



AMERICAN
INSTITUTE FOR
CONSERVATION
OF HISTORIC AND
ARTISTIC WORKS

Article: Conservators without borders: An international archaeological conservation and outreach initiative

Author(s): Melina Smirniou, Christie Pohl, and Dominica D'Arcangelo

Source: *Objects Specialty Group Postprints, Volume Fifteen, 2008*

Pages: 147-164

Compilers: Howard Wellman, Christine Del Re, Patricia Griffin, Emily Hamilton, Kari Kipper, and Carolyn Riccardelli

© 2008 by The American Institute for Conservation of Historic & Artistic Works, 1156 15th Street NW, Suite 320, Washington, DC 20005. (202) 452-9545

www.conservation-us.org

Under a licensing agreement, individual authors retain copyright to their work and extend publications rights to the American Institute for Conservation.

Objects Specialty Group Postprints is published annually by the Objects Specialty Group (OSG) of the American Institute for Conservation of Historic & Artistic Works (AIC). A membership benefit of the Objects Specialty Group, *Objects Specialty Group Postprints* is mainly comprised of papers presented at OSG sessions at AIC Annual Meetings and is intended to inform and educate conservation-related disciplines.

Papers presented in *Objects Specialty Group Postprints, Volume Fifteen, 2008* have been edited for clarity and content but have not undergone a formal process of peer review. This publication is primarily intended for the members of the Objects Specialty Group of the American Institute for Conservation of Historic & Artistic Works. Responsibility for the methods and materials described herein rests solely with the authors, whose articles should not be considered official statements of the OSG or the AIC. The OSG is an approved division of the AIC but does not necessarily represent the AIC policy or opinions.

CONSERVATORS WITHOUT BORDERS: AN INTERNATIONAL ARCHAEOLOGICAL CONSERVATION AND OUTREACH INITIATIVE

MELINA SMIRNIOU, CHRISTIE POHL, AND DOMINICA D'ARCANGELO

ABSTRACT

Conservators Without Borders is a volunteer program that provides support to archaeological projects where insufficient funding does not allow for conservation activity. Priority is given to sites in countries where finds are in need of urgent attention, either during or post-excavation. Other objectives of the initiative include outreach to local communities, developing sustainable methods of conservation, collaboration with archaeologists, and training students, volunteers and interested community members. In 2007, Conservators Without Borders was awarded a sum of money by University College London Futures to carry out two pilot seasons in 2007 and 2008. University College London Futures, funded by alumni, staff and friends, awards grants to members of the University College London community for non-research initiatives.

This paper describes two collaborative projects undertaken by Conservators Without Borders in 2007. During the first project, Conservators Without Borders worked alongside archaeologists from the Kythera Island Project on the island of Kythera in Greece. A collection of Minoan, Classical and Roman artifacts were subject to fluctuating environmental conditions and the circumstances worsened following a severe earthquake in 2006. The second project took place in Jordan in cooperation with the country's Department of Antiquities and involved treating objects from museum collections in Umm Qais, Jarash, Karak, Petra, Irbid and Amman.

Both projects have provided Conservators Without Borders with valuable opportunities to raise the profile of archaeological conservation through close interaction with archaeologists, museum professionals, government officials and students. Helping to build long-term sustainable conservation programs in areas where there is enthusiasm for conservation is rewarding for Conservators Without Borders conservators and stakeholders alike. Conservators Without Borders will return to Greece and Jordan in 2008 for additional conservation work and to build on the foundations laid through the initial outreach and training sessions.

1. BACKGROUND

As post-graduate conservation students at University College London's (UCL) Institute of Archaeology in 2006, Melina Smirniou, Christie Pohl and Dominica D'Arcangelo together identified a need for increased conservation input on archaeological sites. Devising an international volunteer initiative called Conservators Without Borders (CWB), the founding members looked at ways in which conservators could become more actively involved in archaeological projects through improved communication and the implementation of dynamic approaches to information exchange.¹

In 2007 a grant was awarded to CWB by UCL Futures, funded by alumni, staff and friends to award grants to members of the UCL community for non-research initiatives and projects. This paper introduces CWB and describes two collaborative projects undertaken by the initiative in 2007. The first project took place on the Greek island of Kythera and the second at six locations in Jordan. Both projects are distinctly different from each other but provide examples of how conservators can add value to archaeological sites and programs. These case studies also highlight some of the key considerations and challenges involved in the successful collaborations.

CWB is a volunteer initiative which focuses resources on sites and regions which lack funding for professional conservators and conservation materials, but whose stakeholders have demonstrated an interest and enthusiasm for conserving their tangible heritage. There are three

primary strands to the activities: practical conservation, education and outreach. One of the guiding principles of CWB's work is to cooperate with archaeologists, heritage professionals, local communities and students to build sustainable preventive conservation programs. The initiative also aims to work closely with conservation students to contribute to their training by giving them experience with conservation in the context of archaeological sites. Through the provision of outreach, education and training, communities become better equipped to understand conservation needs and have an increased ability to participate in conservation activities.

CWB's practical work consists of administering first aid conservation on newly or post-excavated unstable objects and helping to improve artifacts' packaging in storage. With limited resources, CWB aims to make a lasting impact in a short period of time by restricting complex remedial conservation treatments to the most urgent cases. Individual object treatments can be time consuming and the goal is to treat and stabilize as much material as possible in a 2-3 week fieldwork session. The focus of CWB's training program is to demonstrate how to minimize damage through preventive conservation techniques rather than to repair damage after it has occurred.

2. ON-SITE CONSERVATION

In conservation literature, there is broad recognition that involving conservators early in the excavation process is the key to sustainable collection care; however, there is often a gap between theory and practice. Cronyn writes in *The Elements of Archaeological Conservation* that collaboration between conservators and all who have an interest in the excavated archive "is the only ethical approach" because without successful communication, information and time are wasted (Cronyn 1990, 10). Archaeological conservators working on-site quickly recognize that their remedial and preventive conservation skills are valuable and necessary assets. Effective cooperation with specialists and archaeologists can ensure that fragile objects are lifted intact and as much information as possible is recovered. Conservators also have the ability to advise on adequate storage that optimises an object or collections' use for all research and public-facing needs.

Although the tide is slowly changing, very few archaeological projects have the ability or resources to include conservation from the beginning (Sease 1999). ICCROM's former Director-General, Nicholas Stanley Price argued over 10 years ago that standards of conservation in the field have not improved at the same rate as excavation and the presence of conservation on-site is a rarely achieved ideal (Price 1995). In the early 21st century, despite some progress, many conservators would still agree with these statements.

Why does the situation persist in which conservators remain underrepresented on archaeological sites? There are many reasons for this, including funding short-falls, a lack of understanding about long-term benefits of on-site conservation, and a lack of regulation by host countries. These are interrelated issues and often are the result of fundamentally complex political and economic considerations. CWB believes that one way of addressing the situation is by increasing the comprehension of conservation aims and objectives amongst all archaeological site stakeholders through effective communication. Higher visibility of the profession gained through communication ensures that conservation is a resource that is appropriately budgeted for in the project planning stage when it can have the greatest positive effect. In addition, if governments or other funding bodies also prioritize the long-term use of objects and regulate in

favor of conservation provision, conservators would cease to be a 'nice-to-have' add-on to archaeological excavations and would figure into the core team at a preliminary stage. Raising the profile of conservation is not the only way, but one way of successfully informing decision makers and influencing how they spend their money.

CWB is helping to raise the profile of conservation. By targeting under-funded sites that are rich in educational and outreach potential, CWB volunteers can add value to collections while empowering archaeologists, students and other stakeholders to positively engage with conservation. However, with this multi-faceted objective come practical and communication challenges that must be overcome.

3. PRACTICAL CHALLENGES

On-site conservation poses a range of challenges for conservators. Often, storage environments are uncontrolled, fluctuating and collections may have been neglected for long periods of time. There is often a high demand on handling the collections with a constant turnover of students and researchers requiring access to them. In addition, in some countries, it is difficult or impossible to obtain conservation-grade materials which are the most appropriate for long-term storage.

After assessing the stability of objects and conditions in both Greece and Jordan, CWB determined that there were requirements for remedial and preventive activities. Although CWB had a glimpse of the issues posed by the condition of the collections prior to travelling, it was not until arriving on-site that the team could accurately gauge the risks to the collections and implement appropriate solutions. CWB's primary assets are conservators' willingness and ability to be extremely flexible with on-site strategies. As well as prioritizing work flow quickly, solutions were found which work well within the project time-frame and the host's capabilities.

Training museum staff accounts for around 40% of CWB's work and, again, it is important for conservators to gauge trainees' skills in order to put together effective training sessions and sustainable conservation solutions. CWB primarily focuses on-site training around preventive conservation; however, in some contexts, it has been appropriate and necessary to discuss basic remedial treatments.

To deal with the issues surrounding packaging, CWB aims to provide adequate conservation-grade materials for careful repackaging. Conservators have also taken samples of conservation materials and consulted with local professionals to find out if similar stock can be obtained locally. Going forward, CWB must evaluate the sustainability of providing conservation-grade materials versus sourcing materials in the host country.

4. COMMUNICATION CHALLENGES

In addition to practical challenges, there are also communication challenges. Effective communication can be difficult where there is a language barrier. In addition, the sites to which CWB has been invited may have political structures and histories which volunteers have to effectively negotiate without causing offence or misunderstandings with the other individuals or groups involved in a project. Although CWB team members strive to understand the local project and situation prior to travelling, they are aware that upon arriving there may be political issues or legacies which may affect their work flow. Most importantly, the initiative aims to inform and cooperate with archaeologists and local communities which can be most easily accomplished where a bond of trust is established.

CWB is looking at ways of how best to deal with language issues. The dominant operating language is English, but we are looking to involve volunteer conservators who can offer intermediary language skills. This will help with communication both ways and demonstrate a commitment to mutual understanding.

CWB has experienced an openness and appreciation of participants in the training and information sessions. CWB does not exist to criticize past treatments or conditions, but assists in looking forward and preserving collections for future use. This approach can diffuse potentially sensitive political conditions by depersonalizing any advice and promoting collaboration in the search for workable solutions.

5. THE FIRST CWB MISSION IN KYTHERA, GREECE

The first CWB project took place on the island of Kythera, Greece for three weeks in June and July 2007. Kythera – 280 sq. km in area – is situated between the southern tip of the Peloponnese and the island of Crete.

The island has a very rich archaeological heritage resulting from 7,000 years of continuous occupation, which spans the late Neolithic, Bronze Age, Iron Age, Roman, Byzantine, Venetian, Ottoman and Modern Greek periods (Bevan and Connolly 2004).

In the 1960s, the British School at Athens, led by Nicholas Coldstream and George Huxley, excavated at the coastal site of Kastri, concentrating on the Early Bronze Age layers and the Minoan presence on the island. Apart from Minoan finds, the archaeological material also includes artifacts from Classical, Hellenistic, and Roman periods and the collection is mainly comprised of pottery sherds, ceramic, metal, stone and glass small finds. The material had been stored at the Kythera Archaeological Museum in its original packaging since the 1960s excavations. The storeroom has no environmental control and the temperature and humidity levels fluctuate throughout the year. The inappropriate micro and macro environmental conditions resulted in the deterioration of the objects. In 2006, a severe earthquake which measured 7.2 on the Richter scale hit the island, and the museum was deemed structurally unsafe. The archaeological material was then moved to the current storage facility for the Kythera Island Project (KIP). KIP is a project that involved a four-year (1998-2001) intensive field archaeological survey of the island, and since 2001, a close study of the collected artifacts. KIP is co-directed by Cyprian Broodbank of University College London (UCL) and Evangelia Kiriati of the British School at Athens.

The two directors invited CWB to work on the collection because of the observed deterioration of the objects. The original small finds packaging included paper bags, cigarette cases, biscuit tins, and small paper boxes with sheep's wool; all were stored with larger ceramic vessels in open wooden crates filled with hay and straw. This organic material resulted in pest infestation, and some of the ceramic and glass sherds had shattered upon contact with one another as a result of the poor original packaging. Many of the metal objects – iron, copper alloys, and lead – were actively deteriorating.

A three-person CWB team travelled to Kythera, which included Christie Pohl, Melina Smirniou and student volunteer Saray Naidorf from the MSc conservation program at UCL's Institute of Archaeology. The team worked with the directors of KIP to prioritize artifacts for CWB to treat during the 2007 season. Together it was decided to first treat and stabilize the most vulnerable and fragile objects, and then re-house the small finds which specialists frequently access. The final task involved reconstructing and repacking the pottery from the Early Bronze

Age tombs. The two teams collaborated, worked together and learned one from the other in an interdisciplinary approach. This two-way communication worked effectively; the archaeologists extended their understanding of conservation processes and CWB team members managed to implement a workflow system utilizing the available resources.

The team cleaned the small finds, mechanically removed active corrosion in order to stabilize the metals, consolidated flaking glass surfaces, reconstructed some of the pottery, replaced the old storage material with new conservation-grade packaging, and relocated the collection into air-tight containers or polyethylene bags, as appropriate. This packing method created a stable micro-environment which will prevent further damage. New identification tags and labels were made that included the finds number, type of material, description, place and year excavated. The newly packaged objects were then re-housed in plastic crates with closed lids. Before and after photographs were taken, and all of the work and treatments were documented and left with the KIP directors.



Figs. 1a, 1b. Examples of the original packaging (Photographs by authors)



Figs. 2a, 2b. CWB replaced the old storage material with conservation-grade packaging (Photographs by authors)

The team also collaborated with researchers who visit the site every summer to study the material. The new packaging was tested to see whether the collection was easily accessible with minimal handling, and it was enthusiastically received by the visiting researchers. By exposing researchers, archaeologists and specialists that visit the site to preventive measures, CWB also managed to raise the conservation awareness of the collection's stakeholders.

The museum's seasonal employees visited the working site and gave information to the team regarding the collection and the status of the museum. The team gave hands-on demonstrations and training sessions on best conservation practices, preventive conservation, appropriate packaging and storage methods, and how to handle fragile archaeological materials. Although these sessions were short, an initial outreach to the museum staff started to develop, raising users' interest in and awareness of preventive conservation.

The biggest challenge during the project was overcoming the bureaucratic administrative museum structure and local politics in order to reach the local community. CWB realized that trust can be built through establishing a long-term relationship. During this first season in Kythera, the team managed to launch an initial communication channel with the local authorities and aims to collaborate with these officials to develop sustainable archaeological conservation on the site. Sustainability, or the capability to maintain preventive conservation practices with available local resources, is key to the long-term preservation of collections. Building trust is an on-going effort and this process takes time. CWB will continue to develop relations with the museum and local authorities through transparency and openness.

During the 2007 season, a total of 582 ceramic, metal, glass and stone objects were stabilized and re-housed in conservation-appropriate storage and packaging conditions. Remedial treatments involved mechanical cleaning, consolidation and reconstruction. The original storage conditions included a range of organic materials such as wood chips and straw. These materials had led to pest infestation and further damage occurred to many of the small finds during a significant earthquake in 2006. CWB eliminated all the organic storage materials and replaced them with conservation-grade packaging materials. An initial outreach effort was established during the project, aiming to promote best conservation practices and sustainability. A continuous dialogue with all the stakeholders involved was also encouraged. CWB is planning to strengthen these relationships as well as provide conservation support to the archaeological collection again during the 2008 season.

6. THE SECOND CWB MISSION IN JORDAN

CWB began to discuss a collaborative mission with Jordan's Department of Antiquities (DoA) in the spring of 2007. A need was identified to treat post-excavated material in storage, involving objects from the National Archaeological Museum in Amman and five different museum collections associated with the DoA: the Umm Qais Archaeological Museum, the Dar As-Saraya Museum in Irbid, the Jarash Archaeological Museum, the Al-Karak Antiquities Museum and the Petra Archaeological Museum. A mission in Jordan allowed for the fulfillment of several other CWB objectives, including working with local museum employees and archaeologists, conducting training sessions with individuals on both preventive and practical conservation techniques, visiting several museums and storage facilities and extending additional outreach through a public lecture and practical demonstration at the DoA Headquarters in Amman. In these sessions topics such as proper handling and appropriate storage conditions for various materials were discussed; appropriate packaging techniques; how to create a stable micro-

environment when a controlled store-room is not feasible, as well as consolidation and stabilization techniques for glass, ceramics, and metals. The 2007 team included Christie Pohl, Melina Smirniou and Amy Drago, a volunteer professional conservator.

Jordan's archaeological sites and material culture are extremely diverse and the antiquities (Palaeolithic (700,000 BC) through the Ottoman period (early 20th century)) represent a long history across multiple civilizations (Department of Antiquities 2007b). The following background information on the six sites and museum collections provides a platform for a discussion of CWB's 2007 work.

Archaeological surveys indicate that Umm Qais (Gadara), in northern Jordan, was occupied as early as the 7th century BC. Strategically located, Umm Qais was surrounded by a number of key trading routes connecting Syria and Palestine and was also one of the ancient Greco-Roman cities of the Decapolis. The local archaeological museum was originally the Ottoman governor's house (Ministry of Tourism and Antiquities 2003) and the Umm Qais collection includes a range of archaeological objects, mosaics and statuary.

The city of Jarash, also in Northern Jordan, has an unbroken chain of human occupation that dates back more than 6,500 years; however, its golden age came under Roman rule and Jarash is one of the best preserved Roman towns in the world. Modern Jarash lies directly east of the Roman settlement and the archaeological museum features artifacts found during excavations, including ceramics, glass, coins, metal objects, statuary and sarcophagi.



Fig. 3. A composite object from the Umm Qais Archaeological Museum (Photograph by authors)



Fig. 4. The archaeological site of Jarash (Photograph by authors)



Fig. 5. A view of the Karak Castle (Photograph by authors)



Fig. 6. The Treasury monument in Petra (Photograph by authors)

Karak has been inhabited since at least the Iron Age and was an important city for the Moabites. Its greatest importance was during the Crusader and Ayyubid periods and these groups were responsible for building the 12th century castle that overlooks the city (Massadeh 2007). The Karak Archaeological Museum was established inside the old castle and the collection dates from the Neolithic to the late Islamic period. The museum houses remains of skeletons and pottery from the Iron Age, Byzantine glass vessels and inscriptions, and Roman and Nabataean coins, ceramics, and metal objects (Department of Antiquities 2007a).

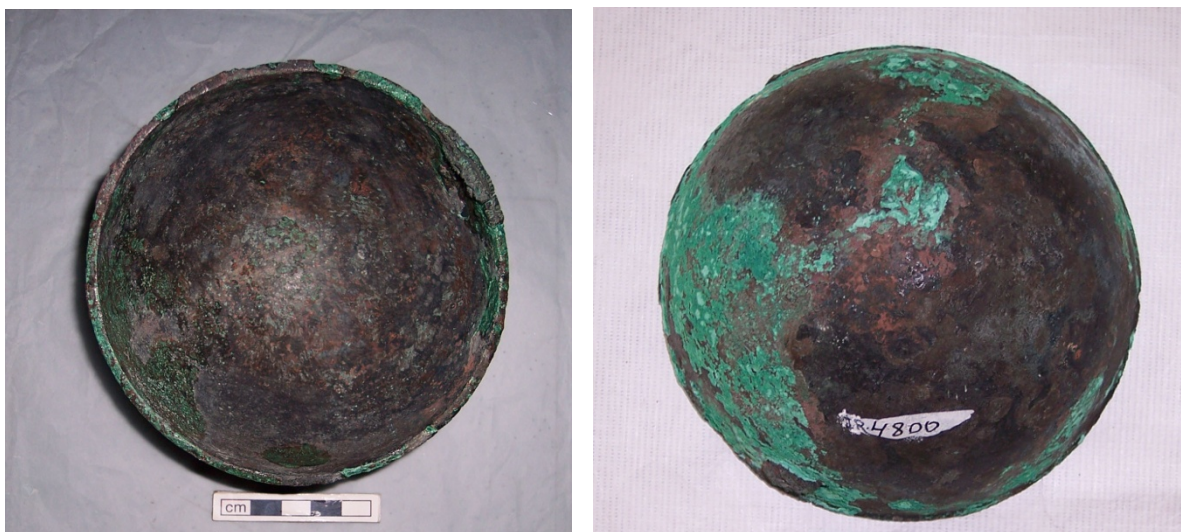
The Petra region in southern Jordan was inhabited by settled communities as early as 7,000 BC. The Nabateans took over from the Edomites in the 6th century BC and were engaged in caravanering (Ministry of Tourism and Antiquities 2007). These peoples prospered and dominated the region's trade routes and built the ancient city of Petra, a series of architectural tombs, façades and theatres carved into multi-colored sandstone. Petra is Jordan's most famous archaeological site and the Petra Nabatean Museum shows examples of Neolithic food processing, Edomite pottery, Nabataean sculpture, jewelry, lamps, bronze statuettes, terracotta figurines, pottery, and coins.

Within the boundaries of Jordan's Irbid Governorate, the complete spectrum of cultural periods exist, from the early Stone Age through the Ottoman period (Department of Antiquities 2007b). The Dar As-Saraya Museum is housed in an original castle built by the Ottomans during

the mid-19th century and the museum is comprised of seven halls. The Ancient, Classical and Islamic periods are outlined, with additional halls devoted to metal finds, sculpture and mosaics.

The National Archaeological Museum in Amman has a collection of antiquities from all of the archaeological sites in the country, ranging in date from the Palaeolithic to the 15th century AD. The museum features exhibits of the Dead Sea Scrolls and presents ancient items of daily life such as pottery, glass, flint and metal tools, in addition to monumental inscriptions and statuary.

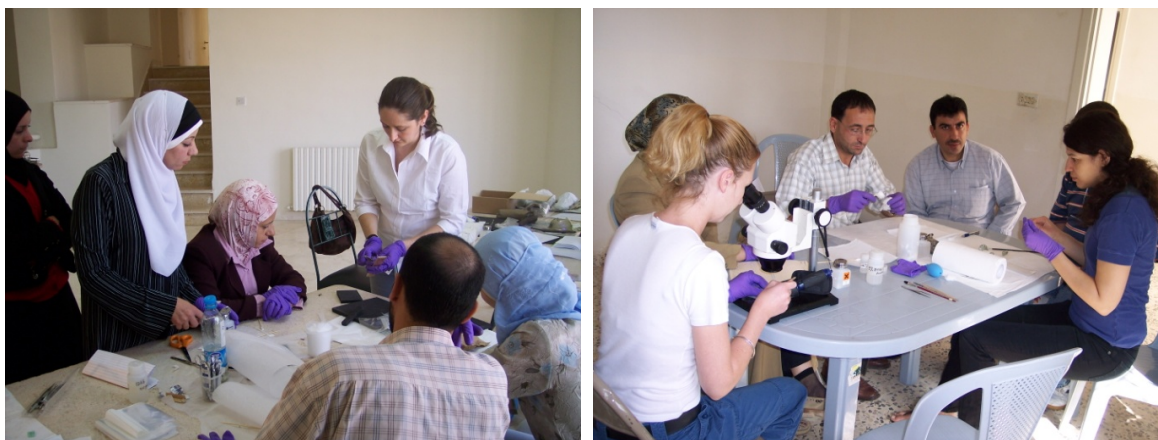
The CWB team travelled to Jordan in October and November 2007 for a three-week project. The main base was a dig house on the archaeological site in Jarash, but the team also spent three days working in Petra at the Petra Archaeological Park Headquarters. Both of these locations provided ample space for setting up a basic workspace with the team's conservation supplies and tools. The approach to the work on each collection was initially focused on preventive conservation measures, including packing techniques using conservation-grade materials, advice on environmental conditions for different materials and creating controlled micro-environments for archaeological metals. Important health and safety measures were also discussed with each group of participants. There were approximately five to six participants per group and one group for each of the six locations CWB visited. The primary materials treated from each of the six museum collections included copper-alloy and glass artifacts as these (together with ceramics) are the most commonly excavated objects in the region and the most unstable due to improper storage conditions. The daily schedule started with a four-hour training session with employees and archaeologists from each museum. The CWB team then carried out additional conservation treatments in the evening.



Figs. 7a, 7b. Copper-alloy object from the Irbid Museum; before and after treatment (Photographs by authors)



Fig. 8. The National Archaeological Museum in Amman (Photographs by authors)



Figs. 9, 10. CWB team working with curators from Jarash and Petra (Photographs by authors)

After covering minimal intervention, appropriate preventive conservation techniques and best practices, the team members discussed and demonstrated basic chemical and mechanical cleaning for copper alloy objects. CWB's microscope allowed the museum employees and archaeologists to view an object much more closely and to use it as a tool for removing active corrosion from bronzes. If time allowed, CWB also described methods for consolidating a fragile glass vessel, preserving a weathered surface, and the approach to reconstructing fragmentary objects. The latter gave the participants an idea of the more complex practical treatments used in conservation, and demonstrating more interventive techniques gave the training session

participants a more well-rounded understanding of conservation methods and processes. The primary aim was to pass on skills to the trainees that could be utilized to better preserve artifacts and collections. By demonstrating more complex conservation work, CWB communicated the necessity of formal training for many of the treatments and the importance of consulting a conservator for involved remedial work such as reconstruction, repairs, gap fillings, etc. Along with before and after photographs of each of the objects, CWB also left each museum with a detailed record of each treatment, material guidelines, health and safety considerations, and sources for acquiring conservation supplies.

In addition to the practical work and training sessions, CWB had the opportunity to visit several of Jordan's museums and on-site storage facilities. This gave the team the opportunity to examine the display case conditions and evaluate the long-term storage environments. CWB made several recommendations for further safeguarding the collections, advised on environmental conditions, and suggested the use of materials such as silica gel to control fluctuating humidity levels in the absence of an environmental control system. The suitability of display-case materials (e.g. textiles) was also discussed, particularly for cases containing metal objects.

The Department of Antiquities arranged for CWB to give a lecture at the Amman Headquarters, followed by a hands-on practical demonstration of packing techniques, mechanical cleaning of active corrosion using a scalpel and microscope, and the stabilization of corroded archaeological glass. The lecture covered the main principles of conservation and preventive measures that were relevant to Jordan's antiquities. The team also described CWB's objectives and work to date in Greece and Jordan. Both the lecture and practical demonstration gave CWB additional exposure, and the program was attended by heritage specialists, students, archaeologists and museum curators from across the country.

Overall, the first CWB mission in Jordan was deemed successful by the CWB volunteers, the museum staff who participated in the training sessions, and Jordan's Department of Antiquities. Approximately 200 glass, copper alloy, iron, stone and ceramic objects were stabilized and re-housed from the six collections. The outreach activities gave the participants an introduction to valuable and achievable preventive conservation measures. The CWB team members found the initiative to be a rewarding experience as a result of sharing conservation knowledge and skills, while learning and developing their own practical and communication skills. The graciousness, enthusiasm and appreciation of all the participants played a crucial role in the accomplishments of the initiative, and establishing a sense of trust was a significant and constant element of the projects. Reciprocal relations, particularly with tangible benefits for the countries and participants involved, are fundamental to CWB's mission and are a crucial ingredient for negotiations and successful, international archaeological collaborations.

Over the course of the three weeks, there were several key considerations and challenges that emerged as likely factors in future CWB projects. One aspect of any fieldwork project is the limited duration and the need to complete a great deal of work in a short, concentrated time-span. Time management was a very important part of CWB's work in Jordan. The workload had to be evaluated on the spot with each collection, since the team did not have an indication of how much material needed treatment (and to what degree) ahead of time. With six collections to work on and three to eight people present for each training session, it was of utmost importance to balance the outreach element of the project with treating and stabilizing as many of the objects as possible. The finite morning outreach sessions allowed the CWB conservators to complete additional treatments in the evenings. The Jordan initiative gave the team the opportunity to fine-

tune their ability to evaluate the needs of a collection very quickly. Sustainability was a primary consideration for CWB while making suggestions for change and improvements that the museums and outreach participants could realistically achieve. More specifically, the CWB conservators' aim was to hand over the project at the end of their stay to the museum or store employees and these individuals could then continue the work and perhaps even show other regional museums appropriate preventive conservation practices.



Fig. 11. Christie Pohl with Sate Massadeh from Karak (Photograph by authors)



Fig. 12. The store room of the Petra Archaeological Museum (Photograph by authors)

Showing how to create a controlled micro-environment for metal artifacts using silica gel and Tupperware containers (which are inexpensive and widely available in Jordan), is a good example of how CWB helped the museum employees and archaeologists understand how to stabilize the condition of their stored collections.

Besides evaluating the needs of the objects, it was necessary to evaluate the ability of the training session participants in a short amount of time and tailor the outreach to accommodate those without any conservation experience as well as those who already had some theoretical knowledge and practical skills. CWB recommended several of the museum employees and archaeologists for further conservation training, as there may be an opportunity for this in the future, facilitated by the Department of Antiquities. Another challenge of the outreach component is finding a balance between teaching enough to make an impact and not giving the impression that complex remedial treatments should be attempted without consulting a professional conservator. Mechanically over-cleaning metals and the removal of corrosion layers on archaeological glass are two examples of the dangers of further damage that can occur to objects without proper and thorough explanations of these conservation techniques.

One of the concerns with an international initiative like CWB is the potential for difficulties due to the language barrier and how this may impact communication during the project. However, with the 2007 projects in both Greece and Jordan, language differences did not prove to be problematic or inhibit effective communication. So far, a CWB team member has been able to speak the native language, those we have worked with speak English very well, or there has been an individual in the training session that can assist with translating. Since much of the outreach work is based on visual and hands-on demonstrations, a lot can be successfully communicated without language. But CWB team members are also willing to study some language basics for the regions they travel to and will actively try to recruit multi-lingual volunteers to help facilitate a successful overall experience.

Throughout the Jordan initiative, and with any project in a foreign country, cultural sensitivity and respect for different beliefs and values is extremely important. CWB aims to open a dialogue on conservation issues and does not believe that there is one 'right way' to conserve collections. CWB's objective in Jordan was to identify how the team could best assist with some of the issues and challenges in caring for Jordan's antiquities, not to direct or take over. By sharing conservation knowledge, local people have an opportunity to improve conditions in order to sustain collections for the long term.

7. CONCLUSION

The 2007 mission in Jordan contrasted with the project in Kythera in several ways. The latter was on a smaller scale and focused on one collection in one storage facility. The Jordan initiative had a larger emphasis on outreach and training; the ability to consult on museum displays and storage conditions was also a significant component. Both projects allowed CWB to establish relations with governmental departments. In Jordan, CWB additionally met and built trust between individuals from six different museums. There is great potential for a long-term relationship with contacts in Jordan and Greece as a result of the 2007 projects. KIP has invited CWB to return in 2008 and a second mission in Jordan is planned for the fall of 2008.

Based on our projects in 2007, CWB firmly believes that communication and interdisciplinary working are fundamental to raising the profile of conservation. In addition, CWB provides opportunities for conservators to respond to real concerns and problems with

practical, feasible solutions. All communication should be two-way; conservators have an important role to listen carefully to localized needs before formulating preventive conservation suggestions such as proper handling, packing and storage, use of conservation-grade materials, pest management, as well as health and safety guidelines. CWB's activities demonstrate that amongst the sites visited, there is a real openness, willingness to learn and appreciation for the information exchange on offer.



Fig. 13. CWB giving a lecture at Jordan's Department of Antiquities (Photograph by authors)



Fig. 14. Metal objects from the Karak Museum (Photograph by authors)



Figs. 15–17. Working together with museum employees (Photographs by authors)



Fig. 18. Lina Bakkar of the Dar As-Saraya Museum in Irbid (Photograph by authors)



Fig. 19. Saray Naidorf working with Alexandra Petrocheilou of the Kythera Archaeological Museum
(Photograph by authors)

ACKNOWLEDGEMENTS

CWB would like to thank: UCL Futures for its financial support; our volunteers in Greece and Jordan, Saray Naidorf and Amy Drago; the UCL Conservation Program, the British Museum and the Museum Conservation Institute for their support.

NOTE

1. At the time of publication, Conservators Without Borders (CWB) is no longer operating under that name. With the same aims and objectives, the original founders have broadened the organisation's scope and changed its name to Heritage Without Borders (HWB). HWB builds capacity in heritage skills; supports heritage projects in situations of poverty, and following conflict and disaster; and provides valuable work experience for students and professionals in the heritage sector. For more information, see the website: www.heritagewithoutborders.org. In August 2012, Heritage Without Borders registered as a charitable company in the United Kingdom. HWB is an independent charity, but is based at the Institute of Archaeology, University College London, 31-34 Gordon Square, London, WC1H 0PY, UK.

REFERENCES

Bevan, A., and Conolly, J. 2004. GIS, archaeological survey and landscape archaeology on the island of Kythera, Greece. *Journal of Field Archaeology* 29: 123-138.

Cronyn, J. M. 1990. *The elements of archaeological conservation*. London: Routledge.

Department of Antiquities. 2007a. *Historical information on the Karak region*. From graphic display panels at the Karak Archaeological Museum and Castle, Jordan.

Department of Antiquities. 2007b. *Dar As-Saraya Museum guide: antiquities of Irbid Governorate*. Amman, Jordan: Department of Antiquities.

Massadeh, S. 2007. Personal communication. Karak Archaeological Museum and Castle, Karak, Jordan.

Ministry of Tourism and Antiquities. 2005. *Petra: History*. Amman, Jordan: Ministry of Tourism and Antiquities.

Ministry of Tourism and Antiquities. 2003. Jordan. www.tourism.jo (Accessed March 2008).

Price, N. S. 1995. Excavation and conservation. In *Conservation on archaeological excavations*, ed. N. Stanley-Price. Rome: ICCROM. 1–9.

Sease, C. 1999. The role of the conservator on an archaeological excavation. *Field notes: practical guides for archaeological conservation and site preservation* (1). Ankara: Japanese Institute of Anatolian Archaeology.

MELINA SMIRNIOU (BSc, MA, MSc) is an archaeological conservator with a focus on inorganic materials. She is currently employed in the Stone, Wall Paintings and Mosaics Conservation Section at the British Museum. She is also working on a PhD at the Institute of Archaeology, UCL, focusing on late Bronze Age glass production in Egypt and the Eastern Mediterranean. Address: Conservation and Scientific Research, Great Russell Street, London WC1B 3DG, UK. E-mail: m.smirniou@ucl.ac.uk

CHRISTIE POHL (BA, MA, MSc) is an archaeological conservator and has experience with inorganic and organic materials, including waterlogged artifacts. She was a Samuel H. Kress Fellow in Archaeological Conservation at the Smithsonian's Museum Conservation Institute from 2006-2007 and is currently an assistant objects conservator at Harvard University's Peabody Museum. Address: 15A Buena Vista Park, Cambridge, Massachusetts, 02140. E-mail: christiepohl3@msn.com

DOMINICA D'ARCANGELO (BA, MA, MSc) is a conservator with a special focus in the treatment and storage of organic artifacts. Dominica spent one year in the Organic Section of the Department of Conservation, Documentation and Science and at the British Museum. She has also participated at the Çatalhöyük Research Project in Turkey, where she helped to coordinate projects with the human remains team. Dominica has long been interested in the communication of conservation amongst other heritage professionals and the public. Address: 34A St. Asaph Road, Brockley, London SE4 2EJ, UK. E-mail: dominica@eccomi.co.uk