A REMARKABLE FIND UNCOVERED IN VRASENE (MISMEERSTRAAT/SPOORTLAAN)

Belgium. 2017 – A remarkable assemblage was uncovered during an excavation in Vrasene (prov. East-Flanders)1. At a short distance from a Roman fort, named Fort Betuwa (2nd – 3rd century), a dolium covered by a still-functional quern was discovered in a filled-in badger’s burrow. The base of the dolium was struck prior to deposition and a legulo fragment was placed inside. There were no related archaeological traces, structures or associated finds that revealed the function of this assembly. Furthermore, no analogies of similar assemblages are known from northern Gaul, speaking to the unique and odd nature of this find. Since there is little information available from its context, it was decided to take a closer look at the artefacts themselves by identifying the quern and performing residue and compositional analysis on the dolium.

AN ODD ASSEMBLAGE

The dolium is identified as a quite common globular type with a flat, inwards orientated rim (type Gosia 356-358, related to Hofheim 78). While the base was struck out prior to deposition, the dolium broke after deposition, collapsing beneath the weight of the quern and soil.

The quern is made from a vesicular basalt lava and is probably imported from the Eifel region in Germany. A large scale quern production existed at the Bellerberg in the east Eifel region from which many querns were imported during the Roman period. While the quern appears to be freshly weathered, it was still functional at the time of deposition. The weathering indicates that the stone had been used for an extensive period of time.

The legulo fragment, part of a flange (tile edge), did not contain any markings or clues that could point towards a date or provenance, nor why this part of the tegula was placed inside the dolium.

ORGANIC RESIDUE ANALYSIS

Organic Residue Analysis (ORA) employs analytical organic chemical techniques to identify organic compounds. As organic materials generally degrade and seemly disappear from an archaeological assemblage, organic compounds may function as constituents of their original product (biomarkers). In this particular case, a piece of the dolium was analysed by Gas Chromatography – Mass Spectrometry (GC-MS) for which the sherd was crushed, the organic compounds extracted and diluted.

Besides compounds related to contamination (e.g. oleamide and phthalates), various fatty acids were detected. The ratio between Palmitic (16:0) and Stearic Acid (18:0) for the dolium sample is 2.55, corresponding to the known ratio for modern bovine milk. The samples of short or short-chain fatty acids (8:0 and 10:0) were detected, which are also indicative for dairy products. There are however some uncertainties related to the complexity of degradation processes and the mixing of different types of dairy products. Of course, this can be expected, as the dolium was not sealed after its original usage. The presence of odd-chain alkanes may be related to this type of natural products.

FABRIC & PETROGRAPHIC ANALYSES

The fabric of the dolium was observed on a fresh fracture. The fabric can be described as a light grey paste with a dark grey core, fired in a reduced atmosphere, consisting of a fine clay with frequent red, light and dark coloured inclusions, and sparse to frequent small voids.

Ceramic petrography was used to identify the nature of the inclusions and to look for the provenance of the clay. Two thin sections (i.e. ceramic samples polished down to a thickness of 0.03 mm) were studied under a polarizing microscope.

The dolium consists of a silt-rich matrix, containing quartz as the dominant mineralogical inclinations, tempered with grog (i.e. crushed potsherds). The grog fragments vary in size (ca. 0.2 – 5 mm) and composition: at least four different types of grog were identified, containing both light and dark-coloured inclusions. Additionally, there is a high amount of iron oxides present, as well as some glauconite grains and sparse sedimentary rock fragments, indicating the use of a sedimentary clay.

X-RAY FLUORESCENCE SPECTROSCOPY

The sample was also analysed by X-ray fluorescence spectroscopy (XRF) to assess its geochemical composition and explore details about the production and provenance of the vessel. The sherd was analysed on the surface and on a fresh break by a handheld XRF (Olympus Delta hXRF), for a general characterisation of the ceramic composition, and a micro-XRF (EDAX Eagle III µXRF) to identify and compare the various grog inclusions with the matrix composition.

The µXRF demonstrated that the dolium is made from a relative iron- and calcium rich clay. The µXRF confirmed that various grog fragments have a different composition from each other and the matrix of the dolium. The red grog - from oxidised pottery or tile - has the closest compositional relation to the dolium.

DEPOUSING A QUERN, DOLIUM & TEGULA: SUGGESTIONS FOR INTERPRETATION

The complete, and probably still functional hand-driven quern, is the strongest indication for an intentional deposition. Querns and mills were very important within the daily domestic life for preparing food, and as such had very strong symbolic values. Archaeological, historical and ethnographic examples from all over the world have shown that quern and millstone depositions are a diachronic and cross-cultural phenomenon. In Europe, for instance, grinders stone depositions are known from the pre-Bronze and Roman period. Deposits often occur in domestic contexts like wells and houses. An essential recurrent aspect within the quern/millstone symbolism is the transformation of grain to flour. The grain is broken and ground to a product that is digestible for human consumption. This can be seen as ‘killing’ the grain, and resurrecting it in a different form connected to giving and sustaining life. In line with that perspective, a quern/millstone is often connected to fertility and the importance of a fruitful harvest and hence a successful subsistence.

In contrast, little is known about the symbolic value of a dolium. As a storage vessel for food, a link can be seen with the querns revolving around food preparation and sustaining life. Both artefacts were used in the domestic life, most likely on the nearby farmland, as indicated by the dairy residue in the dolium and wear of the quern.

The burial of a still-functional quern and striking out the base of the tegula are two actions that speak of intentionally ending their functional life. A quern was too valuable to be used as a simple lid for a storage vessel, and the content would have spilled from the dolium. We can assume that the tegula was also intentionally broken before depositing the fragment. These elements support an interpretation of the assemblage as a ritual deposition. The exact nature and goal of the deposition remains uncertain, although a link can be seen with food preparation and storage.

REFERENCES


ACKNOWLEDGMENTS

Analyses were carried out at Ghent University; the residue analysis by GC-MS at the Separation Science Group (Department of Organic and Macromolecular Chemistry), the petrographic analysis at the Historical Archaeology Research Group (Department of Archaeology), and the XRF analyses at the Archaeometry group (KWF, Department of Archaeology) and in collaboration with the SMK group GfPo, Department of Chemistry.)