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# CONSERVATION

The GCI Newsletter



# The Getty Conservation Institute Newsletter

Volume 11 Number 3 1996

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**Front cover: St. Isaac's Cathedral and Square in St. Petersburg, Russia. The cathedral was constructed in the first half of the 19th century. Photo: Tipper Gore.**

**Back cover: Globe photo by Dennis Keeley.**



**4 The St. Petersburg International Center for Preservation**

Founded by Czar Peter the Great in 1703, St. Petersburg has endured a turbulent history to become Russia's cultural capital, home to numerous museums, universities, libraries, and historic buildings. Unfortunately, this remarkably beautiful World Heritage city is now threatened by a lack of resources, complex preservation problems, and, in some cases, neglect. To help ensure the survival of the exceptional cultural wealth amassed in St. Petersburg over the course of three centuries, the Getty Conservation Institute has joined with the Russian Academy of Sciences and the city of St. Petersburg to establish the St. Petersburg International Center for Preservation.

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The Vice President of the Russian Academy of Sciences talks about St. Petersburg's scientific and cultural legacy, the difficulties for those working to preserve the city's historic treasures, and his hopes for the new International Center for Preservation.

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**14 The Security Challenge Preserving Russia's Collections in Changing Times**

Cultural institutions are among those most buffeted by rapid change in eastern Europe and Russia. Change has left the door open for opportunists, and increasing numbers of objects are being stolen and transported across borders, often to western Europe and North America. To assist those responsible for the care of some of Russia's most important collections, the first seminar sponsored by the newly established St. Petersburg International Center for Preservation was devoted to the subject of security.

**16 Adapting Technology for Conservation**

From a 3.6-million-year-old hominid trackway in Tanzania to Buddhist grottoes in China, modern technology is being used in innovative ways for conservation. Indeed, the sheer number of new and often ingenious products coming onto the market offers conservation a bonanza. However, such is the pace of development that few materials of the vast number generated undergo the rigorous screening necessary to ensure their appropriateness. An important part of the Getty Conservation Institute's agenda is testing and adapting the tools and materials of modern industry for use in the delicate task of preserving the past.

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# The ST. PETERSBURG INTERNATIONAL CENTER for PRESERVATION

By Jane Slate Siena and M. Kirby Talley Jr.

*The most majestic and beautiful of all the world's cities, it seems,*

*has dozed off the banks of a fast-flowing river . . .*

*resting from storms scudding overhead*

*and the apparitions of the past, hardening into these colonnades,*

*these bronze lions,*

*these eternally smiling sphinxes,*

*into the black angel on the top of Peter and Paul's Fortress . . .*

*And through this drowsiness, waiting for new, even unexpected shocks*

*that will open its granite eyes onto a second life.*

—ALEXEI TOLSTOY



**Above:** View across the Neva River of the Peter and Paul Fortress, founded in 1703. **Photo:** Guillermo Aldana.

**Facing page:** Alexander Column in Palace Square. The Winter Palace is in the background. The column, commemorating the victory of Alexander I over Napoleon, was erected in 1834 and was quarried and shaped from a single granite block. **Photo:** Guillermo Aldana.

ST. PETERSBURG HAS CERTAINLY EXPERIENCED numerous shocks, the first being its unexpected inception at the will of Russia's most determined and inspired czar, Peter the Great. On May 16, 1703, he imperiously declared on Zayachy Island in the Neva River, "The city will be here!" Several hundred thousand serfs were to sacrifice their lives to the realization of Peter's dream, which was rapidly achieved, even by modern standards. It must have shocked both the locals as well as those few privileged foreigners who witnessed throughout the 18th century the rise of an awesomely beautiful architectural phantasm on the marshes of the Neva.

In 1839 the Marquis de Custine spent three months in Russia, and his record of that experience, *Empire of the Czar: A Journey through Eternal Russia*, is filled with insights into a people who survived and suffered, suffered and survived. Of Peter's city on the Neva, de Custine wrote: "Never, since the construction of the Jewish temple, has the faith of a people in its own destinies raised up from the earth a greater wonder than St. Petersburg. And what renders more truly admirable this legacy, left by one man to his ambitious country, is, that it has been accepted by history."



1988

February

*Fire breaks out at Library of USSR Academy of Sciences; GCI joins international recovery effort*

1990

September

*"Conservation and Disaster Recovery: International Collaboration at the Library of the USSR Academy of Sciences," international conference cosponsored by GCI and U.S. Library of Congress 1992*

July

*GCI technical mission to St. Petersburg on environmental monitoring and preventive conservation of collections*

October

*Russian Academy of Sciences Vice President Zhores Alferov and Library Director Valeri Leonov visit GCI to discuss preservation center in St. Petersburg*

1993

June

*"Collections at Risk," second international seminar in St. Petersburg, sponsored by GCI, Library of the Russian Academy of Sciences, and Russian National Library*

ST. PETERSBURG  
INTERNATIONAL CENTER  
FOR PRESERVATION  
TIME LINE

History has not always been easy on St. Petersburg. Troubles escalated to the Decembrist uprising of 1825. By today's standards, these proto-Russian dissidents, made up of discontented aristocrats and intellectuals, were a rather civilized and conservative lot. Things grew worse when the only enlightened monarch the Romanov dynasty produced, Alexander II, the "Liberator Czar" who freed the serfs, was murdered by terrorists in a bomb attack in 1881. Alexander III's early death did not help matters, and Nicholas II's well-intended though uninspired personality sealed Russia's fate. Through the upheavals of 1905 and 1917, the dark years of civil war, the ideological "cleansings" of V. I. Lenin (which became the butcheries of Joseph Stalin), and the indescribable traumas of the 900-day siege of the city during World War II, which cost more than half a million lives, St. Petersburg survived with a strength and dignity that masks the sufferings endured by the lively and courageous citizens of Peter the Great's dream.

## *The Post-Soviet Challenge*

Perhaps the greatest shock—one embellished with the sort of irony dear to the Russian soul as dissected by Dostoyevsky—is the realization in Russia today that release from oppression creates its own dangers to human freedom and dignity. When the Soviet Union collapsed, many evils were laid to rest. At the same time, however, certain beneficial aspects of Soviet life—including support for quality education and maintenance of cultural repositories such as muse-

ums, monuments, and libraries—came under immense pressure. Modern economic realities suddenly threatened the preservation of the cultural heritage.

The lack of development capital for the city, capitalist or communist, from the 1930s through the late 1980s, resulted in the survival of St. Petersburg's historic architec-



**A view of the Dutch galleries in the Hermitage Museum.  
Photo: Guillermo Aldana.**

ture. Now the city faces the prospect of a sudden, uncontrolled influx of foreign capital ready to "develop" rather than maintain and preserve this UNESCO World Heritage city, a potential disaster for Peter's dream and his successors' achievements. Whatever their shortcomings, the Romanovs were among the most successful urban developers of all time. Their largely unspoiled legacy is the St. Petersburg of today, an extraordinarily beautiful city still in remarkably authentic condition.

Sadly, this authenticity and so much of the city's vast cultural heritage—which includes museums, universities, libraries, and historic buildings—is threatened by a lack of resources, complex preservation problems, and in some cases neglect. Despite the efforts of St. Petersburg's committed cadre of museum and library professionals, scientists, architects, restorers, and cultural authorities, who have worked in isolation for most of this century, a number of important museums and libraries have reached a state of crisis. Some experts state publicly that if preventive measures are not taken quickly, many collections could disappear within 20 years and their buildings—among the city's architectural jewels—could vanish within 50 years.

Conditions are exacerbated by the historic city center's location along the Neva River and its 86 canals and channels. Damp air, flooding basements, and an antiquated plumbing system are just some of the threats to buildings and collections. Outmoded electrical wiring and a lack of security and fire alarm systems further threaten an irreplaceable heritage. Buildings have gone without routine maintenance for decades, and collections are often crowded into spaces not intended for storage or exhibition.

The challenge for St. Petersburg is to find a way, with respect and sensitivity, to adapt the past for the present and future. No city with such a "Grecian" history can be frozen in time by those who confuse mummification with preservation. But when this great metropolis is temporarily beleaguered by circumstances beyond its control and exposed to forces antithetical to its long-term interests, it needs assis-

### *November*

*St. Petersburg Deputy Mayor for Culture Vladimir P. Yakovlev heads delegation from city in GCI-sponsored tour of U.S. conservation facilities*

*GCI, Russian Academy of Sciences, and city of St. Petersburg establish partnership to develop St. Petersburg International Center for Preservation*

*Partners delegate Task Force to outline issues for creation of new Center*

### *1994*

### *March*

*Center's Task Force meetings in St. Petersburg*

*Photographic survey by GCI of cultural heritage in St. Petersburg*

*Survey by GCI scientists of conservation laboratories in St. Petersburg*

tance in preserving its unique heritage, not simply for the sake of its own identity and cultural enrichment but for that of the world well beyond its boundaries.

## *A Center for Preservation*

The Getty Conservation Institute was among the first in the international cultural community to perceive that St. Petersburg was again experiencing those unexpected shocks endemic to its history. The Institute's involvement with the city's cultural institutions began with the international effort to help save the collections of the Library of the Russian Academy of Sciences (then the USSR Academy of Sciences) following a horrific fire in 1988. According to Library Director Valeri Leonov, the 1988 misfortune was "the most disastrous library fire of this century. It claimed over 400,000 books and seriously damaged another 3.6 million. Our recovery would not have been possible without the international assistance we received from the U.S. Library of Congress and the Getty Conservation Institute."

Like the Florence flood of 1966, the library disaster drew world attention. It saddened many, among them Esther Coopersmith, U.S. ambassador to the United Nations under President Carter. "My son is a Russian scholar who used the library frequently for his work," said Mrs. Coopersmith. "He remarked to me that he'd lost a lot of friends in the fire—meaning the documents that had burned."

The Institute's effort to preserve the library's collections in the wake of the disaster led to an appreciation of

what needed to be done to protect St. Petersburg's world heritage from further loss. In 1994 the Institute joined with the Russian Academy of Sciences and the city of St. Petersburg to establish the International Center for Preservation. The Center's purpose is to apply the latest findings in conservation science, education, and technology to the preservation of the



Miguel Angel Corzo, GCI director, and Tipper Gore visiting the Russian Academy of Sciences Library with Valeri Leonov, the library's director, in June 1996. Photo: Alexey Melentyev.

region's cultural heritage and to provide an active interdisciplinary center for preservation study and practice. Chaired by Mrs. Coopersmith, the Center is now registered as a non-commercial partnership in Russia and incorporated as a tax-exempt, nonprofit organization in the United States.

An inaugural ceremony for the Center was held in June 1995 at its temporary headquarters, made available by then-mayor Anatoly Sobchak, in the 18th-century Lavalle Palace, today home to the State Russian Historical Archives.

Lending her help in drawing international attention to the plight of St. Petersburg was Tipper Gore, wife of the vice president of the United States. After leading a three-day conservation tour of the city's museums, libraries, and palaces, Mrs. Gore described at the inaugural ceremony the reasons for her involvement: "In December 1993, when I was here for the first time," she said, "I fell in love with St. Petersburg."

A love of St. Petersburg's historic and cultural treasures permeates the lives of the people who live there. "If you call any family on the weekend and ask where they've been, they'll tell you they've been to a museum, a park, the Hermitage," says Tatyana Alexandrova, a St. Petersburg native and now a member of the Center's staff. "People elsewhere should realize that this is a great city. . . . Every morning I see something different, something more beautiful."

## *Needs and Priorities*

The conservation needs of St. Petersburg, like those throughout the Commonwealth for Independent States, are varied. Required are new ways to prevent further deterioration of objects and to protect entire collections and groups of buildings. Research and training are needed in environmental standards and monitoring, adaptation of old buildings for modern use, sensitive urban development, fire prevention and other emergency preparedness actions, collections management, and safe handling and storage of artworks and archival and library materials. Conserving the city's outdoor marble, bronze, and stone monuments in its numerous his-

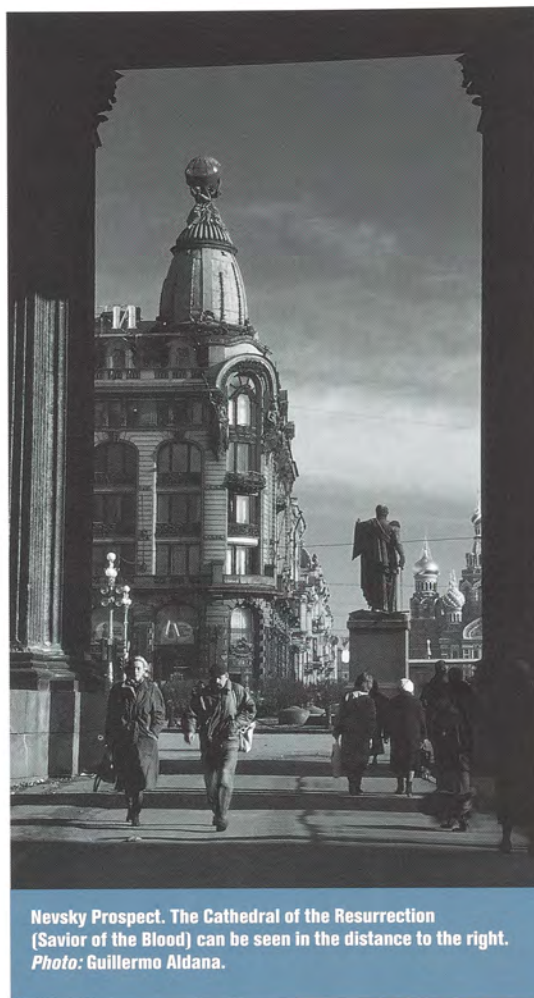
<p><i>City of St. Petersburg commits to finding home for Center</i></p>	<p><i>May</i></p> <p><i>Incorporation of Center in United States</i></p>	<p><i>September</i></p> <p><i>GCI office established in Washington, D.C., to promote Center's development</i></p>	<p><i>October</i></p> <p><i>Delivery of Getty Grant Program-supported equipment to Library of the Russian Academy of Sciences for production of acid-free boxes for books as preventive conservation measure</i></p>	<p><i>November</i></p> <p><i>Photographic exhibition of St. Petersburg architecture by Guillermo Aldana installed in GCI Washington, D.C., office</i></p>	<p><i>1995</i></p> <p><i>January</i></p> <p><i>St. Petersburg Mayor Anatoly Sobchak offers Center temporary headquarters in historic Senate and Synod complex, in cooperation with State Russian Historical Archives</i></p>	
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toric parks and public places and protecting cathedrals and palaces from pollution present additional challenges.

The first priority of the International Center for Preservation is to provide Russian conservation professionals with information that can assist them in dealing with the conservation problems they confront. A state-of-the-art information facility for the Center is planned; it will include a conservation library of Russian and foreign resources, on-line access to conservation information worldwide, and computer and media laboratories for access to the international cultural community. In addition, there will be exhibitions and publications designed to bring information to and from Russia on a regular basis.

The Center's programs are guided by the philosophy of preventive conservation, a strategy developed in the West that is based on collections-wide care rather than on the less efficient object-by-object treatment approach used in many parts of the world. The Center's seminars cover topics central to preventive conservation, such as disaster preparedness, collections management, cultural-heritage tourism development, adaptive reuse of monuments, development of protective legislation, and environmental issues.

The Center is working to take advantage of the scientific expertise found throughout the many institutes of the St. Petersburg Presidium of the venerable Russian Academy of Sciences. Zhores Alferov, vice president of the Academy, is particularly enthusiastic about the Center serving as a catalyst for cooperation between science and the arts. "In my opinion, the Preservation Center has enormous potential



**Nevsky Prospekt. The Cathedral of the Resurrection (Savior of the Blood) can be seen in the distance to the right. Photo: Guillermo Aldana.**

because it is located here, where the sciences and culture can unite to save world treasures." (See "Profile," p. 11.)

Under way are programs in security, disaster preparedness, and historic city conservation. In March 1996 the Center launched its first program, "Security Seminar I." (See "News in Conservation," p. 14.) The importance of the semi-

nar was summed up by Oleg Boev, director of security for the Hermitage Museum and a seminar leader: "In our restless time, we realize the world importance of the unique collections that are gathered under the roof of the Hermitage. The main task undertaken by security officials is the safeguarding of treasures from theft, vandalism, fire, and environmental disasters with the use of the latest findings in technology and, mainly, professional people. . . . When this task—the preservation of past centuries—is completed, we may hope for the future."

### *Leveraging Resources*

The Center's independent structure, as represented by its board of directors, allows for active fund-raising to support the Center's activities. It was among the first nonprofit partnerships in Russia whose operations and finances are essentially independent of the country's large governmental bureaucracy. Its official registration in June 1996 was itself a milestone in the country's move toward modernization and internationalization.

As with many of its activities, the GCI is attempting to use its involvement in the St. Petersburg Center to leverage additional resources for conservation. The Institute's director, Miguel Angel Corzo, said at the time of the Center's opening, "Our objective is to help stabilize the Center's operations in Russia and to implement an exciting program of work that will attract other contributors who care about the cultural heritage and new partnerships in Russia."

#### *April*

*Video survey by GCI of cultural heritage of St. Petersburg*

#### *June*

*Ceremonial opening of St. Petersburg International Center for Preservation with founders and Tipper Gore*

#### *November*

*Environmental surveys of selected museums and libraries by GCI scientific team*

*Ministry of Education, Science, and Culture, the Netherlands, joins GCI to lend professional expertise to Center's development*

#### *1996*

#### *January*

*GCI receives special award from Los Angeles-St. Petersburg Sister City Committee for its contribution to cultural heritage of St. Petersburg*



This approach is already showing results. On September 13, 1996, Aad Nuis, State Secretary for Culture for the Netherlands, pledged \$200,000 to the Center to establish and administer the Peter the Great Trust Fund. The fund commemorates three hundred years of Russian-Dutch relations, which began with Peter the Great's 1697 visit to the Netherlands, where he studied shipbuilding. In the spirit of this long relationship, Secretary Nuis said he was eager to "match resources with the Getty Conservation Institute to assist in preserving St. Petersburg's cultural and historical heritage." The trust fund follows one and a half years of Dutch collaboration with the GCI to help establish the new Center and almost three years of direct support to the Hermitage Museum.

In June 1996 the Center hosted its first annual White Nights Delegation, organized by the GCI and the Fondazione Memmo, an Italian foundation with an international art program. The seven-day study tour for private individuals who wish to support conservation in St. Petersburg included visits to the city's major cultural institutions for a behind-the-scenes look at their conservation needs. (See "GCI News," p. 19.)

During the delegation's visit, the newly elected governor of St. Petersburg, Vladimir A. Yakovlev, met with the Center's board of directors. He thanked the board for its efforts and told them, "I am personally committed to supporting ongoing international activities that promote St.



Members of the board of the St. Petersburg International Center for Preservation meeting with Governor Vladimir A. Yakovlev (center) in his office in June 1996. Photo: Alexey Melentyev.

Petersburg's cultural heritage." Referring to the recent changes in the city's political leadership, he added, "Please be assured that we will honor our commitment to this important project that brings future benefits to our city." Mr. Yakovlev's first international agreement as governor was signed with the Center, assuring the city's continued cooperation and support.

## *A Second Life*

The great Russian poet Alexander Pushkin described Peter the Great standing on the banks of the Neva River in 1703 and looking out "over empty marshes with great thoughts." Today a visitor to the same spot looks out at a stunning monument to civilization and urban development. If that visitor desires an insight into human achievement in art, architecture, literature, and science, the city of St. Peters-

burg offers much. And appropriately so, given the words inscribed on the personal seal of the city's founder: "I belong to those who seek knowledge and are willing to learn."

One modern visitor, U.S. President Bill Clinton, termed St. Petersburg "a city so alive with promise and possibility." But if the city's great promise is to be achieved, those now working hard to preserve its past will need support and encouragement. The International Center for Preservation is an important building block in the creation of a conservation infrastructure that can

help ensure the survival of the remarkable cultural wealth amassed in St. Petersburg over the course of three centuries. If its efforts and those of many others engaged in preservation succeed, then this great beauty of a place will endure, in the words of Alexei Tolstoy's poem, the latest "unexpected shocks" and "open its granite eyes onto a second life."

*Jane Slate Siena is head of Institutional Relations for the Getty Conservation Institute and president of the St. Petersburg International Center for Preservation. M. Kirby Talley Jr. is an executive counselor with the Ministry of Culture of the Netherlands and a member of the Center's board of directors.*

*For information about joining the Getty Conservation Institute's efforts in St. Petersburg, contact the St. Petersburg International Center for Preservation, 1230 30th Street, NW, Washington, D.C. 20007; telephone 202 342-0290, fax 202 342-0294.*

### March

*Center holds first professional workshop, "Security Seminar I"*

### April

*New York architect Pietro Cicognani joins Center and surveys Center's facility and conceptual plans*

### June

*Center assists with private visit of U.S. President Clinton to St. Petersburg*

*Center is officially registered in Russia*

*First White Nights Delegation meets in St. Petersburg and launches fund-raising campaign*

*St. Petersburg Governor Vladimir A. Yakovlev hosts meeting of Center's board and pledges support*



*Release by GCI of Center's first information brochure and videotape*

*Center receives support from Roberto Memmo and the Fondazione Memmo*

*Center's first exhibition, Drawings of Peter Carl Fabergé, mounted with State Russian Historical Archives*

*September*

*Prime Minister Wim Kok and State Secretary Nuis, the Netherlands, announce creation of Peter the Great Trust Fund to support Center*

*December*

*New offices for Center opened with State Russian Museum*

# The Right Place

## A CONVERSATION WITH ZHORES ALFEROV

SINCE 1991 ACADEMICIAN ZHORES ALFEROV has been vice president of the Russian Academy of Sciences, one of the founding partners of the St. Petersburg International Center for Preservation.

He is president of the St. Petersburg Scientific Center of the Academy and director of the Ioffe Physico-Technical Institute of the Russian Academy, where he has worked since 1953. For his extensive research in semiconductor technology, Professor Alferov has received awards not only from his own country but from Europe and the United States as well. He is a foreign member of the German, Polish, Belarusan, Korean, and United States academies of science. In 1995 he was elected to the Russian Duma as an advocate for science and culture.

Professor Alferov spoke with Jane Slate Siena, head of Institutional Relations for the Getty Conservation Institute and president of the St. Petersburg International Center for Preservation.



*Above:* Jane Slate Siena introducing Zhores Alferov to President Bill Clinton in St. Petersburg in April 1996. *Photo:* White House photographer.

*Facing page:* The bronze equestrian statue of Peter the Great, erected in 1782 by Catherine the Great. *Photo:* Guillermo Aldana.

■ *Jane Slate Siena:* St. Petersburg has long been a scientific as well as a cultural center for Russia and for the world. What are the origins of the city's scientific traditions?

■ Zhores Alferov: Peter the Great founded the Academy of Sciences in St. Petersburg in 1724, so you can say that our city has the oldest scientific traditions in our country. In fact, Peter named us the St. Petersburg Imperial Academy of Sciences and established the tradition that the Academy's president be appointed by the czar. In 1917 we were named the Russian Academy of Sciences, and a system of elected officers was established. From 1925 to 1991 we were named the Academy of Sciences of the USSR. Today we are again the Russian Academy of Sciences.

If you study our history, you will see that today we are in a situation similar to the one we were just before the turn of the century, when the Academy's President, Grand Duke Konstantin, struggled with the reforms set out by Alexander II. During that great period of experimentation and attempted transition to a market economy, Konstantin appealed to the government to save the Academy by ensuring its financial stability during a changing economy. That is precisely our position now as we seek continued financial support from the state because our system is again changing.

*How are Russia's vast array of scientific institutes, laboratories, and educational programs holding up during this time of structural change?*

Let's take as an example the Ioffe Physico-Technical Institute, where I serve as Director. Founded in 1918, Ioffe is the biggest and oldest physics institute in the country. Many important scientists, including numerous Nobel laureates, have been associated with Ioffe. Even during the height of the Cold War period, our scientists worked closely with scientists in the United States and Europe on major research projects. But if we compare today's budget with the budget of 1990, we see a decrease by a factor of 25. Furthermore, almost 40 percent of our budget now comes from grants and contracts through various international collaborations; we receive very little funding from our traditional source—our own government—due to the difficult financial situation in Russia today. Perhaps Ioffe, because of its prominence, is actually better off than most of the other scientific institutes of the Academy of Sciences. The situation in general is very difficult.

*“At stake is the very existence of one of the world’s greatest scientific*

*and cultural legacies. . . . the Preservation Center has enormous*

*potential because it is located here, where the sciences and culture*

*can unite to save world treasures.”*

*What would you say is at stake during the present period?*

At stake is the very existence of one of the world’s greatest scientific and cultural legacies. Please remember that the Academy of Sciences in Russia includes the country’s research institutes in all of the scientific fields. It also includes some of our most distinguished collections, such as the Kunstkammer, founded by Peter the Great, the Botanical Institute, the Zoological Institute, and, of course, our main Library. These institutes I just named have the added advantage of being located here in St. Petersburg. They are here not by accident but by design. Together with the Hermitage, the State Russian Museum, the Russian National Library, and the State Russian Historical Archives, among others, they form one of the great centers of world culture. And now the Getty Conservation Institute and our Library have established the new International Center for Preservation in St. Petersburg. I have to say that you have chosen the right place. In my opinion, the Preservation Center has enormous potential because it is located here, where the sciences and culture can unite to save world treasures.

*Would you agree that the cultural and scientific organizations, though strong, are challenged as never before?*

Yes. We are doing very important work in spite of a very hard situation economically. You know, our scientists, librarians, and museum personnel work even when they are not paid, because they simply cannot imagine any other jobs for themselves.

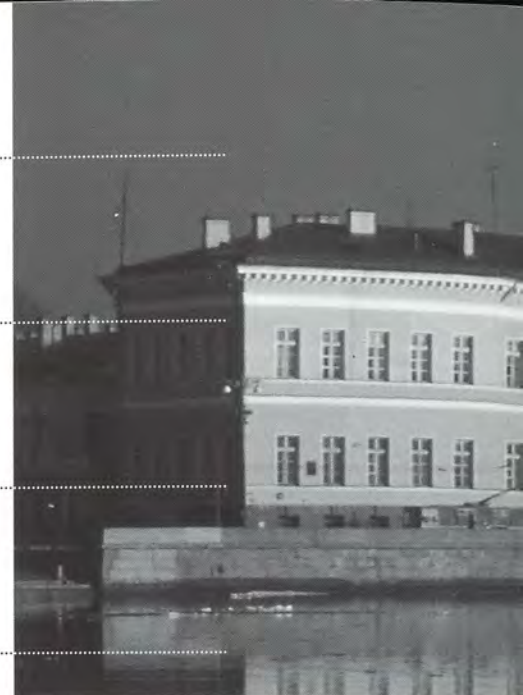
But the challenge is beyond the financial. Though I am not going to advocate a return to the Soviet system, I nevertheless have to say that the sciences enjoyed a certain prestige during Soviet times. Just a few years ago, it was not difficult to convince talented young people—beginning at the age of 13—to enter our special high schools to prepare for scientific careers. We had strong support from the state; it was prestigious to become a scientist. This is not the case today. Because I enjoy young people, I spend a lot of time personally trying to turn this around. I am happy to say that I have just secured from Moscow funding to build another school, and we are making renewed efforts to recruit students aggressively. You know, I believe scientists—even junior scientists—are more important than presidents. Presidents may deal with the problems of the country and the state, but scientists deal with the problems of the whole cosmos.

*Have you shared this view with President Yeltsin?*

Not yet, but I will. I have shared other views with President Yeltsin.

I have said that information plays the most important role in our postindustrial society. And during this period in the development of civilization, the two most important discoveries were the transistor and the laser. These two discoveries laid the foundation for our scientific, cultural, and social transition from an industrial society to an information society. Both discoveries depended on a high level of scientific work going on concurrently and collaboratively in Russia and in the United States. This alone makes the case for continued support for science and certainly for international cooperation.

Another point for our president is that our tax system is not yet correct. In 1990 we were paying 3.5 percent of our budget to the government in taxes. Today we are supposed to pay 43 percent. Our state organizations should not be taxed on this level. It is simply not possible to collect this from our cultural and scientific organizations. The financial crisis of the moment is largely a failure to establish a tax collection system that brings in sufficient funds to support the legitimate operations of our country adequately.



A view of the Russian Academy of Sciences on the Neva River. To its right is the Kunstkammer, which housed Russia's first museum. Both buildings were constructed in the 18th century. Photo: Guillermo Aldana.



*Is the experience of the United States in these matters of interest to Russia?*

Absolutely. The two countries have much in common. We must learn from one another according to our successes and our failures. For example, I think Russian television has been spoiled by Western influences in some directions, and these are directions that we should try to avoid. On the other hand, we should try to learn something positive from the democratic system of government and the private economy.

*You have been instrumental in the establishment of the St. Petersburg International Center for Preservation. Given all that you have to consider and to achieve, why did you decide to help create a new organization just when you are struggling to keep afloat so many existing cultural and scientific institutes?*

I am an optimist in general. We often say that Russia is a country of optimists because all the pessimists left. Seriously, I am optimistic about the level of science that can be developed here to support conservation. For these purposes, we need an environment like this, where all the sciences are strong. Interdisciplinary projects are important. New discoveries often happen at the borders between different branches of science. So at the borders of science and culture, we are sure to find the future.

Also, I believe very strongly in international collaboration. So it is natural for me to want to create more opportunities for Russian scientists to work with their colleagues in other countries, just as I have been privileged to do. The St. Petersburg International Center for Preservation is already doing this.



# The Security Challenge

By Wilbur Faulk

## Preserving Russia's Collections in Changing Times



FOR THE NATIONS OF EASTERN EUROPE and the republics of the former Soviet Union, the transition from closed to more open societies has not come without a price. While increased economic freedom is creating greater opportunity and more goods, it is also producing economic dislocation and unemployment. New political freedom has engendered not only real public debate and political organizations but also, in places, social disruption and instability.

Among the groups most buffeted by rapidly changing political, economic, and social forces are those responsible for the cultural institutions of the region. Change is having a devastating effect on the integrity and security of their museums and libraries. Where once every adult was virtually guaranteed a job, human and financial resources are now tightly constrained. The consequence for cultural institutions is fewer staff members, the bulk of whom are inconsistently and minimally paid.

Change has left the door open for opportunists. National borders are open, and the controls on the passage of artifacts from one country to the next have decreased. Unfortunately, the dissolution of authoritarian regimes has, for the moment, emboldened those engaged in crime. For example, according to *Protecting Cultural Objects*, published by the Getty Information Institute, the Czech Republic is thought to be losing about 10 percent of its national patrimony every year to thieves and smugglers; in 1993 art thefts from museums, castles, churches, and exhibition halls alone numbered 1,068 objects. Art theft, in fact, is second only to drug

trafficking in international crime. From eastern Europe increasing numbers of objects are being stolen and transported easily across multiple borders, often to western Europe and North America. These unfortunate developments are challenging international organizations to find new ways of supporting national efforts to recognize a theft quickly and to disseminate information effectively to assist in an object's recovery.

In the last several years, I have visited cultural institutions in several eastern European countries with the International Committee on Museum Security (ICMS) of the International Council on Museums (ICOM). These trips—and my work with the St. Petersburg International Center for Preservation, established through the efforts of the Getty Conservation Institute—have given me a privileged look into the security challenges facing many cultural institutions.

Each year ICMS is invited to a city rich in cultural history and significance (recent host cities include Warsaw, Tallinn in Estonia, St. Petersburg, and Budapest). During the annual ICMS conference, participants select a prominent institution within the host city for a security audit. These intensive, multiday efforts focus on low-cost, easily implemented solutions—a reflection of current political and economic constraints. The audits often result in extensive sharing of information and close collaboration between the host institution and ICMS members.

The GCI, recognizing the cultural wealth of St. Petersburg and the surrounding region, spearheaded the creation

of the International Center for Preservation. (See "Feature," p. 4.) The first seminar sponsored by the Center was in March 1996. The topic was security—a choice reflecting the needs of the local cultural community as well as the shared belief that security is a natural and essential extension of preventive conservation.

Months before the seminar, those of us involved in organizing the program spent time visiting with the directors, deputy directors, and security heads of the participating institutions—the State Hermitage Museum, the Library of the Russian Academy of Sciences, the Russian National Library, the State Russian Historical Archives, the State Russian Museum, and the State Museum of the History of St. Petersburg (located at the Peter and Paul Fortress). From our discussions, two major topics emerged, forming the basis of the seminar's curriculum. Perhaps most important was prevention of theft through a variety of means, including well-trained personnel and clear, enforced policies and procedures supported by technical security systems. The second essential concern was emergency preparedness, with an emphasis on fire detection, prevention, and suppression and organized response to natural and human-caused disasters.

Limiting workshop participants to just 15 people facilitated meaningful participation and exchange. Discussions focused on shared interests that became apparent during pre-workshop visits. By establishing an open and collaborative setting, we found that these knowledgeable, committed professionals were able to share experiences, develop mutual

trust, and focus on problem solving in a way that benefited each attendee.

Evident throughout the seminar was the eagerness of participants to investigate and initiate change to secure their collections. Some changes are already under way. A number of Russian institutions have begun long-term efforts to document their collections as part of collections-management strategies; these undertakings are critical in determining what is being lost through theft and providing law enforcement with information that can aid in an object's recovery. Several institutions, among them the State Russian Museum and the Hermitage, are instituting basic training in areas such as alarm response to both fire and theft. At the same time, they recognize that a professionally trained security staff is the ultimate objective. There was considerable exploration of options for security staffing during the St. Petersburg seminar. Some institutions, like the Hermitage, are considering engaging private security services. Other options include using in-house staff or local police.

A primary objective of the seminar was to encourage the growing relationships between these Russian institutions and international professional organizations like ICMS and Interpol. Equally important was the goal of continuing interaction among the participants—interaction that would last beyond the seminar. This, in fact, has been achieved. Those

*Facing page: Security Seminar Chairman Wilbur Faulk participating in a fire-extinguishing demonstration with the security staff of the Russian State Museum. Photo: Alexey Melentyev.*

*Bottom left: An aerial view of St. Petersburg's Winter Palace, home of the Hermitage Museum, where a portion of the Security Seminar was held. Photo: Guillermo Aldana.*

*Bottom right: Some participants in the seminar. From left: Valeri Leonov, Oleg Boev, Vladimir Lapin, Jane Slate Siena, Sergei Basov, Wilbur Faulk, J. Andrew Wilson, Tatyana Alexandrova, and Kirby Talley Jr. Photo: Alexey Melentyev.*

who attended the workshop continue to meet each month to share ideas on solutions to common problems. And early in 1997 the group will gather again under the auspices of the St. Petersburg International Center for Preservation for a follow-up seminar on security.

Western cultural institutions and their counterparts in Russia and eastern Europe face a number of similar internal challenges: balancing the security of a collection with ensuring its accessibility to visitors; wrestling with appropriate allocation of resources; hiring, training, and retaining competent security personnel (whose compensation tends to be at the lower range of institutional pay scales); determining what types of technical systems are needed; and finding reliable manufacturers to install and maintain those technical systems.

However, Russian and eastern European institutions face additional challenges—not least of all managing the changes inherent in political transformation and diminished government resources. Their cultural heritage is critically important to them, yet there are no simple solutions to the complex issues they face in protecting cultural properties. A goal of both the St. Petersburg International Center for Preservation and the ICMS is to move toward short-term, achievable objectives that can become building blocks in the search for longer-term standards and consistency. Collaboration has increased the depth of communication across borders and broadened trust. Indeed, the opportunity to work with colleagues in the preservation of an important part of the world's cultural heritage is one that holds the promise of being a richly satisfying experience for all involved.

*Wilbur Faulk is director of security for the J. Paul Getty Trust.*

## *St. Petersburg International Center for Preservation*

### **Security Seminar I**

#### *Chairpersons*

**Mr. Oleg Boev, director of security, Hermitage Museum**  
**Mr. Wilbur Faulk, director of security, J. Paul Getty Trust**  
**Mr. J. Andrew Wilson, assistant director of security, Smithsonian Institution**

#### *Participants*

##### STATE HERMITAGE MUSEUM

**Mr. Baturin, deputy director**  
**Mr. Oleg Boev, director of security**  
**Ms. Galina V. Blinova, associate director of fire prevention**

##### STATE RUSSIAN MUSEUM

**Mr. Vladimir Gusev, director**  
**Mr. Ivan Karlov, director of conservation and restoration**  
**Ms. Irina Kuznetsova, director of security**

##### RUSSIAN NATIONAL LIBRARY

**Mr. Vladimir Zaitsev, director**  
**Ms. Elena Nebogatikova, deputy director**  
**Mr. Anton Likhomanov, director of security and administration**  
**Mr. Benjamin Turchin, head of security services**

##### RUSSIAN ACADEMY OF SCIENCES

**Academician Zhores Alferov, vice president**  
**Dr. Valeri Leonov, director, Library**  
**Ms. Irina Belyeava, deputy director of science, Library**  
**Mr. Vladimir Zhuraparov, deputy director of security, Library**  
**Mr. Konstantin Salnikov, deputy director of Pushkin House**

##### STATE RUSSIAN HISTORICAL ARCHIVES

**Dr. Vladimir Lapin, director**  
**Mr. Leonid Matveichev, deputy director of security**  
**Ms. Olga Anosova, deputy director for documents conservation**

##### STATE MUSEUM OF THE HISTORY OF ST. PETERSBURG

**Ms. Natalia Dementieva, director**  
**Mr. Alexander Ahutko, director of security**  
**Mr. Vasily Pankratov, director of international relations**  
**Mr. Boris Nazartsev, chief conservator**

##### COMMITTEE FOR CULTURE, CITY OF ST. PETERSBURG

**Dr. Vladimir P. Yakovlev, deputy mayor for culture**  
**Mr. Sergei Basov, director**

##### GETTY CONSERVATION INSTITUTE

**Ms. Jane Slate Siena, head of institutional relations**

##### MINISTRY OF SCIENCE, EDUCATION, AND CULTURE, THE NETHERLANDS

**Dr. M. Kirby Talley Jr., executive counselor**

##### ST. PETERSBURG INTERNATIONAL CENTER FOR PRESERVATION

**Ms. Tatyana Alexandrova, seminar coordinator and executive assistant**



# ADAPTING TECHNOLOGY FOR CONSERVATION

By Neville Agnew and Jeffrey Levin



BioBarrier being used in the reburial of the hominid trackway at Laetoli. Photo: Neville Agnew.

IN A GENTLY ROLLING SAVANNA IN NORTHWESTERN Tanzania lies a piece of the great puzzle of human evolution. The 3.6-million-year-old hominid trackway at Laetoli—discovered and excavated by Mary Leakey and her team in the late 1970s—contains some 70 footprints preserved in hardened volcanic ash. Unmistakably human in appearance, the footprints predate the earliest known tools by nearly a million years, making them the strongest evidence yet that walking on two feet preceded brain development.

Unfortunately, in the years following their discovery, the Laetoli footprints were threatened with destruction. The site was reburied as a preservation measure by the Leakey team after they studied and recorded the trackway, but acacia trees subsequently grew in the reburial fill, and root growth endangered the footprints. To save this most ancient evidence of our ancestors, the latest in industrial technology was employed.

This past summer a Getty Conservation Institute–Tanzanian team completed the final campaign at Laetoli to preserve the extremely fragile trackway for future generations. The recent campaigns reexcavated the site, removed tree roots, and restudied and recorded the footprints. Again

the trackway was reburied—this time along with some carefully selected industrial materials: geosynthetics.

Developed in recent decades and now numerous in their variety, geosynthetics are widely utilized in construction where earth stabilization, drainage, or erosion control are involved. Relatively inexpensive, easy to install, efficient, and durable, these materials are more likely to be used in building roads, airport runways, or dams than in protecting archaeological sites. But even though using geosynthetics for conservation is somewhat novel, adapting technological materials and scientific instrumentation and techniques for conservation purposes is hardly a new practice. In fact, the conservation profession traditionally has exploited new products in the preservation of cultural heritage. An early example is Paraloid B-72, a protective coating developed for the paint and coatings industry and later widely adopted for the consolidation and stabilization of fragile objects and deteriorated stone. Its acceptance by conservators came after exhaustive testing and evaluation that established its chemical stability and other desirable properties.

Every year the U.S. Patent and Trademark Office (PTO) awards over 110,000 patents. Of the myriad new services,

inventions, and products patented by the PTO, most never achieve the universal success of the ballpoint pen or the non-stick frying pan. Nonetheless, the sheer number of new and often ingenious products that come onto the market offers the conservation profession a bonanza. Conservation of cultural property touches upon so many disciplines within the sciences that it is well positioned to draw into its service the latest developments of science and technology.

However, knowing the extent of the new products available is a challenge. Then, too, the conservation profession is a small one, and few conservation scientists and conservators have the time and resources to screen products properly. Such is the pace of development that few new materials of the vast number generated undergo the rigorous screening necessary to ensure their appropriateness. The conservation profession is, by definition, cautious and conservative in its use of new materials and technologies—and for good reason. When priceless cultural property is at risk, the use of unproved products would be irresponsible. Disasters in the use of inappropriate materials in cultural heritage conservation are legion. Among these are epoxy resins that yellow and cannot be redissolved, reinforcing iron or steel bars





A cross section of the Laetoli trackway reburial stratigraphy, including layers of geotextiles. Photo: Angelyn Bass.

that ultimately corrode and split architectural stone (as occurred at the Parthenon), and cement, a material that is incompatible with softer and more porous materials such as adobe and certain types of stones but which, unfortunately, is still widely used at cultural sites.

An important part of the GCI's agenda is adapting the tools and materials of modern industry for use in the delicate task of preserving the past. The Institute has tested a number of tools and materials—among them, geosynthetics—adopting and refining some while rejecting others as unsuitable for various reasons.

At Laetoli the Institute reburied the precious footprints using several kinds of geotextiles, nonwoven polypropylene fabrics that transmit moisture and air, allowing the trackway to “breathe” and maintain a moisture equilibrium with reburial soil. One ingenious geotextile used in the reburial was BioBarrier, a product designed to exclude intrusion of roots. Originally developed to prevent tree roots from wedging apart city sidewalks and clogging outside drains, BioBarrier contains an herbicide that “bleeds” slowly over years from small nodules embedded in the fabric. The growth of root tips coming into contact with the geotextile is

inhibited, while the plant or tree itself suffers no harm. BioBarrier will help prevent a future acacia root invasion that can damage the trackway surface.

The GCI has used geosynthetics for entirely different purposes in other field projects. At the Mogao grottoes in northwest China, sand dunes and wind-driven sand have degraded the site for centuries. In the Institute's Mogao project, sand movement was controlled by wind fences 3.7 kilometers (2.3 miles) long, constructed from a low-cost synthetic textile at a fraction of the cost of custom-designed windbreak materials. This textile, stabilized against ultraviolet light and developed as a shade cloth for the horticultural industry, also reduces wind speed by about 50 percent (as reported by the manufacturer who conducted wind-tunnel tests as a selling point for potential customers, because of wind damage to plants). The fabric proved effective in sand control because the quantity of wind-borne sand is dependent upon wind speed, and a reduction in wind speed results in a drop in the sand load.

At Chaco Canyon in New Mexico, the Institute, with the U.S. National Park Service, is testing other types of geosynthetics in a project to develop technologies for the preservation of fragile Anasazi ruins. These geosynthetics include so-called geodrains, for subsurface drainage, and geomembranes, which exclude moisture ingress.

Installing a horizontal geodrain above one of the unexcavated rooms at Pueblo Bonito, Chaco Canyon. The purpose of the geodrain is to prevent infiltration of moisture from rain and snow. Photo: Neville Agnew.



Shin Maekawa, GCI senior scientist, with the environmental monitoring station he designed, in an excavated kiva at Chetro Keti, Chaco Canyon. Photo: Neville Agnew.

Sometimes research on a product is useful in ruling out conservation applicability. For example, Vikane (sulfuryl fluoride) is widely used in the United States for insect infestations (particularly dry-wood termites) in domestic and commercial buildings. Because of the chemical inertness of Vikane, the GCI, in collaboration with the manufacturer and other North American conservation institutions, evaluated its potential for use in museums. It was found, though, that the very small amounts of acids in the product preclude its use for this purpose.

One of the early research projects undertaken by the Institute was the investigation of a polymer called Parylene, which was developed as an extremely thin, conformal coating for the electronics industry. Parylene is deposited from the vapor in a vacuum chamber and can invisibly coat an object as delicate as a spiderweb, greatly increasing its strength. Parylene has found some use in the coating of fragile ethnographic artifacts and natural history specimens, though the requirement of vacuum deposition and an observed temperature increase during the process have proved to be limitations on wider use. Other polymeric materials tested by the GCI include, among others, aliphatic isocyanates—typically used to make high-quality automotive paints—for consolidating adobe, and silanes and epoxies for stone preservation.



**Eric Doehne, GCI associate scientist, at the console of the Institute's environmental scanning electron microscope. Photo: Nancy Kaye.**

Another Institute research project evaluated and tested passive monitors designed to measure the presence of certain carbonyl pollutants in the indoor environment. The monitors were originally developed for use in ensuring occupational safety by detecting dangerous levels of pollutants in workplaces. Research identified commercially available monitors that could also be used to detect levels of pollutants harmful to museum collections. These monitors offer a relatively inexpensive way to determine the degree of risk collections face from certain pollutants.

To create oxygen-free display cases for organic materials, a product from the food packaging industry was adopted. In the late 1980s, the Institute developed a storage case prototype for the pharaonic mummies in the Egyptian Museum. Mummies, being susceptible to oxidation and microbial deterioration, require an oxygen-free environment, so the GCI cases were filled with nitrogen, an inexpensive, totally inert gas that makes up 78 percent of the air we breathe.

However, with the engineering challenge of building an essentially leak-free case solved, the problem arose of scavenging residual oxygen from the internal nitrogen atmosphere of the case. To eliminate oxygen from the case, the Institute tested a product called Ageless, developed to remove traces of oxygen in inert-gas packaged food, thereby keeping the flavor fresh. This special form of finely divided iron oxide, enclosed in a small sachet, absorbs residual oxygen in a sealed container. Ageless is now routinely used in the Insti-

tute's nitrogen cases. The cases have been replicated by the Egyptian authorities for the royal mummies (now on display in Cairo), for a mummy in the collection of the Biblioteca Museu Víctor Balaguer in Spain, and for the documents of the Constitution of India in New Delhi.

To collect environmental data at historic sites in order to guide the site's conservation, Institute staff combined existing hardware used in environmental science, agriculture, and engineering to create autonomous, low-maintenance environmental monitoring stations. The monitoring stations use traditional devices for measuring climatic conditions—temperature, rainfall, humidity, and wind—with other technology originally developed for use in agriculture and industry, such as photoelectric, wetness, carbon dioxide, and infrared sensors.

In another example of technology transfer, medical technology was put to use in identifying binding media, substances that hold pigment particles together and adhere paint to surfaces. Historically, binding media used by artists are extremely varied in nature and comprise such things as various kinds of carbohydrates and proteins. The GCI surveyed a number of medical diagnostic kits on the market designed to detect such substances and conducted experiments to determine which kits, or combination of kits, might be applicable for use in binding media analysis. The binding media identification kit subsequently developed is a simple alternative to expensive laboratory analysis and is particularly useful in the conservation of ethnographic objects.

Among the many possible tools for conservation, two others that have been explored show promise: thermography, which maps radiant heat from objects, was shown in tests at the GCI to be a feasible technique for conservation, while laser cleaning of surfaces, applied to conservation in the late 1970s, continues to be an active area of evaluation and testing.

A relatively recent evolution of the scanning electron microscope (SEM)—the so-called environmental SEM—has proved a powerful tool in the Institute's arsenal. The instrument does not require an ultrahigh vacuum, nor do samples need to be coated with a metallic film (to prevent charge buildup). With a large specimen chamber and the ability to

raise and lower temperature, it is easy to study dynamic processes of change and deterioration. Thus, real-time observation of corrosion of metals, salt crystallization in stone, and swelling-shrinking cycles of adobe can be made, allowing new insights into processes previously observable only as "snapshots" under the SEM.

Developments in science and technology continually offer a rich lode of new products, materials, and instrumentation that have promise for conservation. Mining that lode is a task that the GCI and others have embraced. If the challenge is enormous, so is the potential. Applying the kind of imagination and ingenuity displayed by the creators of our cultural heritage, those engaged in conserving that heritage can turn the industrial achievements of the present into guardians of the past.

*Neville Agnew is associate director for programs at the Getty Conservation Institute. Jeffrey Levin is editor of Conservation, The GCI Newsletter.*



**An Egyptian mummy in the collection of the Biblioteca Museu Víctor Balaguer in Spain. The design of the nitrogen-filled storage case was developed by the GCI. Photo: Shin Maekawa.**

Recent Courses

## Analytical Techniques in Conservation

In July 1996 the Getty Conservation Institute, the Winterthur Museum, and the Winterthur–University of Delaware Program in Art Conservation offered an intensive six-day course on analytical techniques for conservators, the first such course ever offered anywhere. It was held at the Winterthur Museum, with one session at the Philadelphia Museum of Art.

The course provided a general review of the major instrumental techniques, such as X-ray diffraction, X-ray fluorescence spectrometry, scanning electron microscopy, chromatography, and infrared spectroscopy. Also included was a review of techniques that conservators can carry out themselves, such as polarizing light microscopy and qualitative microanalysis, and an overview of sample collection and preparation steps required for specific analytical techniques. An important objective was to help conservators and scientists communicate more effectively. To achieve this, the introductory session included discussion of systematic approaches to analytical decisions, strategies for applying analyses to conservation problems, and interpretation of analytical data.



Valerie George

Sixteen conservators from six nations—Australia, Austria, France, New Zealand, the United Kingdom, and the United States—attended the course. Aspects of the course that participants found particularly useful included the direct access to analytical instruments as well as to instructors with expertise in specific techniques and their use in conservation. For example, a number of analyses were run during the scanning electron microscopy session, allowing for valuable discussion among participants and instructors.

Following the course, attendee Linda Stiber, a senior paper conservator with the U.S. Library of Congress, wrote that “the course material has already been beneficial and useful,” and that it “would be worthwhile to other conservators involved in analytical work.”

Recognizing the demand for the information included in the course, the GCI is planning to use course materials as the basis of a future publication—the first reference source for conservators to cover all the main analytical techniques applicable to conservation.

Recent Projects

## The Na Bolom Museum

In March 1996 the roof of the Na Bolom Museum, located in San Cristóbal de las Casas, Chiapas, Mexico, was conserved through a project of the GCI Director’s Office. The conservation work on the roof was supervised by architect Ignacio Moreno, who was assisted by local architects, construction workers, and the museum’s staff. Just prior to the roof renovation, the curator of the collections, Susanna Ekholm, and GCI consultant Kathryn Klein implemented preventive conservation methods to protect the museum’s collections during the reconstruction work.

While the roof renovation constituted architectural conservation—Na Bolom Museum is housed in a historic late 19th-century building—the main goal of the project was to preserve the rich cultural institution the building contains. For the last 40 years, Na Bolom (which means “house of the jaguar” in Lacandon Maya) has, with minimal funding, supported cultural and ecological projects within the Maya Lacandon communities of the Chiapas rain forest and operated as a center for scholarly research. The cultural resources located at the Na Bolom Museum include archival materials, archaeological objects, colonial paintings, a library of rare books focusing on Mesoamerican studies, an ethnographic collection representing

## White Nights Delegation

the Maya people of Chiapas, and a series of historical photographs by Gertrude DUBY Blom and archaeologist Frans Blom, the founders of the museum.

The restoration of Na Bolom's roof was one of several initiatives undertaken by the GCI at the museum. In October 1994 GCI's Special Projects sponsored a conservation survey of the museum's photographic collection, performed by conservator Nora Kennedy. Earlier that year GCI consultant Kathryn Klein conserved the Lacandon ethnographic exhibit with the assistance of Maya weaver-conservators.

In June 1996 the St. Petersburg International Center for Preservation hosted its first annual White Nights Delegation, organized by the GCI and the Fondazione Memmo, an Italian foundation with an international art program. Made up of private individuals interested in supporting conservation in St. Petersburg, the seven-day study tour featured behind-the-scenes visits to the city's major cultural institutions for an in-depth look at their conservation needs. Led by Esther Coopersmith, the Center's founding chairperson and former U.S. ambassador to the United Nations, the tour included delegates from Los Angeles, New York, San Francisco, Washington, D.C., Manila, Beijing, Reykjavik, Amsterdam, and Rome. The White Nights Delegation is an annual event scheduled around the summer solstice, St. Petersburg's most beautiful season. It is designed to promote public awareness of the need to conserve cultural heritage, and to solicit support for the Center's conservation programs.

The St. Petersburg International Center for Preservation was established in 1994 by the GCI, The Russian Academy of Sciences, and the city of St. Petersburg. It is registered as a noncommercial partnership in Russia and incorporated as a tax-exempt, nonprofit organization in the United States.

*Right: Center Chair Esther Coopersmith with Roberto Memmo of the Fondazione Memmo, which helped sponsor the delegation's visit. Photo: Alexey Melentyev.*

*Below: Members of the White Nights Delegation visiting the palace of Catherine the Great. Photo: Alexey Melentyev.*



*Above: Delegation members tour the new headquarters of the St. Petersburg International Center for Preservation. Photo: Alexey Melentyev.*



K. Klein

## Nefertari at the National Geographic Society

During summer 1996 visitors to Explorers Hall, the museum of the National Geographic Society in Washington, D.C., were able to take a "virtual" walking tour of the ancient Egyptian tomb of Queen Nefertari. Part of a presentation entitled *Virtual Reality: New Ways to See Old Sites*, the interactive tour of the tomb was originally developed for the exhibition *Nefertari: Light of Egypt*, organized by the GCI and the Fondazione Memmo at the Palazzo Ruspoli in Rome in 1994. The 3-D tour permits visitors to travel anywhere within the tomb, both as it appears today and as it looked at the time of its discovery. The tour also allows viewers to stop and consider conservation problems and treatment methods and listen to recitations of the hieroglyphic inscriptions on the tomb's walls.

The extraordinary wall paintings of the tomb of Nefertari were conserved between 1986 and 1992 in a joint project of the GCI and the Egyptian Antiquities Organization.

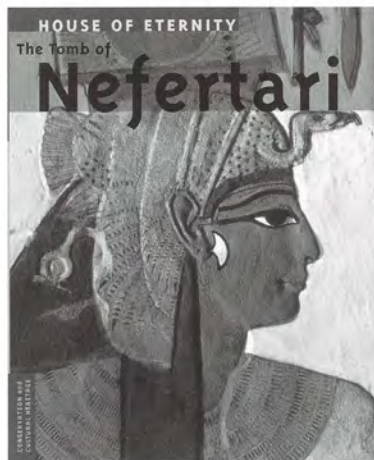
Publications

### *House of Eternity*

### *The Tomb of Nefertari*

*By John McDonald*

Nefertari, the favorite queen of Rameses II, was buried about 3,200 years ago in the most exquisitely decorated tomb in Egypt's Valley of the Queens. Discovered in 1904 by Italian explorer Ernesto Schiaparelli, the tomb had deteriorated to a disastrous extent when emergency consolidation began in 1986. The six-year conservation project of the GCI and the Egyptian Antiquities Organization was completed in 1992.



In this fascinating exploration of the tomb, John McDonald takes the reader through each chamber, describing the hieroglyphic messages depicted in the brilliant wall paintings and discussing the images within the context of Egyptian beliefs. He also offers insights into the life of Nefertari, the development and symbolism of royal tombs, and the construction and decoration of the tombs. *House of Eternity* is illustrated with historic black-and-white images and more recent color photographs that reveal the vibrant beauty of the wall paintings.

In November 1995 the tomb was reopened to the public. Because of the potential for damage and deterioration to the fragile wall paintings caused by increased humidity, carbon dioxide, and microbiological activity introduced by visitors to the tomb, the number permitted to enter daily is strictly controlled by the Egyptian authorities. This book results from a desire of the GCI to enrich visitors' experience by providing a detailed descriptive walk-through of the tomb while conveying a strong message regarding the need for conservation and continuous monitoring to ensure the long-term survival of the tomb's paintings.

Visitors to the tomb and the armchair traveler alike will find *House of Eternity* to be an excellent resource for understanding Nefertari's journey to the afterlife and for appreciating the extraordinary depictions of that journey on the walls of Nefertari's tomb.

John McDonald is an Egyptologist and art historian and former associate director of the Yale University Art Gallery.

*120 pages, 8 x 10 inches*

*90 color and 15 b/w illustrations*

*ISBN 0-89236-415-7, \$24.95*

*House of Eternity is the first volume in the Conservation and Cultural Heritage series, which is being produced by the Getty Conservation Institute in collaboration with the J. Paul Getty Museum. The series aims to provide information in a popular format about selected culturally significant sites throughout the world.*

# A Look Inside the New Home of the Getty Conservation Institute

*Clockwise from top right:*

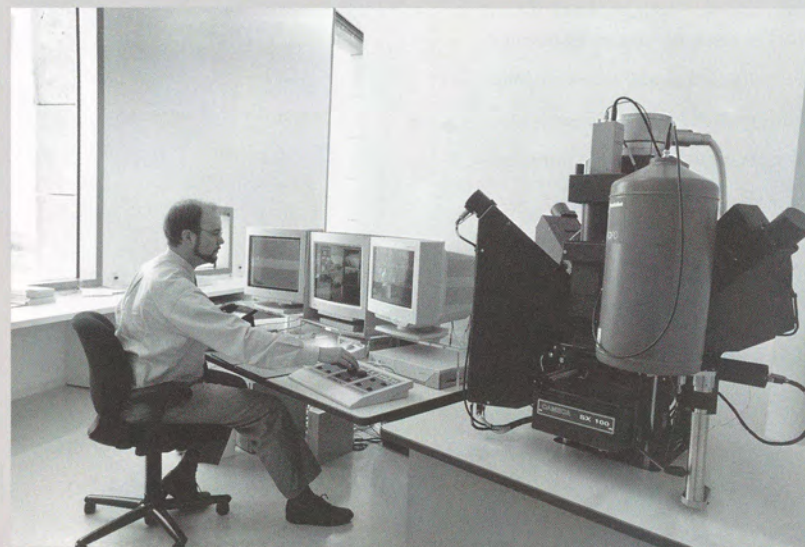
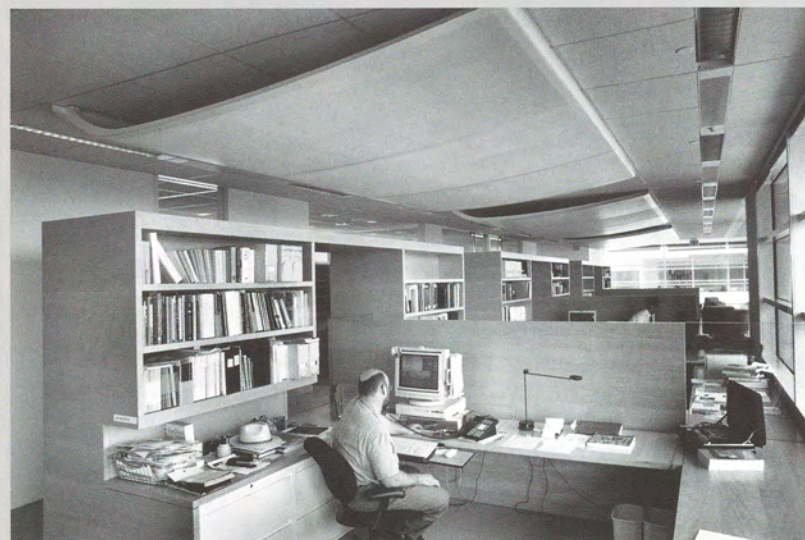
Scientists Herant Khanjian (foreground) and Michael Schilling (background) at work in the analytical laboratories.

Mitchell Bishop, a documentation research coordinator, at his workstation.

Scientist Eric Doehne at the console of the electron microprobe in the electron microscopy laboratory.

The reading room of the Information Center. Administrative staff member Sue Fuller is in the foreground.

*Photos: Nancy Kaye.*



## Carolyn Higgins

### Staff Assistant, Director's Office

Born in Guadalajara, Mexico, Carolyn Higgins grew up around the world. Her father, a career diplomat with the U.S. State Department, was posted to a new country every two years, and her childhood was spent in Spain, Togo, Canada, Rwanda, and New Zealand. By the end of high school, she had been to French and Belgian schools in Africa, a Spanish school, a Canadian school, a California boarding school, and a Virginia public school.

In Rwanda she became a close friend of Dian Fossey, the noted primatologist supported by *National Geographic* magazine, visiting her camp in the Virunga Mountains and tracking the gorilla family groups with her. It was Dr. Fossey who suggested that she might be happier attending the smaller University of California at Santa Barbara campus, rather than U.C. Berkeley, where she had planned to apply. Following this advice, Ms. Higgins went to Santa Barbara and received degrees in classical archaeology (with a Greek emphasis) and cultural anthropology.



Dennis Keelley

After college she moved to Greece and then Italy to work on several archaeological digs. Returning to the United States in 1985, she took a job managing a Colorado art gallery situated in the Rocky Mountain hotel where Stephen King wrote his novel *The Shining*. The following year she came to Los Angeles and took a temporary position in the Photographic Services department of the Getty Museum. Seven months later, Andrea Rothe, the Museum's conservator in charge of paintings, recommended her for a full-time job in the GCI's Training Program. In that position she worked with Training Program director Marta de la Torre. Later she became the secretary to Luis Monreal, who was the Institute's director at the time.

Today Ms. Higgins is the assistant to Neville Agnew, associate director, programs. She likes the opportunity to provide support for the Institute's international projects, and her work has included preparations for a 1995 conference on the conservation of archaeological sites in the Mediterranean region. She particularly enjoyed this conference because it took her back to a region of the world whose history continues to enchant her. So does the region's cuisine, and she enjoys nothing more than whipping up an Italian, Greek, or French meal or combing Los Angeles for innovative chefs and restaurants featuring those cuisines.

## Sue Fuller

### Senior Administrative Coordinator, Administration

Raised in the San Francisco suburb of Burlingame, Sue Fuller started college at Stanford University but transferred to Cornell a year later, when her family moved to New Jersey. There she studied English literature and met her husband Pete, a student at the university's school of hotel administration. They were married a year after college, and he went to work for the Sheraton Corporation, managing hotels in cities such as Washington, Providence, and Chicago.

In the late 1960s, she returned to California when her husband was transferred west. They lived for nearly a decade in San Diego, then later came to Los Angeles. When her youngest child graduated from high school in 1983, she took her first job since college, working for the Los Angeles Olympic Organizing Committee. Assigned to the ticketing department, she found the work a great experience. She stayed on after the games to help close the operation, leaving in the fall of 1984.



Dennis Keelley

When Ms. Fuller inquired about positions at the Getty Museum—a place where she had long wanted to work—she was told of an opening at the newly formed Getty Conservation Institute. Hired as the secretary to the Institute's administrative services manager, she was the GCI's ninth employee. In that first year she provided staff support during the design of the Marina del Rey facility, which was to become the Institute's home for over a decade.

In the years that followed, she moved from secretarial work to accounting and personnel. Today she continues to back up the administrative support for the GCI's programs. Now the Institute's third-longest-serving staff member, she finds it enormously satisfying to have witnessed the growth of the GCI and the fulfillment of so much of the vision that prompted its establishment. A particular highlight for her was a 1991 trip to Egypt and a visit to the tomb of Queen Nefertari, site of the Institute's first special project. After processing so much of the project's paperwork, she found it gratifying to stand in the tomb and see conservation work actually being done.

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