EACOM

Egyptian and African Copper Metallurgy in Federal Collections: Contextualisation, Preservation, Patrimonial Value

DURATION
15/12/2014 – 15/03/2019

BUDGET
679 007 €

PROJECT DESCRIPTION

The EACOM project aims to recontextualise and increase the qualitative value of materials associated with copper production in two Belgian federal science collections, through a multidisciplinary study of the copper operational chain in Ancient Egypt and Sub-Saharan Africa. Technological and material similarities have been identified between these two regions, which is why the Royal Museums for Art and History (MRAH) and the Royal Museum for Central Africa (RMCA) have chosen to collaborate on this project. This collaboration will increase the scientific and societal impact of their respective collections by offering a better understanding of the context of the beginnings of copper production and its use.

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Fig 1: Copper axe. Egyptian collections, Royal Museums of Art and History

The following objectives have been defined:

1. Inventory and contextualise all the materials relating to copper production in Belgium's federal science institutions.
2. Significantly contribute to the understanding of the synchronic and diachronic variations in ancient and traditional processes of copper production in Pharaonic Egypt and Sub-Saharan Africa.
3. Increase the visibility and societal impact of federal heritage through activities that highlight the scientific aspect, as well as activities aimed at the general public.
4. Improve accessibility to data for researchers.
5. Emphasise Belgian expertise in the study of ancient metallurgy techniques.
6. Define a conservation protocol for the conservation of fragile items in these collections using modern conservation and restoration methods.

During the first phase, all the available relevant materials at MRAH and RMCA will be gathered together (artefacts, excavation archives, etc.). Their condition will be assessed and conservation/restoration measures taken if necessary. Digital recordings will be made using high resolution photography and interactive imagery (PLD technology), and will be made available through the museum's databases and on the internet.

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During the second phase, the work will focus on diachronic evolution and regional variations in each stage of copper production, from extraction to the finished object. For this purpose, archaeological, ethnographic and archaeometric data will be gathered and compared with the material in the collections.

Archaeometric analyses performed by a third partner involved in the project (Centre for Archeological Sciences, KU Leuven), as well as experimental reconstructions carried out at Archéosite d'Aubechies and on site at Ain Sokhna in Egypt, will be used to verify the working hypotheses defined during these two phases. These analyses will relate to targeted questions, such as the nature and origin of the ores, the composition and reactivity of the clays, the composition and temperature of redox atmospheres, etc.

Fig. 2: Copper production. Experimental reconstruction, MRAH - Archéosite d'Aubechies

The project will therefore be supported by the complementary expertise of the partner science institutions (MRAH, RMCA, ULB, KU Leuven), allowing the data collected from various fields to be compared and studied according to a truly interdisciplinary approach combining archaeology, archaeometry, ethnography and experimental archaeology.

On a scientific level, the expected impact of the research is twofold. On the one hand, it will contribute significantly to the understanding of copper's operating chain in the Eastern Mediterranean and Africa. On the other hand, it will consolidate the relevance of the data studied, and use it to create reference collections for any future research in this field. As regards society in general, the project will highlight the importance of the national collections in terms of science and heritage. These collections bear witness to the historic role played by the Belgian science policy in research in Egypt and Central Africa, a role that Belgian science institutions and universities continue to fulfil today. Finally, the project will offer decision-makers a better understanding of the federal collections' potential and will help to provide them with a baseline for the management of heritage collections and the orientation of future management policies.

The project is expected to provide the following results:
1. An inventory and study of the collections associated with the archaeology of copper production at MRAH and RMCA, reflected in the museums' databases and catalogues.
2. Scientific publications.
3. A publication for the general public illustrating the most significant pieces from the collections concerned.
4. A permanent presentation on archaeometallurgy at MRAH.
5. A constitution of a reference collection within the ESF concerning copper production.
6. A best practice protocol will be compiled concerning the conservation of these collections.

CONTACT INFORMATION

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