Beyond use-wear traces: Tools and people

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Technological and functional features of the tools made from boar’s tusks from peat-bog settlements of the Northwest of Russia and the Northern Belarus (IV-II mil. BC)

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In my report the speech about the settlements of the Middle Neolithic — the Early Bronze age will go (IV − II mil. BC): Usviaty IV and Dubokrai V (Northwest of Russia; basin of Dnepr-Dvina rivers), Asaviec 2, 7 (Krivina peat-bog; Northern Belarus). Due to the bedding of the cultural remains of these settlements in wet peat-bog ground, a natural conservation of objects of organic materials, including bone, antler and wooden items took place. Among the numerous bone and antler artifacts which have been found on settlements, the special role is occupied by items (utilitarian and not utilitarian character) for which tusks of a wild boar have served as raw materials. The report will be devoted to observations and results of the technological and functional analysis of this category of toolkit.

Keywords: Middle Neolithic − Early Bronze age, peat-bog settlements, boar’s tusk, technology, function.

A tradition of Middle Palaeolithic fire making inferred from microwear analysis

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We present here the first direct evidence for regular fire making by Neandertals. Isolated zones of macroscopic and microscopic traces suggesting repeated percussion and/or forceful abrasion with a hard mineral material were identified on dozens of large late Middle Palaeolithic bifacial tools using microwear analytical techniques. These bifaces were curated tools used for relatively long periods of time, and therefore possess a higher probability of preserving traces from multiple uses, including more infrequent activities. Both the distribution and nature of the observed mineral polish and associated striations are in many respects comparable to those obtained experimentally by obliquely percussing fragments of pyrite (FeS₂) against the flatter ‘faces’ of a biface to make fire. The striations are always oriented roughly parallel to the long axis of the tool and are in some cases crosscut by subsequent flake removals, together arguing against a taphonomic origin for these traces. Such a percussive method is effective at regularly producing sparks that are easily directed towards tinder material while leaving the edges of the tool sharp for other tasks. These directional percussive and frictive use wear traces are present on bifacial tools recovered from archaeological layers primarily attributed to the Mousterian of Acheulean Tradition (MTA) techno-culture (ca. 50,000 years BP) at multiple sites throughout France. We discuss findings from five of these sites: Chez-Pinoud/ Jonzac (Charente-Maritime) and Pech de l’Azé I, Foneigner, Bout des Vangelies and Meyrals in the Dordogne. The use of bifaces as strike-a-light tools is a technocultural feature shared among the MTA peoples that represents the ‘smoking gun’ attesting to Neandertal fire making capabilities.

Keywords: Neandertals, Middle Palaeolithic, Mousterian of Acheulean Tradition (MTA) bifaces, fire making, strike-a-lights.

Determination of use-wear evidence on quartzite tools: experimental and archaeological studies in North China

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Use-wear analysis has become an essential method for functional study of archaeological lithic artifacts. Quartzite is one of the main raw materials for lithic tools during Paleolithic period in many sites in the world. However, use-wear studies on quartzite tools are poorly developed due to its poor quality and rough surface. In this study, the objective is to provide some reference data of determination of use-wear evidence, including both of the experimental and archaeological studies.