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SOME OBSERVATIONS ON THE LITHIC ARTEFACTS FROM AVELINE'S HOLE, BURRINGTON COMBE, NORTH SOMERSET.

by

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ABSTRACT

The lithic collection from Aveline's Hole has suffered badly from wartime damage. Nevertheless, using what has survived and combining this with published and archival sources it is possible to document human activity at the cave during the Late Upper Palaeolithic and the earlier part of the Mesolithic. First use of the cave was contemporary with activity at Gough's Cave and most probably by hunters of red deer. It is more difficult to speculate on the use made of the cave by its subsequent occupants, but the structure of the collection, dominated by tools suitable as projectile points or knives, strongly suggests that it was always a task site for hunting parties prior to its sepulchral use.

INTRODUCTORY REMARKS

On the night of Sunday the 24th of November, 1940 the museum of the University of Bristol Spelaeological Society was destroyed in an air-raid. Much was rescued from the ruins (Anon. 1944; Donovan, 1951) but collections such as that from Aveline's Hole, excavated in 1914 and 1919-1931, remain incomplete and horribly damaged.

This destruction imposes great difficulties in attempting an assessment of the lithic finds from Aveline's Hole, especially since so many of the most significant pieces were on display in the museum and so minimally protected. These, inevitably, suffered the most extensive damage. Therefore, any attempts to reconstruct and interpret what was found in the cave require a rather different approach from that usually taken in preparing an account of a collection of prehistoric stone artefacts.

THE SAMPLE AND SOURCES OF INFORMATION

All the artefacts from Aveline's Hole come from the "outer chamber". The larger number were found on the northern (left hand) side of the cave (Davies 1923a, 113) which was the drier and better lit side (Davies, 1924, p. 14; 1925, p. 110).

The artefacts were mainly excavated from a red plastic cave-earth with plentiful small limestone clasts and some boulders (Davies, 1923a, p.117). This had a thickness of about three feet (0.91 m) and was initially investigated in three spits each a foot in thickness (Davies, 1921, p. 64; 1923b, p. 24). The excavator was unable to discern any significant differences between the artefacts from the different spits (Davies, 1923a, p. 116). Against part of the southern wall of the cave this deposit became a limestone "breccia" (Davies, 1924, p. 6).

A very small number of lithics were collected from a flowstone which, especially along the walls, overlay the cave-earth and was the surface layer when the cave was first re-opened. The most significant item from the flowstone is a microdenticulate (Davies, 1921, p. 69; Fig. 7.3). A further number of artefacts were retrieved from the spoil-heaps and disturbed sediment left by investigators previous to the University of Bristol Spelaeological Society (Davies, 1925, p. 105).

How many pieces of knapped stone were found in total is nowhere recorded. Davies (1923b, p. 22) referred to "…over two hundred flint implements, of which eighty are important…". Of these fifty bore "…secondary chipping…" (*Ibid.*, p. 24). By the time of a talk to the Bath and District Branch of the Somersetshire Archaeological and Natural History Society in 1924 the tally had increased to 250 (Davies and Tratman, 1924, p.26). The density of the lithic finds was estimated at three to a ton (1.016 t) of earth (Davies, 1921, p. 72).

Our best record of the significant lithics which were found in Aveline's Hole comes from the profuse illustrations in the published reports of the excavation (Fawcett, 1920; Davies, 1921; 1923a; 1924 and 1925); drawings by Dorothy Garrod for her monograph *The Upper Palaeolithic Age in Britain* published in 1926; photographs and drawings by the Late Herbert Taylor now preserved in the archives of the University of Bristol Spelaeological Society and, finally, drawings by S. Bryan Adams who was clearly interested in the smaller and potentially Mesolithic items from the cave. These are also preserved in the archives of the University of Bristol Spelaeological Society.

The reports written by Davies and the monograph by Garrod are also invaluable for their descriptions of individual pieces which help interpretation where the drawings are unclear and the artefacts themselves no longer available for study.

Using these sources it is possible to enumerate 107 pieces as from Aveline's Hole, a significant proportion of these being retouched tools. These are briefly catalogued and given provisional identifications on Table 1, the ordering of the table being the sequence in which they were originally illustrated and recorded.

Of these 107 pieces 52 are in some way represented in the surviving collection. They range from intact artefacts (25) to tiny fragments. Where all or part of an artefact survives this is indicated by a symbol in the fourth column of the table – an infilled circle where it is still complete; a half infilled circle where it is represented by a significant fragment and an open circle where only a small piece can now be recognised.

Some of the drawings from Davies, Garrod and Taylor form the basis of Figures 1-3 and 5-6 of this paper. Where the same artefact has been drawn more than once, I have reproduced the several drawings together as there are frequently subtle differences between versions, even though each was produced when the pieces themselves were still to hand. Most obvious are contradictions in the direction of individual flake scars and in the details of retouch, particularly where this took the form of abrupt modification ("backing").

In the few cases where the artefacts on these figures survive substantially intact surface change, as a result of the fire which accompanied the bombing, has obscured the fine detail so effectively that to produce accurate new drawings would be very difficult. For this reason this option has not been followed.

However, on Figures 4 and 7 of this paper the pieces have, with one exception (Fig. 4.8), been illustrated from the originals. Almost all are tiny artefacts and their better preservation is most likely due to the protection of a box or tin at the time of the air-raid. However, it is possible that, like the surviving human bones, these flints had been stored separately in a cellar used by the Society. Whilst liable to flooding this was unaffected by the fire.

To the 107 artefacts individually recorded pre-war and so unambiguously from Aveline's Hole it is possible to add three pieces (Table 2) discovered at the time of the excavation, but which have had different histories. One is a broken blade apparently found by T. R. Fry when moving the spoil of the 1925 excavation. This is in the Museum of the University of Bristol Spelaeological Society. At Wells Museum are two fragments of chunky blades found by the Late N. C. Cooper who worked on the excavation. The small collection made by Norman Cooper is also important for preserving the only specimens of perforated

common periwinkle (*Littorina obtusata*) shells to have survived from the cave as well as a number of human bones and teeth.

Much more uncertainty attaches to the material listed on Table 3. This is in the Museum of the University of Bristol Spelaeological Society. All have, to a greater or lesser extent, been damaged by fire. This material lacks original documentation, but has been attributed to Aveline's Hole. However, when the debris of the Museum was excavated by Herbert Taylor and other members of the Society, they were able to use their knowledge of its layout before the fire to relate finds back to sites. In other words, we have to assume that this material was retrieved from the area of the Aveline's Hole showcase. This group is treated with considerable caution in what follows.

RAW MATERIAL

With possibly one exception all of the artefacts have been made from flint. The sources of the flint are not known and, given that artefacts probably entered Aveline's Hole at different times in the Late Glacial and early Post Glacial, may well have been quite varied. Cortical remnants include both chalky and pebbled skin. At Gough's Cave, five kilometres away at the entry to Cheddar Gorge, flint had been brought from as far away as Salisbury Plain during the Upper Palaeolithic (Clayton, n.d. cited in Jacobi, 2004, p. 11-12).

The one artefact which may not be flint is a Late Upper Palaeolithic broken bitruncated trapezoidal backed blade (Fig. 1.3). Davies described this piece as being "…made of a granular type of flint, with a non lustrous patina…" (1923a, p. 115). Today, despite burning, its surface still appears 'granular'. It is just possible that it has been made from a chert and Carboniferous chert was used in very small quantities at Gough's Cave.

SURFACES

It is apparent that the surfaces of all the lithic artefacts have been altered by patination. Davies described most as having been "…densely patinated to a lustrous white…" (1923b, p. 24) although noting that surface change diminished with depth (1921, p. 70). Garrod (1926, p. 87) repeated this observation.

It is clear from descriptions and illustrations that some pieces had been heat-altered in antiquity. Combined with references to charcoal spreads (e.g. Davies, 1924, p. 9; 1925, p. 105-106) this may have been evidence for the former existence of fire-spots (hearths) within the cave. However, burning may have come about as a result of cleaning of the cave-floor before or after occupations (*cf.* Binford 1983, p. 187-188) or be no more than the result of outside fires following dry litter into the cave.

DEBITAGE AND CORES

The material from Aveline's Hole includes unretouched flakes and blades.

There are clearly more blades and fragments of blades than there are flakes. There are also relatively few pieces retaining cortex. These observations suggest that the early stages of core preparation, when flakes were more likely to have been produced and cortex removed, had occurred away from the cave. There is no reason to believe that lack of cortical flakes is due to selective retention by the excavators or selective recovery following the fire. In turn, a

predominance of blades and blade-like pieces may also be a sign that raw-material was being used efficiently (*cf.* Care, 1982, p. 277; Schofield 1987, p. 24).

There are several clues that flint working had taken place in the cave. Firstly, there is the record of a heavily used quartzite hammerstone (Davies, 1923a, p. 116; 1923b, p. 24).

Secondly, there are amongst the heat damaged artefacts attributed to Aveline's Hole three examples of what in the literature have been described as "…secondary platform preparation chips…" (Fig. 8.1-3: Breest and Veil, 1991, p. 87; see also Newcomer and Karlin, 1987). These chips or their flake-sized equivalents have been recognized in Late Upper Palaeolithic collections from Gough's Cave, Kent's Cavern (Devonshire) and Robin Hood Cave at Creswell Crags (Derbyshire: pers. obs.). They are also present amongst the finds from the extensive Late Upper Palaeolithic flint scatter at Farndon Fields, near Newark (Nottinghamshire: pers. obs.). They are a by-product of faceting the striking platforms of cores and so would have been produced during knapping episodes. At the site of Schweskau which they were describing, Breest and Veil associated these pieces with production of the highly distinctive butts known as *talons en éperon* (Karlin in Leroi-Gourhan and Brézillon, 1972). In turn, butts of this type have been used as markers of a human presence in Britain during the first part of the Late Glacial Interstadial (Jacobi, 1997, fig. 1; 2004, fig. 44). However, there are no examples of *talons en éperon* from Aveline's Hole.

If correctly provenanced, the presence of these tiny and unobtrusive pieces in the collection would testify to the care with which the sediment was gone through by the searchers outside the cave and gives one confidence that not much in the way of finds was overlooked.

A third piece of evidence that knapping may have taken place in the cave is a flint fragment identified by both Davies (1925, p. 105) and Garrod (1926, p. 85) as a burin (Fig. 6.5). Garrod gives further information, describing it as "…a naturally broken piece of flint, of which the surface not figured retains the original cortex…". An alternative identification would be as a bladelet core on a fragment instead of a burin – in other words a by-product of knapping rather than a tool. Cores on thin fragments or flakes are very frequent in the Early Mesolithic and, as if to underscore the ambiguity of their interpretation, were sometimes referred to in the earlier literature as "core-gravers" or "nucleiform" gravers (Rankine, 1952; Rankine and Dimbleby, 1960). They were a source of bladelets suitable for microliths.

An apparent absence of Upper Palaeolithic cores is not necessarily a contra-indication for flint working having taken place at this time. Instead, it probably tells us that after knapping episodes the cores had been taken on to the next locality and that none had reached the point of "exhaustion" whilst being worked in the cave.

COMMENTS ON THE RETOUCHED TOOLS

With only four possible exceptions all of the retouched tools from Aveline's Hole are abruptly modified (backed) pieces. The most significant are illustrated on Figs 1-5 and 7 and will be commented upon in that order.

Fig. 1.1-3 are bitruncated trapezoidal backed blades (*cf.* "Cheddar points"). They each possess a pair of oblique divergent truncations and backing of all, or part, of the shorter lateral edge between them. Typically, the trapezoidal silhouette is asymmetrical because the breadth of the artefact is greater at one angle than at the other. Fig. 1.4-5 are assumed to be fragments of bitruncated trapezoidal backed blades.

Use-wear study of unpatinated examples of these artefacts from the site of Zeijen in the northern Netherlands has confirmed that they were hafted and had been used as projectile

heads (Rots *et al.* 2002). Impact damage on examples from Gough's Cave confirms this function (Jacobi, 2004, fig. 23).

Bitruncated trapezoidal backed blades have been used as indicators of Late Upper Palaeolithic activity during the first part of the Late Glacial Interstadial (Jacobi, 1991, fig. 13.2; 2004, fig. 45). There are numerous examples of these artefacts from Gough's Cave for which there is also a large series of radiocarbon determinations dating human activity to between ~12,800-11,800 ^{14}C BP (Jacobi, 2004, table 29 and fig. 33). There are radiocarbon determinations from other localities with these artefacts of which the most significant are from Three Holes (Torbryan, Devonshire), Kent's Cavern and Robin Hood Cave (Barton *et al.* 2003; Jacobi, 2004, 51-65). In each case their ages are within the range of dates from Gough's Cave.

Fig. 2.1-3 are curve-backed points (*cf.* "Azilian points"). Fig. 2.1 is a bi-point and it is probable that the other pair had also once been bi-points. Each is large and it seems from the drawings that backing had been achieved "on anvil", probably because of their thickness.

Curve-backed points identical to those from Aveline's Hole are present in the collection from Gough's Cave (Jacobi, 2004, fig. 23) seemingly confirming a local appearance sometime during the first half of the Late Glacial Interstadial. Similar evidence for an early presence comes from sites in the Paris Basin (Bodu, 1998; 2000) and northern France (Fagnart and Coudret, 2000a; 2000b) and there is evidence from several French localities that bi-points were amongst the earliest forms of curve-backed point (Pion, *et al.* 1990; Bodu and Valentin, 1997; Célérier, *et al.* 1997).

At the site of Le Closeau at Rueil-Malmaison in the Paris Basin, damage patterns, microscopic polishes and resin traces suggest that bi-points were hafted as the tip pieces of either arrows or spears (Bodu 2000, 329).

Fig. 3.1-2 also appear to be broken curve-backed points. Fig. 3.2 is interesting in that burin-like fractures originate from the transverse break. These are interpreted as impact damage consistent with use of the piece as a weapon-head (*cf.* Barton and Bergman, 1982; Fischer *et al.* 1984).

A presence of bitruncated trapezoidal backed blades and curve-backed points (interpreted as bi-points) is taken as conclusive evidence for human use of Aveline's Hole during the first half of the Late Glacial Interstadial. Therefore, it is particularly interesting that the single radiocarbon determination for a cut-marked bone from the cave should also fall so clearly within this time:

OxA-1121	cut red deer (*Cervus elaphus*) phalange	12,380 ±130 BP

(Hedges *et al.* 1987, 290[1]).

Very similar is a determination for an unshed antler of:

OxA-801	red deer antler base	12,100 ±180 BP

(Gowlett *et al.* 1986, 209).

Red deer[2] was the dominant ungulate at Aveline's Hole (Fawcett, 1920, p. 8; Davies, 1921, p. 63-68; 1925, p. 112-113; Garrod, 1926, p. 83) and Davies believed them to have been

[1] In the publication of this determination in *Archaeometry* Datelist 6 the phalange is mis-identified as that of a bovine.

hunted. Evidence for the hunting of red deer during the first half of the Interstadial also comes from Kent's Cavern, Gough's Cave and King Arthur's Cave (Herefordshire: Scott in ApSimon *et al.* 1992, p. 206-208).

Fig. 3.3 is poorly illustrated by Davies (1921, fig. 10.3) and drawn with more confidence by Garrod (1926, fig. 14.13) who described it as "…of the Azilian 'pen-knife blade' type…" and as resembling "…those found by Mr. Armstrong at Mother Grundy's Parlour…" (*Ibid.*, p. 85). She could hardly have been more specific.

Penknife points combine abrupt retouch (backing) along the whole of one convex lateral edge with additional modification to the lower (proximal) part of the other (leading) edge. This modification can take the form of an oblique truncation, concave retouch (as at Aveline's Hole) or a shoulder. Many penknife points, like that from Aveline's Hole, are small and light enough and also have the symmetry to have been arrow-heads and examples from Kent's Cavern, King Arthur's Cave and Pin Hole (Creswell Crags, Derbyshire) have damage consistent with use as projectile tips.

Fig. 3.4 appears to have been the proximal portion of a penknife point and the stepped burin-like facet originating from the transverse break is likely to have been impact damage. The piece is unusual for the flat chipping of its ventral face shown clearly in Garrod's drawing (1926, fig. 14.21). However, there is a parallel for this feature on a penknife point which is one of over a dozen from beneath a Late Glacial cover-sand on Risby Warren, North Lincolnshire. As Garrod commented, this additional retouch to the Aveline's Hole piece may have been "…to facilitate hafting…" (*Ibid.*, p. 85).

Penknife points are absent from the large lithic collection from Gough's Cave, even though they have been found as close to Cheddar Gorge as Callow Hill (Everton, 1970) – 3.5km away. This absence leads to the speculation that their period of use was more recent than that of the human occupation of Gough's Cave and, therefore, that they belong to the second half of the Late Glacial Interstadial. This premise is supported by stratigraphic observations at Three Holes where a fragment of penknife point was excavated from a context more recent than one with artefacts including a bitruncated trapezoidal backed blade (Barton and Roberts, 1996, p. 252-255).

The artefacts on Fig. 4 present something of a problem and quite possibly do not all belong together. They are broken bladelets with straight or slightly curving abrupt retouch along one lateral edge – they are, thus, straight or curve-backed bladelets. All are thin as well as narrow, and would have made ideal components for slotted hunting gear.

They are identical in character to backed bladelets from Late and Final Magdalenian contexts including La Madeleine (pers. obs.). In the case of Aveline's Hole this comparison is particularly tantalizing because of the discovery here of a bilaterally barbed point, apparently made from red deer antler (Davies, 1921, p. 69), and which, as Garrod pointed out (1926, p. 87), has a precise parallel at the caves of Goyet at Mozet in Belgium whose archaeological material is in part Magdalenian (Dewez, 1987, p. 259-290).

However, there are no Magdalenian sites in the British Isles, although it has to remain a possibility that such may one day be discovered. If they are, they will most probably be found to mark the earliest Late Glacial re-colonization of the British Isles and to pre-date human use of Gough's Cave.

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[2] Confusingly, Davies refers to the very large ("gigantic") red deer (*Cervus elaphus* L.) from Aveline's Hole as "giant deer". The giant deer (*Megaloceros giganteus* (Blumenbach)) is not certainly known as a part of the Late Glacial fauna of southern England, although it was present at this time in northern Britain and Ireland (Stuart *et al.* 2004). Davies (1925, 112) compared the deer remains from Aveline's Hole with the exceptionally large Middle Devensian red deer (*Strongyloceros spelaeus* Owen).

It is more probable that, like the penknife points, the straight and curve-backed bladelets represent activity at Aveline's Hole during the second half of the Late Glacial Interstadial. Thus, they resemble pieces from the sites of Hengistbury Head (Dorset) and Brockhill (Horsell Birch, Surrey: Barton, 1992) both of which are thought to date from this time (Jacobi, 2004).

A third possibility is that some, particularly the more slender, of these straight and curve-backed bladelets are Later Mesolithic microliths.

The abruptly modified pieces on Fig. 5 appear incomplete and their original forms cannot now be reconstructed with confidence.

Garrod's drawing (1926, fig. 14.10) implies that the abrupt modification on the fragment illustrated by Fig. 5.2 was obtained using an anvil. This suggests that it may have been the tip of a curve-backed point similar to those on Fig. 2. The break in outline emphasized in the drawings by Davies and Taylor may not have been an intentional feature, but something which the knapper was unable to remove. The chipping along the leading edge is more likely to be (ancient) damage than deliberate retouch.

Fig. 5.3-4 are difficult to interpret, but could have been the tips of either further curve-backed points or of bitruncated trapezoidal backed blades (*cf.* Fig. 1).

Fig. 5.7 is a curious piece. Rather than being Late Upper Palaeolithic it could equally have been an Early Mesolithic triangular microlith similar to examples from Daylight Rock on the Island of Caldey (David and Walker, 2004, fig. 17.4).

Fig. 7.1-2 and 4-5 are microliths. Fig. 7.1 is part of a partially backed bladelet with, at its tip, additional retouch on the leading edge. It is most probably Early Mesolithic. So too, is the more heavily modified microlith illustrated on Fig. 7.2. Davies (1923b, p. 24) described the piece as a "…pigmy awl similar to tools from the early Tardenoisian sites of France and Yorkshire…". What he almost certainly had in mind were some of the Early Mesolithic "broad bladed" microliths found by Francis Buckley on the Lominot, Warcock and Windy Hills in the Central Pennines of West Yorkshire (Buckley, 1921; 1924). The parallel is still perfectly appropriate, but a more local analogue would be from the Early Mesolithic site of Shapwick on the Burtle Beds near Bridgwater (Wainwright, 1960, fig. 2.22).

Considerable interest attaches to the two microliths illustrated on Fig. 7. 4-5. Both take the form of small scalene triangles. That shown on Fig. 7.4 was found when shifting a spoil-heap (Davies, 1925, p. 105). The context of the smaller of these two microliths was described by Davies as a "…double ceremonial inhumation…" (*Ibid.*, p. 106). Many of the human bones seemed to have been tinged with red pigment. They were possibly accompanied by animal teeth, some prepared for suspension[3], a "…nest…" of seven ammonite body cases (Donovan, 1968) and part of a red deer tibia with grouped incisions (Davies, 1925, p. 106-108; Mullan and Wilson, 2005). Whilst it is possible that the microlith had been in the soft tissue of one of the burials, Davies felt that it might have "…filtered through from above…" (1925, p. 108). It is also possible that it had been driven downwards amongst the human bones by the massive limestone block which had intruded itself into the burial (*Ibid.*, fig. 3).

These two microliths are Later Mesolithic and are of significance as the most recent objects from the cave. However, they differ one from the other. That on Fig. 7.4 is distinctly the larger and is unmodified on its longest (leading) edge. The triangle on Fig. 7.5 is not only smaller, but it has been trimmed on all three edges.

[3] Amongst the perforated teeth, Davies lists "… two upper canine teeth of female pig …" (1925, 107). If the identification is correct and these were parts of the grave goods this would imply a Post Glacial age for the burial, as wild pig (*Sus scofa* L.) is unknown from the British Late Glacial. It is, however, possible that the identifications are wrong and these were canines of red deer, in which case the age of the burial is left open.

There are radiocarbon determinations from western Britain which imply that small scalene triangles had been parts of technologies very close in age to the most recent of the dated human bones from Aveline's Hole (see Schulting, this volume). Thus, charred hazel (*Corylus avellana*) nut shells collected at Lightmarsh Farm, Kidderminster Foreign in Worcestershire, have been dated to 8,800 ±80 BP (OxA-4327: Hedges *et al.* 1994, p. 352). These were associated with a group of microliths which includes small scalene triangles (Jackson *et al.* 1994). Likewise, there are radiocarbon determinations of 8,700 ±100 BP (OxA-2268) and 8,730 ±90 BP (OxA-2269: Hedges *et al*. 1994, 353) for two fragments of charred hazel nut shell picked out from within a box of black chert debitage collected by F. Gilbert Smith from a small site sealed by tufa at Bryn Newydd, Prestatyn in Denbighshire. From this site comes a large group of microliths in the form of scalene triangles (Clark, 1938; David and Walke,r 2004, fig. 17.13).

Other radiocarbon determinations imply a slightly earlier age for "narrow bladed" technologies with small scalene triangles in the area of north-east England and lowland Scotland bordering the North Sea basin. They are then suggested as having spread outwards from these areas to the rest of the British Isles. This rapid spread was perhaps in part achieved by voyaging (Waddington, Bailey and Milner in Waddington, *in prep*.).

A feature of the scalene triangles from all these sites is that they are usually unmodified on the longest edge and where modification is present this is restricted to the base of the piece (oriented with the shortest edge at the top). There are no microliths which match Fig. 7.5. For microliths which resemble this piece it is probably necessary to look slightly later in time. They are present in the collection from Site B101 at Tolpits Lane (Rickmansworth, Hertfordshire) with an associated radiocarbon determination of 8,260 ±120 BP (Q-1147: Jacobi, 1994, p. 195) and in still more recent collections such as those from Broxbourne, Site 105 in East Hertfordshire (Jacobi, 1994, p. 194), Hermitage Rocks, High Hurstwood in East Sussex (Jacobi and Tebbutt, 1981) and Culverwell on the Isle of Portland (Palmer, 1999).

The significance of these observations is to suggest that Aveline's Hole may have been open, if only temporarily, at some time in the Mesolithic after the most recent of the radiocarbon dated human remains was deposited. However, final closure, perhaps by a rock-fall (Davies, 1925, p. 110-111), before the end of the Mesolithic is suggested by an absence of post-Mesolithic flint-work, pottery and metal objects (Fawcett, 1920, p. 5; Davies, 1921, p. 71; 1923b, p. 25; 1925, p. 111). Bones of sheep found inside the cave were thought to have been recently introduced (Davies, 1921, p. 65-67; 1924, p. 12).

Perhaps, one of the most striking features of the retouched tool assemblage from Aveline's Hole is how few pieces there are which are not potentially interpretable as having formerly been the tips or insets of weapon-heads. Most obviously, there are no scrapers and no convincing examples of burins; both tool-forms commonly found in Late Upper Palaeolithic and Mesolithic assemblages (Mellars, 1976; Barton, 1992; Jacobi, 2004).

Fig. 6.1 may have been a micro-piercer, formed by convergent alternate retouch. Several similar artefacts are amongst the early collections from Creswell Crags where it is assumed that they are of Late Upper Palaeolithic age. Less charitably, the piece from Aveline's Hole may have been no more than a thin naturally damaged fragment which mimicked a tool.

Fig. 6.2 was a blade with a concave/oblique retouched truncation at its distal end. Again, in the absence of the object itself, we cannot be totally sure that this was deliberate retouch rather than damage (either ancient or modern). It is a slightly odd piece.

Fig 6.3. is the only one of these tools to survive – heat-altered but intact. It is the retouched or heavily utilized distal extremity of a flake or blade.

Fig. 6.4 is probably not a retouched tool but a utilized blade. It is known only from the photograph and drawing by Herbert Taylor. The blade was partially crested. Its upper

(?proximal) extremity appears "rounded". Blades with rounded end, or ends, are consistent components of British Late Upper Palaeolithic collections and locally they have been found at Gough's Cave, Soldier's Hole and Sun Hole (Jacobi, 2004, figs 29 and 34-35). The rounding has been explained as due to use as strike-a-lights with iron pyrites (*cf.* Stapert and Johansen, 1999).

A recurring feature is retouch or damage to both lateral edges of the tool adjacent to the rounding. Viewed looking down onto the dorsal face of the piece and with the rounded extremity away from the observer this retouch or damage is usually present on the dorsal right hand lateral edge and, hidden from the viewer, on the ventral left hand lateral edge. If these tools had been borers or reamers this would have been explained as damage consequent upon clockwise torsion. Taylor has carefully shown the damage or retouch on the right hand dorsal margin of the Aveline's example and the "shouldering" on both flanks of the rounding which is often a product of this damage or retouch.

The presence of what may have been a strike-a-light in the collection from Aveline's Hole complements the evidence of heat-altered artefacts and reports of charcoal spreads in suggesting that fires were lit by the cave's Palaeolithic users.

The microdenticulate (Fig. 7.3) is illustrated next to the two Early Mesolithic microliths because this is its most likely age. It is a blade with nicking of its proximal right hand lateral edge. Typically, this nicking is directed from the dorsal face downwards and is on a slightly concave length of edge. Microdenticulates are so far unknown from the British Late Upper Palaeolithic. They are numerous at the Early Mesolithic sites of Marsh Benham, near Newbury (Berkshire: pers. obs.), Oakhanger Sites 5 and 7 in East Hampshire (Rankine, 1952; Rankine and Dimbleby, 1960), the Powell Mesolithic Site on Hengistbury Head (Barton, 1992, p. 215-218) and on the other side of the Bristol Channel at Burry Holms (Swansea: David and Walker, 2004, p. 309). They have been found at many other Early Mesolithic localities. Their association with the Later Mesolithic is less secure. Irene Levi-Sala looked at examples from Hengistbury Head and suggested that they were used for cutting soft plant materials (in Barton, 1992, p. 239-244). Microdenticulates would have been ideally suited to fraying plant stems to provide fibre for binding arrow tips. (For a Neolithic arrowhead bound with nettle (*Urtica*) fibres see Coles *et al.* 1973, p. 291-292).

ADDITIONAL OBSERVATIONS ON HUMAN USE OF AVELINE'S HOLE

Sir Arthur Keith interpreted Davies' accounts of the cave as indicating "…that Aveline's Hole was used by men as a dwelling place, and also as a burial place, in the closing phase of the Pleistocene period – just when arctic conditions were giving place to the more temperate climatic conditions of the present time…" (1924, p. 16).

Where we have the advantage over Keith, is in our possession of a steadily increasing number of radiocarbon determinations which help pinpoint the ages of distinctive artefact types. Extrapolating from these determinations we can surmise that Aveline's Hole was used by humans of both the Late Upper Palaeolithic and Mesolithic periods – that is in both the Late Glacial and the Post Glacial. If all the human remains appear from the radiocarbon evidence to be Early Mesolithic it is apparent that the majority of lithic artefacts are more probably Late Upper Palaeolithic. In other words we may conclude that the principal use of Aveline's Hole as a "…dwelling place…" preceded its use as a "…burial place…". We can also conclude, on the basis of a single microlith, that the cave had been open, even if only temporarily, at some time

after it had been a burial place[4]. Human use of Aveline's Hole is also likely to have been discontinuous with the probability of a long gap corresponding to the Younger Dryas Stadial and quite possibly to some time before and after.

Davies made the very interesting concluding observations on Aveline's Hole that "…the hearths are thin and finds of artifacts scanty, and from this we may infer that their periods of stay were of short duration…" (1925, p. 113). In other words Keith's description of the cave as having been a "…dwelling place…" requires some qualification.

Davies also commented that large limestone blocks "…must have made the cave a most uncomfortable dwelling place…" (1924, p. 14) as would also the steep downwards pitch of the outer chamber. The floor of most of the outer part of the cave was noted as "…invariably heavy and sodden…" (1925, p. 110) although this may be a relatively recent feature since the relationship of the cave entrance to the valley floor, the source of much of the moisture, will have been altered by both cliff recession and building of the road (*Ibid.*).

What does the lithic collection tell us about human use of Aveline's Hole?

There would appear to be some evidence that flint knapping may have taken place in the cave in both the Late Upper Palaeolithic and the Early Mesolithic.

Fires may have been lit.

There is evidence amongst the lithics for tool maintenance activities in the form of a "Krukowski" micro-burin (Table 1: AH 98) and the microdenticulate. Krukowski micro-burins are by-products of pointing or re-pointing abruptly modified pieces. They are, therefore, likely to be a by-product of making weapon-heads serviceable. A function for the microdenticulate in preparing bindings has been suggested (see above).

As already noted, almost all of the retouched tools from Aveline's Hole are various forms of abruptly modified (backed) blades and bladelets. These are probably interpretable as parts of hunting gear. There are no scrapers or burins.

Collections of Late Upper Palaeolithic artefacts where the only lithic tool forms are abruptly modified blades/bladelets come from a number of British caves – for example Bob's Cave at Kitley in South Devon (pers. obs.), Priory Farm Cave in Pembrokeshire (Grimes, 1933), Lynx Cave near Llanarmon-yn-lal in Denbighshire (Blore, 2002), Fox Hole near Earl Sterndale in Derbyshire (Bramwell, 1971; 1977, p. 267-268), Dead Man's Cave (Anston Stones Cave) near North Anston in South Yorkshire (Mellars, 1969; White, 1970) and Raven Scar Cave in North Yorkshire (Gilks, 1976). These contrast with collections from caves such as Kent's Cavern on the outskirts of Torquay, Gough's Cave, Hoyle's Mouth (The Hoyle) near Tenby in Pembrokshire and Robin Hood Cave (David, 1991, p. 146-152; Jacobi 2004, tables 13 and 30) where there are significant numbers of other tools including scrapers and burins.

It is not possible to interpret clearly the significance of the differences between the two groups of sites. However, it seems safe to suggest that use for short periods of time and for only limited goals explains the low artefact diversity of the first group while more "dead time" was spent in manufacturing activities at the caves which make up the second group. The best understood of the latter is probably Gough's Cave where there is evidence for hide preparation, the salvaging of tendons for thread or rope, the extraction of glue, the making or repair of clothing and the working of bone and antler (Jacobi, 2004). Interpretation of these cave sites as "field camps", that is where "…a task group sleeps, eats, and otherwise maintains itself while away from the residential base…" (Binford, 1980) seems not unreasonable.

[4] Editor's Note: The human material recovered from the cave shows little sign of having been disturbed by predators, save some gnawing by small creatures such as rodents. This indicates that the cave was securely closed between interments and was highly likely to have been intentionally sealed after the last burial took place (see Schulting *et al*, this issue).

The make-up of the lithic collection from Aveline's Hole, in as far as it can be reconstructed (Tables 1-3), clearly has more in common with those from localities likely to have been used for only limited goals than it does with those from sites interpreted as field camps.

It is difficult to take this observation further.

Davies was clearly of the opinion that many of the large vertebrates whose remains were found in the cave had been hunted by humans (1925, p. 112-113). It is, therefore, particularly sad that more of the fauna does not survive, since cut-marks would have allowed us to identify with more confidence which species had been hunted and what had been done with them.

Cut-marks have been observed on single bones of red deer and lynx from Aveline's Hole (pers. obs.) and Davies reports cut-marks on fox (*Vulpes* sp.) bones (1923a, p. 114). There were, apparently, also split long bones of wild horse (*Equus ferus*) and red deer. Davies clearly implies that this splitting was due to human intervention, presumably in order to access marrow (1921, p. 67). It may indicate that snacking took place in the cave[5]. A large number of mountain hare (*Lepus timidus*) bones survive, but no cut-marks have been seen on these although the hunting or trapping of hares is documented from other Late Upper Palaeolithic sites (Charles and Jacobi, 1994)[6].

Davies reports unshed red deer antlers and was particularly interested in these as indicators that humans had preferentially used the cave in late summer or early winter (1925, p. 112-113). What is also particularly interesting for present purposes is that there was no evidence for working of these antlers. Davies explained this by suggesting that no craftsman would use red deer antler if more compact reindeer antler was available for tool-making (1921, p. 70-71; 1923b, p. 26). However, it is worth remembering that the bilaterally barbed point from the cave was identified as having been made from red deer antler.

Absence of antler working may instead be a significant clue that the way in which the cave was used by hunters did not result in the creation of "dead time" which would have allowed manufacturing or craft activities. In other words, it could corroborate our interpretation of the lithic evidence.

Finally, we may return to Sir Arthur Keith's comment on the site that it was used by "men". This need not be just an archaism of his writing style if our envisaging of Aveline's Hole as a task site is correct.

CONCLUSION

Humans used Aveline's Hole discontinuously during the Late Upper Palaeolithic and the early part of the Mesolithic. Its earlier use was by parties of hunters. Its later use was as a sepulchral cave. Closure was during the Mesolithic, but it may have been open, possibly temporarily, after the most recent human bones had been deposited.

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[5] Davies also refers to "… scorched or fire blackened …" bones and teeth (1925, 106). Without these specimens it is not possible to be certain that heated bone was present within the cave, perhaps as evidence of cooking. The bones and teeth may merely have been stained.

[6] There appears to have been no clear separation of the human bones and the artefacts and fossil fauna here believed to be residual from an earlier period of the cave's use (see for example Davies, 1925, 112). For parts of the cave the explanation for this may have been disturbance prior to excavation by the University of Bristol Spelaeological Society. The possibility of mixing as a result of localised mass movement (debris flows) should also be considered. The gradient in the "outer chamber" (Davies, 1923, fig. 17) was high enough to have allowed initiation under conditions of sufficient rainfall (Collcutt, 1986, 57).

Table 1. *Lithic artefacts from Aveline's Hole known from published and archival sources:*

No.	Catalogue No.	Principal Sources	Condition	Brief Description	Present Illustration
AH1	M1.3/6	1. fig. 5.1 2. fig. 11.1	◐	Blade	
AH2	M1.3/8	1. fig. 5.2 2. fig. 11.13	○	Broken blade	
AH3		1. fig. 5.3	○	Broken blade	
AH4		1. fig. 5.4	●	Broken blade	
AH5	M1.3/14	1. fig. 5.5 2. fig. 11.2 6. fig. 14.4 7., 8.	◐	Abruptly modified blade	Fig. 3.1
AH6		1. fig. 5.6 2. fig. 11.8 6. fig. 14.18 7., 8., 9.	●	Abruptly modified bladelet	Fig. 4.2
AH7		1. fig. 5.7 6. fig. 14.16 7., 8., 9.	●	Abruptly modified bladelet	Fig. 4.1
AH8		2. fig. 10.3 6. fig. 14.13 7., 8.		Abruptly modified bladelet	Fig. 3.3
AH9		2. fig. 10.4 7., 8.		Flake	
AH10	M1.3/1	2. fig. 10.5 6. fig. 14.1 7., 8.	○	Abruptly modified blade	Fig. 2.1
AH11		2. fig. 10.6 6. fig. 14.21 7., 8.		Abruptly modified blade	Fig. 3.4
AH12	M1.3/2	2. fig. 10.7 6. fig. 14.7 7., 8.	◐	Heat-altered abruptly modified blade	Fig. 1.1
AH13	M1.3/3	2. fig. 10.8 7., 8.	●	Microdenticulate	Fig. 7.3
AH14		2. fig. 10.9		Broken piece	
AH15		2. fig. 10.10 7., 8.		Abruptly modified piece	Fig. 5.3
AH16	M1.3	2. fig. 10.11 6. fig. 14.9 7., 8.	○	Abruptly modified blade	Fig. 5.1
AH17		2. fig. 10.12	●	Broken blade	
AH18		2. fig. 10.13 7.		Broken blade	

No.	Catalogue No.	Principal Sources	Condition	Brief Description	Present Illustration
AH19		2. fig. 10.14		Flake	
AH20		2. fig. 10.15		Broken blade	
AH21	M1.3	2. fig. 10.16 7.	○	Broken blade	
AH22	M1.3/5	2. fig. 10.17 7.	○	Blade	
AH23		2. fig. 10.18 6. fig. 14.14 7., 8., 9.	●	Microlith	Fig. 7.2
AH24		2. fig. 10. un-numbered 7., 8.		? Abruptly modified piece	
AH25		2. fig. 11.3 6. fig. 14.11 7., 8.		Abruptly modified or retouched piece	
AH26		2. fig. 11.4 6. fig. 14.5 7., 8.		Abruptly modified blade	Fig. 5.5
AH27	M1.3/7	2. fig. 11.5 7.	◐	Broken partially crested blade	
AH28		2. fig. 11.6		Broken bladelet	
AH29		2. fig. 11.7 7., 8., 9.	●	Microlith	Fig. 7.1
AH30		2. fig. 11.9 5. pl. VII. 1.5		? Broken blade	
AH31		2. fig. 11.10 6. fig. 14.10 7., 8.		Broken abruptly modified blade	Fig. 5.2
AH32		2. fig. 11.11		Blade	
AH33	M1.3	2. fig. 11.12	◐	Blade	
AH34		2. fig. 11.14 7., 8.		Broken abruptly modified blade	Fig. 5.6
AH35	M1.3	2. fig. 11.15 3. fig. 16.10 7.	○	Blade	
AH36		2. fig. 12.1 5. pl. VII.1.4 7., 8.		Blade	
AH37		2. fig. 12.2	◐	Broken blade	
AH38	M1.3	2. fig. 12.3	◐	Broken blade	
AH39		2. fig. 12.4		Broken blade	
AH40		2. fig. 12.5 7., 8.		Broken bladelet	

No.	Catalogue No.	Principal Sources	Condition	Brief Description	Present Illustration
AH41		2. fig. 12.6 6. fig. 14.23 7., 8., 9.	●	Broken abruptly modified bladelet	Fig. 4.4
AH42		2. fig. 12.7		Blade	
AH43		2. fig. 12.8 6. fig. 14.19 7., 8.		Blade with retouched distal truncation	Fig. 6.2
AH44		2. fig. 12.9 6. fig. 14.15 7., 8.	◐	Abruptly modified piece	Fig. 5.4
AH45		2. fig. 12.10		Broken blade	
AH46	M1.3/9	2. fig. 12.11	●	Broken bladelet	
AH47		2. fig. 12.12		Broken piece ? with retouch on one lateral edge	
AH48		2. fig. 12.13		? broken piece	
AH49		2. fig. 12.14 5. pl. VII. 1.2	○	Broken piece	
AH50	M1.3	2. fig. 12.15	◐	Flake	
AH51		2. fig. 12.16	●	Broken blade	
AH52		3. fig. 16.3 6. fig. 14.12 7., 8.		Abruptly modified bladelet / ? microlith	Fig. 5.7
AH53	M1.3	3. fig. 16.4 6. fig. 14.2 7., 8.	○	Abruptly modified blade	Fig. 2.2
AH54		3. fig. 16.5 6. fig. 14.3 7., 8.		Abruptly modified blade	Fig. 2.3
AH55	M1.3	3. fig. 16.6 7.	○	Blade	
AH56	M1.3/11	3. fig. 16.7 7., 8.	●	Abruptly modified blade	
AH57	M1.3	3. fig. 16.8 6. fig. 14.6 7., 8.	○	Abruptly modified blade	Fig. 1.2
AH58	M1.3	3. fig. 16.9 7., 8.	○	Broken blade	
AH59		3. fig. 16.11 7., 8.		Abruptly modified bladelet	Fig. 4.8
AH60		3. fig. 16.12 7., 8.		Broken blade (?retouched)	
AH61	M1.3	3. fig. 16.13 6. fig. 14.22 7., 8.	○	Broken piece	

No.	Catalogue No.	Principal Sources	Condition	Brief Description	Present Illustration
AH62	M1.3	3. fig. 16.14 6. fig. 14.8 7., 8.	●	Abruptly modified blade (? of chert)	Fig. 1.3
AH63		3. fig. 16.15 7., 8., 9.		Abruptly modified bladelet	
AH64		3. fig. 16.16 6. fig. 14.24 8.		Broken piece/ ? micro-piercer	Fig. 6.1
AH65		3. fig. 16.17 7., 8.		Abruptly modified piece	Fig. 1.5
AH66		3. fig. 16.18 7., 8.		? microlith	
AH67		3. fig. 16.19		? chip	
AH68	M1.3	4. fig. 2.1 7.	○	Broken blade	
AH69		4. fig. 2.2		Blade	
AH70		4.fig. 2.3 7., 8.		Abruptly modified blade	
AH71		4. fig. 2.4		Heat-altered broken blade	
AH72		4. fig. 2.5 7.		Broken piece	
AH73		4. fig. 2.6 7., 8., 9.	●	Abruptly modified bladelet	Fig. 4.3
AH74		4. fig. 2.7 7., 8.		? broken bladelet	
AH75		4. fig. 2.8 7., 8.		Broken bladelet	
AH76		4. fig. 2.9 7., 8.		? microlith fragment	
AH77	M1.3	4. fig. 2.10	●	Abruptly modified fragment	
AH78		4. fig. 2.11		? broken bladelet	
AH79		4. fig. 2.12		Heat-altered ? abruptly modified fragment	
AH80		4. fig. 2.13		? flake or broken piece	
AH81		4. fig. 2.14		? abruptly modified fragment	
AH82		4. fig. 2.15		Heat-altered ?abruptly modified piece	
AH83		4. fig. 2.16		? broken piece	
AH84		4. fig. 2.17		Chip or broken piece	
AH85	M1.3/12	5. fig. 1.1	●	Broken blade	

No.	Catalogue No.	Principal Sources	Condition	Brief Description	Present Illustration
AH86		5. fig. 1.2 6. fig. 14.20 7., 8.		? bladelet core on fragment: heat altered	Fig. 6.5
AH87		5. fig. 1.3	●	Broken retouched piece	Fig. 6.3
AH88	M1.2	5. fig. 1.4 7., 8., 9.	●	Microlith	Fig. 7.4
AH89	M1.	5. fig. 1.5 7., 8., 9.	●	Microlith	Fig. 7.5
AH90	M5.3/123	5. fig. 1.6 7., 8., 9.	●	Abruptly modified piece	Fig. 4.9
AH91	M1.3	5. pl.VII.1.1 7.	◐	Broken piece	
AH92	M1.3	5. pl.VII.1.3 7.	◐	Blade	
AH 93		5. pl.VII.1.6 7.		Broken piece	
AH94		6. fig. 14.17 7., 8., 9.	●	Abruptly modified bladelet	Fig. 4.7
AH95		7., 8., 9.	●	Abruptly modified bladelet	Fig. 4.10
AH96		7., 8., 9.	●	Abruptly modified bladelet	Fig. 4.5
AH97	M.1/3	7., 8., 9.	●	Abruptly modified bladelet	Fig. 4.6
AH98	M.1/3	7., 8., 9.	●	“Krukowski” micro-burin	
AH99		7., 8.		Abruptly modified piece	Fig. 1.4
AH100	M1.3	7., 8.	●	Abruptly modified piece	Fig. 3.2
AH101		7., 8.		? abruptly modified blade	
AH102		7., 8.		Partially crested blade ?with rounded end	Fig. 6.4
AH103		7., 8.		Broken blade	
AH104	M1.3/13	7.	○	Blade	
AH105	M1.3	7.	○	Blade	
AH106		9.		? fragment of abruptly modified blade	
AH107		9.		? fragment of microlith	

Sources: ***1***. *Fawcett, 1920;* ***2***. *Davies, 1921;* ***3***. *Davies, 1923a;* ***4***. *Davies, 1924;* ***5***. *Davies, 1925;* ***6***. *Garrod, 1926;* ***7***. *Photographs of artefacts from Aveline's Hole by Herbert Taylor: University of Bristol Spelaeological Society archives;* ***8.*** *Glass negatives with drawings of artefacts from Aveline's Hole by Herbert Taylor for lantern slides, 1928: University of Bristol Spelaeological Society archives;* ***9***. *Line drawings of artefacts from Aveline's Hole by S. Bryan Adams, 1924 – 1930, with Palmer [1919]: University of Bristol Spelaeological Society archives.*

Table 2. *Additional lithic artefacts from Aveline's Hole.*

AH108	University of Bristol Spelaeological Society Museum: T. R. Fry Colln.	Broken blade.
AH109	Wells Museum: N. C. Cooper Colln 44.	Broken blade. This may be the proximal portion of a blade of which AH93 is the distal part.
AH110	Wells Museum: N. C. Cooper Colln 46.	Distal portion of broken blade.

Table 3. *Classification of lithic artefacts rescued from the Museum of the University of Bristol Spelaeological Society following bomb damage and attributed to Aveline's Hole.*

?	Fragment of abruptly modified piece	1
?	Burin on broken piece	1
?	Retouched fragment	1
	Proximal fragment with rounding	1
	Chip	1
	Flakes	6
	Blades/bladelets	7
	Broken blades/bladelets	26
	Broken pieces	65
	Crested bladelet	1
	Broken crested bladelet	1
	Broken crested pieces	2
	Secondary platform preparation flakes	3
	Unclassified burnt fragments	74
	Total	190

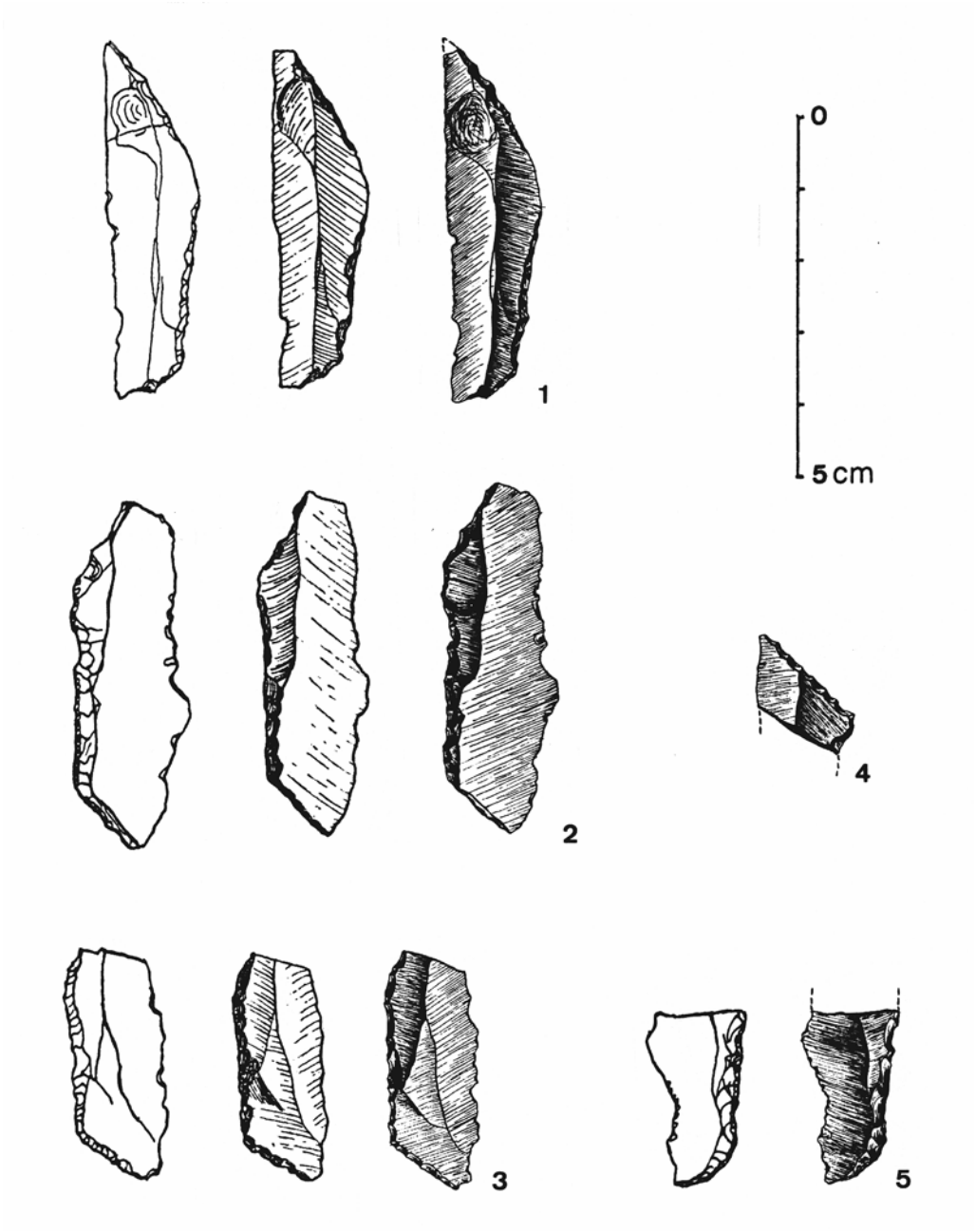

Figure 1. *Aveline's Hole: Bitruncated trapezoidal backed blades and probable fragments.*

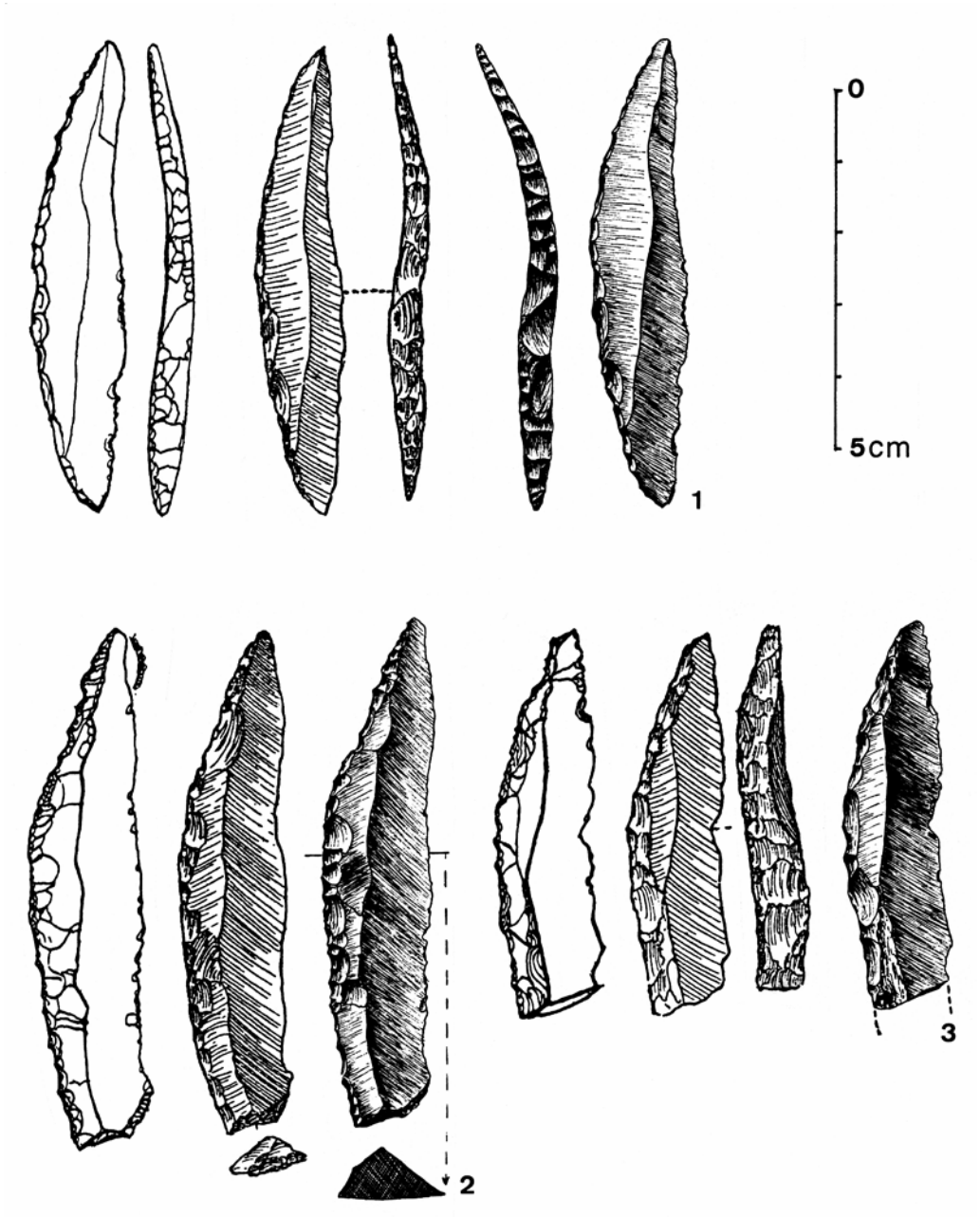

Figure 2. *Aveline's Hole: Curve-backed points.*

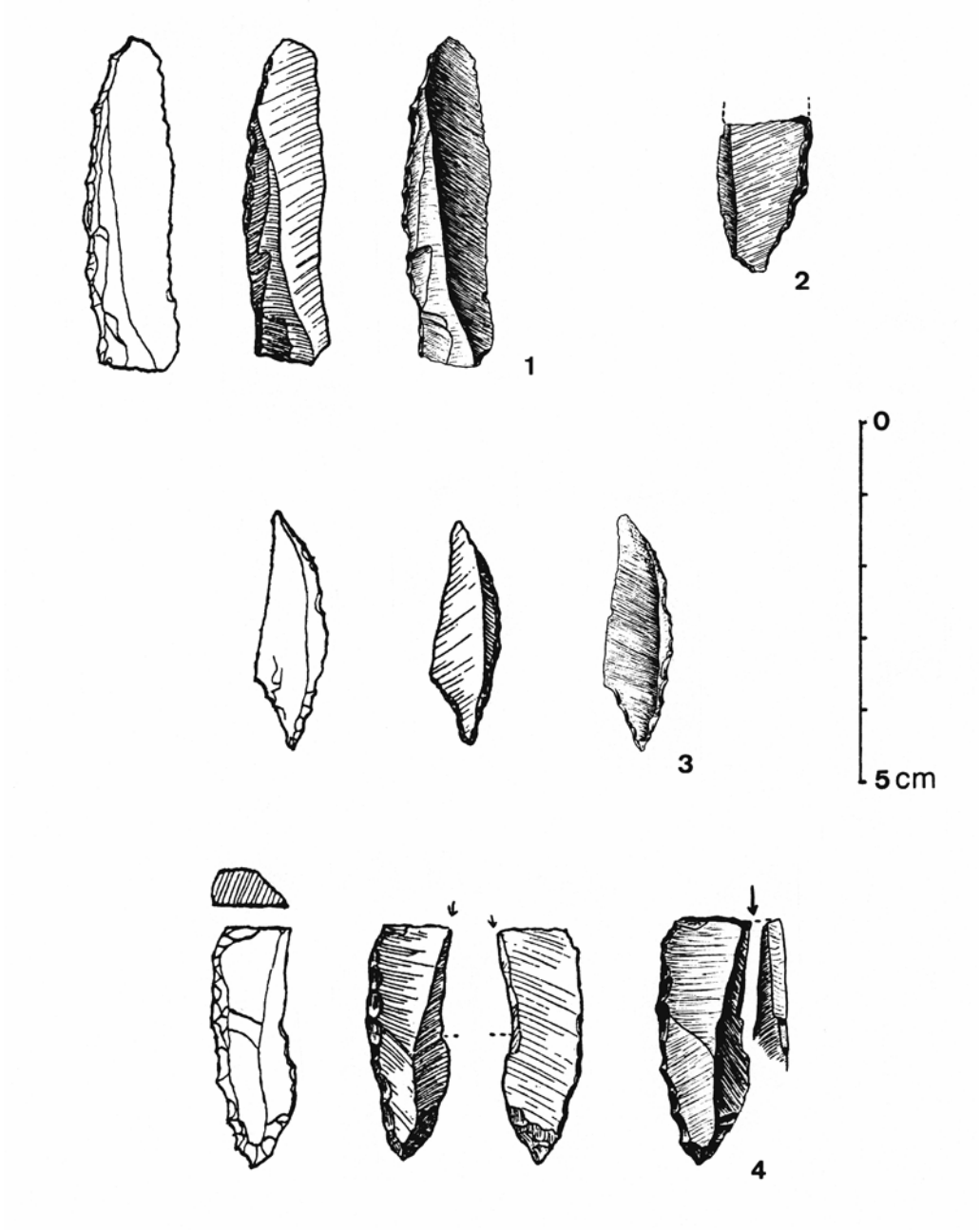

Figure 3. *Aveline's Hole: 1-2. Broken curve-backed points; 3-4. Penknife points.*

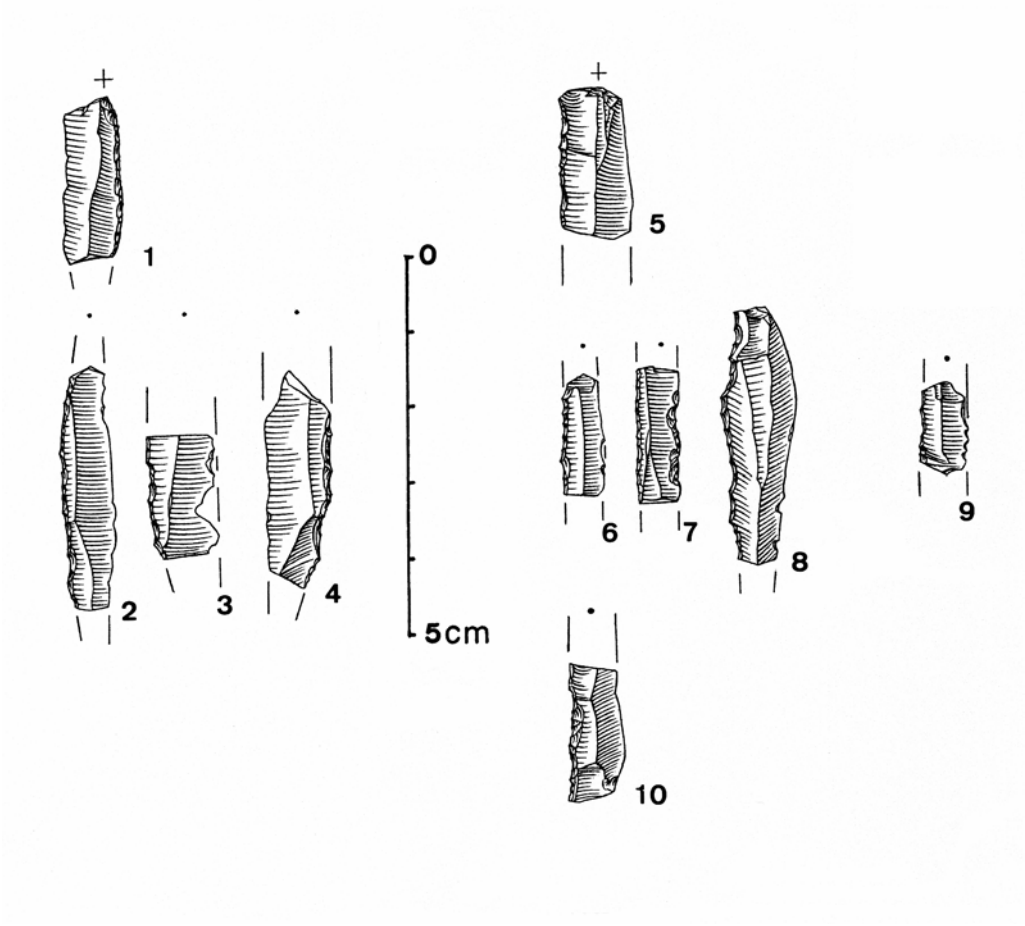

Figure 4. *Aveline's Hole: 1-4. Curve-backed bladelets; 5-10. Straight-backed bladelets.*

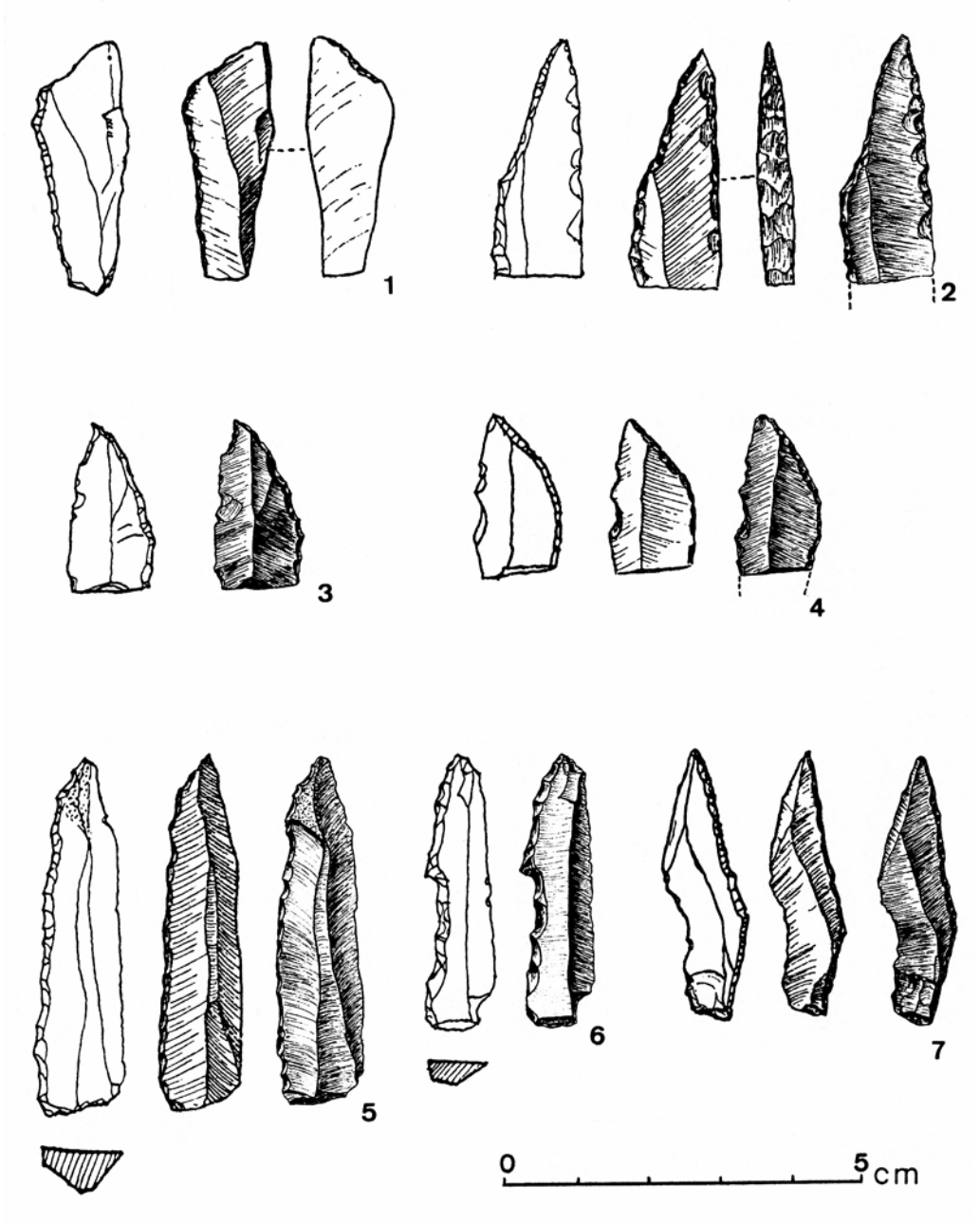

Figure 5. *Aveline's Hole: Unclassified abruptly modified (backed) pieces.*

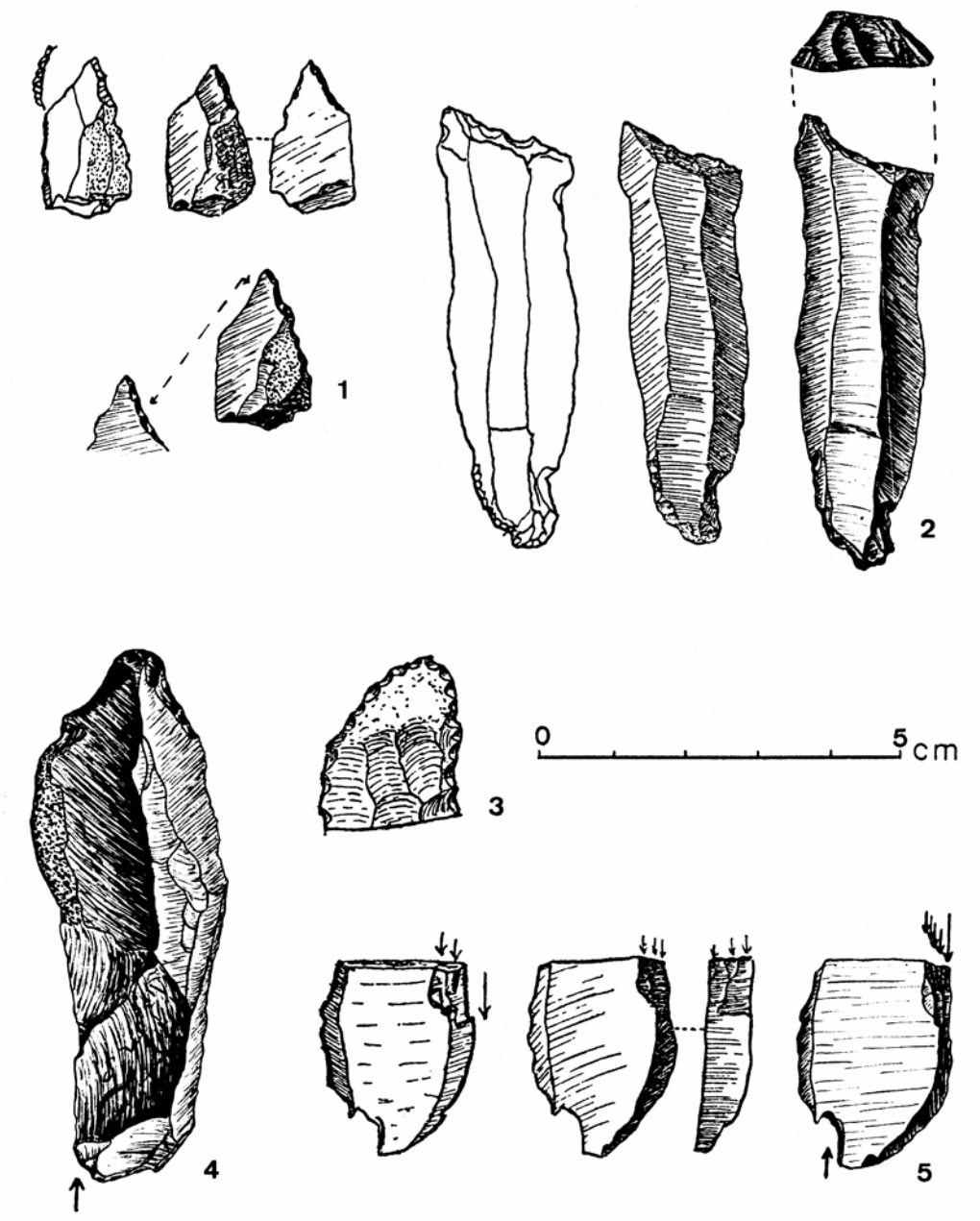

Figure 6. *Aveline's Hole: 1. Possible micro-piercer; 2. Blade with truncation at its distal end; 3. Retouched distal fragment of flake or blade; 4. Blade with rounded end; 5. Bladelet core on fragment.*

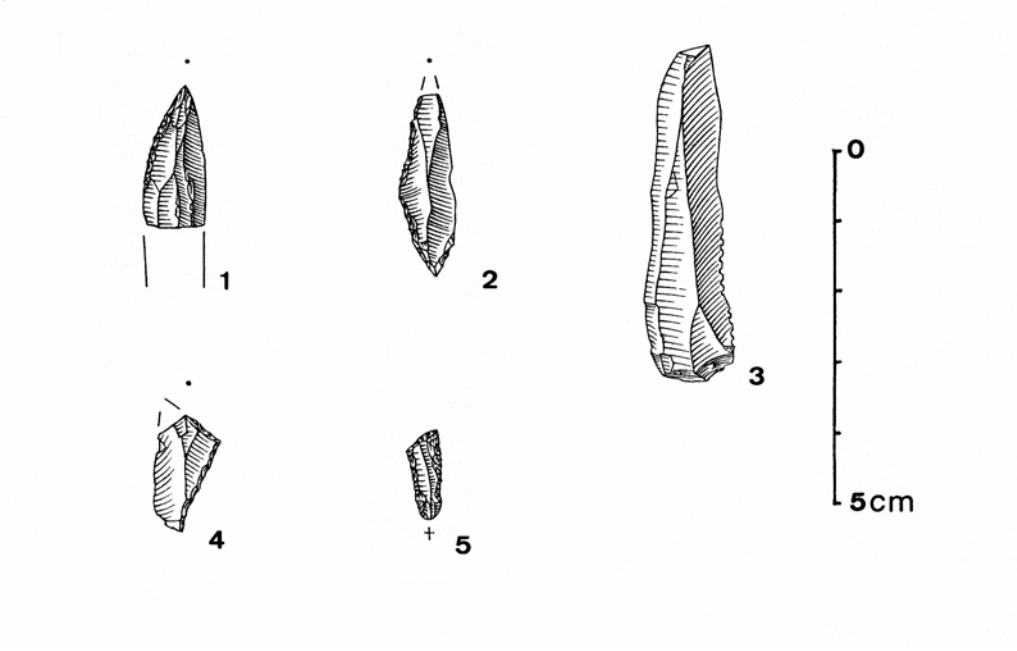

Figure 7. *Aveline's Hole: 1-2. and 4-5. Microliths; 3. Microdenticulate.*

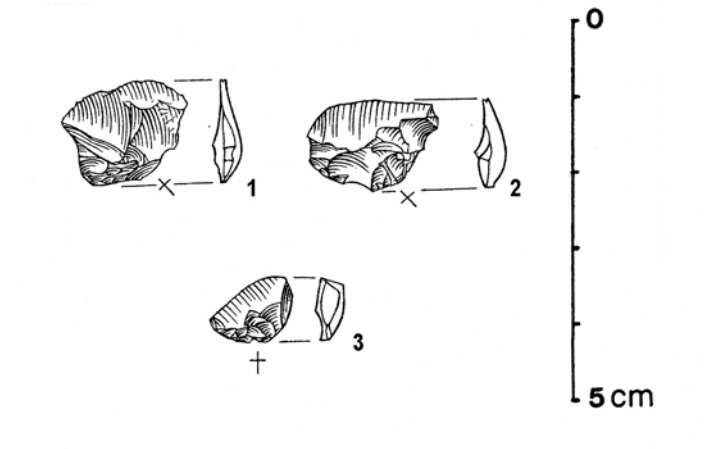

Figure 8. *Aveline's Hole: Secondary platform preparation flakes and chip.*

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