

# TOBUNKEN NEWS no.6 DIGEST

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## Project for the Conservation of the Mural Paintings at Ajanta Caves: Report on the First Mission

By Suzuki Tamaki, Japan Center for International Cooperation in Conservation



*Investigation of the painting on the ceiling of the Ajanta Cave 2*

From February 12 to March 15, 2009, the National Research Institute for Cultural Properties, Tokyo, dispatched the first mission for the "Networking Core Project Concerning the Conservation of Mural Paintings between the National Research Institute for Cultural Properties, Tokyo, and Archaeological Survey of India," a part of the Networking Core Centres for International Cooperation on Conservation of Cultural Heritage.

There are many valuable Buddhist mural paintings remaining at Ajanta Caves dating up to the first century C.E. in the earlier period and from the fifth to approximately the eighth centuries C.E. in the later period. However, when trying to conserve these paintings, various problems were found to be shared with the mural paintings of Bamiyan: the strength of the bedrock where the caves were cut, the infiltration of rainwater, bat excrements and blackened attachments likely caused by smoke. To deal

with these problems, the first mission conducted investigation together with Indian conservation experts. We shared knowledge and experience of conservation materials and techniques, aiming to develop human resources and transfer technology.

Specific details of the investigation included the following: recording the condition of conservation of the mural paintings (photographing, rough measurement of caves and condition survey), installing thermohygrometers to survey the environment; studying the chronology, techniques, and materials of the mural paintings (sampling specimens, infrared/ultraviolet photography and non-destructive analysis using a portable X-ray fluorescence spectrometer); and examining bat excrements.



*Non-destructive analysis of pigments using a portable X-ray fluorescence spectrometer*

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## Networking Core Centres for International Cooperation on Conservation of Cultural Heritage, Project in Mongolia

By Akieda Yumi Isabelle, Japan Center for International Cooperation in Conservation

As part of the Networking Core Centres for International Cooperation on Conservation of Cultural Heritage, Project in Mongolia, four members of the Japan Center for International Cooperation in Conservation visited Ulan Baator from March 9 to 13 and held discussions to prepare technical cooperation projects for the recording and documenting of stone ruins and the restoration of buildings. Our counterparts are Mr. Enkhbat, Director of the Center for Cultural Heritage of Mongolia, for training programs related to the conservation of stone ruins in Khentii province, and Ms. Oyunbileg, Senior Officer in charge of museums and cultural heritage at the Ministry of Education, Culture and Science of Mongolia, for training programs related to the conservation of buildings. In regard to the training program for the conservation of buildings, we met the chairman of the Union of Mongolian Architects (UMA) and exchanged information about topics such

as the role of architects in the restoration and conservation of heritage buildings, ways to determine repair and conservation planning methodology, the current state of conservation works, and issues related to capacity development as well as execution and control at work-sites. We also visited the National Archives of Mongolia and were deeply impressed when we



*Meeting with the chairman of UMA*

learned that all Mongolian architecture-related documents from 1939 onward, including those related to built heritage conservation, were stored there. We also found similarities between survey methods used in Mongolia and in Japan as we studied an old temple's actual survey and restoration plans and drawings made in the 1980s. This visit to Mongolia allowed us to capture a good view of the way to further achieve the purpose of the project: building a system for conservation of cultural heritage that best suits the situation of Mongolia, whilst nurturing experts in this field and the next generation, through mutual communication.



*Viewing survey and restoration drawings  
at the National Archives*

## Examination of *Sozo Shitenno Ryuzo*, a National Treasure Enshrined in Kaidando of Todaiji Temple

By Morii Masayuki and Kitano Nobuhiko, Center for Conservation Science and Restoration Techniques

The Center for Conservation Science and Restoration Techniques is studying anti-seismic measures for clay statues as part of its research project on disaster prevention plans for cultural properties. This winter, some investigations were conducted for the purpose of planning anti-seismic measures for *Sozo Shitenno Ryuzo* (standing clay statues of the four guardian kings), a national treasure enshrined in Kaidando of Todaiji temple.

These clay statues were previously examined by the Nara National Museum in 2002 when they were exhibited in a special exhibition. In the present investigation, a 3D measurement system developed by Toppan Printing Co. Ltd. was used and X-ray radiography was conducted. Since to use the 3D measurement system it was not necessary to move the statues that are exhibited in a crowded location, it was possible to obtain information on parts that were considered difficult to measure until now.

We will continue to make use of these measurement results to execute anti-seismic analysis for clay statues.



*Conducting X-ray radiography*

## Detaching the Mural Paintings of Kitora Tumulus

By Tsubokura Sachiko, Center for Conservation Science and Restoration Techniques

The Center for Conservation Science and Restoration Techniques has been detaching the mural paintings of Kitora Tumulus as part of a project entrusted from the Agency for Cultural Affairs. Currently, there is concern about the spread of deterioration in the stone chamber due to microorganisms. Since there is an urgent need to detach the mural paintings, it has been decided to conduct detachment continuously for one month rather than to do the work for three days every month.

The first stage of detachment started on May 11 and most of the painting on the south side of the ceiling was detached effectively. We were able to irradiate UV-C successfully to prevent



*Detaching a mural painting with a wire-saw*

further growth of microorganisms since all the areas where pigments had been applied had already been detached. Based on our success in this work, the next stage of detachment is planned for this autumn.



*Current state of the ceiling of Kitora Tumulus (The purple part shows the exposed stone.)*

## Finishing the Conservation Project for the Stone Statues of the Tombs of the Tang Dynasty in Shaanxi Province

By Okada Ken, Japan Center for International Cooperation in Conservation

The conservation of the stone statues of the tombs of the Tang dynasty in Shaanxi province, which started in 2004 as a joint project between China and Japan, has been completed successfully. The final site inspection and project evaluation by special advisors and external evaluation committee members were conducted in Xi'an from March 16 to 18. This project was funded by the Japanese benefactor, Mr. Kuroda Tetsuya, who offered a total of 100 million yen to the Foundation for Cultural Heritage and Art Research. In the project, stone statues found at the north, south, east and west gates of three mausoleums from the Tang dynasty - two imperial tombs, Qianling and Qiaoling, and Shunling Mausoleum, where the mother of Wu Ze Tian

is buried - were restored. The project also included the improvement of the surrounding environment.

The National Research Institute for Cultural Properties, Tokyo, has been in charge of the project, working with the Xi'an Centre for the Conservation and Restoration of Cultural Heritage. Various investigations and restoration work have been conducted, workshops have been hosted, and Chinese members have been invited for research.

Mr. Kuroda and his wife also participated in this inspection and meeting and were given words of appreciation and a commemorative gift for their support from the Shaanxi Provincial Cultural Relics Bureau.



*Evaluation meeting*



*Mr. Kuroda Tetsuya (center) is given a commemorative gift*

## Completion of the UNESCO/Japanese Funds-in-Trust Project on the Conservation and Restoration of the Longmen Grottoes

By Okada Ken, Japan Center for International Cooperation in Conservation

A project for the conservation and restoration of the Longmen Grottoes in Luoyang city, Henan province, China commenced in November 2001 using a trust fund of one million dollars that Japan offered UNESCO to conserve cultural heritage along the Silk Road. The National Research Institute for

Cultural Properties, Tokyo was commissioned by UNESCO to play the role as a consulting organization in this project and has been acting as a facilitator for Japanese specialists. The Institute also received support from the Foundation for Cultural Heritage and Art Research (President, Hirayama Ikuro) and JICA



*Meeting of the Japanese and Chinese governments and UNESCO*

for expenses that could not be covered by the trust fund alone. Additionally, the budget of the Institute has been used to support the project in various ways, including the purchase, installation and maintenance of observation equipments; long and short-term training of researchers of the Longmen Grottoes Research Academy's Conservation/Restoration Center; and photographing of the site for the construction of an image database at Longmen Grottoes Research Academy. The sum that the National Research Institute for Cultural Properties, Tokyo used above and beyond the UNESCO fund reached approximately 60 million yen.

Upon completing the project for the conservation and restoration of the Longmen Grottoes in 2008, a final meeting was held at the China National Institute of Cultural Property in Beijing on February 20. This meeting also served as a meeting for the project on the conservation and restoration of Kumutula Qian Fo Dong in Xinjiang Uygur Autonomous Region which was completed at the same time. Reports on these projects were given by the Luoyang Municipal Cultural Relics Bureau and the



*Commemorative photo of the Longmen Grottoes project members*

Cultural Heritage Administration Bureau of Xinjiang. Discussions by specialists were followed by comments from representatives of the Chinese and Japanese governments and the UNESCO Beijing Office. On the following day, a symposium to commemorate the completion of both projects took place and members of respective projects presented the results of their work.

## Cooperation in the Conservation of the Bamiyan Birch Bark Buddhist Manuscripts

By Hemuki Naomi, Japan Center for International Cooperation in Conservation

In the process of safeguarding the Bamiyan site conducted by the National Research Institute for Cultural Properties (Tokyo and Nara) since 2003, several hundred fragments of Buddhist manuscripts were discovered in stone caves. However, since the condition of these fragments was very poor, immediate conservation measures were necessary.

The Japan Center for International Cooperation in Conservation invited Afghan conservation experts from the Kabul National Museum as was done last year and jointly the conservation of the birch bark fragments was implemented. Mr. Mohammad Sarwar Akbar and Mr. Hakim-Zada Abdullah stayed from November 14, 2008 to January 30, 2009. The deformed pieces were reshaped and mounted to secure for long-term preservation. An observation of the surface of the Buddhist manuscripts made at the Institute with the cooperation of experts in conservation science revealed that there were some kind of pigments adhering to the surface apart from the ink texts. All the 589 pieces were conserved and safely returned to the Kabul National Museum in Afghanistan on January 30.

Joint conservation with Afghans allowed us to cooperate in capacity building and transfer of techniques for Afghans who are engaged in the rehabilitation of cultural properties.



*Mr. Hakim-Zada working on mounting*



*Mr. Sarwar working on mounting*

## Conservation and Restoration of Mural Painting Fragments in Tajikistan and Capacity Building (Fifth Mission)

By Shimazu Yoshiko, Japan Center for International Cooperation in Conservation

The 5th mission for Conservation and Restoration of Mural Painting Fragments in the collection of the National Museum of Antiquities of Tajikistan was dispatched from May 13 to June 12. Four Tajik

trainees joined in the conservation of mural painting fragments excavated from the Kara-i Kahkaha (Shafristan) site in northern Tajikistan in continuation of last year's mission. The trainees learned how to join mural painting frag-



*Making a new support*



*Joining mural painting fragments*

ments and remove the attached gauze. The fragments that had been cleaned and joined were then put together to make a larger piece. This piece was reinforced with a triaxial woven textile made of rayon (Sakase Adtech Co., Ltd.) and then mounted on a new support. Conventionally, plaster and wood are used for

support, but this time carbon fiber and synthetic resin were used to create a support that is more light-weight and easier to handle. This series of work was executed with the Tajik trainees for the purpose of transferring techniques to the Tajik people and contributing to human resource development in Tajikistan.

## Training of Iraqi Conservation Specialists

By Uno Tomoko, Japan Center for International Cooperation in Conservation

The Japan Center for International Cooperation in Conservation used the government subsidized budget for the Cooperative Project for the Conservation of Cultural Heritage in West Asia and UNESCO/Japanese Funds-in Trust for the Reconstruction of the Conservation and Restoration Department of the Iraq National Museum in Baghdad in order to invite Iraqi conservation specialists to Japan for training on capacity development and transfer of techniques related to the conservation of cultural properties. This year four specialists in conservation - Ms. Baan A. M. A. Al-Jameel, Mr. Fadhil A. Allaw, Mr. Mohammad K. M. J. Al-Mimar and Ms. Senaa C. A. Al-Timini - have been invited from the Iraq National Museum. They will spend 3 months, from June 19 to September 18, receiving practical training on the conservation of textiles and training on equipment for conservation and material analysis. The program will



*Japanese language training*

be conducted with the cooperation of domestic institutes for conservation and restoration, including the Joshibi University of Art and Design Museum, the Nara National Research Institute for Cultural Properties and the Shizuoka Research Institute for Buried Cultural Properties.

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## The Program for Capacity Building along the Silk Road: Historical Buildings Course

By Tomoda Masahiko, Japan Center for International Cooperation in Conservation

The second half of the course on the conservation of historical buildings, a part of the "Program for Capacity Building along the Silk Road," which is a joint project with the China National Institute of Cultural Heritage, was conducted from early April at Kumbum (Ta'er) Monastery, a Tibetan Buddhist monastery in Qinghai province. While last year's program focused on restoration theory and measurement survey, this year's course focused on practicing the actual flow of work, from drawing up conservation management plan to basic design and detailed design. In addition, by giving an outline of the restoration system unique to Japan, in which survey, design and on-site control are undertaken by the same person, we sought to offer an opportunity for Chinese trainees to think about the meaning of

conservation that often relies on given manuals.

Lectures from the Japanese side, which sent five lecturers in succession, were completed at the end of May and were followed by lectures from the Chinese side, which continued until the end of July. The twelve trainees have been working hard in their respective fields, but the course has also shed light on various issues. First, although both Japan and China have traditions of wooden constructions and Chinese characters, there are significant unexpected differences between Chinese and Japanese architecture. Thus there was often trouble communicating because of differences in terminology and views on restoration. Second, since restoration work was already in progress at many parts of the monastery, on-site practice could be conducted only on a part of the work site. As such,



*Practical on-site training*

there was no choice but to change the building used for practice in cases when we could not reach an agreement with the monastery, who wanted the restoration to be done quickly. We

really felt the necessity of making sufficient consultation at the planning stage for both curriculum and operation.

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## Cooperation with the Establishment of the Conservation Center of the Grand Egyptian Museum

By Hemuki Naomi, Japan Center for International Cooperation in Conservation

The Japan Center for International Cooperation in Conservation provides technical support for the establishment of the Conservation Center, an affiliated organization of the Grand Egyptian Museum at Giza, the construction of which is currently underway, in response to a request from the Japan International Cooperation Agency (JICA).

Various conservation workshops have been held since last year for capacity development of specialists who will play active roles at the center. In a metals conservation workshop held for five days from March 1 to 5 in the meeting room of the Egyptian Museum in Cairo, a lecturer who has extensive experience in excavation and research in Egypt and in conservation projects was invited from Greece. In her lecture



*Practical training on documentation*

in the first half of the workshop she explained the characteristics of metals. In the second half

of the workshop, participants were given an opportunity for hands-on practice on conservation and storage. For practical training of documentation, they were able to use the collection at the Egyptian Museum. As a result, the work-

shop was very significant. We will answer further requests from Egypt and continue to support capacity development and transfer of techniques.



*Training on the condition assessment at the Egyptian Museum in Cairo*

## Second Meeting of the Study Group on Safeguarding Intangible Cultural Heritage in Asia

By Hyoki Satoru, Department of Intangible Cultural Heritage

The Department of Intangible Cultural Heritage has been holding meetings on activities to safeguard intangible cultural heritage in Asia since last year. This year, on February 19, we invited Dr. Kim Sam Ki of the Intangible Cultural Heritage Division of the Cultural Heritage Administration, Korea. He gave a lecture on the system of and activities for safeguarding intangible cultural heritage in Korea, and discussions were also held with relevant persons outside our Institute. In particular, Dr. Kim introduced in detail the processes of designating intangible cultural heritage and holders of intangible cultural heritage. He also spoke about the system for training successors



*2nd meeting of the Study Group on Safeguarding Intangible Cultural Heritage in Asia*

that is obligatory for holders of intangible cultural heritage. The participants actively voiced their opinions and raised questions. Both Japan and South Korea have led the systematization of safeguarding intangible cultural heritage, and

this meeting clearly showed the differences and similarities between the two nations. We learned about the validity of referring to the activities of both countries in dealing with the problems that each country has.

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## Expert Meeting on Cultural Heritage in Asia and the Pacific

By Kuchitsu Nobuaki, Japan Center for International Cooperation in Conservation

From January 14 to 16, 2009, the Expert Meeting on Cultural Heritage in Asia and the Pacific: "Restoration and Conservation of Immovable Heritage Damaged by Natural Disasters" was held in Thailand. This meeting was jointly organized by the National Research Institute for Cultural Properties, Tokyo and the Fine Arts Department of the Ministry of Culture, Thailand, in cooperation with SEAMEO-SPAFA (Regional Centre for Archaeology and Fine Arts under the aegis of the Southeast Asian Ministers of Education Organization) and the Embassy of Japan in Thailand. On the first two days, a round-table

conference was held at the Siam City Hotel in Bangkok, and on the final day there was an excursion to the sites in Ayutthaya where actual measures against disasters and post-disaster restoration are being implemented. At the round-table conference, one representative each from Indonesia, Malaysia, Myanmar, Philippines, and Vietnam as well as Thailand and Japan made presentations. Observers, including local university personnel, presented their opinions and asked questions, and active discussions were held. During the excursion, various types of information on restoration materials were shared by the participants.



*Commemorative photo of the participants*

## Japan-China Expert Workshop on Seismic-Countermeasures for Cultural Properties

By Tomoda Masahiko, Japan Center for International Cooperation in Conservation



*Visit to a devastated site (Erwangmiao)*

The Wenchuan earthquake in Sichuan, China last May devastated many cultural properties, and specialists from all over China are exerting themselves in restoring them. A workshop jointly hosted by the Agency for Cultural Affairs of Japan and the State Administration of Cultural Heritage of China was held in Chengdu city, Sichuan province from February 9 to 12 to support restoration activities and to contribute to future disaster prevention policy planning. The Japan Center for International Cooperation in Conservation was entrusted with the work of conducting practical projects, such as planning programs, selecting lecturers and compiling a textbook, from the Agency for Cultural Affairs.

16 people, including four members of the Japan Center for International Cooperation in Conservation, were dispatched from Japan and over 70 Chinese people took part in the workshop. Lectures were given and discussions were

held on measures related to earthquake, preventive measures as well as countermeasures, for museums and other buildings. Japanese speakers introduced anti-earthquake measures to protect cultural properties as well as quake-resistant engineering that has developed in Japan since the Hanshin-Awaji earthquake. Reports were presented by Chinese participants on the situation of cultural properties devastated by the Wenchuan earthquake and actions taken afterwards. Participants also visited stricken sites in Dujiangyan where restoration is being conducted and exchanged opinions on issues that both countries face as well as future countermeasures. This workshop, in which representatives of private enterprises and museums as well as those of 3 provinces, 4 cities and 20 organizations related to the restoration of cultural properties participated, greatly aided in promoting exchange among Chinese professionals in this field as well as between specialists in Japan and



*Integrated discussions*

China.

Studies into specific designs for restoration and guidelines for protective measures against earthquakes are ongoing in China, but there remain many issues, such as the shortage of structural engineers, that make us recognize once again the necessity of supporting these activities. Additionally, we felt the need to make every effort to ensure that Japanese ideas of conserving cultural properties are properly understood.

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## Association Retrieval Site “So (Imagine) Book Search” and Art Documents Retrieval Database

By Tanaka Atsushi, Department of Research Programming

The Department of Research Programming has made public its database for retrieving art documents starting from October of last year (during trial operation). The database consists of 268,000 cases and allows users to browse, from an overwhelming amount of data, art documents published between 1966 and 2004 by using three search categories: editors/authors, keywords and titles of journals. The Department, whose major goal is to accumulate and disseminate information, is now promoting collaboration with other sites to enhance dissemination. One such collabora-

tion is with the unique association retrieval site “So (Imagine)” (p. 15) that was started by the National Institute of Informatics. Mr. Nakamura Yoshifumi, a researcher of the National Institute of Informatics and a visiting researcher in our Department from this year, demonstrated the operation of this site at a research seminar of the Department held on April 21. If the art documents retrieval database is successfully associated with “So (Imagine),” we expect that a simultaneous display of information from various fields, not just that of art, will be possible.

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## Results of Self-Evaluation for Fiscal Year 2008

By Nakano Teruo, Deputy Director General

The Evaluation Committee considering the self-evaluation of the National Research Institutes for Cultural

Properties in Tokyo and Nara, and the general assembly of the committee were held on April 15 and May 11 respectively. The former is a



So (Imagine)

meeting in which the Evaluation Committee comments on the self-evaluation of activities conducted each year by the National Research Institute for Cultural Properties, Tokyo and Nara, and the latter is a meeting in which feedback is given on the overall activities, including surveys and research as well as finances of the National Institutes for Cultural Heritage. According to the self-evaluation, the National Research Institute for Cultural Properties, Tokyo judged that the annual plans for 2008 were fully achieved for all activities and sufficient results were shown. In terms of the progress of mid-term plans, almost all of the activities are progressing as planned.

Comments and evaluations by the Evaluation Committee on the self-evaluation of the National Research Institute for Cultural Properties, Tokyo are as follows. The committee recognized that considerable achievements have been made in various aspects of survey and research, including research using high-resolution digital image and studies on intangible cultural heritage. On the other hand, there was a request to further expand joint research conducted by different departments of the Institute, such as research for the conservation and utilization of the Takamatsuzuka and Kitoura Tumuli that the National Research Institute for

Cultural Properties, Tokyo and Nara jointly performing and the workshop on environmental conditions surrounding cultural properties, which was planned and implemented by the Center for Conservation Science and Restoration. Significant achievements were recognized in the implementation of international cooperation, such as conservation and restoration of cultural properties and training of experts mainly in Asian countries. Tentative translation of the Law for the Protection of Cultural Properties into English and publication of other countries' laws related to cultural properties were highly praised as well. With respect to active communication of survey and research results, publication of research results online and creation of a brochure for children were highly rated, but there was a request to announce future results in a way that is easier for the general public to understand. Various achievements were recognized in relation to advice given to and cooperation with the national government and local public authorities as well as contribution to education. We also received a great number of other feedback.

The results of the self-evaluation and opinions from the Evaluation Committee will be utilized in planning future activities and improving corporate management.

## Publications

### *Ju-ichimen Kannon, Color on Silk, National Treasure*

A report on the National Treasure/*Ju-ichimen Kannon*, an outstanding example of a Buddhist painting of the late Heian period (12th C) in the collection of the Nara National Museum. Various types of images, including those that enable an understanding of the layer-structure of the painting and those that provide information concerning the shape and distribution of pigment particles and the condition of the silk painting support, are used to study the delicate expressions found on this Buddhist painting. 2006, Chuo Koron Bijutsu Shuppan (+81-(0)3-3561-5993), Price: ¥ 19,850



### *A Study of Art Exhibitions of the Showa Era (Pre-World War II)*

A collection of multi-laterally viewed papers by 26 Japanese researchers on the art of pre-World War II Showa era. With trends in exhibitions and art groups at the core, the collection also contains themes particular to pre-World War II like proletarian art and war art. 2009, Chuo Koron Bijutsu Shuppan, Price: ¥ 31,150



### *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



### *Museum Pest Cards*

Handy-sized cards of 33 major museum pests giving information about their characteristics, size and damage they cause to cultural properties. The cards were originally introduced by Tom Strang of the Canadian Conservation Institute and Rika Kigawa of this Institute during the joint IPM Workshop 2004. They are conveniently portable and we hope that they will be utilized on site at museums and other related facilities. 2007, Kuba Pro Co. Ltd. (+81-(0)3-3238-1689), Price: ¥ 600



### *Conservation of Industrial Heritage 8: Utilization of Aircrafts*

This book is the second publication focusing on the utilization of modern cultural heritage, particularly on that of aircrafts. It is the proceedings of a study meeting at which David Morris, the author of a book on Corsair KD431, and persons engaged in the conservation of aircrafts in Japan spoke on the methods of utilization of aircrafts. 2009, not for sale



### *Preliminary Report on the Conservation of the Birch Bark Buddhist Manuscripts*

Report on the conservation of fragments of birch bark Buddhist manuscripts found in the process of the conservation work at Bamiyan Site. 2009, not for sale

