Overshot Flaking at the Arc Site, Genesee County, New York: Examining the Clovis-Gainey Connection

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Abstract: There are a number of purported distinctions between Clovis and Gainey technology. Prominent among these is the lack of overshot flaking in the production of Gainey bifaces. A recent survey of debitage from the Arc site in western New York state suggests that overshot flaking was indeed practiced by Paleoindians in the Lower Great Lakes, suggesting that Clovis and Gainey technology may be more similar than generally thought. It is concluded that a technological, and perhaps terminological, reexamination of the "Gainey concept" is in order.

Keywords: Arc Site NY, Paleoindians, Late pleistocene lithic technology, Overshot flaking, North American Great Lakes region.

INTRODUCTION

The term "Clovis" has been used to represent many concepts: a group of people, a culture, an adaptation, a technology, and a fluted projectile-point type [1]. Regarding the fluted point type, Clovis is now rarely seen as pan-continental phenomenon, geographically or temporally. Instead, numerous stylistic variations, seemingly based on or evolved from the Clovis fluted point, are recognized across North America [2]. The meaning and timing of these different "style zones" are currently under debate, having been attributed to factors such as cultural drift or adaptation to the environment [3, 4].

If the Clovis fluted point type is limited only to certain parts of North America, is Clovis lithic technology also geographically and temporally constrained? This question is difficult to answer given the nebulous relationship between a stone tool's final form and the technology used to achieve that form. "Technology" is understood here as culturally-infused ideals and strategies pertaining to the creation of objects. In some cases, the form of a stone tool may be attained with multiple technologies. For example, long and narrow prismatic blades can be produced from a bifacial pre-core and prepared platforms, or from an unprepared core and plain platforms. In other cases, the same technological concept can be used to produce significantly different forms. This latter instance is exemplified by isolated and projected platforms which can be used either for prismatic blade reduction or the removal of bifacial thinning flakes.

In the Lower Great Lakes (Fig. **1**) colonizing Paleoindian sites are often referred to as to "Gainey" sites [5-8]. In addition to post-dating Clovis, Gainey Paleoindians also supposedly manufactured their own distinctive fluted projectile-points. In regards to the technology for the creation of projectiles, Morrow and Morrow [9] suggest that a number of distinctions between Gainey and Clovis exist [10], Table 2.2b, [11], Table **4**). However, Morrow and Morrow [9] rightly caution that their observations may be "skewed" since they were based upon finished and exhausted projectile points. Of the numerous purported technological distinctions between Clovis and Gainey bifaces (Table **1**) that might be concealed by the analysis of finished and exhausted tools is the practice of "transverse flaking," otherwise known as overshot flaking. This is because overshot flaking is often applied during the early stages of bifacial reduction to remove square edges or stacks, or to quickly thin a biface. Subsequent resharpening and reduction can also hide overshot flake scars. Overshot flakes themselves may be left at quarry/workshop sites, of which there are few in the Lower Great Lakes, or be turned into tools, concealing any diagnostic trace. Overshot flaking is defined here following Bradley *et al*. [1] "as the flintknapping strategy where flakes travel from one margin across a face of a biface (or any other form) and remove part of the opposite margin. The other margin may be bifacially or unifacially flaked or may be natural. However, to be considered an overshot the removed portion must be a margin (lateral edges), not simply the other end (distal/proximal end) of a core or piece of raw material".

There have been occasional hints that overshot flaking was practiced by colonizing Paleoindians in the Great Lakes and Northeastern North America [12]. Prufer and Baby [13] describe some "convex-parallel-sided" Paleoindian projectile-points in Ohio as possessing the trait. Tankersley [14] mentions that there is evidence of overshot flaking at the Emanon Pond site. And of course it is possible for a flintknapping mistake to result in the odd overshot flake [15], like possibly at Paleo Crossing [16]. However, the exhausted and ephemeral nature of Paleoindian tools, the

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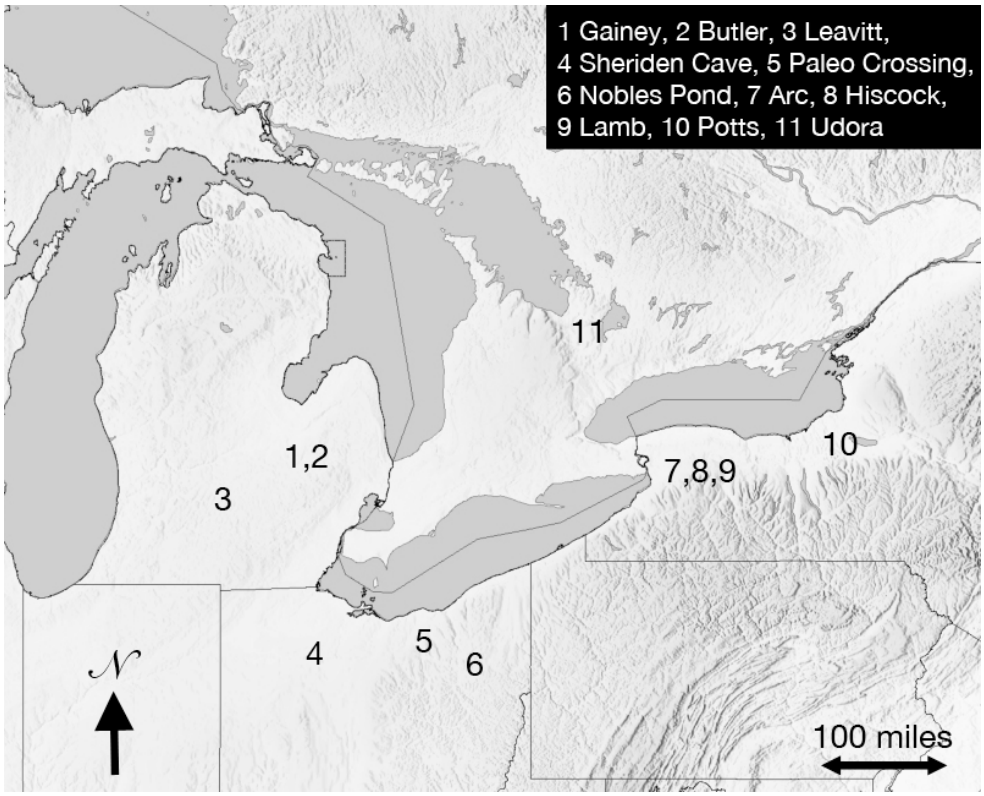

Fig. (1). The location of "Gainey" sites in the North American Lower Great Lakes region.

Table 1. Purported Distinctions Between Clovis and Gainey Technology and Fluted Point Forms (Reproduced from [10], Table 2.2b and [11], Table 4)

Clovis	Gainey
Thicker average cross-section (>7.0 mm)	Relatively thin cross-section (5-7 mm)
Excurvate edges	Slightly excurvate or parallel edges
Less deep basal indentation	Pronounced basal indentation
No "guide flutes"	"Guide flutes" to create an arris for final fluting
Prepared fluting platforms isolated in center plane of biface	Platforms low to center plane
Fluting done in middle stages of manufacture with direct percussion	Fluting done in late stages with indirect percussion
Flakes taken from edge terminate at other edge	Flake scars usually meet in the center
Wider faces	Less wide faces
Ground along lower lateral and basal edges	Ground along lower lateral and basal edges; distal also may be blunt or ground
Thicker interflute measurement (≈7.0 mm)	Thinner interflute measurement (≈5.0 mm)
Additional thinning after fluting	Only pressure flaking to finish point after fluting

Table 2. Basic Descriptive Traits and Measurements of the Twenty-Five Overshot Specimens, and the Three Plunging Specimens

Overshot specimen	Figure	Type	Mass (g)	Raw Material	Axial Length (mm)	Medial Width (mm)	Medial Thickness (mm)	Platform Width (mm)	Platform Depth (mm)
1	2	Biface	18.8	Onondaga	55.44	34.81	8.42	--	--
2	3	Biface	16.1	Onondaga	42.27	36.86	6.92	--	--
3	4	Biface	37.0	Onondaga	54.75	44.91	12.49	--	--
4	5	Biface	29.8	Onondaga	33.17	46.74	15.07	--	--
5	6	Biface	14.9	Onondaga	28.38	29.44	12.79	--	--
6	7	Biface	15.1	Onondaga	46.14	23.55	9.16	--	--
7	8	Flake	22.5	Onondaga	53.52	28.01	9.40	4.90	2.13
8	9	Flake	21.0	Onondaga	53.09	39.10	8.99	5.12	3.16
9	10	Flake	33.2	Onondaga	50.39	30.75	12.47	6.99	3.05
10	11	Flake	24.3	Onondaga	54.55	33.99	14.45	--	--
11	12	Flake	36.8	Onondaga	44.98	52.52	17.23	--	--
12	13	Flake	27.9	Onondaga	63.58	26.36	9.76	4.19	2.47
13	14	Flake	11.1	Unidentified	51.41	30.86	5.80	--	--
14	15	Flake	12.6	Onondaga	39.07	26.99	10.22	13.23	3.46
15	16	Flake scar	21.9	Onondaga	51.01	28.34	12.01	--	--
16	17	Flake	8.6	Onondaga	33.52	32.33	5.88	9.81	2.70
17	18	Flake	12.9	Jasper	23.62	46.69	10.26	--	--
18	19	Flake	6.6	Onondaga	37.26	28.41	5.39	--	--
19	20	Flake	7.8	Onondaga	32.71	25.14	5.17	--	--
20	21	Flake	5.9	Onondaga	28.13	24.84	6.15	--	--
21	22	Flake	4.8	Onondaga	37.48	17.21	6.28	5.58	1.70
22	23	Flake	11.9	Onondaga	40.31	21.83	11.45	--	--
23	24	Flake	5.2	Onondaga	27.63	24.07	7.11	--	--
24	25	Flake	6.9	Onondaga	26.73	29.78	7.11	--	--
25	26	Flake	6.2	Onondaga	28.62	30.29	4.03	--	--
Plunging 1	27	Biface	41.9	Onondaga	50.88	44.96	14.90	--	--
Plunging 2	28	Biface	35.6	Onondaga	45.48	38.91	11.86	--	--
Plunging 3	29	Core	46.8	Onondaga	53.02	47.86	15.96	--	--

lack of evidence involving early stage bifaces, and limited account in the literature leave in doubt the nature of overshot flaking in the Late Pleistocene Great Lakes. Was it used often and "intentionally" like Clovis technology, or does the occasional overshot flake simply represent a mistake or unintended result?

A recent survey of lithic debitage at the Arc site suggests that, indeed, overshot flaking was practiced by colonizing Paleoindians in the Great Lakes. The Arc site is located in Genesee County, New York, approximately five kilometers north of the Onondaga Escarpment [17-20]. It is perhaps not surprising then that a majority of the lithic artifacts are made from local Onondaga chert. Tankersley *et al*. [19] interpret the site as a "workshop," which is appropriate given the large quantity of flaked stone at all stages of manufacture. Arc is unique in this sense among Great Lakes Paleoindian sites, which generally exhibit resharpened and exhausted tools from kill or food processing sites (e.g. Hiscock, Lamb) or habitation sites far from raw material sources (e.g. Paleo Crossing, Nobles Pond).

Radiocarbon dates "bracket" the Paleoindian occupation at the Arc site. Tankersley [20, 21] and Tankersley *et al*. [19] report that "a wood sample from the base of alluvium" of nearby Whitney Creek demonstrates that the waters from glacial Lake Tonawanda had drained from the Arc site by 11,700 ± 110 B.P. Two radiocarbon dates (10,360 ± 400 B.P. and 10,375 ± 110 B.P.) were also obtained on wood and peat samples from "a possible forest floor" at the base of the strata overlying the Paleoindian occupation. Thus, the Paleoindian occupation falls between the oldest radiocarbon date and the weighted averaged of the two younger radiocarbon dates (10,370 ± 108 B.P.).

EVIDENCE OF OVERSHOT FLAKING

The following descriptions and accompanying figures present an illustrative, ad hoc sample (n=25) of overshot flaking at the Arc site. (M.I.E. was conducting his PhD research on another part of the Arc assemblage, and discovered the overshots while briefly perusing the debitage). This report is by no means intended to be a quantitative assessment or analysis, but basic measurements are included for each specimen (Table **2**). Unfortunately, none of the authors presently have the opportunity to undertake a systematic examination of the entire Arc site debitage collection, which is massive. We hope this report encourages other researchers to conduct further technological studies upon the collection.

Before presenting the specimen descriptions below, we would like to make one important distinction. Overshot flakes or flake scars interpreted as intentional and positive outcomes are called "overshot specimens." However, technologically speaking, overshot flakes or flake scars may also represent unintended and negative outcomes, such as when an early stage basal thinning flake plunges, splitting a biface in half. We call these negative examples "plunging specimens." By presenting three plunging specimens below, we hope to elucidate the distinction between margin removal and end removal that Bradley *et al*. [1] make in their definition of overshot flaking. We acknowledge that it is impossible to "prove" prehistoric intention in regards to an overshot flake, but we remain optimistic that documented patterns in the archaeological record, when assessed with proper understanding of middle-range analogies [22], can reveal behavioral reality.

THE DESCRIPTIONS

Overshot Specimen #1, Biface (MDA 17-4 C-186), Fig. (**2**). This biface is snapped, so only the tip and mid-section are present. On one face (Fig. **2b**) there are three adjacent parallel-oblique overshot scars, reminiscent of biface #149 from the Fenn Cache [23], indicating the highest level of knapping skill and control. The alternate face exhibits large flake scars (Fig. **2d**), but no overshot scars. The snapped cross-section displays some crystallization (Fig. **2d**), leading us to wonder whether the biface broke during heat-treatment.

Overshot Specimen #2, Biface (MDA 17-4 C-616), Fig. (**3**). This thin biface is snapped, only showing the tip and mid-section. One face displays a large overshot scar (Fig. **3b**) that would have considerably thinned the biface from its previous state. Additionally, the alternate edge is square in shape, and the probable target of removal by the overshot, which was partially successful (Fig. **3a**). Unfortunately for the prehistoric knapper, the toolstone contained a natural cleavage bed (Fig. **3d**), which likely lead the biface to snap, resulting in its discard.

Overshot Specimen #3, Biface (MDA 17-4 C-849), Fig. (**4**). This early stage biface is unbroken, and based on the

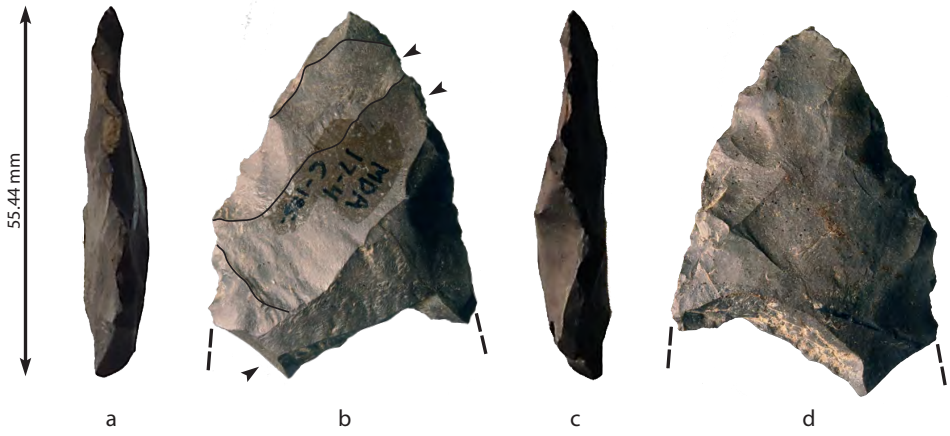

Fig. (2). Overshot Specimen #1, Biface.

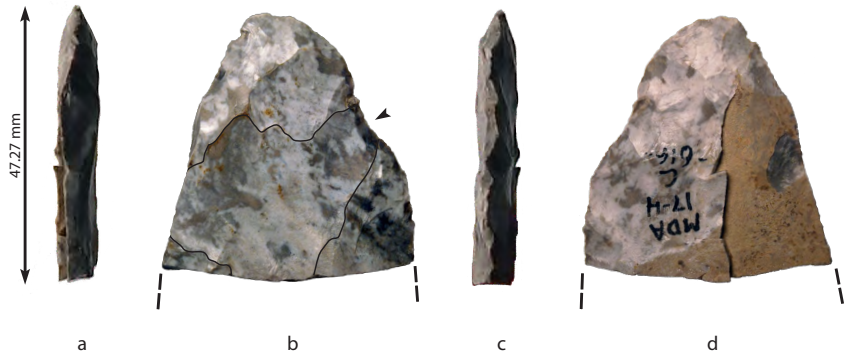

Fig. (3). Overshot Specimen #2, Biface.

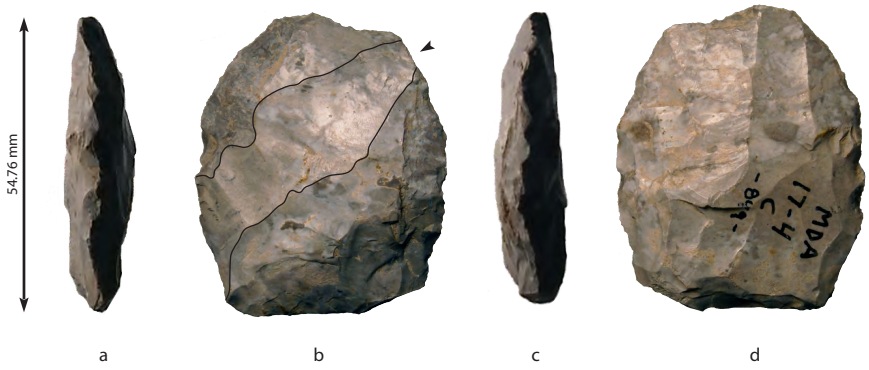

Fig. (4). Overshot Specimen #3, Biface.

presence of a remnant platform, appears to have been fashioned on a large flake. One face shows parallel-oblique flaking, with one of the flake scars clearly indicating an overshot (Fig. **4b**). Other flake scars on this face may be overshots, but are masked by resharpening and/or platform preparation scars. The alternate face displays thinning flake scars parallel to the long axis of the biface (Fig. **4d**). Pot-lidding and sections of crystallization pepper the biface, again indicating a heat-treatment mishap.

Overshot Specimen #4, Biface (B 1994), Fig. (**5**). The base of this early stage snapped biface exhibits an overshot scar on one face (Fig. **5b**), knapped from a naturally occurring projected and isolated plain platform (Fig. **5c**). The alternate face once again shows basal thinning flake scars (Fig. **5d**). The biface apparently broke from a natural inclusion (Fig. **5d**).

Overshot Specimen #5, Biface (C 1999), Fig. (**6**). This bifacial mid-section exhibits an overshot on one face that appears to be an attempt to mitigate a deep concavity (Fig. **6b**). The distal breakage is due to a basal thinning flake that plunged (Fig. **6d**), while the proximal break appeared to be due to an incipient fracture.

Overshot Specimen #6, Biface (MDA 17-4 B-8 346), Fig. (**7**). This is an ambitious attempt at a biface on a difficult tabular and angular nodule. The nodule may have proven too difficult though, and the biface was abandoned early. Nevertheless, an overshot scar (Fig. **7b**) on one face was successful at both thinning the biface as well as partially removing a square edge (Fig. **7a**).

Overshot Specimen #7, Flake (B 1994), Fig. (**8**). This overshot flake removed the square edge of a tabular nodule. Along the flaking axis is a prominent dorsal ridge. The platform is heavily ground, with a small dorsal flake scar on each side of it, representing platform isolation. Examination of the ventral flake surface shows that the flake nearly stepped, but then continued to the square margin of the nodule.

Overshot Specimen #8, Flake (MDA 17-4 B-185), Fig. (**9**). This overshot flake was struck to remove a square edge.

Fig. (5). Overshot Specimen #4, Biface.

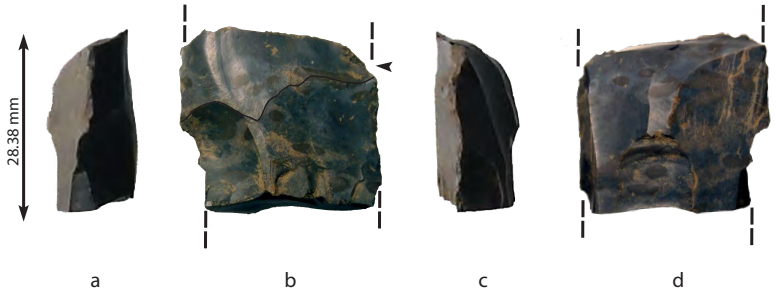

Fig. (6). Overshot Specimen #5, Biface.

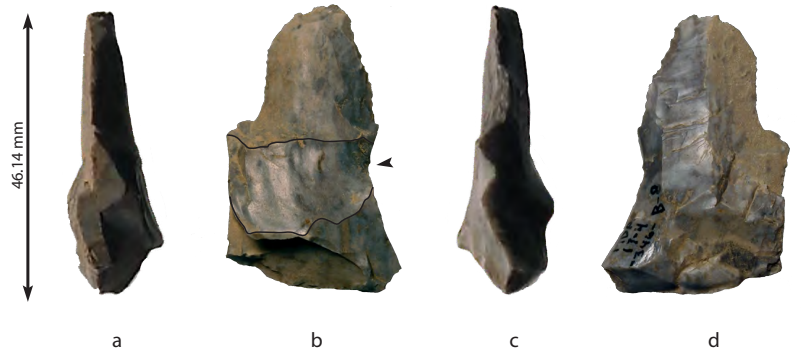

Fig. (7). Overshot Specimen #6, Biface.

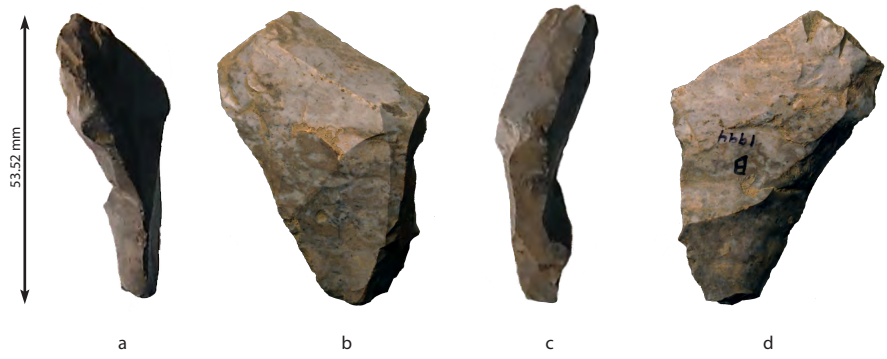

Fig. (8). Overshot Specimen #7, Flake.

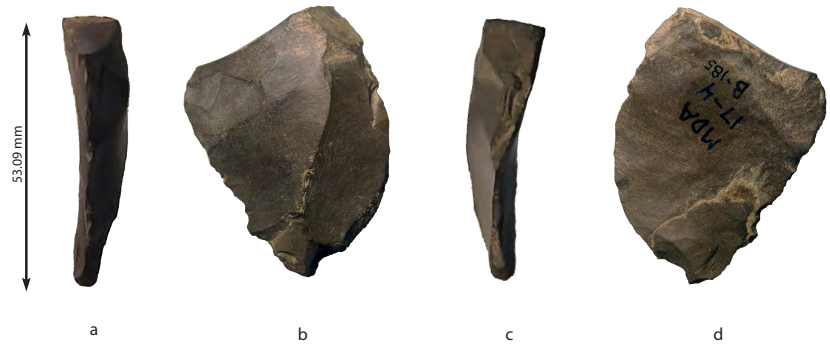

Fig. (9). Overshot Specimen #8, Flake.

Full-faced flake scars are evident on the dorsal surface, which may be previous (but failed) attempts to removed the square edge, though perhaps these dorsal flake scars intended to establish a ridge along the axis of flaking. The platform is ground smooth, and was well isolated *via* two small flake removals.

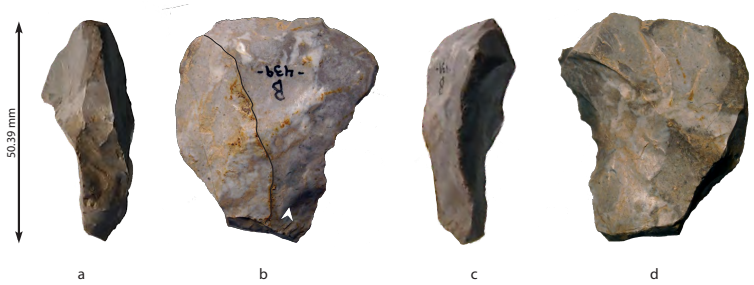

Fig. (10). Overshot Specimen #9, Flake.

Fig. (11). Overshot Specimen #10, Flake.

Overshot Specimen #9, Flake (B-439), Fig. (**10**). This overshot flake removed the flat section of a tabular nodule. There is a dihedral platform and evidence of a previous overshot removal on the flake's dorsal surface.

Overshot Specimen #10, Flake (B-03), Fig. (**11**). This overshot flake removed the edge of a biface. The flake was snapped, and thus the proximal section and platform is missing.

Overshot Specimen #11, Flake (C 1992), Fig. (**12**). This overshot flake removed the edge of a bifacial edge that was quite thick and bulky. The flake was snapped close to the platform, which is missing.

Overshot Specimen #12, Flake (MDA 17-4 B-433), Fig. (**13**). This overshot flake removed the square edge of a chert nodule. A dorsal ridge is evident along the axis of flaking, which was made more prominent *via* partial cresting. The

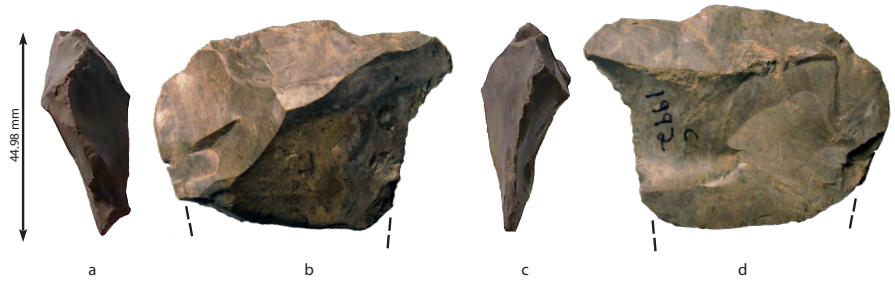

Fig. (12). Overshot Specimen #11, Flake.

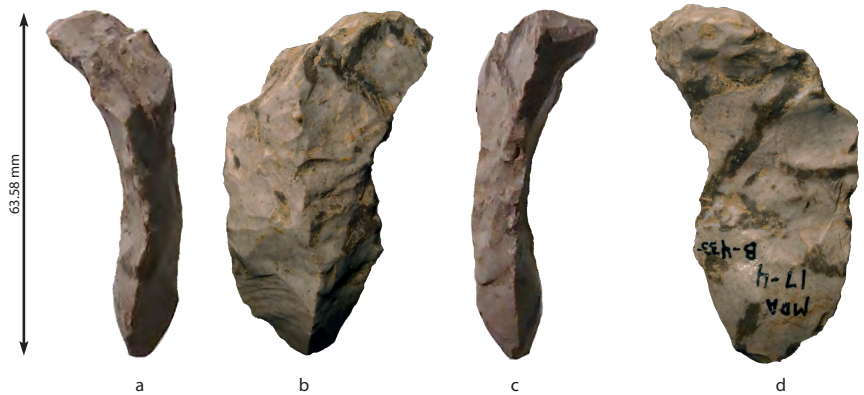

Fig. (13). Overshot Specimen #12, Flake.

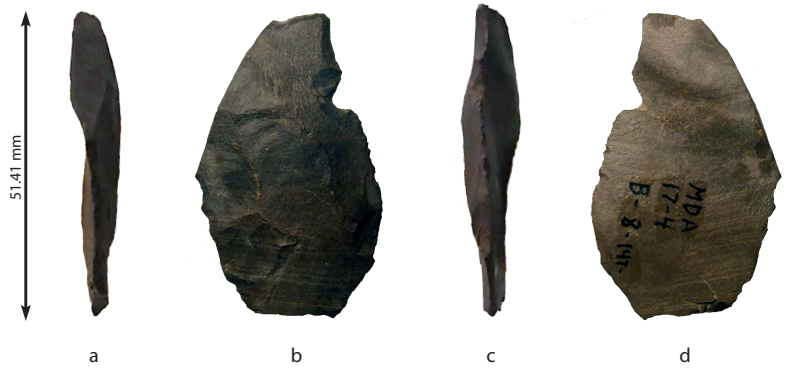

Fig. (14). Overshot Specimen #13, Flake.

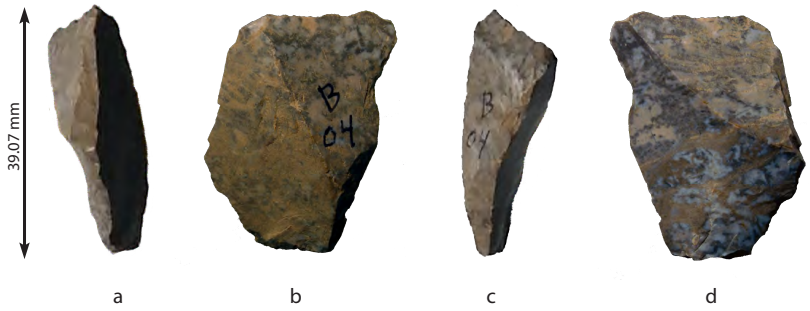

Fig. (15). Overshot Specimen #14, Flake.

platform is ground smooth. There is no evidence of flake removals that isolated the platforms, but given how prominent the dorsal ridge is on the proximal section of the flake, platform isolation was perhaps unnecessary.

Overshot Specimen #13, Flake (MDA 17-4 B-147), Fig. (**14**). This overshot flake removed a squared edge. The platform and proximal section of the flake are missing. A notch was retouched into the right distal edge.

Overshot Specimen #14, Flake (B-04), Fig. (**15**). This overshot flake removed a flat section of a tabular nodule of chert. A prominent ridge is parallel to the axis of flaking. The battered platform is also heavily ground.

Overshot Specimen #15, Flake scar on tabular chert nodule (1994 B), Fig. (**16**). A remnant overshot scar is present on a tabular chert nodule, which we speculate was originally intended to be a biface. However, bifacial reduction was abandoned, perhaps in preference for anvil reduction, as evidenced by small bi-directional flake scars on each end of the nodule.

Overshot Specimen #16, Flake (C 06), Fig. (**17**). This overshot flake removed a square edge. The faceted platform is ground smooth.

Overshot Specimen #17, Flake (MDA 17-4 A-6 1594), Fig. (**18**). The specimen is the distal portion of an overshot flake that removed the thick, battered edge of a biface.

Overshot Specimen #18, Flake (B 1994), Fig. (**19**). This overshot flake removed a square edge. The specimen is mostly complete, though the platform appears to have been snapped off. The dorsal flake scars show that previous flaking direction was mostly in the opposite direction of the overshot striking direction.

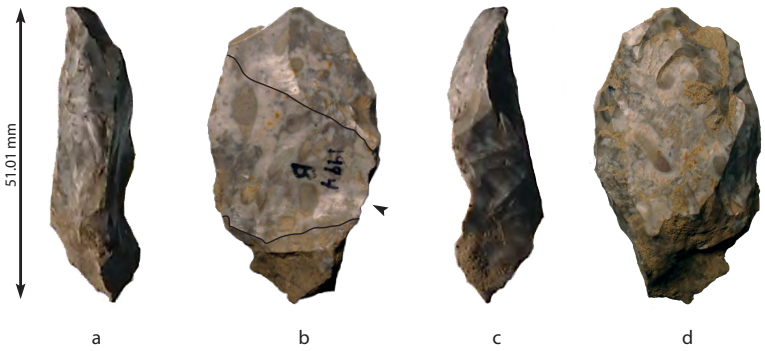

Fig. (16). Overshot Specimen #15, Flake scar on tabular chert nodule.

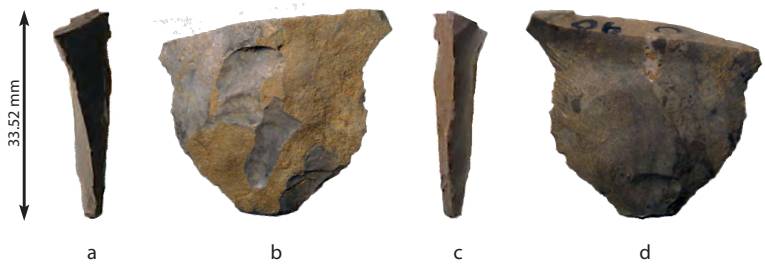

Fig. (17). Overshot Specimen #16, Flake.

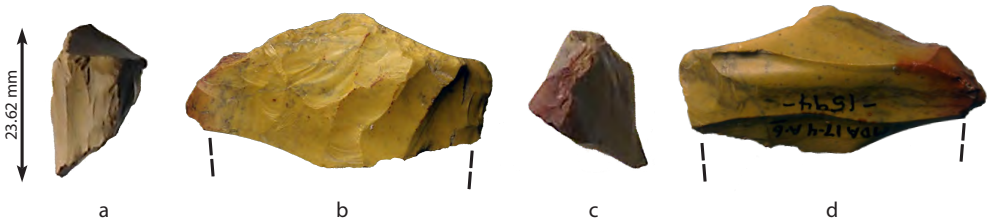

Fig. (18). Overshot Specimen #17, Flake.

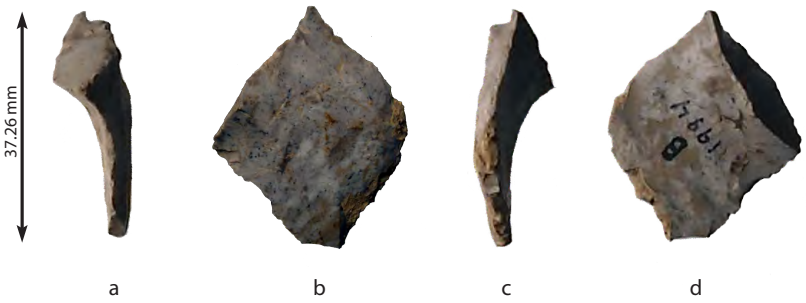

Fig. (19). Overshot Specimen #18, Flake.

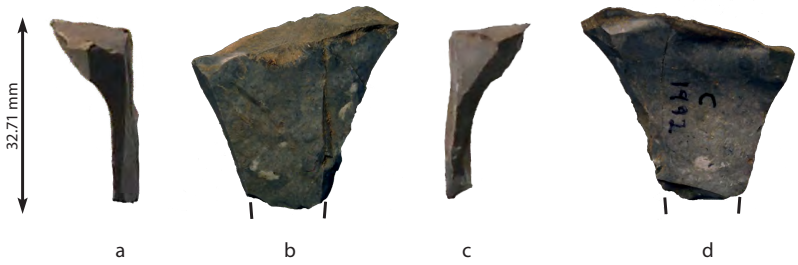

Fig. (20). Overshot Specimen #19, Flake.

Overshot Specimen #19, Flake (C 1992), Fig. (**20**). This overshot flake removed a square edge. Only the distal and mid-sections of the specimen are present.

Overshot Specimen #20, Flake (C 1993), Fig. (**21**). This overshot flake removed a square edge. The specimen is nearly complete, through the platform is missing.

Overshot Specimen #21, Flake (B 1994), Fig. (**22**). This narrow overshot flake removed a square edge. The platform is isolated, but crushed.

Overshot Specimen #22, Flake (C 1992), Fig. (**23**). This overshot flake removed a bifacial edge. The left lateral edge of the overshot also removed a square edge. The proximal portion and platform are missing.

Overshot Specimen #23, Flake (05 B), Fig. (**24**). This overshot flake removed a chunky bifacial edge. The proximal portion and platform are missing.

Overshot Specimen #24, Flake (MDA 17-4 B-107), Fig. (**25**). This specimen is the distal portion of an overshot flake that removed a square edge. The flake shows retouch on the left lateral edge.

Overshot Specimen #25, Flake (B 1994), Fig. (**26**). This overshot flake removed a square edge from a tabular nodule

Fig. (21). Overshot Specimen #20, Flake.

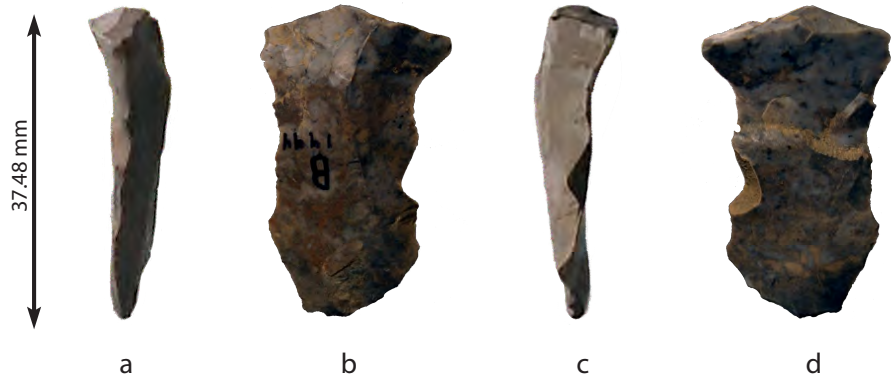

Fig. (22). Overshot Specimen #21, Flake.

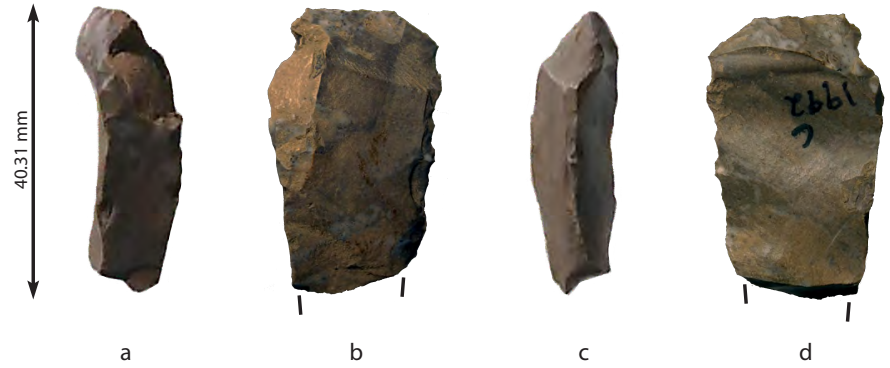

Fig. (23). Overshot Specimen #22, Flake.

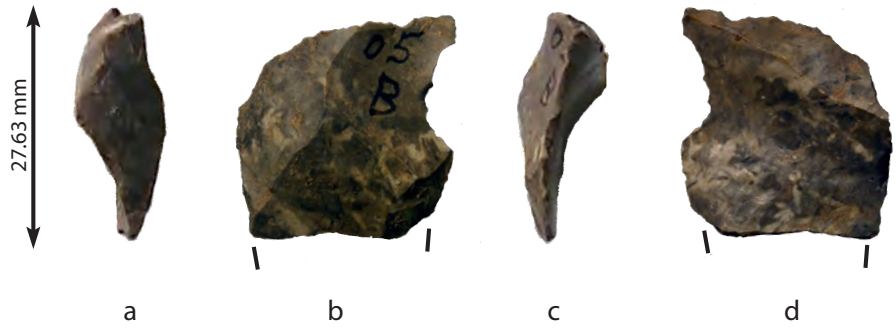

Fig. (24). Overshot Specimen #23, Flake.

of chert. There are no flake scars on the dorsal portion of the overshot, indicating that it was removed early during the reduction sequence. The platform has been snapped off.

Plunging Specimen #1, Biface (C 1992), Fig. (**27**). This biface shows a basal thinning flake struck from each face. However, the second flake plunged, splitting the biface in two, and cutting off the end of the first basal thinning flake scar. Two more flakes were removed after the plunging flake, but the specimen was ultimately discarded.

Plunging Specimen #2, Biface (MDA 17-4 B-4), Fig. (**28**). This biface shows full-faced (long and broad) flaking on one face. The second face shows a plunging scar from a basal thinning flake. However, this scar appears as a plunging scar because the biface has snapped in two. The break

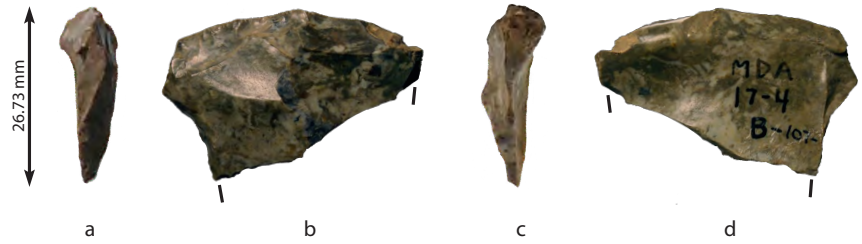

Fig. (25). Overshot Specimen #24, Flake.

Fig. (26). Overshot Specimen #25, Flake.

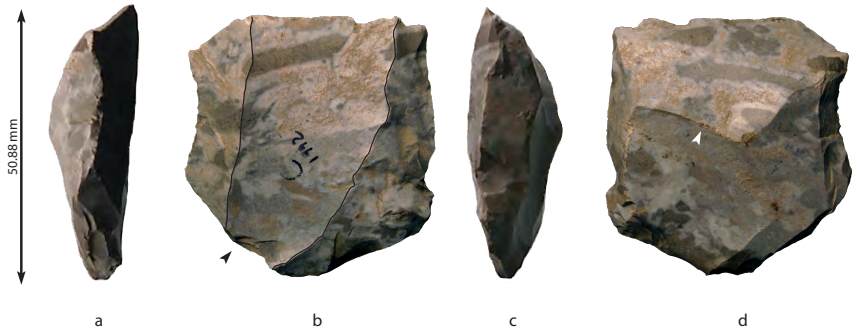

Fig. (27). Plunging Specimen #1, Biface.

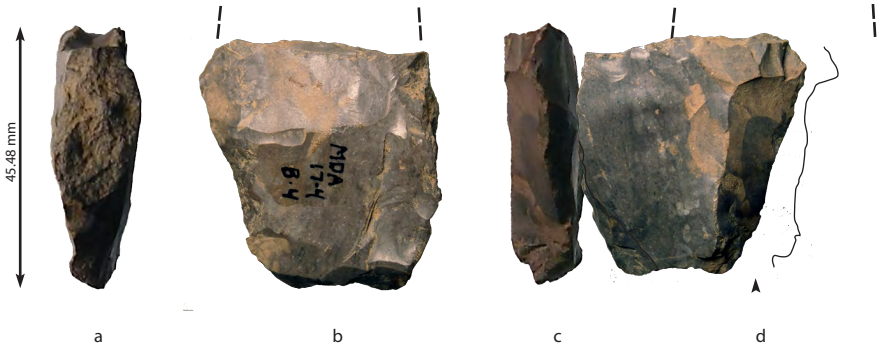

Fig. (28). Plunging Specimen #2, Biface.

may have been caused by "end-shock" from striking the basal thinning flake, or from heat damage (there is some crystallization on the right lateral edge.

Plunging Specimen #3, Core (MDA 17-4 B-4), Fig. (**29**). The specimen only has flake scars on one face, and one of these has plunged. Given the prepared platform area and patterning of other flake scars, it is clear that this specimen is a wedge-shaped blade core (see [24], Fig. 6.8). The plunging flake scar actually represents a plunging blade that removed the bottom of the core, substantially shortening any other blade that would have been removed. Thus, the core was abandoned.

SUMMARY AND DISCUSSION

One striking aspect of overshot flaking at Arc involves the array of situations in which it was used. Both square edges and thick bifacial edges were removed using overshot flaking, and the technique was also used for bifacial thinning. The flakes that still possess their platforms show them to be ground and well-isolated. The Arc site provides a glimpse into a reduction practice that might have been com-

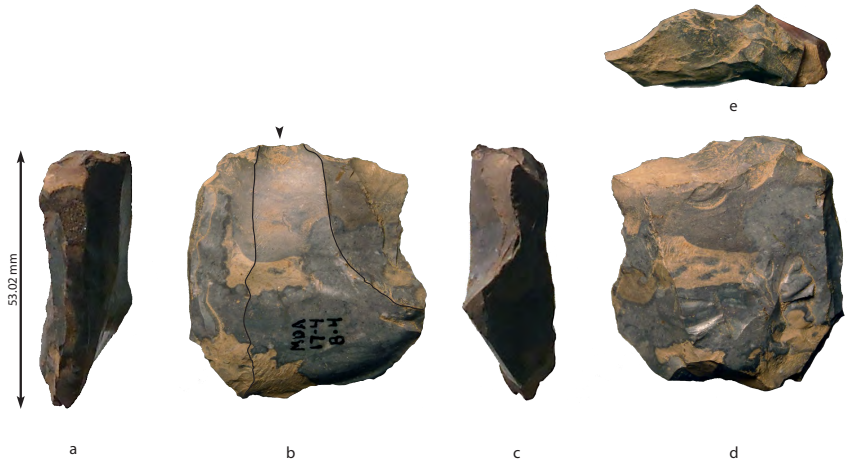

Fig. (29). Plunging Specimen #3, Core.

mon, but is otherwise rarely seen archaeologically. All these observations accentuate the importance of Arc in Paleoindian studies around the Great Lakes, and calls attention to the need for more archaeological survey near raw material sources, as well as for more extensive and systematic analyses of the Arc site assemblage itself.

Yet, it is important to note that square-edge removal *via* overshot flaking is not absent from later Great Lakes Paleoindian traditions either. At the Parkhill site in Ontario (ca. 10,700-10,500 B.P.), Ellis and Deller [25] illustrate that Paleoindians utilized overshot flaking to initially reduce tabular nodules of Fossil Hill chert and to produce tool blanks. While it is difficult to prove that the shape of an original chert nodule "determined" the reduction strategy, we suggest that some flintknapping strategies are simply more appropriate than others for dealing with particular raw material constraints. This idea speaks to the fact that in some cases overshot flaking may simply be a better response to the earliest stages of reduction when dealing with tabular nodules. Why, then, overshot flaking was practiced in middle and later stages of bifacial reduction at Arc remains uncertain [1].

Due to the ephemeral and exhausted Paleoindian archaeological record in the Great Lakes region, it is understandable that researchers would suggest that overshot flaking was not practiced during the manufacture of Gainey bifaces. Yet, it is important to realize, as Morrow and Morrow [9] do, that some evidence may be more appropriate for testing a hypothesis than other evidence. In this case, the early stage bifaces and debitage from the Arc site currently suggests that overshot flaking was, indeed, practiced among Paleoindians in the Great Lakes. This would indicate that certain aspects of Gainey technology are more like Clovis technology than is generally thought. Thus, while finished Paleoindian projectile point forms may have diverged due to cultural drift [3], we wonder if Paleoindian technology possesses more "cultural inertia" and thus aspects of it are more likely to last despite the fact that its end-products are evolving.

None of this negates Morrow and Morrow's [9] correct observation that finished Gainey bifaces rarely, if ever, exhibit overshots. But finished Gainey bifaces are rarely, if ever, found in an unexhausted state. This is not the case for Clovis, which has yielded cache bifaces, and bifaces near quarries, e.g. the Gault Site. Which brings us to the purpose of the overshot: it is a thinning and shaping strategy, not a resharpening strategy. That Gainey bifacial flake scars often meet in the center of the biface (Table **1**) is probably an indication of tool recycling and resharpening, as opposed to tool design. Given that Gainey sites are the earliest in the Lower Great Lakes, closely clustering around 11,000 B.P., and that Gainey toolstone procurement patterns appear to indicate a south-to-north migration into the region, there is good reason to argue that the people crafting Gainey bifaces were colonizers into this recently deglaciated landscape. As foragers attempted to find new toolstone sources in a pristine landscape, they would have had to extend tool use-life through heavy resharpening (medial flaking), in turn masking overshot flaking from earlier production stages.

All this speaks to the need for more comparisons between Clovis and Gainey technology to determine whether they are simply variations on a single theme, and thus should be both designated as "Clovis", or whether two monikers are warranted because they really are two fundamentally different technological entities. This dilemma has important research implications. If the "variations on a single theme" hypothesis is adopted, then the geographic range of Clovis technology is expanded into the North American Lower Great Lakes region and Ontario (see 1, Fig. 8.1), adding yet another region to which Clovis successfully inhabited. Any regional morphological differences would be due to adaptive contexts (e.g., non-colonizing Clovis in the western USA vs. colonizing Clovis in the Lower Great Lakes). If the "dual-designation" hypothesis is pursued, researchers need to explain the sudden emergence of the new Gainey technological entity in the Lower Great Lakes. Both hypotheses will require empirical and quantified patterns on entire assemblages (not just bifaces) from a large sample of Clovis and Gainey sites to demonstrate whether intrinsic technological (not morphological) differences are present.

While there are important links between technology, mobility, and toolstone exhaustion, it is how these links are read by researchers that ultimately shapes the cultural sequences of Paleoindian archaeology. The presence of Paleoindian overshot flaking at the Arc site reveals the similarity of two allegedly distinct technologies, in turn suggesting that any

morphological or technological dissimilarities may be attributed to the extent and nature of projectile point resharpening. It appears that we may not understand Gainey technology and its relation to Clovis production as well as we have assumed. We suggest that a technological, and perhaps a terminological [26, 27], reexamination of the "Gainey concept" is in order. Future analyses of the immense Arc site assemblage by other researchers will certainly play an important role.

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