

Archaeology Course 24th October 2010

STONE TOOLS AND BASICS

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

Introduction - with the aim of creating a fairly level playing field.

Bibliography

- John Lord Th Nature and Subsequent Uses of Lint –**The Basics of Lithic Technology Volume 1**. He has become an expert knapper.
- Mike Pitts: 1980 “**Later Stone Implements**” - **Shire** – was formerly a curator of the AK Museum. Out of print – if see it, buy it!
- Chris Butler 2005 “**Prehistoric Flintwork**” – Tempus

‘Eoliths’ – really really early – things that partially mimic attributes

Palaeolithic – Old Stone Age

Mesolithic – Middle Stone Age 10,000 – 4,000 BC

Neolithic – Later New Stone Age Neolithic 4000-2,200 BC

HOW WERE THEY MADE?

Flaking – a technique that is applied to stones that have a regular fracture habit – conchoidal (shell-like). Flint is such a stone. Tools can be produced both from the parent lump of stone and the flakes that are struck from them.

Conchoidal fracturing is predictable – so the maker knows the outcome.

Pecking involves taking a large lump of rock that does not have a conchoidal fracture habit – such as a number of igneous and metamorphic rocks. The big sarsen stones of Stonehenge would fall into this category.

Polishing was used to finish various types of stone tool that had been initially worked by either flaking or pecking. Not all stone tools were polished. During the Neolithic polished stone axes seem to have played a particularly important role within society.

Stone tools are still used today in some circumstances (such as stone scalpels in brain surgery etc. – can be easily sterilised and are very precise).

Stone Tools: The Early Years

Palaeolithic – (Palaeo = old and lithic = stone)

Age and usage can be determined by microwear analysis and usewear analysis

When thinking of stratigraphy, the oldest tools will be in the lowest level. During the Middle Palaeolithic we get things such as a Mousterian Scraper, found in Norfolk and named after Moustere – a cave site in France. This is the Neanderthal period. 40 – 50,000 years ago.

1950 is the date for the present as far as archaeology is concerned: BP dates therefore determine the number of years back from 1950.

Microliths – from the Mesolithic period – are extremely tiny. This is the period of deciduous woodland & hunter gatherer lifestyle. The microliths were originally used as composite tools – several of them with a blunted edge were put into a wooden haft with the blunt edge going into the wood. They could be put in, in any combination.

Maceheads etc have no use wear on them at all, revealing that they were used purely as ceremonial.

99.9% of stone axes were polished all over. Nic has a replica one she had for Christmas!

Green seems to have been a particularly important colour for ceremonial purposes.

Polissoirs – polishing stones. There is a famous one at Fyfield Down near Avebury. There is a smooth area used to polish the flat area and then striations showing where the blade itself was sharpened. (near the pointy triangular stone which is only a few metres away).

Definition of:

Flake – anything with a length of $< 1\frac{1}{2}$ times its breadth

Narrow Flake – length of $1\frac{1}{2}$ - 2 times the breadth

Blade – twice as long as it is broad

A microlith is always made on a blade but it is then modified on a retouch.

Making Sense of Stone – the bigger picture

Typology (the study of types or forms)

Early Bronze Age – Axe Hammers and Battle Axes

Chronometric Analysis looks at looking at the length, breadth, width as this relates both to date and the type of tool being made.

Spatial analysis is really important as far as individual plots are concerned:– causewayed enclosure at Crickley Hill, Gloucestershire where leaf-shaped arrowheads were found. Many had fire damage so it looks as though there were burning arrows shot in what has been claimed as evidence of the first battle site ever found.

Distribution Densities show a contoured distribution of worked flint by number, excluding chip and burnt worked flint within the main scatter. (as per Phil Harding's work at Rock Common in 2000).

Chaine Opèratoire

This technology starts with the whole artefact and examines debitage and cores. You are looking at the sequence of events. This work points to where there are extraction sites, and whether it is worked at on site or taken elsewhere for working on. This enables focus on where people are in the landscape and how they are moving from one place to another.

Another way of learning is by **Knapping** because without experimenting in this way it is difficult to understand the processes involved in working the

flint. Do not try knapping in an unventilated room because of the silica content of the material and also wear goggles because of the danger of getting fragments in your eye (vis Phil Harding)

With a piece of leather, a soft hammer (piece of antler) a hammer stone and the flint material itself, you can make some amazing things.

Material Choices:

There are 30+ different sources in the British Isles from which stone axes have been made:

Natural glass – Obsidian (not from Britain – largely from Italy etc) There was a great trade in this and it has been found hundreds of miles away from its source.

Ethnography

Indigenous folk in places like Papua New Guinea teach us much. Stone axes do not work in quite the same way as steel ones.

Replication can be a very important experiment. A lot of Polissoirs have survived in the Avebury area because stone containing them has been reused in buildings. Until recently nobody had sought to replicate how long it would take to polish a stone. Michele Grist took a block of sarsen and polished it to see how long it would take to get a smooth surface – in fact it took only 3 – 4 hours on polishing whereas Phil Harding's work showed that it could take about 24 hours to completely polish a stone axe.

It would seem as though people buffed up their axes – polished them up in the area. We have no Polissoirs locally that are deep enough to indicate that they were used to completely finish the whole polishing process.

Another technique used is **Refitting** – one of the very best ways of learning the process is to put all of the pieces back together. You start with replicated assemblages but it is incredibly difficult when there are thousands of pieces and one doesn't know how many there were in the original whole!! It is possible to work out the whole sequence as a result of this.

Function – Many items were made with real functions in mind – scrapers, chisels, saws etc to help you to live and to survive. Some of them, according to what they did for you, lead them to become ritually important.

2011, will be Avebury's Year of Time. It will be 25 years since Avebury became a World Heritage Site under the joint auspices of the National Trust and English Heritage. There will be landscape walks, workshops etc.

Look at Alexander Keiller Museum on Twitter.

Look for Opticians loupes on the net – at least 10 x 21 MM – approximately £2 - £3.