

Appleby Archaeology September 2009

Appleby Archaeology's autumn season began with a talk titled *What plants can tell us about the past*. The speakers, Denise Druce and Elizabeth Huckerby, palaeobotanists, from Oxford Archaeology North had stepped in at the last minute when the planned speaker had to move house at short notice.

Using a power point presentation they outlined the scope of environmental archaeology and described, in some detail, how plant remains were sampled analysed and interpreted to help in our understanding of the past. Elizabeth spoke on pollen, waterlogged remains and wood and Denise on charcoal and charred plant remains.

Pollen from each species is distinctive and takes the form of fine dust like grains which are discharged from the male plant. Pollen analysis is used in a number of fields of study such as climate and sea level change, historical geography, forensics, and in the quality control of honey. Samples are, most commonly, obtained from the soil, for example, from an archaeological dig and in the form of columns (cores) taken from ground such as moor land. The core provides a continuous record of pollen grains over the centuries and thus provides a record of the vegetation that grew in the area over a period of time. The samples are prepared chemically before being examined under an electron microscope and the findings are recorded, often in graph form.

Pollen from soil which has been removed as part of an excavation and pollen from waterlogged sites can provide evidence of what was growing at the site and possibly what was thrown into it. Wood, which is found can be examined and carbon dated. Different sections are taken to examine the structure of the wood to identify the species. The types of wood found on an archaeological site can provide clues as to the activities that took place there and when they took place. Findings of charcoal from the Carlisle Millennium Project provide evidence of the early use of alder from the hearths, the later use of oak for metal working, and a reliance on the hedgerow woods such as hawthorn.

Charcoal and charred plant remains are found on many archaeological sites and examination is an established part of the follow-up from any excavation. Assemblages are associated with human activity and are found in features such as pits, ditches, post holes, hearths and associated with kilns and cremations. These remains can provide dating evidence and after careful processing the

plant remain can be identified by microscopic examination.

Interpretation of plant remains provide information about the environment. For example what trees, fruits and weeds were growing in the area and which cereals were being cultivated. The type of plants that were growing will indicate climatic conditions such as temperature and rainfall and the nature of the soil.

The work of the palaeobotanist is an integral part of archaeology today and their findings can provide clues to the nature of the society at the time, the activities going on at a site, and of the landscape and how it has changed over time.

Thousands of hazelnut shells along with apple seeds were found in a pit at a Neolithic site (circa 4000 BC) perhaps indicating components of the diet. Charred barley was found at an Iron Age site in Peterborough and it was noted that the barley had sprouted which suggested that malting was taking place. Societies associated with assemblages of cereal grains and chaff were probably producers rather than living in a subsistence economy.

Elizabeth concluded by referring to the involvement of the environmental archaeologists in recent excavations by Brougham Hall where a vast amount of soil was retained for sampling as well as 20 cores. Only a small proportions has been examined to date but charred grains of wheat, oats and barley have been identified.

Elizabeth and Denise took a number of questions from the floor before being thanked and warmly applauded for their interesting talk and for stepping in at very short notice.

The next talk will be on the Tuesday 10th November at 7.30pm, in the Supper Room, Market Hall, Appleby, when Sheena Gemmel will talk on the Picts.

The biennial Appleby Archaeology Conference *Medieval Life in the Eden Valley* is on Saturday October 3rd Information is available from Tourist Information Centres Libraries, and www.applebyarchaeoly.org.uk