



RESEARCH PROJECT

BROUGHT OR FROM THE SCENE? ON THE ORIGIN OF LEAD SLING BULLETS IN (PRE-)ROMAN MILITARY AND OTHER CONTEXTS

New horizons of the lead isotope method

Lead sling bullets from the 4th century BC to the 2nd century AD in a distribution area from the west coast of the Black Sea to southern Scotland, and finds from Seleucidian Palestine are the subject of our study. Lead bullets are usually found at sites associated with conflict events, i.e., besieged towns or hill forts, Roman military forts, or battlefields. They are considered useful for tracing the routes of armies during their military campaigns, provide information on the metal supply and transport patterns of armies, or can be associated with historical events and individuals.

In the course of its application in archaeometric research and material-based archaeology, lead isotope analysis (LIA) was established as the outstanding method for determining the provenance of metallic georesources used for metal objects. In contrast, its potential in archaeology has been neglected for questions beyond pure provenance research of metals. Our long-term research project is dedicated to the question of whether and to what extent the results of LIA can be used for the archaeological dating of artifacts, for the attribution, verification or falsification of their provenance or assigned sites, and for the substantiation or refutation of archaeological-historical hypotheses. Due to the circumstances of their use and their characteristics-lead being the only material component, often displaying typologically-chronologically relevant characteristics and/or frequently bearing inscriptions-lead sling bullets are a promising artifact group for this endeavor. For this purpose, the projectiles are sampled by chipping or drilling and, after passing through a chemical procedure in the ultrapure laboratory, are analyzed for the isotopes of lead using an ICP mass spectrometer. Calculated isotope ratios then give an indication of the geo-resources and further to the solution of the questions formulated here before.

Project Information

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