
A Micro-wear Analysis of Natufian Gazelle Phalanx Beads from el-Wad Terrace, Mount Carmel, Israel

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Abstract

The Natufian Culture of the Levant (ca. 15,000- 11,7000 years BP) is renowned for its rich bone industry. In this study, phalanx bone beads from the current excavations at the Natufian site of el-Wad Terrace (EWT) were studied through the application of a use-wear analysis methodology, integrated in an experimental program, to reconstruct their production sequence, mode of suspension, and use. The experimental program included controlled experiments of abrasion, polishing, and drilling, replication experiments, and suspension experiments producing an extensive database of wear. Based on the experimental program, the traces found on the archaeological beads were emulated. The basic method through which the sequence of production and use was inferred is on how the traces overlapped and crosscut each other. The results led to the reconstruction of a four-step procedure, in which the Natufian gazelle phalanges were transformed into beads, including scraping, cutting, drilling, and abrading. The beads were scraped and cut with flint tools and drilled using the pump drilling technique, followed by abrasion against limestone with water. Suspension and use-wear indicate that the beads were suspended using organic fibers that wore down the beads' holes, while the use created polish through the contact against skin or leather clothing. Use-wear analysis provides in-depth results on the production process of the EWT beads that allow the distinction of bead production from other Natufian sites to be observed, while the usage mode is similar. It is suggested that the Natufians utilized gazelle phalanx beads in daily clothing and, also, included them in burials to signal their age or social position within and between groups, as they transitioned into an agricultural lifestyle in the Levant.

Keywords: Natufian of the Levant, phalanx bone beads, manufacture, utilization

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