
Simulation of prehistoric drilling and bead manufacturing

Maria Gurova*¹ and Clive Bonsall†²

¹Bulgarian Academy of Sciences – Bulgaria

²University of Edinburgh – United Kingdom

Abstract

Abstract: The poster focuses on a series of experiments in drilling different materials undertaken to test several practical issues. Two main categories of artefact are recognized as having been involved in prehistoric drilling activities. The first beads and other decorative and prestigious items made of bone, shell, pottery and various minerals. The second consists of toolkits of micro-perforators/borers found among the flint assemblages of several sites in Bulgaria and displaying ambiguous traces of use. A series of micro-borers were produced and used for manual and mechanical drilling (with a pump drill). The repertoire of worked materials comprised samples (mainly prepared thin plates) of minerals and rocks, ranging in hardness (on Mohs scale) from 3 (marble, limestone, calcite) to 6.5 (amazonite, nephrite). Biominerals – aragonite (shells) and apatite (bones) – were also used. The simulation of drilling and bead manufacturing resulted in 16 delicate beads of 5 different materials using fine sand and water abrasion. Though not conclusive, the experimental work was instructive in many of the parameters and procedures of prehistoric drilling as well as in the forms of microwear that developed on both drills and drilled materials.

Keywords: Prehistoric drilling, micro, perforators/borers, pump drill, experiments, beads, (bio)minerals, use, wear

*Corresponding author: maria.gurova@naim.bg

†Speaker