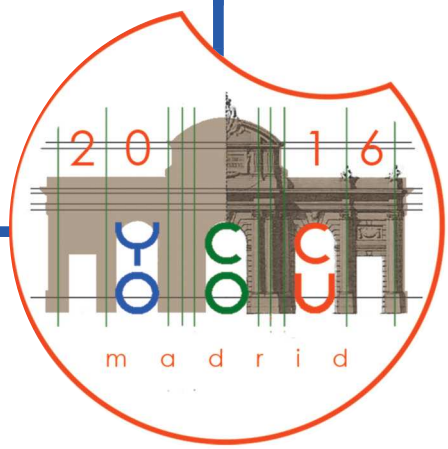
DEPARTAMENTO DE CONSERVACIÓN-RESTAURACIÓN

5th International Conference

YOCOCU 2016

Youth in Conservation of Cultural Heritage



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DEPARTAMENTO DE CONSERVACIÓN-RESTAURACIÓN

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Organized by

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This publication presents some of the papers from the YOCOCU V International Conference (YOuth in COnservation of CUltural Heritage), held in Madrid, in September 2016 under the auspices of the Museo Nacional Centro de Arte Reina Sofía Department of Conservation-Restoration, the Instituto de Geociencias (CSIC-UCM), and the YOCOCU association.

The purpose of the conference is to promote intergenerational exchange and support the participation of young researchers in the conservation and study of cultural heritage. The main themes of the conference were subsequently compiled for publication as a way to make the discussion available to all who might be interested.

The 89 selected articles, representing more than 241 authors from more than 114 institutions and 19 countries, offer a glimpse into the enormous diversity of conference attendees. International participants came from Africa, the Americas, Asia, and Europe and from institutions as varied as the Istituto Italiano di Tecnologia, the University of Isfahan (Iran), Univerzitet u Novom Sadu (Serbia), and Universidad Autónoma Metropolitana (Mexico).

The selected papers reflect a broad range of cultural heritage conservation, from landscapes to time-based media art, including traditional and contemporary manifestations of material culture and intangible values managed by public and private institutions. The scope is addressed by the multidisciplinary approach often found in conservation-restoration practice, covering cases of nondestructive material analysis; technological innovation applied to intervention, diagnosis, and documentation; networks of shared scientific knowledge; outreach; education; and heritage at risk.

A forum for the exchange of experiences, the conference proved to be an exceptional opportunity for engaging new generations of conservator-restorers in sharing and enhancing recently produced knowledge. The goal of this initiative was the dissemination and debate of conservation practice as a strategy to preserve heritage for the future.

Last but not least, we acknowledge the generosity and continued support of the conference participants in preparing their results for publication, and to the organization board who made this project possible.

Mónica Álvarez de Buergo
Director of the Petrophysics Laboratory and the Geomaterials Department of the Instituto de Geociencias (CSIC-UCM). Chair of YOCOCU 2016.

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Archaeologists and Conservator/Restorers: Teamwork Needed for the Study and Conservation of Archaeological Heritage: The Example of an Iberian Funerary Urn

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INTRODUCTION

The Iberian necropolis of Les Esquarterades was discovered in the southern counties of Tarragona in 2013. Archaeological excavations were subsequently conducted (2014–2015) on a surface of approximately 30 square meters, where around 20 burials with varying levels of preservation were recovered. The urns on the northern side had been destroyed or displaced by the tractor's plowshare. On the southern side, however, nine relatively well-preserved urns, damaged only by the pressure of the soil, were recovered (Fig. 01).

These burials consisted of urns of handmade or wheel-thrown pottery, with a ceramic cover, and were placed in pits sealed with a stone slab. The urns contained the skeletal remains of cremations, following the typical ritual of the Iberian period. Some personal bronze ornaments (pendants, chains, fibulas, etc.) were also placed inside, while iron objects were found on the outside, underneath, or beside the urns, especially weaponry (spearheads, spears, ferrules, knives, etc.).

Fragments of black-glaze Athenian Castulo cups related to the burials were documented, allowing us to date the

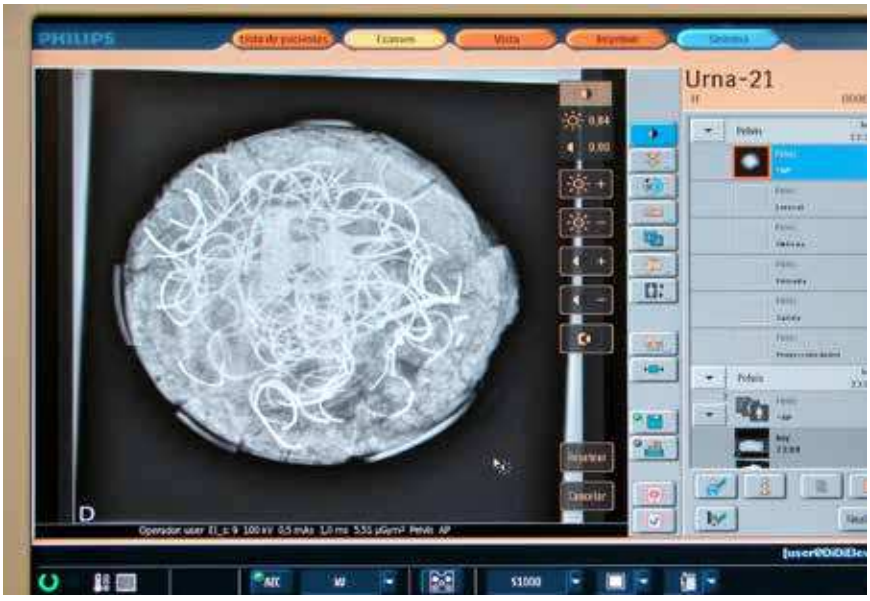

Fig. 01. View of some of the best-preserved urns recovered during the 2015 campaign (SP 23, SP19, SP24, SP25, and SP22). Credit: Jaume Noguera.

Fig. 02. Screen with an image of a CT scan during the session at the hospital. Credit: Maria Carme Belarte.

use of the necropolis to between the middle of the fifth century and the beginning of the fourth century BCE.

During the fieldwork, a conservator/restorer was present to supervise the extraction, storage, and eventual transportation of the archaeological remains to the University of Barcelona. Once the pieces arrived at the laboratory, further collaboration occurred between archaeologists and restorers.

The aim of this article is to present the results of the work jointly undertaken on the archaeological material recovered from the necropolis by the archaeologists, conservators/restorers, and anthropologists (together with other specialists). To do this we shall focus on describing the tasks undertaken to study the funeral urns and the associated metal grave goods recovered from the site, from fieldwork to laboratory work, with a particular focus on urn SP19. We shall therefore present the main problems encountered with the recovered materials, as well as the specific actions and treatments applied to solve them.

The intent is to develop the idea of a multidisciplinary approach to work in the field of archaeological conservation/restoration, with a focus on the role of conservators/restorers within the research team. Close collaboration between all researchers involved in the study of this necropolis was necessary to extract the maximum amount of archaeological information and provide the right conditions for the conservation of the discovered materials.

METHODS & METHODOLOGY

Onsite Work

We counted on the presence of a restorer, indispensable for securely recovering the many objects dispersed throughout the necropolis. In some cases, due to the poor state of preservation, objects required a preventive treatment (specific gauzes or Paraloid B-72® consolidations) before they could be lifted and securely transported.

Fig. 03. Photograph of one of the pieces recovered from the necropolis, before and after conservation/restoration treatment. Credit: Anna Bertral.

Each relatively well-preserved urn was prepared for transport as a whole to the laboratory, which is where the microexcavation of its contents took place. Depending on its state and the presence of grave goods in its vicinity, each urn was removed with a buffer of surrounding earth to improve its protection. The urns were wrapped in transparent film, then deposited in plastic boxes, which were covered and reinforced with bubble wrap to stabilize them during transportation.

The objects in iron, bronze, pottery shards, and so on, were stored separately (according to their material) in polyethylene bags with hermetic seals and perforated, awaiting convenient treatment in the laboratory.

Laboratory Work

1. Work prior to microexcavation of the urns: X-rays and CT scans were taken of the completely preserved urns. An image of their contents was obtained to determine the shape, layout, and size of the bones, metal objects, and ceramics within, and this information then informed the planning of the intervention used in each case (Fig. 02).

2. Excavation of the urns: Information obtained from the X-rays and CT scans allowed the archaeologists, conservators/restorers, and anthropologists jointly to identify three scenarios that then informed the microexcavations, from the point of view of the conservation/restoration work.

A. Urns with no (or only small amounts of) metal grave goods inside to interfere with retrieval of the skeletal remains.

B. Urns with metal grave goods inside that would interfere with retrieval of the skeletal remains.

C. Urns with metal grave goods present only within the surrounding earth buffer.

Methodology used in each case:

A. The archaeologist performed the microexcavation with occasional help from the conservator/restorer. A stratigraphic method was followed, separating the upper layer from the lower, which usually contained most of the bones. Bones found in isolation were deposited in a bag. Once the archaeologist reached a section comprised mainly of bones, they were removed as a block and sent to the anthropologist, who finished excavating them in the most convenient way for extracting a maximum amount of information. If any metal objects remained within the block of bones, the restorer helped the anthropologist recover them. The state of preservation of these objects was usually quite bad, requiring immediate treatments to conserve them and facilitate future treatment.

B. The best course of action was agreed with the anthropologist. To retrieve both metal objects and bones in the best possible condition, the restorer was put in charge of excavating from the moment the two types of objects began to appear together. A photograph was taken, and all visible items were flagged and numbered. One by one they were extracted and stored in separate, clearly labeled bags. In cases where the bones had come into contact with the consolidant for the metal (Paraloid B-72®), this was indicated on the bag to provide additional information for the anthropologist.

C. The restorer oversaw the excavation and retrieval of the metal objects on the outside. Once they had been extracted, the excavation continued using the methodology described for scenario A.

3. Conservation/restoration work on the remaining materials retrieved: Materials exhumed from the urns (in iron and bronze), as well as the ceramics, were treated in the laboratory as necessary to ensure their correct interpretation and long-term conservation.

RESULTS & DISCUSSION

Thanks to the conservation/restoration treatments undertaken in the laboratory on some of the exhumed pieces (iron, bronze, and ceramic), the archaeologists were able to observe details not noticeable to the naked eye; for example, discerning decorations or finishes in other materials. The cleaning and reconstruction work gave valuable information to the archaeologists in charge of the overall study of the necropolis (Fig. 03).

The CT scans performed prior to the microexcavations were useful as guides for that work, as well as for making an initial diagnosis of the layout and difficulty of extraction of the objects, which allowed for courses of action to be determined in advance. A good example is SP19, which was surrounded by a fine and richly decorated layer of bronze, already detected onsite. Once at the laboratory, and thanks to the CT scan image, it was extracted with precise knowledge of its layout, dimensions, and cracks, thus facilitating the conservator/restorer's task.

Because of the large quantity of remains that still need to be treated, this work is ongoing. This article lays out the broad outlines of what is being done. Our preliminary assessment is that the collaboration between different disciplines and professionals has delivered optimal results, since working shoulder to shoulder is encouraging a wider view of the task being undertaken.

CONCLUSIONS

Joint work between specialists in different fields has contributed to improving the quality of information obtained in the study of various archaeological materials, since more detailed information can be retrieved, especially concerning the shape and manufacturing technique of the various objects. At the same time, collaboration allowed the bones to be isolated from the metal items, facilitating the subsequent work of the anthropologists.

Acknowledgements

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Curriculum Vitae

Anna Bertral is a predoctoral researcher at the Institut Català D'arqueologia Clàssica (ICAC), Tarragona, Spain. She holds a diploma in conservation-restoration and a master's degree in classical archeology (ICAC, Universitat Autònoma de Barcelona, Universitat Rovira i Virgili). Her work is focused on conservation and restoration of archaeological materials.

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Jaume Noguera is a senior archaeology lecturer at the Universitat de Barcelona. He researches the evolution of the protohistoric population on the lower course of the Ebro, the protohistoric cremation necropolises in Catalonia, and the military settlements of the Roman Republic era in the northeast of the peninsula.

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