

Tower FT187, Dalnacardoch, Perth & Kinross

Archive Report: the lithic assemblage (4016161)

Introduction

Two flint blades were recovered from the top soil during the course of the excavations at Tower FT1877, Dalnacardoch, Perth & Kinross (cf. Black 2014). It is these artefacts, which are the focus of this report.

Methodology

The methodology, type and attribute terminologies employed for the analysis of lithics from Dalnacardoch follows the format devised and adopted for the *Southern Hebrides Mesolithic Project* (Finlayson *et al.* 1996, 2000). This built upon the research design used for the analysis of the lithic assemblage from Kinloch, Rùm (Wickham-Jones 1990), which was itself derived from the terminologies of technological analysis put forward by Tixier *et al.* (1980); subsequently enhanced (Inizan *et al.* 1999). It also incorporates aspects of Madsen's (1992) classification scheme for primary technological attributes. This format lends itself to the incorporation of later prehistoric modified forms. Appendix 1 is a glossary of terms.

The database uses Access™ 2010 for the typological and technological analysis of the lithics. References to specific artefacts will cite the catalogue number.

Character

Common to both blades are that they are fresh, secondary, and regular. There is evidence of trimming preparation at the dorsal surface of the proximal end prior to their detachment from unidirectional cores with plain platforms, and using a soft hammer.

Blade (088)

A fragment with the distal end missing, and measuring 25mm by 11mm by 3mm. The diffuse bulb of percussion has an associated lip attribute.

There is a lightly pitted cortex located on the lateral right of the dorsal surface, which indicates that the source location of the raw material derives from fluvio-glacial action.

Narrow blade (089)

A complete narrow blade with a diffuse bulb of percussion measuring 27mm by 7mm by 2mm. Blades are classified as 'narrow' where the width is in the range of 5-8mm.

A smooth/hard cortex indicates that the source location of the raw material derives from fluvio-glacial action.

Summary

The finds are residual. Their recovery location derives from unknown taphonomic events. Both blades would not look out of place in a Mesolithic assemblage. There are no known Mesolithic sites in the immediate area.

Dr Dene Wright
February 2017

References

- Black, S. 2014. Beaully to Denny 400kV Overhead Transmission Line: Tower FT187, Dalnacardoch, Perth & Kinross. Unpublished DSR: Northlight Heritage.
- Clarke, A. 1990. Coarse stone tools. In C. R. Wickham-Jones (ed.), *Rhum, Mesolithic and Later Sites at Kinloch: excavations 1984-86*: 117-126. Edinburgh: Society of Antiquaries of Scotland.
- Costa, L.-J., F. Sternke and P. C. Woodman. 2005. Microlith to macrolith: the reasons behind the transformation of production in the Irish Mesolithic. *Antiquity*, 79: 19-33.
- Finlayson, B., N. Finlay and S. J. Mithen. 1996. Mesolithic Chipped Stone Assemblages: Descriptive and Analytical Procedures used by the Southern Hebrides Mesolithic Project. In T. Pollard, and A. Morrison (eds), *The Early Prehistory of Scotland*: 252-266. Edinburgh: Edinburgh University Press.
- Finlayson, B., N. Finlay and S. J. Mithen. 2000. The cataloguing and analysis of the lithic assemblages. In S. J. Mithen (ed.), *Hunter-gatherer landscape archaeology: The Southern Hebrides Mesolithic Project 1988-98. Volume 1: Project development, palaeoenvironmental studies and archaeological fieldwork on Islay. Volume 2: Archaeological fieldwork on Colonsay, computer modelling, experimental archaeology, and final interpretations*: 61-72. Cambridge: McDonald Institute for Archaeological Research.
- Hayden, B. 1991. Confusion in the Bipolar World: Bashed Pebbles and Splintered Pieces. *Lithic Technology*, 10: 2-6.
- Inizan, M.-L., M. Reduron-Ballinger, H. Roche and J. Tixier. 1999. *Technology and Terminology of Knapped Stone*. Nanterre: CREP.
- Madsen, B. 1992. Hamburgkulturens Flintteknologi i Jels. In J. Holm, and F. Rieck (eds), *Istidsjægere ved Jelssøerne*: 93-131. Haderslev: Skrifter fra Museumsrådet for Sønderjyllands Amt 5.
- Mallouf, R. J. 1982. An Analysis of Plow-Damaged Chert Artifacts: the Broken Creek Cache (41HI86), Hill County, Texas. *Journal of Field Archaeology*, 9: 79-98.
- McBrearty, S., L. Bishop, T. Plummer, R. Dewar and N. Conrad. 1998. Tools Underfoot: Human trampling as an agent of lithic artefact edge medication. *American Antiquity*, 63(1): 108-129.
- Neilsen, A. E. 1991. Trampling the Archaeological Record: An Experimental Study. *American Antiquity*, 56(3): 483-503.
- Ohnuma, K. and C. Bergman. 1982. Experimental Studies in the Determination of Flaking Mode. *Bulletin of the Institute of Archaeology*: 161-170.
- Tixier, J., M.-L. Inizan and H. Roche. 1980. *Préhistoire de la pierre taillée, 1 terminologie et technologie*. Valbonne: CREP.
- Wickham-Jones, C. R. (ed.). 1990. *Rhum, Mesolithic and Later Sites at Kinloch: excavations 1984-86*. Edinburgh: Edinburgh University Press.
- Wickham-Jones, C. R. 2004. Glossary and notes to the lithic catalogue. In C. R. Wickham-Jones, and K. Hardy (eds), *Camais Daraich: a Mesolithic site at the Point of Sleat, Skye*: 69-71. (<http://www.sair.org.uk/sair12/>): SAIR 12.
- Woodman, P. C., N. Finlay and E. Anderson. 2006. *The Archaeology of a Collection: The Keiller-Knowles Collection of the National Museum of Ireland*. Wicklow: Wordwell.

Appendix 1: Glossary of Terms¹

Introduction

The definitions of terms is a composite from a number of different sources (i.e. Finlayson *et al.* 2000; Inizan *et al.* 1999; Wickham-Jones 1990, 2004). If other sources are used then the relevant section is referenced accordingly.

Glossary

Anvil: These coarse stone artefacts are recognised by distinctive wear patterns (Clarke 1990, Illustration 78). They may have also used as percussors (Finlayson *et al.* 2000, 72).

Anvil support: Refers to those occasions where the platform core is placed on an anvil for support to facilitate blank removals.

Blade: A blade is arbitrarily defined as an artefact which is twice as long as it is wide usually with straight parallel sides. Such examples may sometimes be referred to as 'true blades' to distinguish them (Wickham-Jones 2004, 69).

Blade-like flakes: The blade fits the metric parameters to be categorised as such, however, the morphology of the piece is more in keeping with that of flakes, e.g. they may often be irregular and do not have parallel sides.

Blanks: Collective term for blades and flakes (Wickham-Jones 2004, 69).

Bulb of percussion: This attribute signifies where the core was struck to detach the blank. A pronounced bulb may indicate the use of a hard hammer, and a diffuse bulb invariably indicates the use of a softer hammer (Wickham -Jones 2004, 69). Bulb and lip and pronounced lips are associated with the use of soft hammer. Lip attributes may suggest the use of an antler percussor (Madsen 1992, 104-105). Experimental studies confirm this, although such studies are usually undertaken using flint of exceptional quality (cf. Ohnuma and Bergman 1982). Bulb attributes will vary with different raw materials (cf. Costa *et al.* 2005).

Chunk: These artefacts are generally a by-product, and do not have a platform or ventral face. Some chunks may have been used, e.g. *pièces esquillées* (Wickham-Jones 2004, 69).

Cores: The core is the artefact from which blades and flakes are struck.

Bipolar/bipolar cores: Indicates that cores are worked utilising an anvil. They may present with removals from both the proximal and distal ends due

¹ Wright 2014

to the strike of the hammerstone and the shock reverberation from the anvil, and there may be evidence of severe crushing damage, percussion ridges from repeated strikes, step and hinge terminations and the presence of cortex (Hayden 1991, 3).

Platform/platform cores: The term refers to the utilisation of a plain or simple platform which is struck to detach blades and flakes. These cores can be predominantly for either blade or flake production. A distinction that is ascertained by determining the most common form of blank removed. Some cores will be classified as non-specific platform referring to the removal of blades and flakes in broadly equal frequencies. The remaining category is for cores described as amorphous which represent irregular knapping sequences (Wickham-Jones 2004, 70; Finlayson *et al.* 2000, Table 2.5.3).

Core rejuvenation strategies: Knapping accidents will occur resulting in negative step and/or hinge terminations on the flaking surface of the core, which may be removed by a core rejuvenation blank to leave a clear flaking surface for future removals. Accumulations of material at the distal end of the core can be removed by the blank with a plunging termination. Strategies are also encountered when part of the platform surface is removed by a side blow (after Inizan *et al.* 1999, 153).

Cortex: Refers to the original surface of the nodule or pebble, which may be fresh, rolled, abraded, pitted or battered. Cortex may be either smooth/chalky or smooth/hard. The cortical attribute may indicate the possible source of the raw material (Wickham-Jones 2004, 69).

Dorsal and ventral faces of blanks: The upper face or dorsal is the flaking surface of the core prior to the removal of the blank. The lower face or ventral represents the fracture face of the blank having been detached from the core. The ventral and the core will conjoin.

Edge damage: Edge damage may result from the reduction strategy, use and other post-depositional factors such as ploughing, trampling, natural abrasion, and other unknown taphonomic processes (Finlayson *et al.* 2000, Table 2.5.1; Mallouf 1982; McBrearty *et al.* 1998; Neilsen 1991).

Flake: A classification of a blank. Metric variants distinguish flakes from blades. Flakes are also generally less regular than blades. They may be either modified or unmodified for use (Wickham-Jones 2004, 69).

Hammerstone: Hammerstones vary in hardness which may be indicated by the bulb of percussion on blanks, and the negative bulb of percussion visible on cores (Wickham-Jones 2004, 69-70).

Languette: Represents a knapping error creating tongue-like distal termination. They are associated with a soft hammer (Inizan 1999 *et al.*, 144).

Original pebble/nodule size: A medium sized pebble has been categorised as fist-sized. An approximate term based in the size of pebbles recorded on Islay (Finlayson *et al.* 2000, Table 2.5.2).

Patination: Discolouration of original fresh colour artefacts. Variations in patination may arise because of the nature of the soil matrix from which they were recovered. It may also indicate ground disturbance (Inizan *et al.* 1999, 147; Wickham-Jones 2004, 69).

Platform type: There are four types of platform referred to (Finlayson *et al.* 2000, Table 2.5.4).

Cortical: The entire blank platform is covered in cortex.

Simple/plain: Represented by a simple flaked surface.

Complex/faceted: Multiple flake removals define this form of platform. Examples of this strategy during the Mesolithic period are likely to be accidental.

Crushed: A collapsed platform associated with bipolar reduction.

Primary material: Cortex covers the dorsal surface of the artefact (Wickham-Jones 2004, 70).

Primary technology: Refers to the procurement of raw material, preparation of cores and debitage products, such as blades, flakes, chunks and small fraction debitage (Wickham -Jones 2004, 70).

Reduction strategy: Refers to the use of either bipolar or platform reduction strategies (Wickham-Jones 2004, 71).

Regular/irregular blanks: Regularity is determined by a blank with a straight edge <10mm. Blanks with a straight edge of <10mm are classified as irregular (Wickham-Jones 2004a, 71).

Remaining platform size: This schema is taken from Madsen (1992, Figure 70).

Point: Where remaining platform represents <33.33% of blank width.

Small/narrow: Remaining platform width is c.33.33% of blank and length is <33.33% and >66.67%.

Broad/narrow: Remaining platform length is >66.67% of blank.

Large: The width and length of the remaining platform is >66.67%.

Retouch, angle of: There are four forms of retouch referred to in this study (cf. Inizan *et al.* 1999, 129-130; Woodman *et al.* 2006, 95). The first three categories are focused on the edge of the blank.

Abrupt: Marginally less than 90°.

Enclume: Use of anvil with angle at 90°.

Semi-abrupt: angle at approximately 45°.

Semi-invasive: Similar to semi-abrupt, although retouch extends across the surface of the blank.

Retouch, extent of: The extent of removals are classified as either short, semi-invasive, invasive or covering (Figure 6).

Retouch, position of: Direct retouch is visible on the dorsal face, conversely inverse retouch is seen on the ventral face. Alternate is where a blank has been modified by both direct and inverse retouch.

Secondary material: Artefact with cortex visible on the dorsal surface (Wickham-Jones 2004, 71).

Secondary technology: Refers to the modification of blanks into tools (Wickham-Jones 2004, 71).

Scrapers: Scrapers present with a blunt working edge (cf. Finlayson *et al.* 2000, Table 2.5.8).

Short convex: Convex scraping edge <10mm thick.

Short convex flared: As for short convex but where artefact narrows from scraping edge.

Short thick convex: As for short convex with scraping edge <10mm.

Short thick convex flared: As for short thick convex but flared.

Long convex: Scraper which is twice as long as it is wide with a scraping edge of <10mm.

Long convex flared: As for long convex but flared.

Long thick convex flared: Scraper which is twice as long as it is wide with a scraping edge of >10mm.

Disc: Continuous retouch to circumference of scraper.

Concave: Scraper with concave scraping edge.

Denticulate: Scraping edge is denticulated or presents with multiple notches.

Angled: A scraper with more than one scraping edge which meets to form an angled corner(s).

Sub-angled: As for angled but with rounded corners.

Straight: The edge is neither convex nor concave in plan.

Wide convex: A side scraper with retouch to longest axis.

Irregular: Scrapers which do not into the other classifications.

Fragment: Refers to a scraper fragment.

Siret fracture: Refers to a knapping error where the width of the blank is split. This may or not extend the full length of the blank (Inizan *et al.* 1999, 156).

Small fractiondebitage: Debitage where metric variants are all <10mm (Finlayson *et al.* 2000, Table 2.5.5).

Tertiary material: Artefact without any trace of the original cortical surface present (Wickham-Jones 2004, 70).

Tool form types: General term for all tool forms. Apart from microliths and scrapers other tool forms are set out below (cf. Finlayson *et al.* 2000, Table 2.5.1).

Abruptly backed: Any artefact which has abrupt retouch to blunt edge.

Thin-backed: Refers to any artefact with fine retouch to blunt edge.

Point: Two or more convergent edges with retouch.

Denticulate: Edge is formed as a series of notches. Each notch may be as a result of single or multiple removals.

Thick denticulate: As for denticulate but where modified edge is >10mm.

Notch: Artefact with non-contiguous notch attributes. The notch may be as a result of single or multiple removals.

Miscellaneous retouch: Artefact with retouch that do not fit into any of the other categories.

Awl: Generally awls are fashioned on thick blanks and comprise of abrupt retouch on two sides to form point.

Trimming: Relates to the abrasion of an unretouched edge producing semi-invasive scalar removals. It is associated with the shaping of artefacts.