

History @



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At week 3 we reached the introduction of metals and the onset of the Bronze Age. This introduces a completely new lifestyle, illustrated by changes in burial practice, the construction of new monuments and of course, metal objects.

What is Bronze?

What is Bronze?

10% Tin
90% Copper

This is called an alloy

Copper is very soft, not much good for making a strong metal tool or weapon, but mix it up with some tin and it becomes much tougher



c 500g

How to make it - you need a furnace and 1200 degrees of heat

To make 5kg of Bronze, you need 100 kg of charcoal
To make 100 kg of charcoal, or need 700 kg of wood

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We kicked off the session with a little chemistry and thinking about exactly what Bronze is: an alloy, being a mixture of tin and copper. Tin and copper are elements and a quick Google by Peggy revealed that they are two of 118 elements known to man.

In Europe there was a long Chalcolithic Age (Copper). Copper is quite pliable but stick a bit of tin in and it makes a much stronger metal. In Britain we seemed to have largely missed out on the Chalcolithic, or Copper Age, and gone straight to the Bronze Age.

Britain has fantastic supplies of tin and copper, Cornwall for tin and North Wales for copper and we spent some time contemplating the implications of this. In a world before trains and lorries there would have been some significant cooperation and logistics to bring the two elements together.

We must have had specialist skills - mining, processing, transport, metal work to name but a few. We considered transport, would you transport materials by land or sea, we liked the latter idea. We know we have Bronze Age boats from our exploration of Must Farm last week, but would these log boats be capable of navigating coastal waters?

Where does Copper and Tin come from?



Bronze Age Copper

Bronze Age Tin

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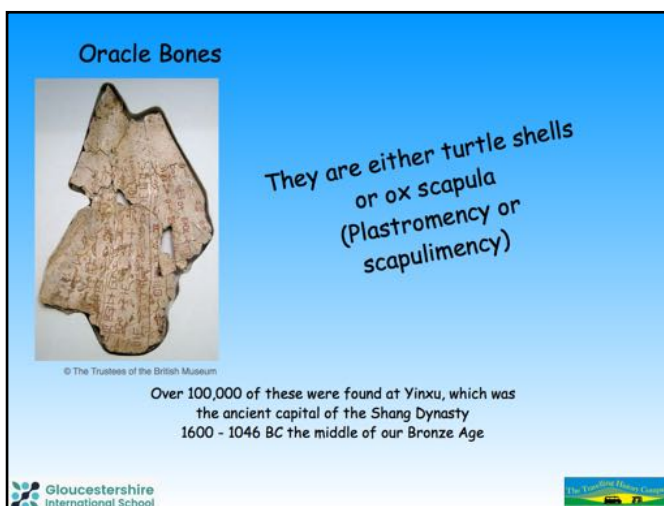
Tate made the comment that copper is green, which is absolutely right and our next slide had a case in point. In the Bronze Age we have evidence of quite a violent community, we have lots of swords and knives. We looked at a Bronze Age skeleton from Tormarton in Somerset. There is still a copper arrow head lodged in his spine which has indeed turned the bone green from the copper.

The Bronze age marks, in many countries, a protohistory - a time when we begin to see writing emerge and some written clues to the historic record.

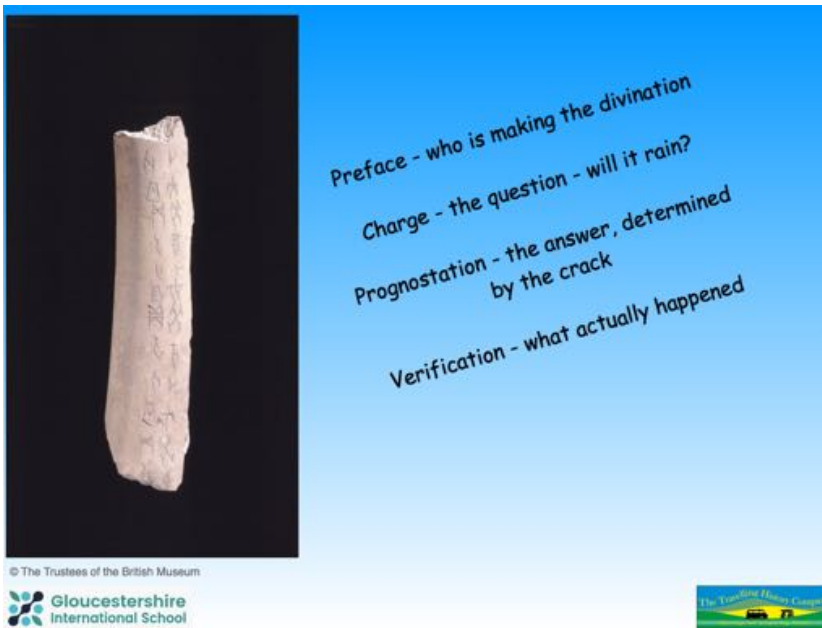
To explore protohistory in a Bronze Age context we travelled to ancient China, to Anyang, formerly Yinxi, the capital of the Shang Dynasty. The Shang Dynasty lasted from 1600 BC to 1046 BC so corresponds broadly with the British Bronze Age.

Our story starts around 1898. For years farmers in Anyang has been digging up pieces of bone that they called Dragon Bones. These were thought to have medicinal properties and would be ground up and sold as a cure for malaria. Around 1898 a historian, suffering from a bout of malaria, noticed that some unground Dragon Bones had inscriptions on them.

The rest is history, these bones turned out to be a divinations from Shang Dynasty - the Bronze Age. They became known as Oracle Bones.



Oracle bones are a cure for the indecisive. From simple yet important questions such as, will it rain today?, should we make a particular sacrifice? (there was quite a lot of that!) to great events; should the King invade such a place? The bone, either a turtle shell or ox scapula would have indentions drilled into it. A hot poker would then be applied and the result would be a crack in the shell. It was this crack that determined the response. Importantly, the diviner would inscribe information about the divination on the shell, usually in four parts.



We gave some thought to questions we would ask, Charlotte was particularly concerned about what would be for lunch!

The key point about Oracle Bones is that they verify the history of the Shang Dynasty, previously thought to be almost mythological. They support the Great Histories produced by Sima Qian written a thousand years after the Shang.

From Bronze Age China we moved back to Europe and an example of how not to do archaeology - The Nebra Sky Disc.



The Nebra Sky disc was found by metal detectorists in Germany in 1999, along with other Bronze Age artefacts including two swords, axes and rings. They were digging illegally, apparently on the site of a Bronze Age cemetery. The disc was quickly sold and would not come to the public attention until 2001, when it was recovered and examined by an archaeologists. The detectorists were sent to jail.

The problems for the archaeologists were many. The disc has lost its provenance, it wasn't clear where it had come from, the all important information presented during excavation was not available and the disc itself had been damaged by a shovel. It was, all in all, very difficult to establish its authenticity.

Armed with the knowledge we have accumulated over the past few weeks, we gave some thoughts to how we might determine authenticity of the Sky Disc.

Tate made a great observation - if the disc was found with the swords and we know the swords are Bronze by their style (or typology) there is a good chance the disc too is Bronze Age. Had the site been properly excavated this would be great evidence, but all we have is the word of two detectorists who were locked up - criminals.

We can not use typology on the disc itself as it is the only one known to exist.

Rafa suggested some scientific dating. Excellent - some wood found attached to one of the swords was radio carbon dated with a result of 1600 BC a perfect date, but only if we can associate the sword with the disc.

Analysis of the gold and tin was interesting as it determined that both came from Cornwall. Was the disc made in Cornwall, or were the raw materials transported to Germany? We were back to our logistics subject.

Originally, the disc was thought to be a fake but it seems to be gaining credibility and has now been recognised by UNESCO as an original and hugely important artefact. We are not so sure, as archaeologists we need to be very cynical.

So what is it?

The gold is thought to depict the Sun, Moon and stars, including the very distinctive Pleiades star cluster. The relationship between the Moon and the Pleiades are thought to be indicative of agricultural activity - maybe sowing or ploughing. Would this happen in the real sky? With some clever software, we looked at what the night sky around the Pleiades would have looked like in 1600 BC, which actually is virtually indistinguishable from the sky today. The Moon does travel along the path of the ecliptic and it would have a visual relationship with the Pleiades.




How the night sky would have appeared on October 11th 1600 BC at 3.30 in the morning with the moon just below the Pleiades as it appears on the disc.



Interestingly, this is the region of the sky possibly illustrated in the 30,000 year old Upper Palaeolithic rock art we looked at in week 1.

Contemporary with the disc (if authentic), in Britain we have cup marks, carved into earthfast rocks and boulders in the landscape - our "written" Bronze Age record.

What is going on in Britain at this time?
We are in the Bronze Age,
but we do have inscriptions of a sort:



How should we interpret this?



We have little idea of what these cup marks mean but we discussed some ideas. Max and Abby liked the idea of celestial significance, do they represent the night sky? Tate suggested the relationship between cup marks and population, a fascinating thought. Franco put them into the context of a mortuary landscape, which indeed is often where they are found.

These are all valid proposals and ones that have been published over the years. To gain a better perspective, we really need a field trip to examine some in the landscape!

During this week we have looked at protohistories, the emergence of writing or production of symbolic marks that give meaning - whether a clear fact as we see in Chinese Oracle Bones, or obscure long forgotten traditions, British cup marks. We have looked at how the Bronze Age regarded, ancestry, through divination or burial practice, including neolithic communal burial - ancestors overseeing the living maybe. We have considered how Bronze Age people may have regarded the night sky which is a topic that we shall return to.