

GROG OR CLAY LUMPS, ADDED TEMPER OR NATURAL INCLUSIONS?

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The technique to add grog as a temper to the body of pottery vessels is in use from the 6th millennium in N-Syria up to nowadays. In thin sections, however, in many instances it is hard to distinguish the various kinds of argillaceous inclusions from each other. Neolithic pottery which we studied from sites in Syria, Greece, Germany and Poland may contain all kinds of argillaceous inclusions as grog, rock fragments from mudstone or shale, or rounded or angular clay pellets as natural inclusions. The secure identification, however, is important for the interpretation of the manufacturing technique and is used by archaeologists to distinguish classes of pottery in spite of the fact that the macroscopic determination of added grog is nearly impossible. Samples derived from potters still using this technique and from some systematic experiments will be shown to demonstrate the difficulties. Besides typical features in thin-sections, described e.g. by Ian Whitbread in *Archaeometry* 28, 1986, we also used the firing behaviour both of the body and of the inclusions appearing in refiring series (MGR-analysis). This allows us to distinguish previously fired inclusions (grog) and clay lumps which were fired together with the body. Inclusions of the same clay or inclusions of a different clay can be recognized. Photomicrographs of sherds and of the experimental samples as well as refired samples will be shown to demonstrate some typical features helping in distinguishing the various kinds of inclusions of argillaceous material.