

Crescent-shaped bowl, lost wax cast in leaded bronze, 9th–10th century.



# Researching Lower Niger Bronzes

Behind the scenes, British Museum researchers are investigating an important group of African bronzes. **Abidemi Babatunde Babalola** and **Imogen Coulson** give an overview

Within the British Museum's collection are 135 copper-alloy objects from West Africa identified as 'Lower Niger Bronzes' (LNB). The collective name was first coined by William Fagg, Keeper of Ethnography from 1969 to 1974, to denote a group of items distinct from others in the three major early copper-alloy casting traditions in southern Nigeria, namely Igbo-Ukwu, Ife and Benin, which developed from the 9th to the 15th centuries. Objects within the LNB category range from sculptural pieces to varieties of bell forms, armlets and bracelets among others. In addition to being under-researched, many have limited information relating to their collecting history and provenance. Intriguingly, they appear to have a composition that differs from those from the well-known centres of production noted above, although they are not a single coherent corpus and likely relate to a range of different casting centres.

In 2019 an interdisciplinary project involving curators in the Department of Africa, Oceania and the Americas and scientists in Scientific Research, was launched to investigate how traditions

of copper-alloy casting developed in West Africa, with a particular focus on the LNB. The project is more widely situated within the Museum's various collaborations, partnerships and dialogues focusing on West African bronzes, and began with much-needed object provenance and collection history research led by Imogen Coulson. A new scientific research project builds on this work. Led by Abidemi Babatunde Babalola, this aims to shed further light on these enigmatic copper-alloy objects from southern Nigeria. The laboratory research, funded by the Andrew W. Mellon Foundation, will provide further insights into the composition of the objects, production technology, how they were used and reused, and perhaps exchanged and traded.

The new project owes much to a collaboration, 40 years ago, between pioneering scientists in Nigeria and at the British Museum. Paul Craddock, a scientist at the Museum, worked with two Nigerian geologists, Professors Alphonse Umeji and Vincent E. Chikwendu at the University of Nigeria, Nsukka, to find out about the sources

Clapperless  
horned bell form,  
lost wax cast  
in copper alloy,  
c. 10th–16th  
century.



of metal used in early West African bronzes. In the 1980s, Craddock studied samples of the West African copper-alloy objects in the collection, using a technique known as atomic absorption spectrometry to determine the elemental composition of the metal. A small collection of objects found at Igbo-Ukwu stood out. Unlike copper-alloy objects from other known casting centres in West Africa, they were made of leaded bronze (copper with tin and lead) rather than brass (copper with zinc). The distinctive trace element pattern of these Igbo-Ukwu bronzes was also very different from metal that originated from the trans-Saharan trade routes, which featured within the production of other copper-alloy objects in West Africa, particularly from Ife.

Building on these laboratory findings, Craddock's collaboration aimed to verify the presence of lead and tin sources in eastern Nigeria. Along with Thurstan Shaw (a leading British archaeologist who excavated most notably at Igbo-Ukwu), he initiated a new programme of survey and excavation funded by the British Museum. They found evidence of historic mining of copper and lead at Abakaliki, 100 km from Igbo-Ukwu. Craddock and his colleagues noted that some of the minor elements in the Igbo-Ukwu bronzes are consistent with those in copper and lead deposits associated with geological features to the east of Igbo-Ukwu. Elemental analysis of ore samples from the mining site, together with lead isotope analysis undertaken at the University of Toronto, revealed the same distinctive pattern as the Igbo-Ukwu bronzes. These results supported the hypothesis that one of the major sources for both copper and lead for the Igbo-Ukwu bronzes came from the deposits in the Benue Trough, a major geological structure underlying most parts of south-eastern Nigeria and stretching to the north-east. Radiocarbon dating of charcoal from Abakaliki gave a date of the 9th century AD, contemporaneous with some of the earlier dates given for the Igbo-Ukwu bronzes.

Through this research British Museum scientists working with geologists and archaeologists in Nigeria helped change the perception of early



Map situating the southern Nigerian regional focus of the research, as well as the location of Igbo-Ukwu, Benin City and Ife. Image: Laura Perucchetti.



Professor Vincent Chikwendu inspecting a filled gallery from a trench mine in the southern part of the Benue Trough at Ameka, southern Nigeria in 1989. Photo: Paul Craddock.



Armlet in spiral coiled form, cast in copper alloy, c.10th–16th century.

African copper production in the southern Sahara, and strengthened an emerging model of independent, indigenous development of non-ferrous metallurgy in southern Nigeria. The raw materials were locally sourced and the technology and styles likely internally inspired following indigenous value, taste and crafting traditions.

Adding to the rich collection history studies which have been undertaken on these enigmatic Lower Niger Bronzes, it is hoped that, with the new Scientific Research project, we will be able to shed

further light on the culture or cultures that produced and used them. We will also explore any possible correlation between the production technology and the functions of the objects, whether utilitarian, ornamental or ritual. It is intended that the project will significantly enhance our current understanding of metal technology in West Africa including metal sourcing, casting techniques and traditions, and will also continue the long-term sustained research collaboration and relationship between the British Museum and Nigerian scholars.

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