

Archaeology lecture 18th April 2009

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Prehistorian with specific interest in Religion and Ritual & Early tools.

The Past in Pieces I: Stone Tools

Bibliography (See handout).

“**Later Stone Implements**” by Mike Pitts Shire Books (1980)

is probably the best basic introduction.

Never reprinted but is widely available from secondhand bookshops.

If get interested then can move on to:

“**Prehistoric Flintwork**” by Chris Butler published by Tempus.

There are many good internet resources including those accessed from the following links:

www.britarch.ac.uk/info/uklinks.html

www.archaeology.co.uk

www.english-heritage.org.uk/default.asp

www.ucl.ac.uk/prehistoric

<http://lithics.org>

www.wanhs.org.uk

<http://home.freeuk.net/bgass>

Two words are key:

Lithos meaning “Stone” and

Petros meaning “Rock”

Stone Tools:

How?

To a certain degree, the methods used to create stone tools of any type are constrained by the materials where they conchoidally fracture. Stone with a conchoidal fracture habit fractures in a regular and predictable way when struck and therefore it is easily worked by flaking.

The easiest way of working is **Flaking** – tools can be produced both from the parent lump of stone and the flakes that are struck from them using this method.

A core tool, rather than a flake tool, is made by the parent lump of stone.

Pecking: – this production method was used in Neolithic times on stone that did not have a conchoidal fracture habit such as a number of igneous and metamorphic rocks.

When you strike the not conchoidally fracturing rocks, it is much harder to work – therefore it is impossible to flake the material and have to “peck” at it. You are left with the core lump – the waste disappears as dust and can’t be used separately. You would need to use something harder than the parent lump itself to peck at it.

Sarsen was used a lot in this area – it is harder than almost anything else known at the time.

Polishing was used a lot particularly with axes and adzes. Polishing was used to finish various types of stone tool that had been initially worked by either flaking or pecking. During the Neolithic polished stone axes seem to have played a particularly important role in society. Polissoir stones (Polishing stones) can be seen on Fyfield Down near Avebury. They have striations on them where they were used to polish axes.

Determining the difference between frost shattering and hand worked flint, is possible by studying the flint itself.

Obsidian is almost pure glass.

Green Stone refers to materials that come from Langdale or the Lakes.

Grimes Graves, in Norfolk, is the largest flint mine that we know of in this country. It is much as it would have been originally.

A huge project focused on polished stone axes has gone on for years where they looked at source material and found material. They have determined over 30 petrologically identified stone sources in the British Isles. 4000 – 3000 BC relates to Neolithic times. Polished stone axes would have been given as gifts, in exchange etc and therefore travelled some distance from where they were made. Rivers were very important during the period as means of communication. The actual axe factories have been found. There is a wide distribution but there were areas where specific communities must have been in contact with one another.

Typology – the study of morphology and attributes i.e. the study of shapes or forms and the quality belonging to them (sharpness, colour, decorative motifs, techniques etc.) Typology was the fundamental building block that helped archaeologists to date site – prior to radio carbon dating etc.

Microliths is the term given to these very small stone archaeological objects. Leaf-shaped arrow heads are absolutely typical of the Earlier Neolithic era.

What?

Flaking techniques were used to make **arrowheads, blades, scrapers** and **axes**.

Pecking was used for **axeheads** and **maceheads**.

Flint arrowheads were not normally re-usable if embedded in bone or cartilage.

During the Early Bronze Age - 2400 BC (or more likely 2,200) – about 1500 BC, barbed and tanged arrowheads are typical and these were found in the grave of the Amesbury Archer – it appeared as though a quiver full of such arrowheads were thrown over the grave after he was buried.

Flint waste is term debitage and this can give us much information about the source of material since this tends to remain at the site of manufacture.

The cortex is the “rind-like” rough skin around the flint. This is removed by working or by being pummelled by water when washed down river beds.

“Proximal” is used to describe the bit nearer the top of the flint and “distal” that nearer the base or bottom.

Experiment and Ethnography

Water and sun are essential for plant growth. To enable both to penetrate to ground level, indigenous people clear the woodland to get rid of the canopy. This was traditionally done by taking the trees down to about 5 foot. Weeds would ultimately grow tall and it became more energy efficient to begin again clearing another similar area (they did not do as we do which would be to totally clear away the tree growth).

Archaeologists may study modern tribesmen (e.g. in PNG) to determine how primitive tools were made, bound etc and the different processes possibly involved / left behind etc in various aspects of the life style. Such information can shed light on prehistoric remains and how these may have been made, used, adapted etc.

Sometimes flint was slowly heated to a high temperature to increase its fracturing/ flaking abilities.

BC 3,600 – 3,680 – A 50 year period when there seemed to be a concentration of Neolithic battles with many axe heads being found and evidence of palisade erection.

Chaîne Opèratoire looks at the link/chain of how things operated i.e. what was the site used for. Are there whole artefacts there, is there debitage or waste, are there cores?