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SOCIOLOGY AND ANTHROPOLOGY
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Mr. Donald E. Crabtree
Route 1 Kimberly
Kimberly, Idaho
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Dear Mr. Crabtree:

Sometime ago I wrote to you about the question--Did Hopewellians use pressure to manufacture their preforms? You then discussed the problem with Carl Phagin with whom I talked early in the fall. Carl looked at some examples and decided the technique was pressure. My dissertation advisor insists percussion was used. I'm clearly in the middle, but lean to the notion that (from what I know of Bordes' work) ^{while} such work could have been done by fine percussion, I think pressure was the standard technique. But, honestly, I simply can't tell by just looking. I think I shall have to rely on logical and inferential evidence, spurious as this is. I'm wondering now about another way to check this and would like to get your response, if you'll be so kind.

Hopewellians did not know how to work obsidian when they imported it, so they applied to it their flint working techniques. This was by-and-large adequate until they attempted the very large obsidian implements., I'm enclosing xerox copies of some of the descriptions I made of the largest items. To eliminate the ~~central~~ ^{medial} ridge, they stooped to such lengths as allowing the negative bulb in the parallel series taken during secondary flaking to remain. ~~And~~ they also simply gouged out bulges. I find it hard to believe that they would have used percussion to do this. Anyway, enough on that. What do you think?

On to another question--the use of heat in the preparation of Flint Ridge material. After much wrestling with this notion, which I was initially opposed to, I'm convinced that some sort of very sophisticated sand-bath kind of treatment must have been done. To me the most telling evidence is that I have tramped the ridge from one end to the other, I've talked to long-time residents of that area, et cetera--that material is dull, and the coloration is pastel to well defined. ~~It~~ Colors may even be vivid, but they are never "glowing"--that is shiny, brilliant, glossy. Texture of what I've seen is not so glassy-like or vitreous.

Another →
assumption I'm
making, because
I cannot find
anyone who
says this.

a slight
exaggeration

CS.1.17.1

Inasmuch as you have seen and worked with the Flint Ridge material, do you think such a process was used?

An interesting discovery came into the Museum last summer. A woman who lives near the Newark Earthworks found what I think is a flint knapper's "wastebasket" in her backyard. There are nearly sixty cores, all exhausted, projectile points (throw-aways), preforms, (virtually all have been converted to scraper use), bladelets (all used, non-stereotypically made, and some are very carefully modified), bifacial and unifacial tools or portions. The material is virtually all Flint Ridge (that which isn't is Upper Mercer black and constitutes about 1 per cent of the total). Some of this material shows clear evidence of incineration, cores varying from white calcination, gray-to-black incineration, or color distortion. However, this only affects about ten per cent of the cores. What is extremely puzzling to me is the occurrence of both dull and glossy material in the same piece of flint or core. If I assume heat treatment, does such material reveal the terminal effect of heat rays?

Again, my apologies for taking up so much of your time. I understand your wife is somewhat improved. I know what relief this is for you. May the winter spare you both from viruses and other sniffing annoyances.

Sincerely,

Barbara Harkness

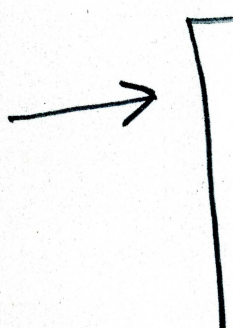
I have some color pictures of this that are fair if you'd like to see them.

Sorry, my notes are so rough

Blade form: ~~Lanceolate~~ ~~Trianguloid~~ Lanceolate
 Material: Obsidian. Has one break
 Faces: Good transverse flaking. Scars are not always in apposition, but sinuousness is minimal. Edges are still sharp, but the tip is very dull.
 Shoulders: None. Lateral edges abruptly juncture with the base. There is no stem. The convex base edge protrudes beyond the lateral edges, giving the base a flare effect. In morphology, this looks like a paleo variant--
 The base has been thinned by a series of short flakes directed ~~to~~ about mid-notch level. This is the thickest part of the piece. Even though ~~it~~ there is no stem and there are no shoulders, the juncture of the lateral sides and flare of the base show typical projectile point notching (that is, notched on one side, small series of notch trim flakes on the reverse). Some of these trim flakes show the negative bulb.
 Size: 11.82 x 3.63 x .75 (max. width medial)
 Cross-section: Plano-convex
 Provenience: This is probably Cat. No. 385. If so, this was from Moorehead's excavations in Mound 25.

Most of these "points" are examples of what Griffin has called the Rose point.

Blade form: Trianguloid, ~~with~~ broad distal region
 Material: ~~This is~~ Obsidian. Very much broken and badly re-stored.
 Faces: This is a large example of the Hopewell ceremonial spear. Full blade, with corner notching and corner removal. Stem is expanding, with triangular (pronounced convexity) base edge. This shows the usual good side and bad side, only in this instance, I think the bad side is so different from the good that two different workmen shared the pieces. The bad side is also the very poorly restored one. This side shows highly irregular conchoidal primary chipping. A series of expanding flakes is continuous on the right--and no doubt the first series drawn--but the left shows much less consistency and greater use of marginal retouch of primary chipping. Tip trimming was accomplished by obliquely flakes that still show the negative bulb. To remove the medial region the knapper cross flaked, leaving the entire scar exhibiting both the negative bulb and the distal hinge-out fracture. The entire medial line displays heavy ripple sinuousness and hinge-out. The other side shows far greater control. The right series shows a slight lapse into oblique flaking which is corrected by a short flake (too short), then reverse oblique flaking. By the time the knapper reached the end of the implement he was back to parallel series. The right series in this instance was the later one taken. The left series shows greater regularity the use of conchoidal flaking to compensate for expanding scars. Medial region presented many problems again. Some hinge out with a deep scar of a short flake in the proximal portion. Sinuousness reflects the greater regularity in the apposition of ~~the~~ each series, which is more alternate



sec. flaking

C.S. 1.17.3

than transverse. ~~///~~ Complete marginal retouch, but somewhat discontinuous in the proximal region. All edges are dull. ^{may} Heavy used ~~and/perhaps~~ after reshaping on one lateral edge.

Cross-section: Biconvex.
Provenience: Crematory Basin 2, Mound 25. Obtained on exchange from Field Museum. Moorehead's excavations. OSM Cat. No. 322.

Shoulders: Dropped what appears to be
Stem: Corner notched (and/corner removed) Stem expanding with triangular base edge.

Preform: Liverpool subtriangular--very large.

Size: 36.78 x 13.69 x 1.96
(max. thickness just above notching)

Blade form: ~~Lanceolate~~ Triangular, wide distal area.

Material: Obsidian. Very much ~~restored~~ and broken and very well restored. The stem is gone as is the upper portion of the blade, plus a few medial sections.

Faces: Even though much is missing, there is enough present to recognize that this is a typical Hopewell ceremonial spear, whose general morphology corresponds to the one just described. The problems in ~~working~~ with making large chipped obsidian pieces are quite apparent here. On one face ~~(the/better/one)~~, ~~the/each/series~~ first horizontal series is well done, with some reliance on conchoidal/expanding flake compensations. The other series may well have been done by another man or the worker was completely baffled as he attempted to work toward that already done. ~~The~~ Sinuousness is heavy, there is much hinge-out, and a great deal of cross-flake removal of the medial region, leaving, of course, entire scars. The other side shows much the same thing, except that one series is more consistent with the other. The worker did do less cross-flaking or gouging right across ~~the/middle~~ ss the center, but tried medial removal by blows initiated somewhere along ~~the~~ each lateral series, not always in a horizontal direction, however.



Edges are still sharp

Cross-section: Biconvex
Provenience: I assume it is the same as that above, but there is no reading of this catalogue number.

Shoulders: Dropped
Stem: Broken, probably the same as above.

Preform: Liverpool subtriangular--very large

Size: Max. width shoulders 13.97 Max. thickness above notching 1.57 (1.57)

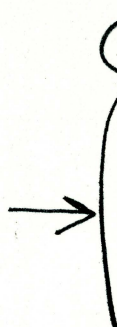
Blade form: Trianguloid, wide distal portion

Material: Obsidian. Much broken, well restored. Also slightly burned.

Faces: The good surface is as good chipping as I have seen on the large pieces, but far from the expertise of the smaller obsidian implements. The left series, drawn first shows conchoidal, expanding, and lamellar scars, but is short of the medial region. He then attempted

cc. 5.1.17.4

to eliminate the medial region by very long flaking that extended over the center. He made no attempt to match the opposite series. The right series shows all manner of scars, most of them exhibiting the negative bulb. When the medial portion was not spanned, the worker employed lamellar flaking and shallow gouging. The reverse side shows ~~the~~ a less successful attempt to do the same thing. This side is much more marked in irregularity, heavy sinuousness, rippling, and hinge-out. This piece is interesting in the way in which the worker has abandoned any attempt to obscure the negative bulb, and transverse flaking was given no thought. The worker's chief concern and problem was the elimination of that medial bulge. Edges are neither sharp or dull--appear to have been minimally used. The tip ~~show~~ seems to have been much more used, but use evidence is obscured by restoration.



Complete marginal retouch.

Cross-section: Biconvex
 Provenience: Crematory Basin 2, Mound 25. Obtained on exchange from Field Museum. Moorehead's excavations. OSM Cat. No. 322. One of 8/~~pieces~~ obtained from Field.
 Shoulders: Dropped
 Stem: Corner notched. Stem expanding with triangular base edge.
 Preform: Liverpool subtriangular--very large
 Size: 40.81 x 13.88 x 1.59
 (max. width shoulders) (max. thickness above notching)
 To date, this is the largest one I have measured. I need to check the measurements I did at Field.

Blade form: Trianguloid, wide distal portion
 Material: Obsidian. Broken and restored.
 Faces: Better example of workmanship on a large piece. On ~~the/better~~ ^{one} surface the transverse flaking was successful except for the medial ridge. Negative bulbs are ubiquitous. The left series, ~~apparently~~ the second taken, shows much more ~~the~~ sinuousness, but hinge-out is slight. A vertical series of five gouge-out flakes was taken ~~in/the/it~~ along the proximal medial ridge, the last being the largest. The reverse side exhibits the typical problems, but transverse flaking better accomplished the elimination of the medial ridge. However, it accomplished this at the cost of more hinge-out fractures. On this side the tip is less regular than the reverse side, but it may be resharpened. Complete marginal retouch. Edges are sharp~~est~~ along one distal lateral edge where I suspect resharpening. This piece is thinner than most large pieces. ~~One~~ the whole, this is one of the better large forms.

Cross-section: Almost biplano
 Provenience: Assume it to be the same as above. Cannot find any catalogue number
 Shoulders: Dropped and barbed.
 Stem: Corner notched. Slightly expanding. Base edge is convex, but not pronounced.

CS.51.17.5