An Analysis of Groundstone and Bone Tools from Briar Site (35CO35)

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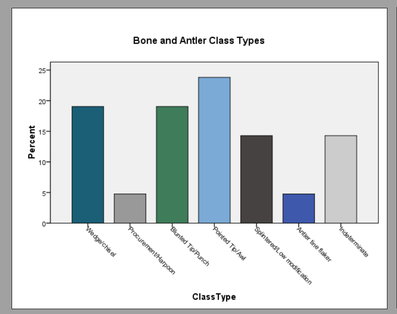
Introduction

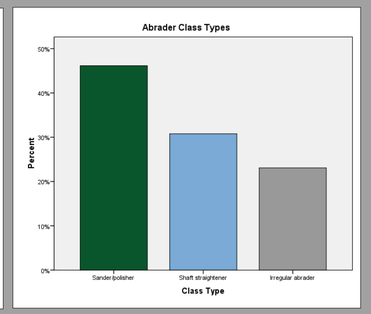
- The Briar site (35CO35), a midden in Columbia County, Oregon, was the focus of a joint Portland State University/Portland Community College field school in 1986.
- Briar is in close proximity to, and contemporary with, the better known Meier site (AD 1420-1660).
- Despite the richness of cultural deposits, the artifacts were never analyzed. This presentation is a component of a joint effort by Portland State University and Willamette CRA to complete the analysis of this site.
- This poster displays the results of the morphological and functional classification and analyses of bone/antler tools and groundstone abraders from the Briar site.
- Discussion focuses on levels of expediency and morphology in tool classes.
- Usewear patterns on artifacts were compared to those derived from experimental replication as an aid in interpreting manufacture, maintenance, and functionality.

Artifact photographs (from top left to bottom right): Calcined blade with heavy striations, sandstone shaft-making abrader with V and U-shaped grooves, beveled hafted tip, harpoon and bone points of varying sizes and types.

Goals

- Classify both assemblages by quantitative and qualitative attributes.
- Morphological and functional analysis used to construct typologies.
- Usewear analysis to determine if maintenance, manufacture, and patterns of wear are consistent with their assumed uses.
- Comparison with assemblages to nearby sites, Meier and Cathlapotle.

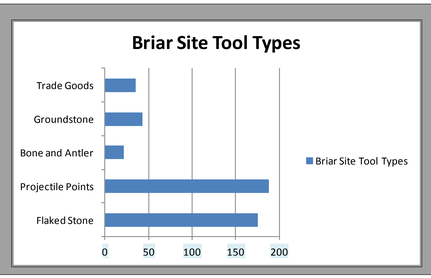




Photograph of Briar site, from 1986 field school.

Methods and Materials

- All artifacts analyzed quantitatively (height, width, thickness, weight) and qualitatively (e.g., raw material type, morphology, usewear, expediency level).
- Classes and dimensions set forth by Davis (1998), Fuld (2012) and Ames (1976), when applicable.
- Levels of curation/expediency measured using Davis' energy ranking scale (1998).
- Usewear examined with naked eye and magnification.
- Usewear of archaeological samples compared with experimental samples derived from actualistic research
- Explore data using T-test and chi-square statistical tests.



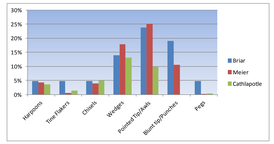
Results

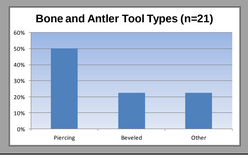
Results - Curation

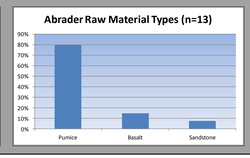
- While sedentism is assumed to promote expediency in tool morphology, Briar, Meier and Cathlapotle are dominated by highly curated bone tools (Davis 1998, Fuld 2012).
- Over 85% (n=18) of the bone and antler tools are curated at Briar.
- 71% (n=15) of the osseous artifacts lack a marrow cavity. This is a strong indicator that an item has been highly modified.
- Abraders were usually not modified before use. While 23% (n=3) of this assemblage were pre-shaped, the function of these pre-shaped abraders is unclear.

Results - Comparison to Meier and Cathlapotle Assemblages

- Classes discovered at Meier and Cathlapotle that were not represented in the Briar collection include: bipoints, handles, pendants, pins, tubes and crescents. No needles were discovered at any of these sites.
- Deer and elk are the most commonly represented bone type at Briar, Meier and Cathlapotle.
- 411 osseous tools were recovered from Cathlapotle, and 1219 from Meier. These totals include a large number of fragments, which were excluded from the following comparison.







Results - Usewear/Experimental

- In addition to determining curation and expediency levels, usewear studies provide a significant amount of information regarding how a tool was manufactured and used.

Abraders

- Grooves match those made from bone and wood abrasion.
- Sanding and polishing create clearly distinguishable striations, smooth facets and abrupt edges in 15-20 minutes of use.

Bone Tools

- Created points from cattle femur, using flint blades, pumiceous abraders and percussion stone.
- Replications created from groove and splinter technique and from flaking off "blanks" from a core with a hammerstone.
- Whittled and shaved points create distinct patterns and gouges at the tips, different from the striations left from abrasion.
- Usewear analysis by way of comparison to experimental replication has proven very useful in better understanding elements of tool function and manufacture, the problem with replication is that different techniques can produce the same morphological patterning, as can certain natural processes (Lyman 1991).

Table 1: Usewear results for Briar assemblages

Bone and Antler Tools	Abraders
81% (n=17) show clear evidence of manufacture	62% (n=8) were used for a single function only
62% (n=13) have patterning consistent with tool utilization (evidenced by wear overlapping manufacturing striations)	31% (n=4) have a groove from point/shaft creation
29% (n=6) have direct evidence of manufacture by the groove and splinter technique	54% (n=7) have wear only on artifact's facets, 15.4% (n=2) have groove and facet wear.
67% (n=14) have evidence of abrasion on the tip	77% (n=10) are unshaped
62% (n=14) have been whittled or shaved to shape	62% have wear on the facets and along the edge

Photographs (from left to right): Pumice abrader with ochre stain, replicate abrader created from sanding wood, shaped abraders-functions unclear

Discussion

- AMS dating for Briar has confirmed it is contemporaneous with Meier and Cathlapotle yet the function of this site remains unclear. Its likely that a number of procurement, processing and refuse disposal localities were established in proximity to population centers. The lack of storage and residential dwelling suggests food that was collected and processed here was taken to another location.
- A variety of activities are indicated by the bone, antler and abrader assemblages from this site. These consist of hunting/fishing (harpoon), tool maintenance (abraders), wood working/splitting (wedges/chisels), weaving/sewing (points) and tool production (wedge, points).

References

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