

Archaeology lecture 10th October 2009

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

THE PAST IN PIECES III: METALWORK

Bibliography

See handout and, in particular:

- Bronze and the Bronze Age. Metalwork and Society in Britain c. 2500 – 800 BC Martyn Barber Tempus 2003.
- Bronze Age Metalwork in Southern Britain. Princes Risborough S.M. Pearce Shire 1984
- Buy: **ARCHAEOLOGY: THEORIES, METHODS & PRACTICE** C. Renfrew & P. Bahn Thames & Hudson 2004

METALS AND MEANING – THEIR ROLE IN INTERPRETATION:

Study of metal objects found can give insight into:

- The movement of peoples – trade and exchange
- Usage– functional, practical, ceremonial, symbolic, ritual, adornment, etc.
- Burial practices
- Wealth and warfare – use in weaponry
- Looking @ the site where they were found – will reveal information about production, use of the objects, seasonal or continuous
- Extraction and production

Metals:

Gold

Copper

Tin Bronze

Arsenical Bronze

Lead Bronze

Bronze = tin + copper

Lead Bronze = tin + copper + lead (the lead makes it softer so that it is at a malleable temperature for longer and will flow better)

EXTRACTION & EXPLOITATION

Extraction & exploitation of materials marks the landscape in ways that were visible in the past and in some cases remain visible today. This changes the meanings and associations of these places.

Acquisition and control of raw materials, and the methods and routines employed in their acquisition varied for both functional and social reasons (this sometimes included ritual motivation).

SOCIAL RELATIONS AND RELIGIOUS BELIEFS are revealed by the study of metal objects. e.g. the Iron Age Chariot Burial at Wetwang, Yorkshire. Within the burial site was a bronze mirror as well as the chariot wheels. This revealed status etc.

PRODUCTS AND PRODUCTION

- **Form**
- **Technology**
- **Function**
- **Context**

The symbolism apparent in the finished article and the way in which it was produced and used could be both explicit and implicit.

Form (the names are derived from key excavation sites)

Hallstatt C	700 – 600 BC	(Austria - Iron Age)
Hallstatt D	600 – 400 BC	(" ")
La Tene I	400 – 250 BC	
La Tene II	250 – 150 BC	
La Tene III	150 – 1 BC	

(Hallstatt A & B was Bronze Age)

Technology

There are only a few sites where extremely high quality objects were made.

Function

It is important to deduce what the item was intended to be used for.

METALS IN PREHISTORIC BRITAIN

The earliest metal working in mainland Britain was about 2400 BC – slightly earlier in Ireland (2500). This may be related to sea routes and currents – Ireland being the first in line across the then sea routes. We call this the start of the Early Bronze Age or the Chalcolithic (Copper and Stone). This is when copper rather than bronze was being used but was a very short period. After this the simple alloy of bronze plus tin came into usage.

There are no examples of Bronze Age tin extraction sites.

Why?

It could be because they only used alluvial sources or because the site was virtually obliterated by over-usage.

After copper, tin and gold, iron came into use.

Haeomotite (iron stone) was used in addition to bronze – not instead.

It was very commonly occurring.

Beneficiation – making the best use of. You want to be able to get rid of as many of the impurities as possible. This will minimise the number of air bubbles etc which could cause the casting to crack. Grading went on and women & children (probably) would hit the rock to get rid of the crud. They were very efficient at doing this in the Bronze Age.

Annealing – involved not just hitting but looking at the colour changes taking place during heating and knowing when to remove etc.

Smelting is the process of extracting the metal by heating. It would have been a bowl furnace – in a pit – initially. This limited what could be done in the metal working early on as the temperature could not be as great or as controlled. There was the ability to forge iron but not to cast it as the temperature was not great enough. There was the ability to cast bronze however.

Forging – After the iron was initially smelted, the iron was hit to produce wrought iron. You could not make it hot enough to pour it into a mould at this stage or to cast it.

Lead aids the flow of the alloys.

The mould was in two parts, and bound together probably with a leather thong. Green wood was put on the top of the poured bronze. The engraving was done afterwards. Chalk is abrasive and could be used to work the bronze subsequent to being cast.

The **Cire Perdu** process (lost wax) was used to enable the implementation of pattern.

Beakers – most in this country start at around 2400 BC and continue til about 1600 BC