AMBER BIOGRAPHY

Our pieces of amber were given to the museum in the 1980s and are on display in the Neolithic section of this exhibition under reference CHSCM:1993.670.1-2 Amber is found on the east coast of Britain, usually washed ashore but probably originating in the more recognised sites of discovery, on the northern coasts of Europe.

CHSCM:1993.670.1

On a hillside overlooking the small hamlet of Manton in the parish of Preshute, Wessex, is the Manton Barrow. It was excavated just after the turn of the century, and yielded one of the finest female graves from the early Bronze Age, about 1700BC. These two items of gold are particularly exquisite. This gold bound amber disc earring, possibly a representation of the sun, is only 25mm wide.

The amber disc was turned on a lathe with six concentric grooves carved in a band only 5mm in from the edge on both sides. Then the gold foil was carefully worked into the grooves and around the amber disc with the centre cut out to allow the light through. In each groove in the gold foil there is a pin mark at1mm intervals, averaging seventy to each groove. So accurate is the spacing that you wonder if they had a magnifying glass.

Amber was also used for the shaft of this Halberd, the pommel of a dagger and five small beads, which were very decayed.

***Baltic amber** or **succinite**

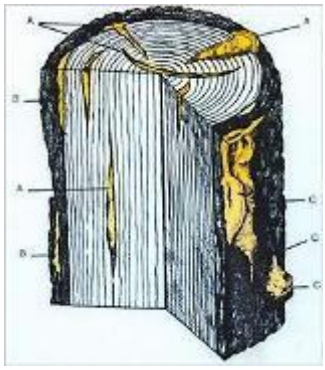
The Baltic region is home to the largest known deposits of amber. It dates from 45 million years ago (during the Eocene epoch). As the climate became warmer trees started to exude big amounts of resin. Amber is a fossil pine resin from this region that has achieved a stable state through oxidation. It has been estimated that these forests created more than 100,000 tons of amber. The term "Baltic amber" is generic, so amber from the Bitterfeld brown coal mines in Saxony, Germany goes under the same name. **Bitterfeld** amber was previously believed to be only 20–22 million years old [the Miocene], but a comparison of the animal inclusions revealed that it is most probably genuine Baltic amber that has only been redeposited in a Miocene deposit. Other sources of Baltic amber have been listed as coming from Poland and Russia. Because Baltic amber contains about 8% succinic, it is also termed **succinite**. Also, from the Eocene epoch, amber comes from the Dominican Republic in South America and from the Cretaceous from the Isle of Wight. Some of the oldest, known also as **middletonite,** has been found in the coalfields of Ayrshire, Scotland.

Neolithic finds are known from Scotland. Four 'irregular' beads of amber, associated with jet beads and an axe, were found in a burial mound dating to 4,000 BP at Greenbrae, near Cruden in Aberdeenshire. In the past the presence of amber in Neolithic burials has been used as evidence for trade with Europe. However the fact that this amber is 'irregular'in shape and is unlike amber being traded elsewhere in Europe, might suggest that it was collected and worked locally. Until about 3,700 years ago amber use in the British Isles was very rare.

In the 1850s it was thought that the resin that became amber was produced by the tree *Pinites succinifer*, but research in the 1980s came to the conclusion that the resin originates from several species. More recently, it has been proposed, on the evidence of Fourier-transform infrared microspectroscopy (FTIR) analysis of amber and resin from living trees, that conifers of the family *Sciadopityaceae* were responsible. The only extant representative of this family is the Japanese umbrella pine, *Sciadopitys verticillata*.

Numerous extinct genera and species of plants and animals have been discovered and scientifically described from inclusions in Baltic amber. Baltic amber includes the most species-rich fossil insect fauna discovered to date.

Note: *The use of this data is for educational purposes only



From a chemical point of view, amber consists of 79 percent carbon, 10.5 percent hydrogen and 10.5 percent oxygen. Studies with a mass spectrometer have shown that amber contains over 40 compounds as well as Succinic Acids and additive salts of potassium, sodium and iron. Amber extends over three groups of compounds: volatile terpenes and sesquiterpenes, soluble, organic acids and also non-soluble polyether. It ranges from bright yellow to

dark yellow or brownish-orange, depending on its age and where it is found, in some cases it is either red or blue. Only a small quantity of amber is clear, because of the effects of the sun, most of it is opaque. Enclosures, such as water bubbles, gas bubbles, pieces of bark, twigs, plant seeds and even insects and small animals unmistakably show its origin and give it its characteristic appearance.

Man's interest in amber's properties date back to the Paleolithic Age. They include the exceptional resinous smell of amber burning which gives a sense of wellbeing, and the beauty of the nuggets washed up on the shores of the Baltic Sea. Over time, our interests have proven well founded in that the properties of Baltic amber are very beneficial to humans. Amber warms to the touch and exudes a nice, relaxing fragrance in the palm of your hand. It is also the only fossil resin that contains 3-8% succinic acid (mostly located in the amber's surface layer), a powerful therapeutic substance with many applications for healing. Plants that absorbed amber resin particularly, plant leaves, were often used as an antibiotic to heal cuts or in a plaster to dress wounds.

The Greek physician Hippocrates was one of the first to record the use of amber in medicine. It was still being used in mainstream medicine until the 1950s as part of the embrocation for treating whooping cough. In Skye Scotland a piece of amber was used to relieve failing eyesight by rubbing it on the eyelids until at least the 18th century. Another piece was used in Argyllshire to cure poor eyesight and sprained limbs and another as a charm to cure cattle from a host of diseases. It was generally worn as a bead necklace by children to ward off evil in Scottish east coast fishing villages in the 16th century. In 1575 the Bishop of Ross recorded a piece of amber as big as a horse was washed ashore at Buchan, Aberdeenshire.

Other fascinating facts about natural Baltic Amber – it floats in salt water but sinks in fresh water; its hardness measures 2.0-2.5 on the Mohs Hardness Scale; its density amounts to 0.96-1.096g/cm3. When amber is touched with fire, it produces an aroma of burning pine. Also, amber electrifies negatively and it is still alive because its internal metamorphosis is still incomplete.

Ian Mason, Chatteris Museum – December 2015