



Accretion, accumulation, encrustation? Reconciling scientific and curatorial perspectives when reporting on surface materials on African sculptures.

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With the reinstallation of the Arts of Africa gallery at the Art Institute of Chicago in 2019, the museum's scientific and curatorial staff initiated a collaborative study of the collection with a focus on materials characterization. This undertaking was driven by the relatively scant scientific attention these objects have received in the past, compared to the knowledge derived from curatorial and field research studies, particularly with respect to organic and biological materials. This is due in part to the presence of complex mixtures of natural materials, which are often unfamiliar and poorly represented in the scientific literature on (mostly non-African) artists' materials. Our initial attention focused on the surface materials of two African sculptures: a Bamana power object (*boli*), and a Yoruba wooden sculpture of a female figure. Numerous art objects, such as masks and figures, from different regions and cultures of Africa, display distinctive surfaces that result from repeated applications of heterogeneous materials during religious activities and ritual events. The applied materials are diverse, and dependent on the specific culture and context; however, some are regularly mentioned by scholars based on their research and field research, including millet porridge, saliva, chewed kola nuts, plant gums, and blood of sacrificial animals such as chickens, goats, sheep, and cattle. Each material is applied with a specific purpose, often associated with nourishment or the transfer of power or energy. Due to the complex mixtures found on the objects' surfaces, a complement of spectroscopic and mass spectrometric analyses were applied, including shotgun proteomics, to better understand the nature and biological origin, down to the species level, of the proteinaceous materials.

Besides the expected scientific challenges of analyzing such heterogeneous and complex samples without access to comprehensive reference data, this project presented additional difficulties in the interpretation and presentation of data: not least, the very different perspectives and expectations of curators and scientists in contextualizing and reporting the findings. For example, from a scientific point of view, it seemed reasonable to report data from these two culturally and geographically unrelated objects together since the results demonstrated the value of applying multiple analytical techniques to enable the characterization of a large variety of materials of different nature, and how untargeted proteomics is critical when working with unfamiliar and complex samples. However, from a curatorial point of view, there was dissonance in associating these two objects since they belong to two distinct cultures, the Bamana and the Yoruba, which should be treated separately when considering the cultural contexts behind the use or inclusion of certain materials. We also faced challenges in the terminology to appropriately describe a surface: based on its current appearance ('encrusted'), alluding to changes effected by the material application ('patina'), or reflecting a specific religious activity or purpose (sacrificial)? A good deal of effort was needed to merge the different perspectives in order to present an accurate and effective

narrative, always with respect for the objects' materiality and history of use. Scientific analysis provided material evidence that is complementary and synergistic with different types of evidence derived from archival research, field research and oral accounts. Ultimately, with the



study of a large number of representative objects, such a collaborative approach may open new doors to understanding specific historic and cultural practices.