

# TOBUNKEN NEWS no.1 DIGEST

National Research Institute for Cultural Properties, Tokyo  
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## On the Publication of *TOBUNKENNEWS DIGEST*

By SUZUKI Norio, Director General, National Research Institute for Cultural Properties, Tokyo

We are happy to present the inaugural issue of *TOBUNKENNEWS DIGEST*, an English version of *TOBUNKENNEWS*. But rather than making it a mere translation of *TOBUNKENNEWS*, we hope to provide the readers with select articles from the original twice a year as a way of communicating overseas the work of the National Research Institute for Cultural Properties, Tokyo.

The Japan Center for International Cooperation in Conservation published the *Newsletter* in May 1997 in order to provide domestic organizations and researchers in the field of cultural properties with various information concerning international exchanges in research of and cooperation in conservation. In other words, the purpose of the publication of the *Newsletter* was to communicate within Japan information related to international coop-

eration being undertaken at the Institute. When we consider the purpose of publishing *TOBUNKENNEWS DIGEST* in view of this, we are especially pleased.

*TOBUNKENNEWS* was first published in March 2000 and became the newsletter for the entire Institute. Twenty-eight issues have been published as of now. We greatly appreciate the understandings and supports that have been given to make this possible.

International cooperation undertaken by the Institute is far more diverse than it was at the start of *TOBUNKENNEWS*. Time has come for us to actively provide information presented in *TOBUNKENNEWS* not merely in Japan but overseas.

In *TOBUNKENNEWS* we have made it our mission to communicate various activities of the Institute in such a way that the general public would find it easy to understand. In publishing *TOBUNKENNEWS DIGEST*, we also hope to communicate overseas, in a similar way, the work of international cooperation promoted by the Institute.

In this inaugural issue, we present a summary of the activities of the Institute. From now on, we plan to publish two issues a year in order to inform the public of the activities of the Institute as promptly as possible. We would be most happy if *TOBUNKENNEWS DIGEST* would play a role in introducing to the world some of the work of international cooperation being undertaken by the Institute.



National Research Institute for Cultural Properties, Tokyo  
Photography by SHIRONO Seiji

## Mission Report on the “Safeguarding of the Bamiyan Site”

By IWADE Mayu, Japan Center for International Cooperation in Conservation

The National Research Institute for Cultural Properties, Tokyo and Nara conducted the seventh mission of its conservation activities within UNESCO's framework of “Safeguarding of the Bamiyan Site” from September 11 to October 10, 2006, funded by the Grant for Operating Costs of the Institute and the UNESCO/Japanese Funds-in-Trust for the Preservation of Cultural Heritage in the Bamiyan Valley, Afghanistan. In this mission, following activities were carried out jointly with the Ministry of Culture and Youth of the Islamic Republic of Afghanistan.

Conservation of the mural paintings: Two pilot projects for the protections of mural paintings remaining intact at Buddhist Caves N(a) and I were conducted. This mission led to the establishment of conservation methodologies and materials, and discoveries of new images and patterns from the mural paintings at Cave N(a) after the cleaning of the blackened painting surfaces. Grouting, edging and consolidation of the intact portions of mural paintings at Cave I, which was seriously damaged by human encroachment during the period of civil war, have been successfully carried out. Microclimatic monitoring in the Caves and the Bamiyan valley is being continued in order to monitor and evaluate the surrounding environment during the conservation project.

Archaeological investigation: In regard to the specification of cultural and archaeological zones mentioned in the Preliminary Master

Plan, archaeological soundings were conducted at three places in order to determine the locations and areas of archaeological heritage that should be protected from local development. From among these places, the lower part of the platform of a stupa constructed of cut limestone slabs was found at Jû-yi Shahr area.

Architectural survey of the Buddhist Caves: A general survey for the state of preservation, documentation and survey of the architectural history of the Buddhist Caves were carried out for future conservation planning and safety assessment of those Caves. Through these surveys, the characteristics and problems of damage of Cave structures have been investigated. Furthermore, a new possible grouping of the Caves from three-dimensional perspective was found by re-evaluating the relationship of a series of Caves that are connected with stairs and pathways.

Conservation workshop: A training workshop was held at the Bamiyan Centre for Cultural Heritage Conservation in cooperation with the Ministry of Culture and Youth of Afghanistan. Six trainees from the National Kabul Museum and other local museums received a series of lectures on the theory and practice of conservation of mural paintings. This training provided a good perspective for conducting closer teamwork in the Bamiyan conservation project in the near future, and a possibility of having the Afghan conservators start the conservation of their own cultural heritage.



Location of Caves I and N(a)



*Newly discovered images and patterns made with tin-leaf/yellow resin technique after removal of black soot - like deposits*

## Training Project for Iraqi Experts in Conservation

By UNO Tomoko, Japan Center for International Cooperation in Conservation

The Iraq National Museum is well known as the world's leading museum that houses cultural properties of the ancient Mesopotamian civilization. However, museums in Iraq have been suffering from plundering of its collections and damage of its facilities after the Iraqi War in 2003.

The National Research Institute for Cultural Properties has been conducting human resource development for the rehabilitation of the Conservation Laboratories at the Iraq National Museum in Baghdad as a part of the Institute's "Cooperation Project for the Conservation of Cultural Heritage in West Asia" since 2004. In addition, it has been conducting a three-year project, "Rehabilitation of the Conservation Laboratories at the Iraq Museum in Baghdad", since 2005, funded by UNESCO/Japanese Funds-in-Trust. In 2006 two Iraqi conservation experts were invited with the grant for operating costs of the Institute and the other two with UNESCO/Japanese Funds-in-Trust. Three of them were from the Conservation Laboratories of the Iraq National Museum and one was from the Nineveh Antiquities and Heritage Bureau. Four trainees learned basic conservation techniques at the Institutes in Tokyo and Nara.



*Training in conservation at the Institute*

They also experienced various conservation methods for archaeological objects at the Shizuoka Research Institute for Buried Cultural Heritage.

Even now, vandalism and depredation in museums, historic buildings and archaeological sites are ongoing problems in Iraq. We hope that the domestic situation of Iraq will be stabilized as soon as possible and that the four experts who received training will become active in the protection of valuable cultural heritage of Iraq. Through the project, we also hope that the Institute may have helped them to improve the current situation of museums in Iraq.

## The 29th International Symposium on the Conservation and Restoration of Cultural Property , “Mural Paintings of the Silk Road: Cultural Exchanges between East and West“

By YAMAUCHI Kazuya, Japan Center for International Cooperation in Conservation

Each year since 1977, the National Research Institute for Cultural Properties, Tokyo has held an International Symposium on the Conservation and Restoration of Cultural Property. In January 2006, the 29th International Symposium, “Mural Paintings of the Silk Road: Cultural Exchanges between East and West”, was organised by the Japan Center for International Cooperation in Conservation. A three-day colloquium (24-26 January) and a one-day public symposium (28 January) were held within the framework of this international symposium. Over 250 participants attended the public symposium.

Even though a subject like mural paintings clearly encompasses such a wide variety of aspects that cannot be discussed fully in a single symposium, a number of common themes incorporating numerous research fields, geographic areas and time periods emerged to tie this diversity together. Mural paintings have been the main theme in past international symposia; however our intention in selecting it again was to highlight the dramatic changes in the surrounding environment -the context- of conservation and restoration of mural paintings during the past decade. For example, interest from related disciplines such as art history and archaeology has increased significantly. Indeed, as a starting point for investigation, mural paintings offer a wealth of avenues for diverse specialists from history to science through analytical studies.

Along the great Silk Road, which connects the East and the West, numerous objects of cultural heritage survive as witnesses to the mingling of indigenous cultures with "foreign" cultures. One type of surviving witness is mural paintings. In this international symposium, one focus was on the sharing of art historical and historical knowledge. The complex relationships of techniques, materials and motifs of the paintings were discussed, and it was a good opportunity to consider various challenges and current issues



*Active discussion among experts at the colloquium*

in mural painting conservation by surveying a wide range of examples from different countries.

Since the study of mural paintings along the Silk Road requires a broad range of disciplines, such as art history, archaeology, conservation science, restoration and natural sciences, over 30 experts who are actively conducting their research in various geographical areas, such as Cambodia, China, France, India, Italy, Japan, Korea, Russia, Thailand, UK and USA, participated. A newfound recognition of the vastness of the Silk Road, along with a genuine rediscovery of the ancient cultural exchanges that took place there, was reflected in the presentations which examined the range of information (art styles, techniques and materials) encapsulated within mural paintings, allowing the participants a glimpse of the dynamism inherent in the cultural exchange between the East and the West.

Today, parts of the Silk Road, rich in the magnificence of the ancient arts they possess, are often located in countries facing major challenges. Countless important archaeological sites are in danger of demolition or severe damage by human encroachment or turmoil. This symposium also addressed such issues - more from an Asian point of view, reaching beyond European perspectives.

## Signing of a Memorandum of Understanding concerning Joint Research at the Angkor Site, Cambodia

By FUTAGAMI Yoko, Japan Center for International Cooperation in Conservation

Organizations from various countries are conducting restoration of monuments, including Angkor Wat, at the Angkor Site in Cambodia under the coordination of the International Coordinating Committee for the Safeguarding and Development of the Historic Site of Angkor (ICC) in which Japan and France are participating as joint chair nations. Unlike the full-scale restoration projects using large equipments, such as cranes, and many workers that are being conducted at the monuments, the joint research between the Authority for the Protection and Management of Angkor and the Region of Siem Reap (APSARA) and the National Research Institute for Cultural Properties, Tokyo focuses on a conservation science content related to the cleaning of the surfaces of stone monuments.

Various types of plants including trees, grasses, mosses, lichen and fungi are found on the stone materials of the monuments. While the white or green lichen and mosses that dapple or cover the stones create a special taste to the sites, they can hinder appreciation if they cover the carvings. Moreover, adverse influences they may have on the monuments, such as deterioration of stones due to moisture and the exfolia-



*Automation weather station at Ta Nei site*

tion of the stone surface that occurs when these plants wither, are to be feared. Thus, from December 2001 research has been conducted at Ta Nei, a 12th century temple, from various aspects including the identification of the types of plants found on the stone surface, the study of the condition of their distribution, measurement and simulation of the environmental conditions, and test cleaning of the stone materials.

A memorandum of understanding was signed in December 2006 between Director General BUN Narith of APSARA and Director General SUZUKI Norio of the Institute to continue joint research. Through this research, a plan for managing the monuments from the point of view of conservation science will be established and the training of the staff of APSARA will be conducted.

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## Seminar of the Cooperative Research with the National Research Institute of Cultural Heritage, Korea: Conservation and Environment of Stone Cultural Properties

By MORII Masayuki, Department of Restoration Techniques

The Department of Restoration Techniques is conducting a joint research with the National Research Institute of Cultural Heritage, Korea on environmental assessment, restoration techniques and materials of outdoor heritage. In this project joint investigations are held at reciprocal research sites and opinions are exchanged at

workshops held once a year at alternating venues.

This year the workshop was held on November 15 in the lecture hall of the National Research Institute of Cultural Heritage, Korea (Daejeon, Korea). From Japan, NAKAYAMA, KUCHITSU and MORII of the Institute, Tokyo and YAMAJI of Beppu University participated in



Participants at the workshop

the workshop. Presentations were made and discussions were held among Japanese and Korean researchers.

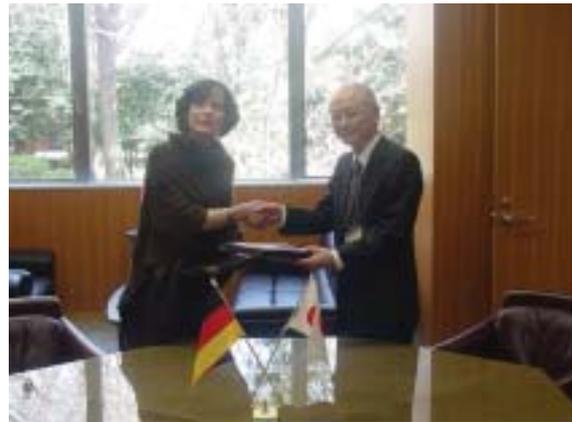
The content of presentations were mostly related to the conservation of stone cultural properties. Interest in stone cultural properties, especially in stone Buddhas, is extremely high in Korea, and there was active discussion on their conservation and utilization. We hope to continue to promote research exchange of this type and to contribute to the development of conservation of cultural properties in the two countries.

## Signing of a Memorandum for The Cooperative Program for the Conservation of Japanese Art Objects Overseas

By KATO Hiroshi, Department of Restoration Techniques

In the fiscal year 2005, the craft work team of The Cooperative Program for the Conservation of Japanese Art Objects Overseas conducted preliminary investigation mainly of Japanese lacquer objects at Museum für Ostasiatische Kunst, Köln in Germany; Museo d'Arte Orientale "Edoardo Chiossone" in Genova, Italy; and Museo d'Arte Zaragoza, Sistema de Museos de Aragón in Zaragoza, Spain. At Cologne, in addition to the investigation of craft works, consultation was made on the question of dispatching experts to Cologne to do the work of restoration, a request which had been made some time earlier.

In order to conduct restoration overseas, several conditions must be fulfilled. For example, there must be a studio fully equipped with security measures during the period of restoration. In addition, it will become necessary to translate technical terms used by restorers to the language used by people of the country in question. These are very important since one cannot expect sufficient restoration results without an appropriate environment and mutual understanding among people involved in restoration. Museum für Ostasiatische Kunst, Köln promised a studio fully equipped with security measures and accommodations at the guesthouse for the restorers. We were able, also, to build mutual understanding with a Japanese curator.



Ceremony for the signing of the memorandum

Thus, the possibility for dispatching restorers increased and an addition concerning the dispatch was made to the memorandum that had been used until now. After translated into English, the new memorandum was prepared between Museum für Ostasiatische Kunst, Köln and the National Research Institute for Cultural Properties, Tokyo.

On March 31, 2006 Director Adele SCHLOMBS of Museum für Ostasiatische Kunst, Köln was invited to Japan and a ceremony was held at the National Research Institute for Cultural Properties, Tokyo for the signing of the memorandum. With this, it has become possible, since fiscal year 2006, to restore Japanese lacquer objects with minor damages in

museums throughout Europe in addition to conducting full-scale restoration projects in Japan. Furthermore, while dispatched restorers are in the host country, it will become possible for them to give lectures and conduct workshops as

well as to impart traditional Japanese restoration techniques to European restorers. It is hoped that in the future many other museums will participate in the dispatch of restorers.

## International Course on Conservation of Japanese Paper 2006

By KATO Masato, Department of Restoration Techniques

The International Course on Conservation of Japanese Paper 2006 was held from September 11 to 29, 2006. This Course is a part of a project within the framework of international joint research and contribution promoted by the Agency for Cultural Affairs. It is held jointly with ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) with focus on Japanese paper and Japanese lacquer, two characteristic materials used for Japanese cultural properties. This year, as the tenth Course on Conservation of Japanese Paper, 10 participants from 10 countries who are engaged in the protection and utilization of cultural properties attended the Course.

Cultural properties of Japan, such as paintings, calligraphy and documents, that use paper as their material have been transmitted in diverse forms, including hanging scrolls, hand scrolls, books, folding screens and sliding doors. A great number of these are also found overseas. However, there are not so many opportunities to learn about the methods of their production, materials, techniques of mounting and restoration outside of Japan. So in the Course, focus is placed not merely on providing overseas participants with knowledge about Japanese paper itself, which is a representative and traditional material of Japan, and other materials and techniques but also on understanding the Japanese sense of value.

The Course consists of lectures, practical sessions and a study tour. In the lectures, the participants learned about Japanese paper and traditional Japanese adhesives from the point of view of materials study, about the Japanese concept of the protection of cultural properties, about Japanese paintings techniques, about mounting techniques, and about the diverse

forms of mounting from specialists in each field. In the practical sessions, the participants used samples of cultural property models with artificially made insect damage in order to clean, restore and mount them as hand scrolls. They also mounted pieces of Japanese paper that are used for restoration of cultural properties as booklets, using the Japanese technique of binding. In the study tour, the participants visited Mino, a Japanese paper producing area in Gifu prefecture. They observed the production of traditional *hon-mino* paper at Hasegawa Washi Kobo, a handmade Japanese paper studio, and Mino Washi Museum. They also had a first-hand experience at making Japanese paper. In Kyoto they visited the conservation studios of The Association for Conservation of National Treasures, both at the Restoration Center in the Kyoto National Museum and other locations, to see the actual sites of conservation.

During the Course, the participants asked many questions and exchanged many opinions rather than attending the Course passively. It is hoped that the participants will make use of what they have learned in the Course in their respective places of work.



*A scene from the practical session*

## Exhibition of High-Digital Images of *Ban Dainagon Emaki*, a National Treasure

By YAMANASHI Emiko, Department of Research Programming

The Department of Research Programming has been conducting cooperative research with the Idemitsu Museum of Art on *Ban Dainagon Emaki* (Hand Scroll of Ban Dainagon), a National Treasure. This work is considered one of the four grand hand scrolls of Japan along with *Genji Monogatari Emaki* (Hand Scroll of *The Tale of Genji*), *Shigisan Engi Emaki* (Hand Scroll of the Legends of the Temple on Mount Shigi), *Chojujinbutsu Giga* (Hand Scroll of Caricature of Animals and Humans). It is well known for the excellent depiction of a great fire as well as the skillful expression of the movements of the people and the passage of time. Although it is said to have been depicted by artists of the Imperial Court in the latter half of the 12th century, based on an actual fire that burned down Otenmon, the south gate of the administrative offices of the court, on March 10, 866, there are many questions that remain unanswered, including the identification of the figures depicted.

In addition to high-resolution color photography using high digital multi-shot type CCD sensor, near-infrared photography, luminescent photography and analysis by X-ray fluorescence

were conducted on the hand scroll. These studies showed the application of multi layers of paints and the lively way in which the expressions and even the hair of the figures, actually no larger than a few centimeters, are depicted. Moreover, it was found that these figures were drawn without any under-drawing and that the paints used to depict their faces differ in accordance with their social positions. These are all significant results that are deeply related to the art historical analysis of the hand scroll.

In order to inform the public of these findings, the digital images were exhibited from October 7 to November 5, 2006 during the exhibition of the hand scroll held at the Idemitsu Museum of Art. Similar images are also being exhibited at the lobby of the Institute (from October 12). The figures depicted on a hand scroll 31.5cm in height have been enlarged almost to the size of real human beings in an attempt to create images that would allow the viewer to actually enter the world of the hand scroll and to communicate with the figures depicted. We will continue to strive to apply state-of-the-art techniques for the understanding and appreciation of cultural properties.

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## 40th Public Lecture by the Department of Fine Arts

By WATADA Minoru, Department of Fine Arts and SARAI Mai, Department of Research Programming

The Department of Fine Arts holds a public lecture every year in order to inform the results of its research to the public. The Department chose "The Dynamics of Interaction between Objects and People" as the theme of its 40th Public Lecture this year, which was held for two days at the Seminar Room of the Institute according to the following schedule.

### Friday, October 27

SARAI Mai, "Temples and Statues of the 10th Century"

SEYA Takayuki (Kanagawa Prefectural Kana-

zawa Bunko), "Statues of Kofukuji and the Transmission of Iconology"

### Saturday, October 28

WATADA Minoru, "Sesshu and Sotan"

IGARASHI Koichi (Hyogo Prefectural Museum of History), "Information in and the Compilation of *Honchogashi*"

The underlying theme, "The Dynamics of Interaction between Objects and People," was chosen in relation to the project of the Department of Fine Arts, "Research on Materials for the Study of East Asian Art," that has started this year. In this project, an attempt



*The Emperor, Minamoto Yoshifusa, Ban Dainagon (left to right)  
Exhibition in the lobby of the Institute, Photography by SHIRONO Seiji*



*A figure in the hand scroll  
Exhibition in the lobby of the Institute, Photography by SHIRONO Seiji*

will be made to examine from multiple angles the mechanism for the formation of systems of value by carefully analyzing the relations between objects and people rather than by looking at art and evaluating it only on the basis of its visible artistic characteristics.

Presentations by SARAI and SEYA on the first day both analyzed the way in which Buddhist statues have continued to be made based on prototypical images and styles of previous statues that are considered to possess standard form and sacred nature by studying *the Yakushi Triad* of Daigoji temple in Kyoto and *Tentoki* and *Ryutoki* of Kofukuji temple in Nara, respectively.

SARAI pointed out the possibility that *the Yakushi Triad* shows formative aspects reminiscent of previous ages which the court intentionally incorporated in order to meet the strained circumstances of society of the time. SEYA pointed out that the statues in the Lecture Hall of Kofukuji temple served as prototypes for later Buddhist statues and that *Tentoki* and *Ryutoki* are adaptations of *Yasha* statues enshrined at the Middle Gate of Gangoji temple in Nara. In both cases, the speakers presented the way in which the repetition of prototypes brought about an overlapping of various values that had been transmitted from the past and that had enriched the people's appreciation of a given statue. In this sense, it may be said that prototypes symbolize the wishes that people entrusted in the statues.

Both presentations on the second day, by WATADA and IGARASHI, dealt with information about artists. Focus was placed on information that tends to circulate separate from the wishes of the artist himself and the role of editors that collect such information or attach new meaning to the information.



*Honchogashi (collection of the Institute)*

WATADA introduced in detail Sotan, an artist who, although almost unknown today, in reality represents the Muromachi period. By contrasting Sotan, who was active as a leading artist of his time, with Sesshu, who is now well-known but who might have been interpreted as a mere local artist while he was alive, the speaker questioned when, where and for what reason people's evaluation of the two artists changed. By doing so he brought to focus the difference in quality of the importance of the two artists from the point of view of art history.

IGARASHI studied the circumstances concerning the publication of *Honchogashi* (1693), which is considered a standard document in discussing the history of Japanese painters, by focusing on the network of persons associated with KANO Eino, its author. He pointed out that it was possible for Eino to have collected information through his acquaintanceship with people of the Mito clan that was editing *Dainihonshi* (History of Japan) at the time.

All the four presentations were quite academic and meaningful in that they indicated the tendency of the most recent approaches to research. We hope to continue furthering our study and to hold lectures and seminars of this type.

## The Project to Publish a History of 75 Years

By NAKAMURA Setsuko, Department of Research Programming

The National Research Institute for Cultural Properties, Tokyo has its origin in The Institute of Art Research founded in 1930 based on the last will of an oil painter, KURODA Seiki, and celebrates its 76th anniversary

in 2007. With regard to the publication of the history of the Institute, until now, there is only *Tokyo Bunkazai Kenkyu-jo 20nen no Ayumi* (a history of 20 years of the Tokyo National Research Institute of Cultural

Properties), which was published in 1973. Thus, a project was started last fiscal year to compile a history of the Institute on the occasion of its 75th year.

This project consists of four major focuses: 1. history and structure, 2. research studies, 3. lists of projects, and 4. materials and resources. We are now collecting materials and data. The book will be published in fiscal year 2007.

We owe much to the previous publication of the 20 years' history and the annual reports of the Institute. But as there were not many materials at the Institute before its renewal foundation in 1952 after World War II, we have collected materials at the Ministry of Education, The Japan Art Academy, the National Archives of Japan, and the Tokyo National Museum. We are also compiling writings by persons related to the Institute and interviews of retired staff.

The core of the book exists in the part on research studies. The Institute started originally for the study of art history, but has grown and covers various fields of studies related to cultural properties. The history of research studies of each department has developed with the history

of studies of each discipline in Japan and will become valuable materials witnessing the history of research in each field.

As for the part on materials and resources, we have placed priority on their value as resources for study. Lists of photographs taken during research undertaken by the Institute, inventory of ink rubbings and records of supporting organizations in the Institute's collection obtained before World War II will be included. We hope these materials will provide new information about the works of art, social contributions and awareness in the past, as well as the human network related to the Institute.

The Institute has kept the aims of its foundation to conduct research and studies, to collect materials, and to contribute to the public in the field of cultural properties even today without losing its collection during World War II. We hope that this publication will give us an opportunity to consider how we can convey our collected studies and materials to the next generations and explore the works so as to contribute not only to Japan but also to the outside world.

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## Environmental Control inside the Conservation Facility of the Kitora Tumulus

By SANO Chie, Department of Conservation Science

**O**n the ceiling of the stone chamber of Kitora Tumulus (Asuka-mura, Takaichi-gun, Nara prefecture) were depicted constellations and on the walls were depicted the four animal deities that protect the four directions - namely, *seiryu*, *byakko*, *genbu* and *suzaku*. However, it was decided to remove these paintings and store them elsewhere since the plaster on which they are found has become lifted from the stone surface and the wall paintings are at risk of falling. The National Research Institute for Cultural Properties has been commissioned by the Agency for Cultural Affairs to conduct the entire work of their conservation. From November 2006, in addition to using a thin spatula, a method that has been used until now, an electric wire saw on whose blade diamond powder is sprinkled is used to detach the

plaster foundation from the stone in order to remove the paintings for their protection. Since there are paintings that have not yet been protected, measures are being taken within the conservation facility to maintain the paintings in as good a condition as possible by controlling the environment inside. These include environmental survey and inspection held twice a week for fungi.

In order to obtain, away from the site, information concerning the environment inside the conservation facility and its perimeters, a weather station was established at the site at the end of November 2003. Measurement items include temperature, relative humidity and carbon dioxide concentration inside the chamber; temperature, relative humidity and carbon dioxide concentration inside the small antechamber; profile

of the mound including temperature and moisture content; wind direction and velocity over the mound, precipitation and amount of sunlight. Measured data are sent every hour to the Agency for Cultural Affairs and the Institute at Tokyo and Nara. Since accurate data is necessary for an understanding of the environment, sensor calibration is essential under a humid condition like that at Kitora Tumulus.

Water, nutrition and, mostly, oxygen are indispensable for microbial growth. Since fungi growth and free water are deeply related, guarding against condensation and water leakage through the joint between the conservation facility and the mound is important. Inside the conservation facility where relative humidity is maintained at almost 100% in order to prevent shrinkage of the plaster, even a slight difference in temperature will cause condensation. In order to control the increase of microorganisms, then, dehumidification and ventilation are effective. However, it is necessary to maintain high humidity inside the conservation facility so as to prevent the drying of plaster, and dehumidification cannot be done in the conservation facility of Kitora Tumulus. For this reason, when a difference in temperature is found by infrared thermography, necessary measures are taken against condensation such as the reinforcement

of heat insulation. It is also difficult to control the growth of microorganisms originating from the soil in a highly humid environment such as that found on the mound exposed in the small antechamber. So polysiloxane-based hydrophilic resin is applied to the surface layers of soil in order to prevent the formation of colonies of microorganism.

Another method to suppress germination is to remove nutrition. Microbial contamination inside buildings will increase gradually with use because of accumulation of dusts, which often serve as nutrition for microorganisms. Thus, in order to maintain the cleanliness of the conservation facility, the types and amount of airborne fungi are measured to evaluate the degree of microbial contamination in air. When the amount of airborne fungi increases, immediate sterilization is conducted because it means that fungi growth may occur anywhere else.

Environmental management is a very basic work. But when paintings are stored in an environment where their maintenance is very difficult, as is the case at Kitora Tumulus, environmental control will have a great impact on their protection. We ask for your understanding and cooperation with regard to our conservation activities.



*Sterilizing and cleaning the inside of the conservation facility  
(Photograph by courtesy of Ikari Corporation)*

## Seminar on Hygrothermal Analysis of the Environment surrounding Cultural Properties

By INUZUKA Masahide, Department of Conservation Science

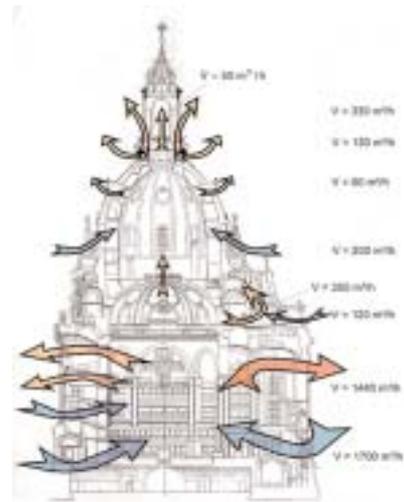
The Department of Conservation Science conducts research on the conservation environment for cultural properties. In conserving cultural properties in exhibition rooms and storage, temperature and humidity conditions and their stability are extremely important issues. A hygrothermal analysis employing computer-based simulation is effective in considering hygrothermal conditions surrounding cultural properties quantitatively and in seeking a better conservation environment. This would be a specially effective tool in considering the hygrothermal conditions within a large space where control of temperature and humidity is very difficult.

A seminar was held on December 7, 2006 to discuss environments surrounding cultural properties from various aspects such as measured data and simulated calculations. Researchers invited to this meeting were: NITTA Takefumi of the Shizuoka Prefectural Museum of Art, OGURA Daisuke of Kyoto University, John GRUNEWALD of Syracuse University, and Rudolf PLAGGE and Peter HÄUPL of Dresden University of Technology.

First, ISHIZAKI Takeshi of the Institute presented a summary of the results of research concerning hygrothermal analysis. Next, NITTA of the Shizuoka Prefectural Museum and INUZUKA Masahide of the Institute spoke on the results of measurement of the thermal environment at the Shizuoka Prefectural Museum.

OGURA presented analysis of data and results of calculations concerning a very special method of controlling humidity and temperature at Takamatsuzuka Tumulus at the time of its dismantling. GRUNEWALD presented a case study in which simulation software (DELPHIN), which had been introduced in previous meetings, was used to solve a problem at Rijksmuseum Amsterdam. The contents of many of the presentations were richly scientific and there was very active discussion among the participants.

On December 5, a seminar on the moisture characteristics of building materials was held at the Structural Engineering Research Center, Tokyo Institute of Technology. HÄUPL spoke on the analysis of moisture distribution at the Church of Our Lady, a historic building in Dresden, and PLAGGE spoke on the hygrothermal performance of architectural materials. These presentations were also followed by active discussions.



Moisture distribution analysis of a historical building, "Church of Our Lady" in Dresden

## Seminar on Biological Damage to Wooden Cultural Properties and Measures for its Control

By KIGAWA Rika, Department of Conservation Science

Cultural properties in Japan made of wood, such as historic buildings and sculptures, are constantly exposed to damage caused by insects and fungi. However,

the use of methyl bromide as a fumigant was banned at the end of 2004, resulting in changes in measures for controlling pests at museums. The Department of Conservation Science held a

seminar on November 16, 2006 at the Institute to discuss biological damage to cultural properties made of wood as well as the restoration of such objects and countermeasures.

First, YAMANO Katsuji and KOMINE Yukio from the Japan Institute of Insect Damage to Cultural Properties spoke on the damage caused by termites to cultural properties and their countermeasures, referring to examples of damage and methods for its investigation as well as problems caused by dry-wood termites about which attention should be given in the future. MOMOHARA Ikuo of the Forestry and Forest Products Research Institute presented a comprehensive explanation of the deterioration of wood by fungi and its countermeasures, while MAEHORI Katsunori of the Japanese Association for Conservation of Architectural Monuments spoke on the investigation and methods of repair for designated historical buildings giving examples of restoration in which the newest non-destructive analyses were employed. SAIKI Masaru of the Education Bureau of Chiba and FUSE Keiko of the Kururi-Joshi Museum, Kimitsu presented examples of damage encountered and countermeasures taken at a site and provided topics to consider



*Samples of damaged materials exhibited at the seminar*

regarding future collaboration with the local community. Finally, Tom STRANG of the Canadian Conservation Institute spoke about cultural properties made of wood found in an outdoor environment in Canada, referring to a unique case of conservation of petrified wood of an ancient metasequoia forest in the high arctic region.

We hope to continue to consider how we should conserve cultural properties made of wood that are found in environments quite different from that of a museum.

## Seminar Course for Museum Curators

By YOSHIDA Naoto, Department of Conservation Science

**S**eminar Course for Museum Curators is held for curators in Japan who are in charge of conservation. Its purpose is to give them basic knowledge and techniques for conservation. Begun in 1984, this year marked the 23rd of the Seminar Course. Thirty participants attended the Seminar Course from July 10 to 21. The Seminar Course covers two major topics: 1. environmental control and 2. the mechanism of deterioration of cultural properties using various materials and measures for their conservation. A curriculum was formed, including lectures and practical sessions, to

learn about temperature and humidity control, lighting, measures for protection from disasters and integrated pest management (IPM) for the former topic and about paper and lacquer objects as well as archaeological relics for the latter topic. In addition, lectures were given on scientific analysis of cultural properties.

To apply the methods of environmental assessment that the participants acquired in the Seminar Course, on-site training was held at The National Art Center, Tokyo. While being overwhelmed by the size of the building, the participants walked about (and at times ran about) the museum with various measuring instruments in their hands. Divided into groups, they collected data in accordance with themes they had set up for themselves. On the following days, they not only presented numerical data but also made presentations using pho-

tographs and other visual data. There was also very active exchange of questions, answers and opinions.

At the end of this year's Seminar Course, the number of curators who attended the Seminar Course for Museum Curators reached over 500. They hold responsible positions not only in their places of work but also as core personnel in charge of conservation of materials in their respective areas. On the other hand, we take up the problems that these participants inform us of and that are occurring at their museums, and study them anew in order to find solutions. We hope to maintain this two-way approach, to improve the curriculum to meet the needs of museums, and to fulfill our responsibility as a



*On-site training at The National Art Center, Tokyo*

national center for the conservation of materials.

## Records Produced by Kokyoku Hozonkai: Audio Material Formerly in the Collection of TAKEUCHI Michitaka

By IJIMA Mitsuru, Department of Intangible Cultural Heritage

Among the audio materials formerly owned by TAKEUCHI Michitaka that was donated to the Department of Intangible Cultural Heritage (formerly, the Department of Performing Arts) from Kunitachi College of Music in 2001, there are many 78-rpm records that are of great value as materials. Particularly, the 38 records (76 sides; duplicates excluded) produced by Kokyoku Hozonkai (an association for the preservation of Japanese music of the Edo period which was in danger of being lost) are rarities.

Kokyoku Hozonkai was established in 1919 for the purpose of conducting research on Japanese music of the Edo period and produced a great number of 78-rpm records for use as materials in comparing the tune of the various genres of Edo period music. Although details are not clear, it is believed that over 100 records were produced during the first phase (1920) and the second phase (1921).

These records produced by Kokyoku Hozonkai were intended for distribution among its members. For this reason, very few records remain today and no organization has been confirmed that is reported to possess all of them. Among organizations other than this Institute



*Records produced by Kokyoku Hozonkai  
(top: Record from phase 1, bottom: Record from phase 2)*

that make the inventory of 78-rpm records in their collections accessible to the public, 34 records have been confirmed at the Research Centre for Japanese Traditional Music of the Kyoto City University of Arts and 18 records (duplicates excluded) at the National Showa Memorial Museum at Kudan, Tokyo. Among the records owned by these three organizations, the number of records that are found only in the collection of this Institute is 15, while that at the Kyoto City University is 11 and that at the Showa Memorial Museum is 4. This is a little

less than half of the actual number of 78-rpm records produced by Kokyoku Hozonkai.

An inventory of 30 records (60 sides) of the 38 records (76 sides) produced by Kokyoku Hozonkai in the collection of the Institute are listed in volume 33 of *Geino no Kagaku*, journal of the Department of Performing Arts (March 2006). The Department of Intangible Cultural Heritage is preparing to make all the audio materials previously owned by TAKEUCHI Michitaka, including the remaining 8 records (16 sides), available to the public.

## Publications

### *“Red and White Plum Blossoms,” National Treasure*

Survey report including the latest research on "Red and White Plum Blossoms", a representative work of OGATA Korin, an artist of the Edo period. Scientific analyses were made to clarify painting techniques, and some of the results raised interesting topics for discussion among academic circles and related disciplines. 2005, Chuo Koron Bijutsu Shuppan (+81-(0)3-3561-5993), Price: ¥26,250



### *Nihon Toyo Kobijutsu Bunken Mokuroku (Bibliography of Japanese and Asian Pre-Modern Arts)*

A sequel to the bibliography published in 1969. A bibliography of approximately 43,000 articles and reports published during a period of 35 years from January 1966 to December 2000 on Japanese and Asian pre-modern arts, architecture and archaeology. 2005, Chuo Koron Bijutsu Shuppan (+81-(0)3-3561-5993), Price: ¥52,500



### *Japanese Musical Instruments: Toward a New Organology*

The proceedings of the 25th International Symposium on the Conservation and Restoration of Cultural Property. A unique publication in which musical instruments are studied comprehensively from various viewpoints including music, art and craftwork. 2003, Shuppan Geijutsu-sha (+81-(0)3-3944-6250), Price: ¥5,250



### *Cyclopedia of Museum Insects, Revised Edition*

The first cyclopedia in Japan of museum insects, accompanied by a poster of major museum insects. Reprinted in 2004 with addition of newest information. 2004, Kuba Pro Co. Ltd. (+81-(0)3-3238-1689), Price: ¥5,250



### *Conservation of Industrial Heritage 4: Conservation of Railway II*

Examples of conservation of railway facilities both in Japan and abroad are investigated, and various issues and attempts at their solution are introduced. 2005, Editori R (+81-(0)3-3793-6640), not for sale



### *Recent Cultural Heritage Issues in Afghanistan 3: Study of the Afghanistan's Displaced Cultural Properties - Materials and Techniques of the Bamiyan Mural Paintings*

A report containing analytical results of colourants by non-invasive methods and various photographic images taken with IR/UV/raking sources, including high-resolution digital data, of 41 fragments of the Buddhist mural paintings of Bamiyan/Foladi and Kakrak sites currently protected in Japan which were once illegally looted and taken out of Afghanistan. 2006, Akashi Shoten (+81-(0)3-5818-1171), Price: ¥12,600



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