recognized — and modern conservation was born.

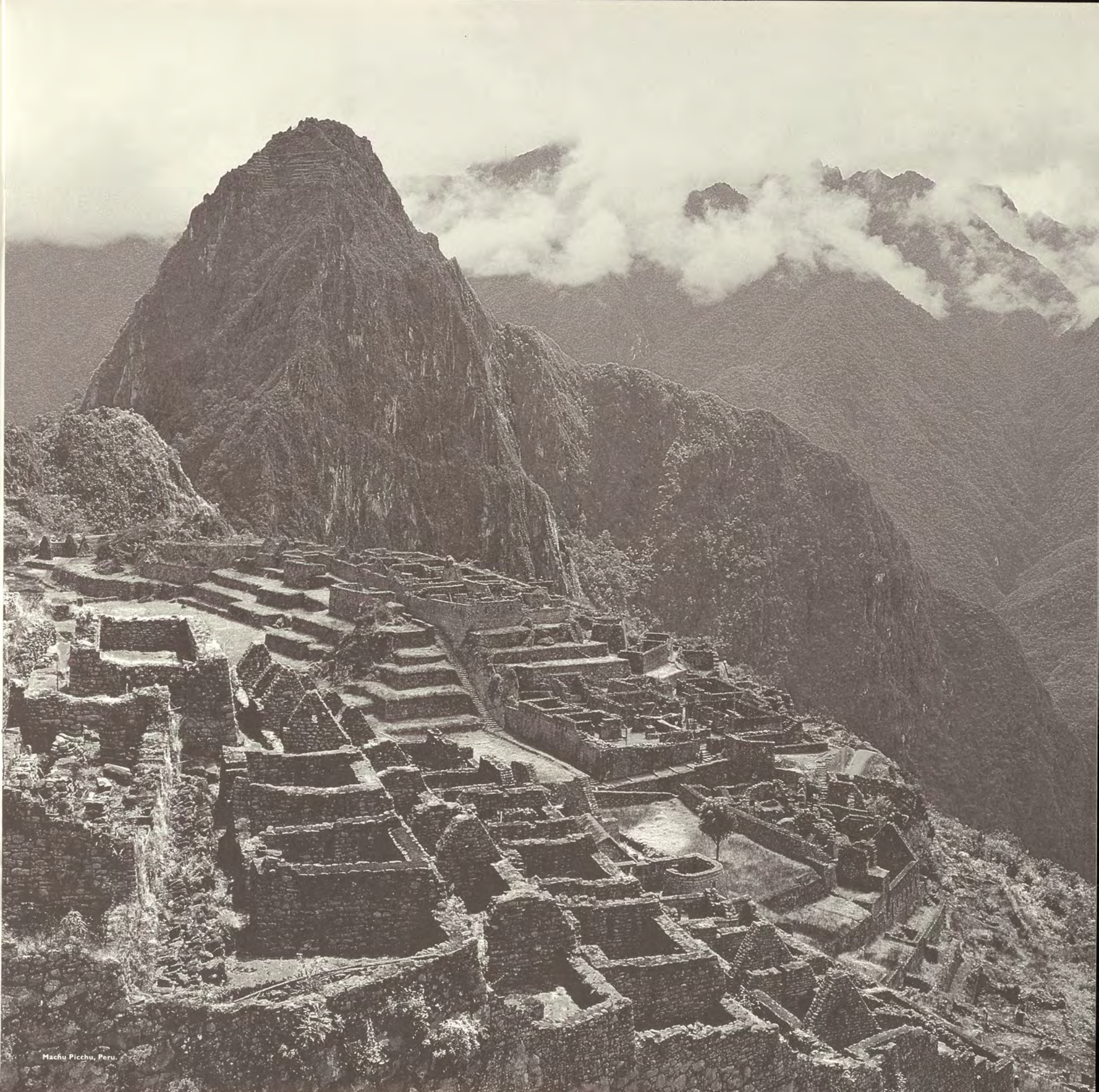
Six decades later, scientific issues remain central to the conservation profession. But conservation is now faced with new circumstances presenting challenges well beyond the scientific. Today, as resource allocation, politics, and public awareness help shape the agenda for conservation, a review of contemporary conditions seems needed to help secure the future of the world's cultural heritage. This article reviews some of these conditions in an attempt to characterize the current climate, to articulate some of the most difficult challenges facing the field, and to stimulate reflection on the future of conservation.



The present world is vastly different from the one of sixty years ago. This is the age of the global village in which the flow of information and increasing tourism worldwide create a greater general awareness of our cultural heritage. This, too, is an age of renewed national and ethnic pride — pride often embodied in a society's cultural property. It is also a time of proliferation in the collecting of objects, an activity which further strains our ability to provide appropriate care for objects.

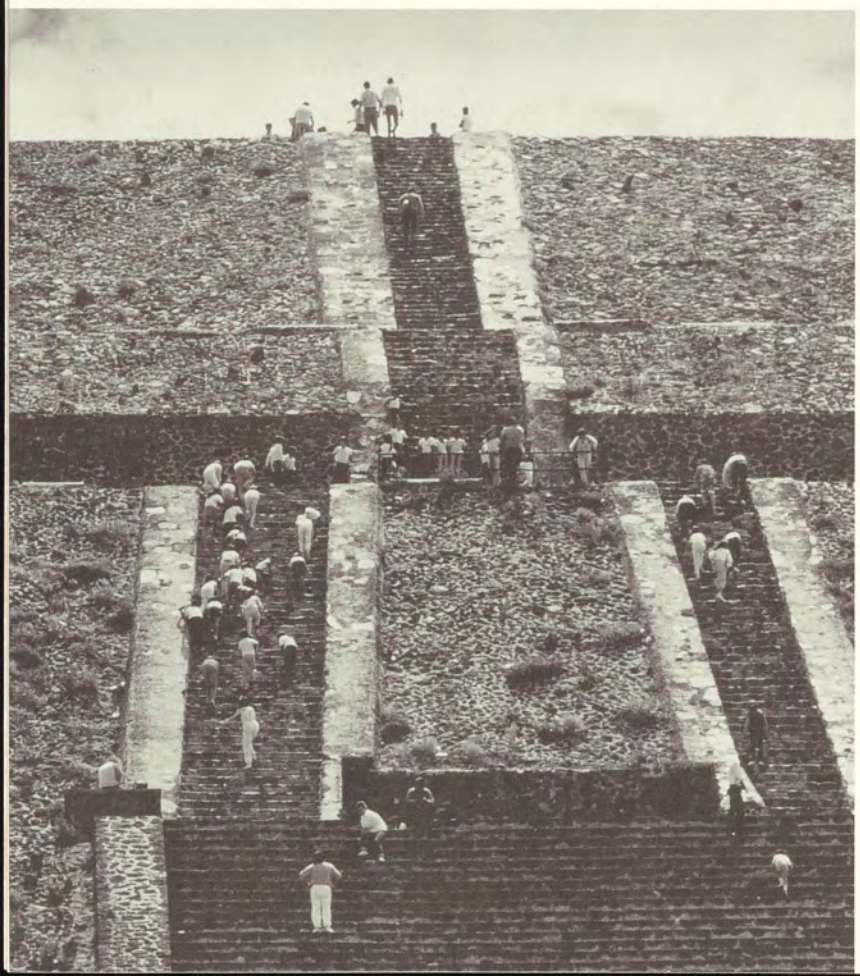
Conservation faces growing needs and diminishing resources. In the future, economic constraints will deny conservators the luxury of believing that every object or monument can be afforded the same high level of attention. Already the concept of triage, the notion of setting priorities, is openly discussed among museum personnel and archaeological site managers.

The scientific work of conservation is not conducted in a political vacuum. Decisions regarding the allocation of resources and the conservation of cultural properties frequently involve political considerations. Increased political support for conservation will be contingent on greater public belief in its necessity. The conservation profession, therefore, must become effective and competitive in advocating its needs, otherwise it may never achieve the political standing and public support required to meet the substantial challenges that lie ahead.



Machu Picchu, Peru.

THE FUTURE OF CONSERVATION



Fifteen hundred years ago, the city of Teotihuacán dominated central Mexico; today, tourists climb the Pyramid of the Sun. The benefits of public access to sites such as this must be weighed against the damage it can cause.

THE PURPOSE OF CONSERVATION

As conservation enters a new era, lead by a new generation of conservators, circumstances may force a reappraisal of some traditional assumptions underlying the profession. None would argue that conservation is an end in itself. It is a means to an end. Conservation has as one of its purposes the preservation of cultural property for study and research by scholars — scholars whose work enlarges our understanding of humanity's development. Certainly, objects preserved collectively can help convey the essence of a culture. But has conservation as a whole, in its dedication to the preservation of selected objects and sites, lost sight of its ultimate purpose, the preservation of cultural heritage?

Conservation also has the function of preserving the world's material culture for future generations. In practice that has often meant sheltering cultural property from public contact. But if conservation is to have the requisite support of today's public, can present access realistically, and fairly, be denied? And if present access is allowed, how much will be left for future generations?

The definitions of what should be conserved, as well as how those definitions are formulated, are the subject of contemporary scrutiny and debate. We tend to select "significant" objects for conservation. But the criticism is now sometimes leveled that "significance" is determined on the basis of cultural values. Why, for example, have European paintings received greater conservation attention than African ethnographic objects? Some contend that the notion of what constitutes "significant" is all too often predicated on Western values and ideas. Who should choose what's valuable — and on what grounds? Should financial value dictate what will be conserved? And have the materials themselves influenced decisions? Do we, for instance, select objects to conserve which are inherently more stable and therefore easier to conserve?

The range of objects now considered deserving of conservation has grown beyond the more strictly defined categories of the past. Preserving natural history collections presents the conservator with a new set of scientific problems. The same can be said of geological collections. In an entirely different category are a broad range of commercial products which, over time, have acquired historical importance. These items, most never intended for long life, are now the subject of conservation. And the whole concept of preserving individual objects seems less fundamental when one considers certain Eastern approaches to conservation. In nations such as Japan, it is the creators, the craftsmen, who are identified as national treasures; the emphasis is on keeping the craft alive, as opposed to simply maintaining objects.

The scope of conservation is clearly widening. Yet, for the foreseeable future, conservation will continue to function primarily in two venues: museums, libraries, and other collecting institutions; and outdoor locations such as historical monuments, archaeological sites, and historic architecture.

MANAGING COLLECTIONS

Until now, the vast majority of conservation work has been done in the context of museum and library collections. Although preservation constitutes a major function of museums, many conservators continue to be excluded from institutional policy-making. The many museums that cannot afford conservation departments rely on private contractors or central national offices, which tend to be treatment-oriented. In the U.S., where a growing number of museums have hired conservators during the last decade, many museums have yet to fully integrate conservation into their administrative systems and procedures.

The task of museum conservators in collections care is complicated by the reluctance of some institutions to spend sufficient funds on storage facilities and upgraded environmental controls. Because maintenance, unlike gallery space, is not visible to the public, it is less likely to be paid for by private donors. Yet appropriately designed and adequate storage facilities are crucial in preserving collections.

One of the major issues confronting museum conservators is that of individual treatments. Given limited resources and the increasing number of objects (as well as the proliferation of museums themselves), caring for museum collections primarily through individual treatments no longer appears realistic. There is a growing consensus that museum conservators should shift much of their effort from individual treatments to preventive care and long-term conservation. The best argument for this approach is the long-term savings preventive care can offer.

A comprehensive national and international approach to preventive care of collections involves education, research, and outreach. Incorporating conservation studies into the formal education of art historians and offering training in preventive

Fragment of Dead Sea Scroll, referred to as the "War Scroll" in the Shrine of the Book, Jerusalem.

conservation technologies to conservators are essential. Needed, too, is a greater understanding of the internal environments of museums and their impact on materials, and further study of ways to control museum environments. Finally, conservators will need to step beyond their laboratory walls and reach out to the broader museum community, particularly museum directors and trustees, to make the case for preventive care.

SITES AND MONUMENTS

Often located in conditions that are difficult to control, sites and monuments are highly susceptible to environmental and human damage. Many significant sites and monuments are located in developing nations which often lack the expertise and financial ability to preserve their historical riches. These nations frequently are overburdened with issues of health, education, poverty, economic development, and overpopulation, and cannot devote much energy to the conservation of their cultural resources. Remaining sensitive to human needs while attempting to assist developing countries in protecting their cultural property requires a sense of balance and sophistication on the part of international organizations.

Such sensitivity is not always displayed in the course of archaeological work. Excavation and research often reflect the objectives of foreign archaeological missions, not those of the host country. Indeed, many developing nations have not formally established their own priorities for archaeological work within their borders, but are nonetheless eager for external assistance.

As with art historians, training in conservation is rarely part of an archaeologist's formal education. Consequently, objects and sites sometimes are not treated in accordance with conservation principles, resulting in irreparable damage. This is a particular problem with regard to the maintenance of sites after an archaeological team has completed work. Without the utilization of conservation methods, a site's historical value can be quickly destroyed.

A concern for both developing and developed nations is increasing tourism. Part of conservation's function has been preserving cultural property in order that it can be enjoyed by many. Yet public access to sites sometimes has resulted in significant harm. Should the public simply be excluded from historic places — or should we accept damage done by tourists as the price that must be paid for letting people experience their cultural heritage? The inherent paradox of tourism is that historical information is destroyed as access to that information increases. How do we determine what is an appropriate level of usage? What level of destruction is acceptable? Is the answer sacrificing some lesser sites to the demands of tourism?

Conservation of historic structures in urban environments presents additional complexities. Historic city centers are inhabited places with the requirements of contemporary life. The challenge is finding a way to preserve the historic integrity of cities without putting the people who live there into an urban time capsule. This dilemma is exacerbated by the fact that there are too few architectural conservators, and too little interaction between architectural and conservation groups.

While none of the problems related to the management of sites — both in archaeological and urban settings — lend themselves to simple solutions, the necessity for certain measures is apparent. No site can long be preserved without the support of the surrounding community. Creating a local constituency for site conservation and preservation means making that community part of the site management process. Training is key, both for those professionals whose skills require upgrading and for the local population.

Simultaneous with the training of technical personnel and site managers, conservation organizations need to educate government officials, including tourism ministries, regarding the benefits and dangers of site development. A nation's historical wealth can foster national pride and provide economic rewards as employment-generating attractions. But care is essential. An historic site is a heritage to be preserved, rather than a commodity to be exploited. Decision-makers ought to be encouraged to develop their own priorities for archaeological projects. At the same time, foreign agencies should recognize the legitimacy of competing national priorities.

Crucial for successful site management is more stringent site maintenance regulation. Helpful, too, would be more study on adapting new materials and non-invasive techniques for the protection of sites. Finally, when cultural property is situated in a natural context, more coordination should exist between nature conservation and site conservation. By linking cultural and environmental concerns, protective zones can be created that preserve both. As sites such as jungle-surrounded Tikal in Guatemala and Machu Picchu in Peru persuasively demonstrate, a preserved natural environment juxtaposed with human creations provides the visitor with an experience both dramatic and profound.

Site management would be aided by certain global reforms. First is providing archaeology students with a basic education in conservation. A more difficult step would be convincing major funders of excavations of the need for conservation as part of the archaeological work. Even more effective would be worldwide legislation prohibiting excavation without conservation. Such legislation would complement existing laws that prohibit looting and illegal trading of cultural property.

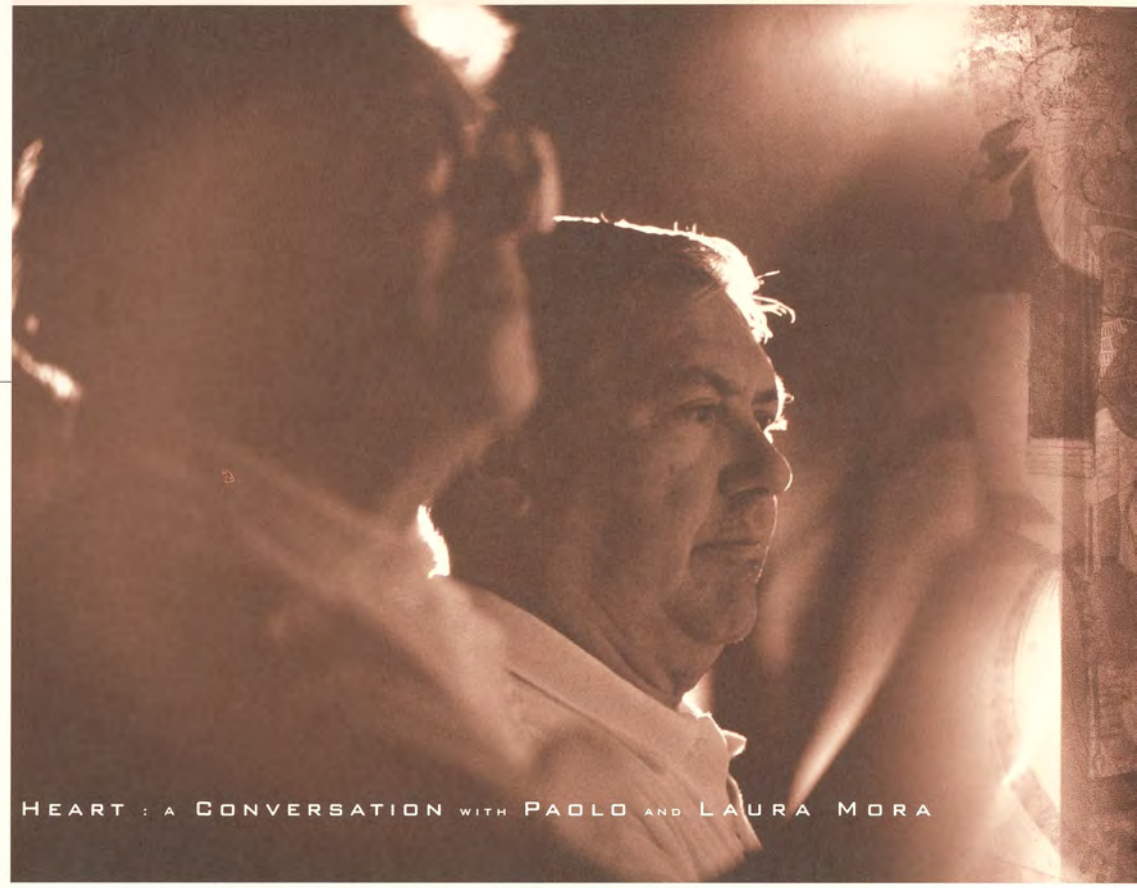
THE FUTURE OF CONSERVATION

The conservation field is entering a period of maturation in which its importance is recognized, though not yet fully appreciated or integrated into policy-making. Globally, conservation remains a piecemeal process. In our attempt to preserve all, we may be neglecting much that is most worthy of conservation. This approach needs to be replaced by educated decision-making and the development of institutional mechanisms that address fundamental questions and set priorities, nationally and globally.

As the scientific research work of conservation continues, the profession's future achievements hinge upon advancement in some nontechnical areas.

Ultimately, the future of conservation will be shaped by the nature and degree of outside interest in conservation efforts. The scientific work of conservation needs a political environment in which it can best be applied. If progress in conservation's scientific realm is to have impact, it must be matched by increased public enthusiasm and political support.

The Colosseum, like other monuments in Rome, is exposed to air pollution and other factors of modern urban life that hasten the monument's deterioration.



FROM THE HEART : A CONVERSATION WITH PAOLO AND LAURA MORA

In June 1991, Jane Slate Siena interviewed Paolo and Laura Mora at their home in Rome. As former Chief Conservators at the Istituto Centrale del Restauro in Italy and consultants to major conservation projects in over 20 countries, the Moras reflect on their forty years experience in the field as conservators, educators, and advocates for the preservation of cultural heritage.

JSS – What changes have you observed in the practice of conservation since you entered the field?

Paolo Mora – Our experience began in the 1940s when restorers were painters with very refined manual and aesthetic skills. At that time, very little was understood about materials, yet a lot of cleaning and overpainting was done. The practice is very different now, because we have become more knowledgeable about materials and techniques. We have tried to promote the new approaches, to learn about materials, to know more about environmental matters, and to establish contacts with conservators and scientists working in other countries. This transition began early in our careers when we realized that it was better to do nothing with a work of art than to work in the old way.

What occurs to you when you see a particular object or monument in need of conservation?

Laura Mora – We immediately want to stop the deterioration and savè the object, the materials, the structure, and the image. We can use the Nefertari tomb as an example. When we arrived, we made a survey to determine which elements of the tomb were in the worst condition. For those areas, we designed an emergency treatment. We consolidated the damaged areas, and then worked on restoring the beautiful images. A complex site like this is like a book in which there may be only a word missing here, or a sentence there, or perhaps a chapter there, but you must bring the object back to life and help the reader understand what is being said by the object.

Would you like to speak about your own approach to conservation treatments?

PM – Every object made by man, whether a painting or a monument, is of a certain time, it may be 500, 1000, or 5000 years old. From the time of its creation, it starts changing and aging. We can never say that the object we have now is or can ever be identical to the way it was at the moment of its creation. So we have to respect its history and appreciate what we call the patina, the time that passes on a work of art. We can't take it off. The colors and binding media change, maybe very little if the work was done with a good technique and with excellent materials, but still there are changes. We prefer to use reversible treatments with minimal intervention.

What do you think are the most critical issues in conservation today?

PM – We have different degrees of urgency, but certainly everything that is outside is in imminent danger. We can protect objects in museums from just about everything, except of course very strong earthquakes. Outdoor objects are in very bad condition because of natural aging and weathering processes and exposure to destructive influences such as air pollution. It may happen in other parts of the world, but we see it in Italy daily. People tend to conserve the works that are the most beautiful and most important, and overlook the works that are in greatest danger. Our personal view is that we should not select only the most beautiful objects for conservation. Otherwise our cultural heritage will disappear.

How do we become better equipped to address these issues of environmental impact and selection?

PM – We cannot save everything, so we must have all the information available though the interdisciplinary approach before selecting objects for conservation. We must work according to the new theory and concentrate on long-term conservation, not object-by-object restoration *per se*.

It would seem, at least to the visitor, that there has been a conservation renaissance in Rome and throughout Italy during the 1980s.

PM – Yes there is, but there is very little money. Fortunately we now have legislation in Rome that addresses conservation, traffic, pollution, and so forth. We are motivated because when we examine old photographs, we see that the monuments have deteriorated significantly in short periods of time — 100, 50, even 20 years.

What has been the role of the professional organizations in increasing public awareness of the need for conservation in Italy?

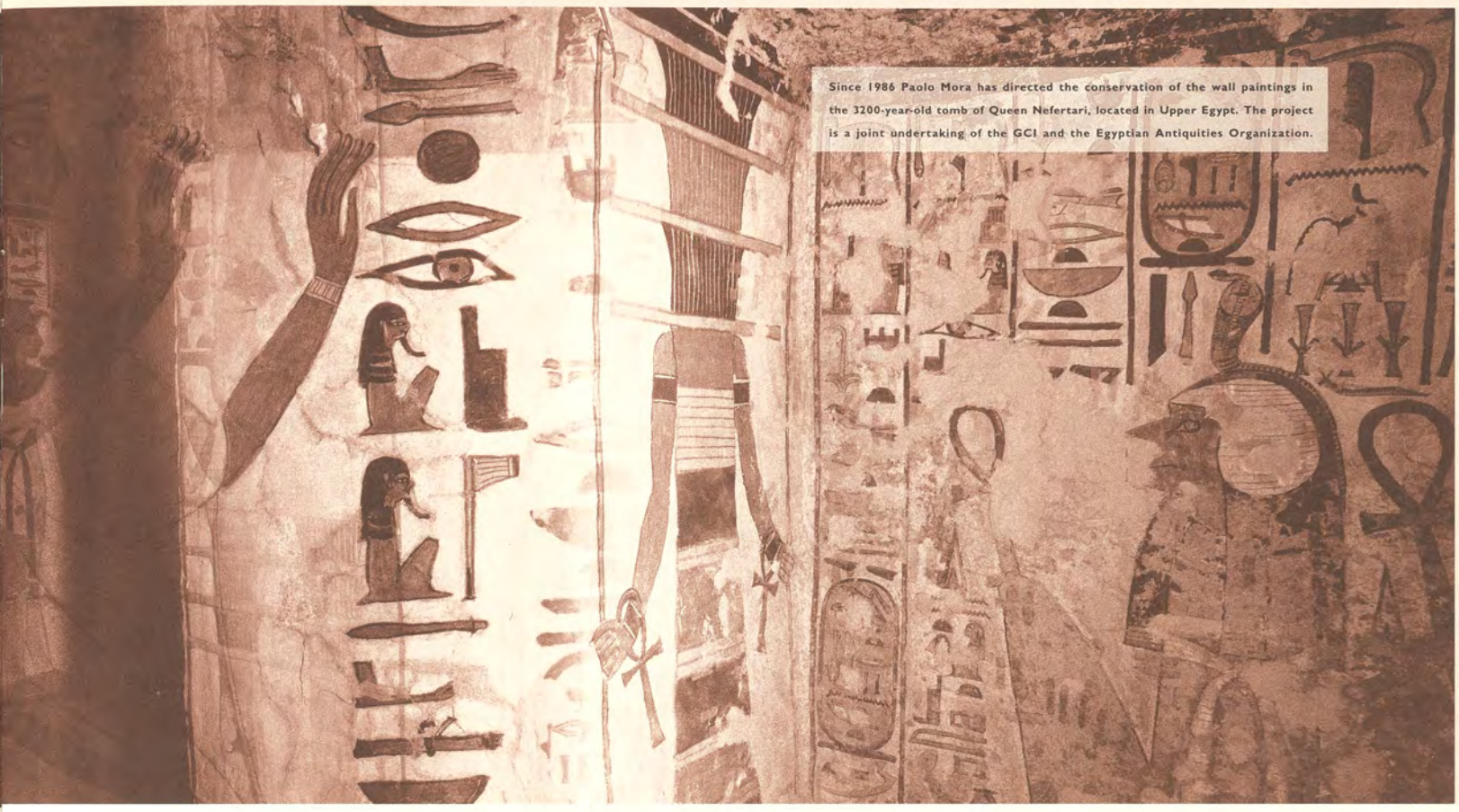
PM – We have been working for many years here to promote these ideas. The Istituto Centrale del Restauro has of course been very active. The government officials understand what we need. The cultural heritage in Italy is its petrol, and we are a very wealthy country. Like the Egyptians, we want to show that the art and monuments are sources for economic enrichment. We must have resources to protect these assets.

Conservators, not unlike artists themselves, rely on creative processes, their own instincts. Would you tell us something about your creative processes?

LM – Conservation was our destiny. In our early studies, we tried to establish a conservation program with a critical scientific approach. So we tried to construct and build slowly, first in our own experience, and then with others. This passage was extremely interesting and infinitely exciting, because it was something new. Paolo began reading everything that he could in the languages he knew, and we followed all the congresses to establish dialogues with others. We came to feel that we could transmit our experience to others in the field. Our mission, our passion, has been to do this, because it is through teaching that we confirm everything. We feel that we are not necessary anymore because a status has been created and there are young people in so many parts of the world who are our conservators. Thanks to them, we have understood things, and these are always things that come from the heart.

In what areas is more training needed in conservation?

PM – We have many theories, but very little verification through experience. The lack of schools in architectural conservation has undermined the evolution of thought in this area. It is urgent that architectural conservators have more opportunities to test and develop



Since 1986 Paolo Mora has directed the conservation of the wall paintings in the 3200-year-old tomb of Queen Nefertari, located in Upper Egypt. The project is a joint undertaking of the GCI and the Egyptian Antiquities Organization.

Paolo Mora

Laura Mora

methodologies for practice.

Your comments about architectural conservation remind me that your bibliography addresses a variety of subjects. You are closely identified with mural paintings, but you also work with panel paintings, mosaics, surface finishings, ancient color, Roman stucco, architectural facades, and an array of materials such as stone, marble, brick, plaster, and wood.

PM – Yes, we have studied all of these because each material is part of the ensemble of the monument or object. We are rather well known for our work on architectural surfaces, but why? Well, we began working on panel paintings, small Raphaels and Piero della Francescas, and then went to wall paintings. For this, we needed the architects, engineers, and scientists in other disciplines. This has led us to search for appropriate interdisciplinary teams to study all elements of the work of art. We try to take a complete look, to close the chain.

You are describing what might be referred to as a holistic approach to conservation.

PM – That is the point, because we have seen wall paintings restored in buildings where water is seeping through broken windows or leaking roofs. After one year, we must begin again to repair the new damage.

You have worked on major conservation projects in over twenty countries.

LM – Yes, over the years we have worked in many foreign countries and have developed a particular philosophy. People do not want foreigners coming in and working as if the local people are not capable. There is always the best solution for each problem and it is through collaboration that everyone finds it. By working in this way, we have achieved magnificent cooperation with the local people and the authorities.

PM – Yes, we try to always form a mentality, never to pass on recipes. As Laura says, every case is different.

Much of the world's cultural property is located in countries with extremely limited resources. How should we respond to this?

PM – We must get money, help, and technical support to the people working there. Local training, materials, and equipment are needed. There is also a need for new approaches. Look at Turkey where there are hundreds of churches, or Egypt where there are hundreds of tombs. Improvements in overall conservation strategies and site management are desperately needed.

What would some of the elements of your overall strategy be?

PM – Our message to archaeologists is don't excavate — we have so many things already to protect outside. If you have been in Pompeii then you know. Secondly, conservators should be included in all excavation teams, if excavation is necessary. ✦ Finally, we know that once excavated, all materials deteriorate, sometimes extremely rapidly. This is very difficult because we know that everything is destroyed in time. Our work is to prolong life.

We began very optimistically, but you bring us to the conclusion that conservators are prolonging life that is mortal. Mountains become deserts eventually.

PM – Yes, industry today gives us materials that will last four or five years. We need materials that will last hundreds of years and more. To form and support a mentality like this is not easy. I am very curious to know what will be around in 10,000 years. Remember that we still have prehistoric rock paintings.

LM – Let's not forget that they are located in secluded sites, and that Lascaux, one of the most famous, is closed. All tourists who go there see copies.

Do you advocate that copies be made of endangered sites and monuments?

LM – I think so, though I don't like them.

Does art have to be seen in the original? Do you think that the public will accept more replicas?

PM – I think the public wants to see the image, not necessarily the materials. Specialists, on the other hand, must have access to the original material. Take again the example of the tomb of Nefertari. There are doors and narrow passageways that are no more than 80 centimeters wide. Two persons cannot pass there simultaneously. I don't think it would be a very pleasant experience for tourists.

Can the experience that people have with art by viewing replicas be meaningful?

PM – Visitors today are very interested in the cultural heritage and I think we must strive to organize visits that convey the spirit of the artwork or monument. Our technology now allows us to make almost anything. The Lascaux experience is successful because the exhibit and accompanying information are beautifully presented. In other places, the solution may be to provide access to individual sites on a rotating basis. Presumably, tourists could see a range of replicas with museum-quality presentations, and also see one authentic monument.

Where should we be in twenty years?

PM – We must try other means of energy production and use, for ourselves and for the environment.

What do you think the work of the conservator will be like in twenty years time.

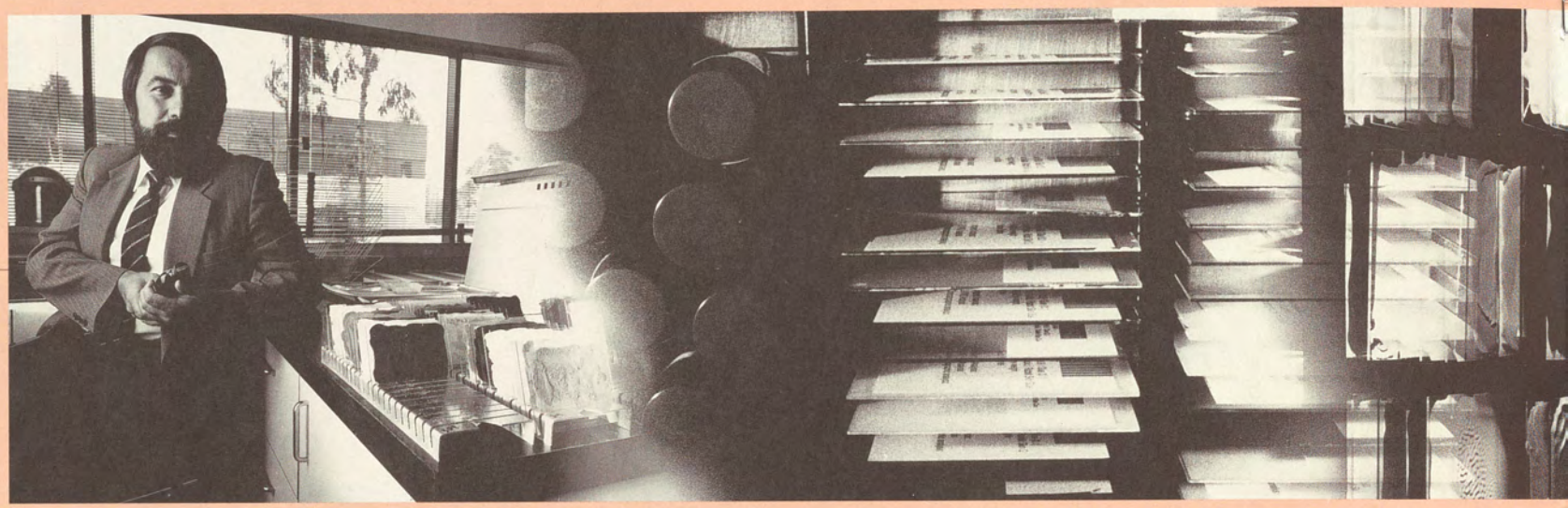
PM – I think it will never be done by computer. It will always involve a physical communication with the object. The conservator will need to be a humanist and a scientist. I hope that we will have better site management and maintenance strategies so that surgical interventions are less frequent.

What are your plans for the future?

LM – We will continue working as consultants. We will be onsite on the scaffolds to support the conservation approaches that have been established, and to help develop new ones. This is what makes us very happy. We feel very fortunate to have found a life's work that we love, that allows us to live and work among beautiful things. That is what we will be doing.

Jane Slate Siena is Head, Institutional Relations, the Getty Conservation Institute.

BINDING MEDIA COLLECTION ASSEMBLED AT GCI



In the centuries before the Industrial Revolution and the development of manufactured paints, a painter was not only an artist, but also a kind of chemist. Mixing pigments with selected binding media — the material which holds the pigments together and bonds paint to surfaces — the painter personally created his or her paints. Artists often followed a variety of traditional paint recipes. Later, differences in paint formulas proliferated as painters experimented with a multiplicity of binding media, seeking that special combination that would give their work greater luminosity or warmth or life. With the advent of commercial paints, most painters no longer concerned themselves with detailed knowledge of the components of the paints they used. Variations in paint composition present a formidable challenge to the modern conservator. Before embarking on the cleaning or restoration of a painting, a conservator analyzes the composition of the paint layers. Using a number of modern analytical techniques it is relatively simple to identify inorganic pigments. Binding media, however, remain much more difficult to analyze. To remedy that situation, the GCI is engaged in a three-year project applying recent technology to binding media analysis. As part of that project, the GCI has assembled material to form one of the most comprehensive research collections of binding media now available. A comprehensive collection is arduous to create since standard materials of historical binding media are not available commercially. But its value as a resource is immeasurable because it provides the samples necessary to help establish analytical standards. The GCI binding media collection is the result of a joint project with the Center for Conservation and Technical Studies (CCTS) at Harvard University's Fogg Art Museum. Researchers from both groups worked together assembling a computer database catalog of the Museum's Gettens Collection of Binding Media. Some of the deficiencies in the Gettens Collection (e.g., inadequate sample information, unmonitored storage conditions, erratic sample exposure to light and heat) convinced the GCI of the need for a new binding media collection. The GCI collection, located at its headquarters in Marina del Rey, California, presently contains approximately 800 samples of primary materials used as binding media. These include oils, natural resins, waxes, animal glues, gums, and polymers. The collection also contains approximately 900 binary mixtures (e.g., egg and oil) in varying proportions, with and without pigments. The collection is stored in two ways. A large portion of materials are housed in airtight, amber glass containers labeled with basic information and a computer barcode which is the key to a computer file of complete information. Another portion of the material is processed for coating, applied to 4″ x 5″ glass plates, stored in the dark and allowed to age. Like the glass containers, each plate is labeled with basic information and a computer barcode. Most of the samples have already been analyzed using infrared spectroscopy. The binding media collection continues to grow through the contributions of interested individuals and institutions. Expanding the collection to include binding media from around the world is essential. Even the same material can have different properties depending on the geography in which it was found, the season in which it was collected, and the manner in which it was processed. The long-term objective is to provide future generations of conservation scientists with a valuable collection of well defined standards, test materials, and experimental samples. Those wishing to contribute materials to the library, or desiring more information, should contact Dr. Dusan C. Stulik, Deputy Scientific Program Director, the GCI.

Dr. Dusan C. Stulik and the GCI's binding media library.

The deterioration of an historic site — be it an outdoor Siqueiros mural in downtown Los Angeles or the Great Sphinx of the Giza Plateau — is often the result of environmental factors. Government agencies, site managers, conservators, archaeologists, and others responsible for the condition of a site require as much knowledge as possible about the site's environmental conditions. Yet rarely is extensive statistical data available. To gather a broad spectrum of quantifiable data on environmental conditions affecting cultural property, the GCI has, since 1990, installed microenvironmental monitoring stations at several significant sites around the world. Monitoring stations have been established at Buddhist temple sites at the Mogao and Yungang Grottoes in the People's Republic of China, the pre-Hispanic site of Tiwanaku in Bolivia, and the Great Sphinx and the tomb of Nefertari in Egypt. Monitoring devices also have been placed at Fort Selden State Monument in New Mexico and at Pueblo Park in Los Angeles, site of a work by Mexican muralist David Siqueiros. The autonomous, solar-powered environmental monitoring stations represent a substantial advancement over the hand-held monitoring devices used by conservators in the past. They are designed to provide conservators with the precise and comprehensive information needed to manage sites appropriately and to develop realistic conservation strategies for the future. The GCI stations have a number of different electronic monitoring sensors designed for long-term data collection. The monitoring stations combine traditional devices for measuring climatic conditions (i.e., temperature, rainfall, humidity, and wind conditions) with other technology originally developed for use in agriculture and industry, such as photoelectric, wetness, carbon dioxide, and infrared sensors. When applied to cultural property, the enhanced technology supplies more complete data essential in determining ways to improve a site's conservation. For example, photoelectric sensors help document the number of visitors to a site, while carbon dioxide sensors, in an enclosed site, calculate the visitors' effect on the interior atmosphere. Wetness sensors determine the presence of condensation on the stone of a monument, while infrared sensors measure the temperature of an object without touching the object itself. Besides supplying information on a variety of environmental conditions, the monitoring stations deliver a greater depth of data than previously available. Unlike hand-held monitors, which require human operation, stations automatically operate twenty-four hours a day and average their sensor readings at set intervals. This is particularly important for sites where frequent data sampling is needed to study the environmental impact of visitors. The stations are self-contained and require minimal maintenance. Data from all sites is presently collected by the GCI, either directly or at established collection times, for processing and analysis. At all locations, local staff are being trained to use this technology. To obtain a broader understanding of the effects of a range of environmental factors on cultural property, the GCI plans to install a number of stations in tropical environments. Other site conditions to be monitored in the future will include the movement of air and dust particles in interior spaces. Already in the works is the GCI's first environmental monitoring project in an historic urban setting. In November 1991, monitoring equipment will be established in the city center of Quito, a World Heritage Site with a high density of historic monuments. The environmental monitoring projects are supervised by Dr. Shin Maekawa, Head, Environmental Science, Scientific Program, the GCI.

ENVIRONMENTAL MONITORING OF CULTURAL SITES

PRESERVING HISTORIC CITIES GLOBAL ISSUES FOR THE 90'S

Long before Roman times, societies attempted to restore or protect important structures located in urban areas. But the survival of the old and historic in today's urban environment does not reflect any single set of standards or priorities. The long history of urban conservation has yet to produce a consensus on how to balance the goals of conservation with the ever-changing demands of city life. Contemporary dialogue on urban conservation reached the international level with the establishment in 1964 of both the Venice Charter and the International Council on Monuments and Sites (ICOMOS). In 1972 UNESCO issued its "Convention for the Protection of World Heritage and Natural Heritage" to provide international protection to many of the world's most outstanding cultural and natural treasures. Of the 339 sites on the World Heritage List today, 73 are historic cities or towns. Since 1964, ICOMOS and UNESCO have instituted a series of international charters, conventions, and recommendations to address the long-term protection of historic cities. Other agencies have either joined the campaign and/or embarked on their own. The International Committee for the History of Art devoted its 24th Congress in 1979 to historic centers (see *Centri Historici di Grandi Agglomerati Urban*, Bologna, 1982). This was followed by a landmark meeting in the United States in 1982 to discuss the use of historic city centers in contemporary environments, organized by the Massachusetts Institute of Technology, the Harvard University School of Design, and the Aga Khan Program for Islamic Architecture (see *Adaptive Use: Integrating Traditional Areas into the Modern Urban Fabric*, Cambridge, 1982). In 1987 ICOMOS established a special "Charter for the Conservation of Historic Towns and Urban Areas," calling for regional approaches to complex conservation issues, such as infrastructure development, disaster preparedness, traffic management, and pollution control. Today, development agencies, banks, private foundations, and local and national governments are more aware of the need to integrate economic development and conservation — seemingly disparate endeavors in the past — within historic environments. The constituency for conservation is growing. To highlight these developments, the GCI joined the UNDP Regional Project for Latin America and the National Endowment for the Arts, Washington, D.C., to host a seminar on "Conservation of Cultural

Left to Right: Plaza Mayor, Cuzco, Peru; Convento de La Merced, Quito, Ecuador; Salvador de Bahia, Brazil; Monasterio de Santa Clara, Quito, Ecuador.

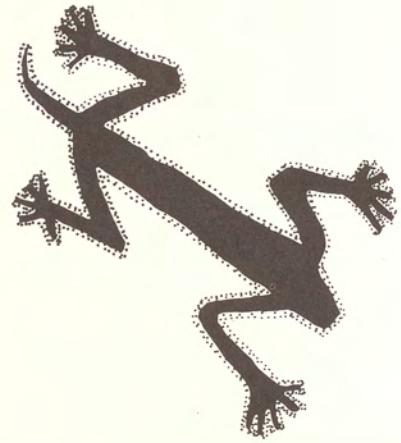
Property in Urban Environments." The seminar, held in November 1990 in Quito, Ecuador, focused principally on the needs of historic cities throughout Latin America, the Caribbean, and the United States. Architects, urban planners, economists, and engineers exchanged information and discussed strategies for conserving inner cities and their monuments while respecting social, political, and economic realities. Case studies presented during the seminar offered a variety of innovative strategies and approaches. Old Havana's restoration in Cuba, for example, and the Savannah Landmark Rehabilitation Project in a southern U.S. city pursued similar objectives. In Havana, new community services and improved housing went hand-in-hand with conservation, sparking intense local debate on the advisability of new construction in old environments. In Savannah, preservationists joined forces with business and government to upgrade housing without displacing populations. In both cities, these broad-based strategies resulted in viable tourist industries that enhanced the local economies but further complicated the delicate balance of sometimes conflicting community needs. Throughout the discussions of other historic cities, seminar participants concurred that a new attitude toward restoration must be fostered to successfully cope with the difficulties of conserving historic cities. Thirty-year old Brasilia, called a "laboratory for dynamic preservation," was cited as an opportunity to develop management guidelines that are directly related to contemporary urban needs and a modern architectural heritage. Comparisons were drawn to the highly political process that functions to preserve historic districts in the United States, where public-private partnerships grapple with litigation, citizens' movements, and high-profile funding campaigns. The city of Quito itself may prove to be the place to watch, as the local authorities attempt to work with disparate populations within the historic district to rehabilitate one of the region's most impressive historic environments. The effort will require increased resources in conservation and community development to address the kinds of social, cultural, and technical problems common to countless other cities that make up a substantial portion of the world's cultural patrimony. And that is what makes preserving historic cities one of the most dynamic conservation issues of the decade.

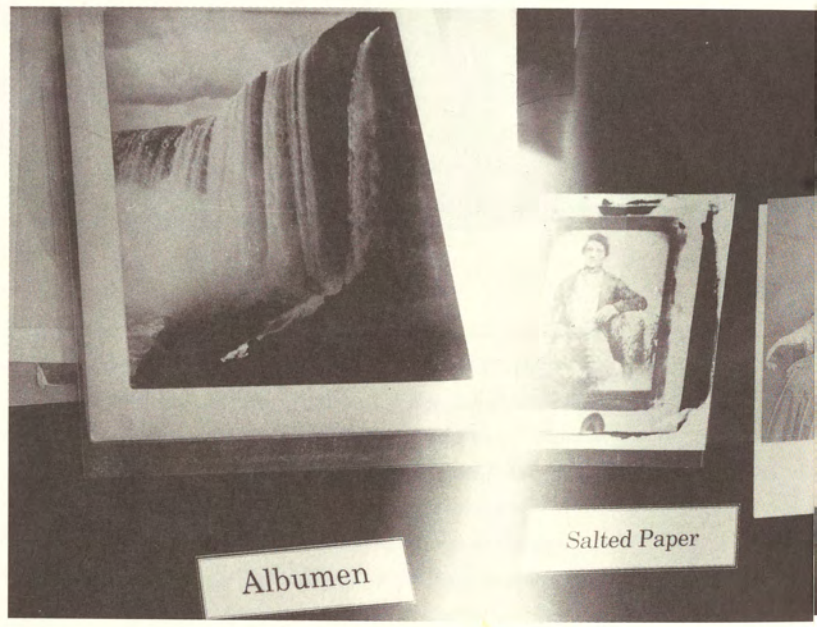
UPCOMING

COURSES

EMERGENCY PLANNING IN MUSEUMS On January 27-28, 1992 the GCI and the J. Paul Getty Museum will hold their first workshop on Emergency Planning in Museums. The workshop is designed to provide instruction and guidance to museum directors and senior staff on how to prepare for and respond to an emergency. ■ Workshop topics will include: the importance of an emergency plan within a museum's collection management policy, the principles of emergency planning, decision-making in emergencies, and preparing and implementing an emergency drill. The principal speakers will be the directors and staff of the J. Paul Getty Museum and the GCI. Additional presentations will be given by senior staff of museums that have recently experienced serious emergencies. ■ Museum directors and senior staff from institutions with a relatively high vulnerability to disasters have been invited to participate in this initial workshop. The GCI Training Program will evaluate the results of the workshop for future activities.

PREVENTIVE CONSERVATION → The GCI's next course on preventive conservation will be held May 4-20, 1992. The principal aim of this annual course is to provide the latest technical information on control of the museum environment and to encourage the implementation of preventive conservation practices within museums. The course is designed for mid- to senior-level conservators. ■ In 1992 the course will be increased from ten to thirteen days to include a number of new sessions on the environmental concerns of exhibitions, and the packing and transport of art objects. In addition, the session on aesthetic, low-level lighting will be expanded. ■ For further information contact the GCI Training Program.





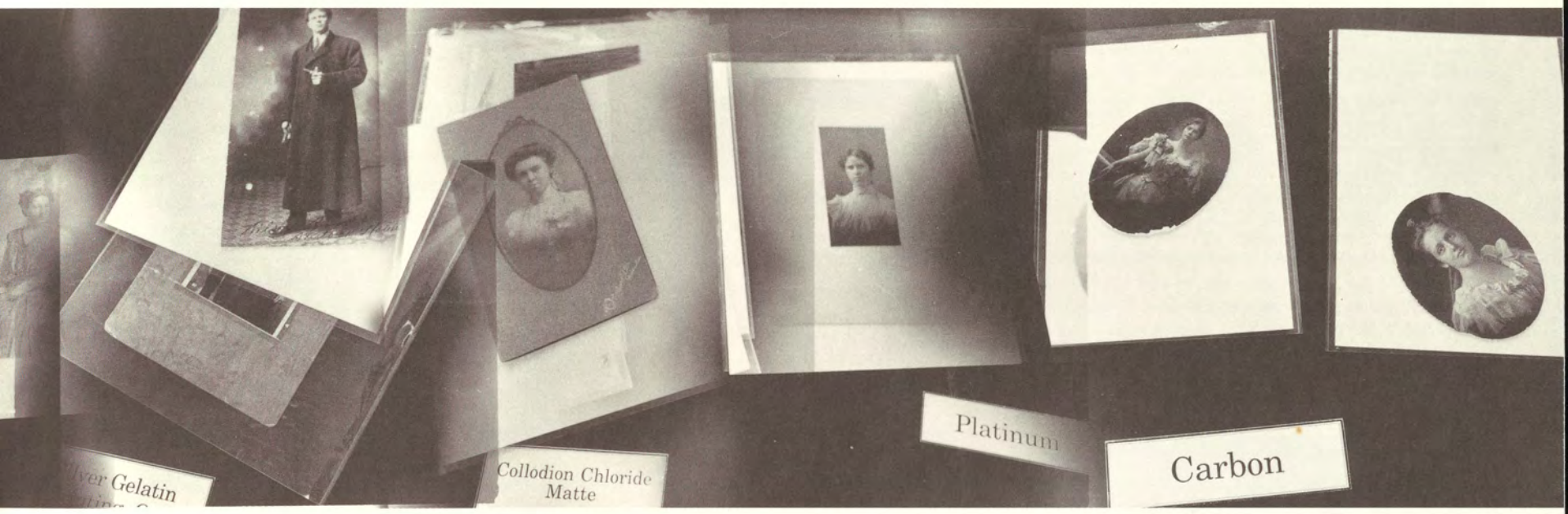
In July 1991 the GCI offered its sixth course on Preventive Care of Historic Photographic Prints and Negatives. The course covered the manufacture, identification, deterioration, conservation treatment, and proper storage of nineteenth- and twentieth-century photographic materials. The primary instructor for the program was Debbie Hess Norris, of the University of Delaware's Art Conservation Program. Course participants came from around the United States, as well as from India, Mexico, and Canada.

ROCK ART CONSERVATION...IN MEXICO

At a three-day meeting in April 1991 in La Paz, Mexico, the GCI presented a proposal for a pilot project on rock art conservation in Baja California to officials of the Instituto Nacional de Anthropología e Historía and the Government of Baja California Sur. Representing the GCI at the meeting were the Institute's director, Miguel Angel Corzo, and Nicholas Stanley Price, Deputy Director of the GCI Training Program. ■ Many international experts regard Baja California's rock art, located in the central mountain ranges of the Baja California Peninsula, to be among the most important groupings of rock paintings in the world. The sites number in the hundreds, and the paintings' subjects run the gamut from the human, to the animal, to the abstract. The paintings are also extraordinary in size. ■ The GCI's involvement in conserving Baja California's rock art began in late 1988 when it participated in an expedition to study rock art sites in Baja California's Sierra de San Francisco. This was followed by its co-sponsorship of an international symposium in the spring of 1989 which included six days in the Sierra de San Francisco followed by two days of discussion of conservation recommendations in La Paz. ■ The proposed pilot project is designed to help protect the area's important rock art sites which have experienced deterioration as the result of human and natural causes. The program would also provide on-site training in rock art conservation for Mexican conservators. This project is part of the GCI's continuing commitment to develop improved site management and protection strategies for cultural property located in exposed environments.

...AND IN THE UNITED STATES

During April and early May 1991, the GCI conducted a four week training project at Painted Rock, an important rock art site 150 miles northwest of Los Angeles. ■ This field project had two objectives: improving the visual aspect of the site by removing graffiti from the rock surface; and providing supervised field experience for conservators who have completed the one-year diploma course organized by the GCI and the University of Canberra on rock art conservation. ■ Leading the project was Andrew Thorn, a private conservator in Australia who is a specialist in graffiti removal techniques. Course participants included conservators from New Zealand, Australia, Sri Lanka, Tanzania, South Africa and the United States. ■ Painted Rock has been the location of two previous GCI training projects. An April 1988 course on rock art conservation and an April 1989 course on rock art site management both resulted in recommendations concerning the site's management. These recommendations are now being implemented by the Bureau of Land Management, the public agency responsible for the site. ■ The 1991 project was the first to make substantial improvements to the visual impact of Painted Rock through the reduction of graffiti.



PROJECTS

A CONSERVATION THESAURUS

The lack of standard conservation terminology for multidisciplinary concepts has continued to hamper the management of information relating to conservation research and practice. ■ In an effort to standardize conservation vocabulary, the GCI's Documentation Program and the Getty Art History Information Program's *Art and Architecture Thesaurus (AAT)* began collaborating in 1990 on a conservation thesaurus. This joint project has several goals: enhancing the conservation perspective within the *AAT* (the first edition of which was published in 1990); utilizing *AAT* research on conservation terminology; assisting in the production of the cumulative and volume subject indexes of *Art and Archaeology Technical Abstracts (AATA)*; and, finally, creating an important tool for all engaged in managing conservation information. ■ Work on a first draft of the thesaurus began in January 1991, and was reviewed by the project's review panel in August. A prototype of the thesaurus is expected to be available for professional review sometime in 1992. ■ The review panel is composed of Thomas Chase, Freer Gallery of Art, Smithsonian Institution; Elizabeth Fitzhugh, Editor, the *Journal of the American Institute of Conservation;* Walter Henry, Stanford University Library; Carolyn Rose, Museum of Cultural History, Smithsonian Institution; Joyce Hill Stoner, Art Conservation Program, University of Delaware/Winterthur Museum; George Wheeler, Metropolitan Museum of Art, New York; Jessica Brown, *AATA* Managing Editor; Kathleen McDonnell, Acting Documentation Program Director, the GCI; and Dagmar Jaunzems and Toni Petersen, Manager and Director of the *AAT* respectively. For more information on the project, contact Colleen Cowles Heslip, Conservation Research Coordinator, Art and Architecture Thesaurus, 62 Stratton Road, Williamstown, Massachusetts, U.S.A., (413) 458-2151.

RECENT

EVENTS

ADOBE 90

On October 14-19, 1990, the 6th International Conference on the Conservation of Earthen Architecture was held in Las Cruces, New Mexico. Sponsored by the GCI, the Museum of New Mexico State Monuments, ICCROM, CRATerre-EAG, and the National Park Service, under the aegis of US/ICOMOS, the event was organized to promote the exchange of ideas, techniques, and research findings on the conservation of earthen architecture. ■ The conference in Las Cruces was the most comprehensive on the subject ever held, and the most widely attended since this series of international meetings began in 1972. Approximately 300 delegates from over thirty countries participated. ■ The purpose of this meeting, like those that preceded it, was to promote efforts aimed at preserving historic and archaeological earthen architectural sites. Around the world these sites are threatened by development, tourism, and human neglect. ■ Presentations at the conference covered a diversity of subjects, including the historic traditions of earthen architecture, conservation and restoration, site preservation, studies in consolidation and seismic mitigation, and examinations of moisture problems, clay chemistry, and microstructures. In discussions that focused on the future, the application of modern technologies and materials to site conservation was urged, as was using scientific knowledge of existing structures in the creation of new, low-cost, earthen architecture housing. ■ Conference participants had the opportunity to visit Fort Selden, a U.S. military post abandoned in 1891, and now the site of a GCI field project conducted in collaboration with the Museum of New Mexico State Monuments. The project, begun in 1987, is assessing the effectiveness of modern chemical consolidants on adobe, as well as studying other protective measures. ■ To order *Adobe 90*, the conference preprints, please consult the book list order form.

UPCOMING

EVENTS

PUBLICATIONS

ANCIENT AND HISTORIC METALS

The J. Paul Getty Museum and the Getty Conservation Institute are jointly sponsoring an international symposium on "Ancient and Historic Metals" to be held November 21-23, 1991 at the J. Paul Getty Museum. Because the preservation and study of metals increasingly involves the collaboration of conservators and scientists, the symposium will focus on current conservation and scientific research, presenting a broad range of case studies from the international community. Papers presented at the conference will be published by the GCI. ■ For additional information please contact: Brian Considine, Conservator of Decorative Arts and Sculpture, J. Paul Getty Museum, P.O. Box 2112, Santa Monica, CA 90407-2112.

MATERIALS ISSUES IN ART AND ARCHAEOLOGY

As part of the Materials Research Society's annual spring meeting, the GCI and the Smithsonian Institution's Conservation Analytical Laboratory are sponsoring their third symposium on "Materials Issues in Art and Archaeology." The purpose of the symposium is to provide a multidisciplinary forum for reviewing new developments in technical studies of material culture and conservation science. Papers to be presented will deal with technology in material culture, conservation science, characterization through compositional and structural analysis, and mechanical and physical properties of materials and/or artifacts. ■ The Materials Research Society's meeting will be held April 27 - May 2, 1992 in San Francisco. For more information regarding the symposium, contact James Druzik, Conservation Scientist, the GCI.

ARCHAEOMETRY '92

The 28th International Symposium on Archaeometry will be held at the University of California, Los Angeles (UCLA), March 23-27, 1992, organized by UCLA, the Los Angeles County Museum of Art, and the GCI. ■ Symposium topics will include dating of organic and inorganic materials; ancient and historical technology (metals and nonmetals); artifact provenance studies; mathematical and statistical methods; prospection; and the study of human remains. A one-day theme session on "Archaeometry of Pre-Columbian Materials" will include invited presentations on some of the most significant developments in this important area of research. ■ For further information regarding the program, conference participation, submission of abstracts, registration, and local accommodations, please contact:

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NEW GCI PUBLICATION ON MOSAICS CONSERVATION

In 1988 the GCI and the Department of Antiquities of Cyprus agreed to conserve an important floor mosaic excavated in 1984-1985 in Paphos, Cyprus. The mosaic, which depicts Orpheus and the Beasts together in a single panel, is representative of an iconographic tradition common throughout the Mediterranean Basin. It is unusual, however, in that Orpheus is shown with his arm outstretched, and is further distinguished by an inscription naming the person who commissioned the work, a feature not present in any other Roman mosaic in Cyprus. ■ Although the mosaic was in generally good condition when excavated, root damage had dislodged much of the tessellatum from its setting-bed and also had created several large lacunae. Subsidence caused by partial support of the mosaic on an underlying wall became more pronounced after excavation, and cracking appeared. For this reason, the mosaic was lifted, provided with a new support, and replaced *in situ*. The decision was made to lift the tesellatum by rolling it onto a drum rather than by cutting it into smaller sections, respecting the single pictorial composition of the work. The project included training in this relatively unusual technique for conservators from the region. ■ The GCI's most recent publication, *The Conservation of the Orpheus Mosaic at Paphos, Cyprus*, chronicles each element of the project, including the evaluation, documentation, detachment, reinstallation, and cleaning of the mosaic. It includes a clearly illustrated, step-by-step discussion of the procedures used to roll the mosaic and to install its new support system of fiberglass and aluminum. Environmental monitoring, analysis of tesserae samples, and the development and evaluation of a protective shelter are also covered, along with historical and iconographic material on this remarkable mosaic. ■ The 88 page book includes 8 color plates, 58 black-and-white photos, and 10 drawings, and can be ordered from the J. Paul Getty Trust Publications Warehouse (see accompanying book list order form).

GCI Hosts Day with Getty Trustees

Trustee Franklin Murphy (right) with GCI's David Scott.

Trustee Bill Lucas and GCI Director Miguel Angel Corzo.

Getty Trust President and Chief Executive Officer Harold M. Williams (right) with GCI's Eric Doehne.

Trustee Vartan Gregorian (second from right) with GCI's Rona Sebastian, Benjamin Nistal-Moret, and Jane Slate Siena.

Getty Trust Chairman Jon Lovelace and Trustee Rocco Siciliano with GCI's Frank Preusser (left).

GCI Hosts Day with Getty Trustees

On June 13, 1991, the GCI hosted the Board of Trustees of the J. Paul Getty Trust for a day of discussions dedicated to conservation issues. GCI Director Miguel Angel Corzo presented an overview of the Institute and its future directions, with staff updates of some of the Institute's major project areas, including earthquake mitigation studies in Europe and the U.S., archaeological conservation field projects in Bolivia, Cyprus, and the People's Republic of China, and *Art and Archaeology Technical Abstracts* and other GCI publications. Following the meeting, the GCI held a reception in honor of Getty Trust President and Chief Executive Officer Harold M. Williams and other board members in attendance. The Board of Trustees is the governing body of the J. Paul Getty Trust and its programs. The J. Paul Getty Trust was established in 1953 by Mr. J. Paul Getty as a charitable organization to support the J. Paul Getty Museum, located in Malibu, California. In 1982, the Trustees expanded the scope of programs to honor Mr. Getty's stated desire to support "the diffusion of artistic and general knowledge." With this commitment, the Getty Conservation Institute and other operating programs were established to address issues of global importance in the fields of the arts and humanities.

Miguel Angel Corzo Appointed Director of GCI

In January 1991, Miguel Angel Corzo became Director of the GCI, leaving his post as President and Chief Executive Officer of Friends of the Arts of Mexico Foundation. Mr. Corzo, well known to readers of this newsletter, served as a consultant and then as Director of Special Projects at the GCI from 1985 to 1988. As president and CEO of Friends of the Arts of Mexico, Mr. Corzo organized *Mexico: Splendors of Thirty Centuries*, the most comprehensive exhibition of Mexican art presented in the United States to date. The exhibition, currently on view at the Los Angeles County Museum of Art, was inaugurated in October 1990 at the Metropolitan Museum of Art in New York, and then traveled to the San Antonio Museum in Texas. Under Mr. Corzo's leadership, the Foundation also exhibited the works of young, contemporary Mexican painters; organized a symposium on Mexican architecture; produced television documentaries on the art of Mexico; and spearheaded efforts to conserve the rock art of Baja California and the only surviving public mural in the U.S. by Mexican muralist David Alfaro Siqueiros, in collaboration with the GCI. Born in Mexico City, Mr. Corzo received a Bachelor of Science from the University of California in Los Angeles (UCLA). As a Fulbright Scholar at Harvard, he studied finance, energy, and political science. From 1974 to 1976, he was Dean of Academic Affairs at the Universidad Autonoma Metropolitana in Mexico City where he supervised the formation of a three-campus university. He has held several federal government posts in Mexico, including Under Secretary of State, Ministry of Tourism. Mr. Corzo has served as a consultant to numerous museums, including the Museum of Black Civilizations in Senegal, Le Grand Louvre in Paris, and the Museum of Egyptian Civilization in Cairo. At the GCI, he was instrumental in developing the Institute's first special projects in conservation, including the wall paintings in the tomb of Nefertari, the royal mummies at the Cairo Museum, the Dead Sea Scrolls in Israel, the Yungang and Mogao grottoes in the People's Republic of China, and the GCI's international conference on *in situ* archaeological conservation in Mexico. An active author, editor, and publisher, Mr. Corzo was awarded First Prize and Gold Medal for technical content at the 1980 Leipzig Book Fair for his *Codex of Human Settlements*. He is editor and publisher of *El Templo Mayor*, a book about the most important temple of the Aztecs, and *Los Mayas: El Tiempo Capturado*, a publication on Mayan civilization. Mr. Corzo succeeds GCI founding Director Luis Monreal, who is presently Director General of La Caixa Foundation in Barcelona, Spain.

GCI STAFF NEWS

Dr. Neville Agnew has been appointed *Special Projects Director*. Dr. Agnew joined the GCI in January 1988 as Deputy Director of the Scientific Program, becoming Program Director in 1990. Prior to joining the GCI, he spent eight years at the Queensland Museum in Australia, where he established the Museum's conservation section and conducted research on preservation of sites. Dr. Agnew has developed the GCI's research program in adobe conservation and its field projects in site management, protection, and conservation. As Special Projects Director, he supervises the GCI's field presence throughout the world. Current projects include conservation work in the People's Republic of China, Egypt, Cyprus, Bolivia, and Ecuador. ✏ *Dr. Frank Preusser, GCI Associate Director for Programs*, is presently serving as *Acting Scientific Program Director* until a Director is named. Dr. Preusser joined the Getty in 1983 as Conservation Scientist and Laboratory Head at the J. Paul Getty Museum. Appointed Scientific Program Director of the GCI in 1985, Dr. Preusser developed the full range of GCI research activities in partnership with other research institutions throughout the world. In 1990, he was appointed Associate Director of Programs. Prior to joining the Getty, Dr. Preusser was Head of the Research Laboratory for the Doerner Institut, Munich. ✏ *Dr. Dusan Stulik* has been named *Deputy Director, GCI Scientific Program*. Dr. Stulik, who joined the GCI in 1988 as Head of the Program's Analytical Section, has been instrumental in developing the Institute's research in binding media analysis, indoor air pollution, volatile inorganic components, and new technologies. Prior to this, he served as Professor of Analytical Chemistry at Washington State University. ✏ *Ms. Jane Slate Siena* has been appointed to the new post of *Head, Institutional Relations*. She joined the GCI in 1985 as Special Projects Coordinator, was appointed Program Officer in 1986, and is founding Editor of *The GCI Newsletter*. Prior to joining the GCI, she served as Project Coordinator for the National Institute for Conservation, Washington, D.C. As Head of Institutional Relations, Ms. Slate Siena will seek to strengthen the GCI's relations with other institutions concerned with conservation, and to develop new partnerships that will further the GCI's mission and mandate. She will continue serving this publication as Managing Editor. ✏ *Mr. Jeffrey Levin* has been named *Editor* of *CONSERVATION, The GCI Newsletter*. Mr. Levin is a free-lance writer in Los Angeles who has worked in government and the media.

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