

Scientific investigations of Tang Dynasty pottery figurines

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Among the ancient East Asian art production, funerary statuettes called *mingqi* (“spirit objects”) played a relevant role in bearing witness to the belief systems of early China. In particular, *mingqi* pottery figurines became extremely popular in the Tang Dynasty (618-907 CE). They vividly depicted vibrantly painted horses, Bactrian camels, and exotic musicians, reflecting the high level of cosmopolitanism of the golden age of imperial China. [1] Then, starting from about the 1910s, *mingqi* statuettes strongly attracted Western collectors. Therefore, modern reproductions of these statuettes proliferated in the art market. [2, 3]

The present research study is based on the archaeometric investigation of a group of *mingqi* terracotta figurines stored at the Museum of Cultures (Mudec) of Milan. The examined finds were stylistically attributable to the Tang period. However, very little *provenance* information is available, and the authenticity is not quite certain.

Here, the scientific survey aims at shedding light on the material composition and realization technique of the museum figurines. First, the visual examination and portable micro-Raman spectroscopy were performed to identify the relevant sampling zones. Then, a multi-technique and multi-scale approach was employed. All the collected micro-samples were deeply characterized by a combination of laboratory microscopies and synchrotron-based micro-analysis. More specifically, micro-Raman and micro-FTIR spectroscopies were carried out on the raw fragments. Next, thin cross-sections were analyzed by SEM-EDS, synchrotron-based μ XRF/ μ XRD mapping, and Fe K-edge μ XANES. [4]

The employed methodological approach allowed for maximizing the analysis performed on the same sample and obtaining complementary outcomes from the different techniques. Together with the iconographic analysis, the results of scientific examinations led to getting insight into the manufacturing process and looking closer at the historical context of the finds.

Thus, the present research represents the early attempts to perform scientific investigations of Tang *mingqi* figurines of uncertain *provenance* and authenticity, which nowadays can be widely found in Western museums and private collections.

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