

## **Brain.be – EACOM Project – FINAL REPORT - ABSTRACT**

### *Context*

In Egypt, as in Sub-Saharan Africa in general, Copper has played an important role, both as raw material for the production of ornaments, artworks and tools and as a medium of exchange. In many regions, copper was considered as a valuable metal and almost exclusively used for artefacts indicative of social status. It was also used as a store of values. In Ancient Egypt, the progress of copper metallurgy has allowed the development of the monumental policy implemented by the pharaonic State (construction of pyramids, funerary monuments for the elite, temples, etc.). Recent researches have reassessed the importance of the copper exploitation in the Sinai and the eastern desert, where metallurgy is the primary resource sought after.

In Central Africa, this metal was closely linked to power and the rise in its production from the 9th century AD onwards has been linked to the development of hierarchical societies and major kingdoms in the area. For example, control of the copper supplies would have been a significant factor in the success of the Kongo and Loango kingdoms, major polities of west Central Africa. Most of the locally produced copper was used in and around the Congo Basin. According to the specifications of the BRAIN-BE projects, the EACOM project aimed at revealing some of the “sleeping beauties” preserved in the Belgian federal scientific institutions, and at bringing its contribution to the knowledge of copper metallurgy and its role in ancient Egypt and sub-Saharan Africa.

### *Objectives and methodology*

The BRAIN-BE EACOM project began in the first semester of 2015 and lasted until the last semester of 2019. The main goals of this project were to re-contextualise and increase the qualitative value of the material linked to copper metallurgy in the Royal Museums of Art and History (RMAH) and the Royal Museum for Central Africa (RMCA), through the multidisciplinary study of the metallurgical production processes in both ancient Egypt and sub-Saharan Africa. The goals were to build a more accurate image of the contexts in which had developed the production and use of copper, and to describe the *chaînes opératoires* (C.O.) of the copper technology in both ancient Egypt and sub-Saharan Africa, through a coherent set of research strategies, combining archaeology, ethnography, experimental archaeology and archaeometry.

### *Results and conclusions*

The development of a common framework, organizing the *chaînes opératoires* of copper metallurgy, pertaining to primary and secondary metallurgy, had the expected benefit. It allowed for a much needed re-organisation and re-contextualisation of the museum collections, using the various sources, from ethnography to archaeology and experimental archaeology, in an integrated narrative. It also provided a common ground needed for a fruitful pluridisciplinary collaboration. Using ethno-historic data available at the RMCA allowed Partners 1 & 2 to develop an analytical framework, which was improved with experimental and archaeological inputs from all the partners.

In practice, for each collection, all the artefacts related to copper metallurgy (ceramics, waxes, ore fragments, copper-based artefacts, etc.) have been collated in one coherent set. Objects have been re-contextualized, first, through the reconstruction of the original lots to which these artefacts belonged, lots that were dispersed throughout Europe at the time of their discovery and, second, through external data from several disciplines, archaeology, archaeometry, ethnology and experimental archaeology.

Thanks to our research, we are now able to provide for the selected artefacts: an archaeological context, a technical description, an archaeometric study, an attribution to a specific *chaîne opératoire*, documentation in focus stacking,  $\mu$ CT-scan and three-dimensional photography, a study by experimental protocols. These data have been systematically documented in the catalogues and databases of each federal institution.

Due to the wealth of the RMAH and RMAC collections, both in their scope and diversity, there was much to be gained by studying, jointly and comparatively, the two collections. The identification of the social and technical context of these *sleeping* collections considerably increased their qualitative value. This also meant bringing to the public attention a different view on past societies by revealing the techniques behind the objects and by emphasizing the importance of seemingly unspectacular artefacts, offering deep insight into everyday life and into the technological and economical organization of extinct cultures.

### *Keywords*

Copper - Archaeometallurgy - Archaeometry - Methodology - *Chaînes opératoires* - Experimental archaeology - Egyptology - Old Kingdom - Middle Kingdom - New Kingdom - African archaeology - Central Africa – DRC – provenance study.