

People and woodlands: an investigation of charcoal remains as indicators of cultural selection and local environment in Bronze Age Ireland.

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Summary: *The recent Celtic Tiger boom in Ireland resulted in a huge increase in housing and infrastructural developments throughout the country. In turn, this generated the highest number of archaeological excavations the country has ever seen. Road scheme and Gas Pipeline developments in particular provided the opportunity to examine a ribbon of sites, cutting a broad swathe through the landscape. These allowed the unprecedented chance to examine environmental material from a long, narrow line across the country, facilitating a landscape archaeology approach to interpreting charcoal results. One of these road improvement schemes (N8 Cashel to Mitchelstown) was taken by the author as a case study for a PhD, to use charcoal analysis to provide an insight into Bronze Age people's relationship and use of their available woodland.*

Key words: *charcoal, Ireland, Bronze Age, cremation.*

INTRODUCTION

There are three main types of site that date to the Bronze Age in Ireland, settlement, funerary and *fulachta fiadh*, all of which were found along the study route of the N8 (Mc Quade *et al.*, 2009) (Fig. 1). *Fulachta fiadh* are large troughs, which were sunk into wet areas or filled manually with water. They were used for cooking or bathing. Charcoal was sampled and analysed from thirty nine sites, securely dated to the Bronze Age. Complimentary plant remains and bone results are available for all of the sites, and were used to provide an interdisciplinary assessment of the way people interacted with their local landscape. The thesis was undertaken to examine cultural, functional and random reasons for the selection of trees for different purposes in Bronze Age Ireland.



FIGURE 1 Segment of the N8 roadscheme (Warner Corporate photography).

DATA AND RESULTS

Over 17,000 charcoal fragments were identified from the road scheme, including fourteen wood taxa. The results are dominated by oak (*Quercus*), followed

by pomaceous fruitwood (Maloideae) and hazel (*Corylus avellana*).

The largest Bronze Age flat cemetery ever excavated in Ireland was found at Templenoe, Co. Tipperary within the study area (Fig. 2). It was composed of 76 cremation pits, 54 of which contained cremated bone and three possible pyres. This site was fully sampled, to examine temporal and spatial changes in charcoal throughout the cemetery. This provided an exciting opportunity to examine the use of fuel for the process of cremation.



FIGURE 2. Early/Middle Bronze Age flat cemetery at Templenoe, Co. Tipperary (After Doody, 2008 Plate 1).

Charcoal analysis demonstrated that a very particular charcoal signature was evident in the cremation burials, a mixture of oak and pomaceous fruitwood. This was statistically significant and different to charcoal results from either the settlement or *fulachta fiadh* contexts. This particular pattern has been seen before in Ireland, from excavations along the Gas Pipeline to the West (Grogan *et al.*, 2007).

Charcoal was compared with osteological results from the same contexts, to examine if wood taxa selection affected the burning process (if cremated bone is blue/black in colour it was badly cremated, in contrast to white bone which was successfully cremated). The demographic profile of the cemetery was also compared to the charcoal results, along with the stratigraphic evolution of the cemetery. Overall, the charcoal results remained extremely homogenous, appearing to be unaffected by time period, human demographic or the level of success of the cremation.

Charcoal from the entire road scheme was analysed through a specially adapted GIS system (Fig. 3). The results were also statistically examined using the statistical packages PC ORD and SPSS, the first time these have been applied to charcoal fragments from archaeological sites in Ireland. Charcoal data indicates that oak-hazel-ash (*Fraxinus*) woodlands were prevalent in the area during the Bronze Age.

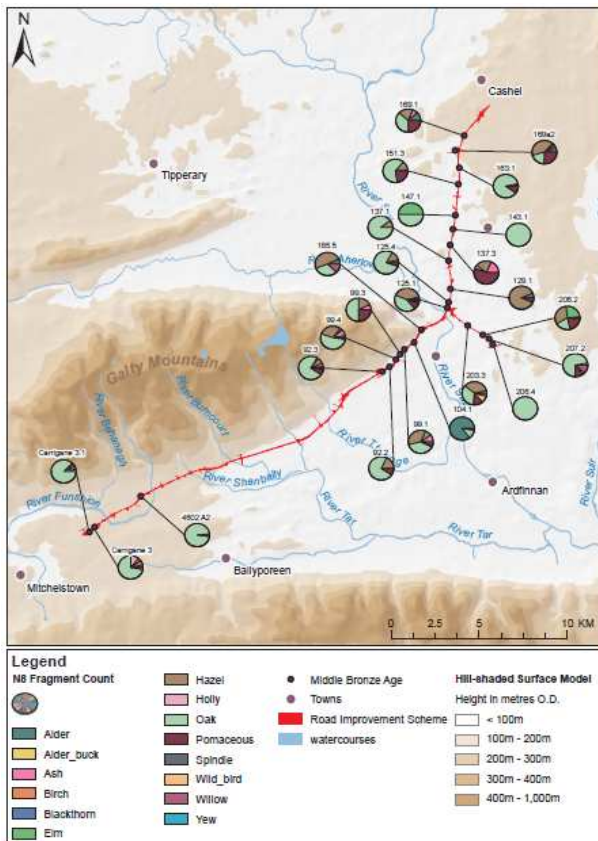


FIGURE 3. Charcoal results mapped through GIS.

CONCLUSIONS

Charcoal data from the N8 Cashel to Mitchelstown indicates that oak-hazel-ash (*Fraxinus*) woodlands grew in the area during the Bronze Age. The analysis has demonstrated the importance of oak in many contexts-structurally, as fuel and for funeral pyres. Hazel was also often selected for wattle or fuel.

The recognition of a specific wood ‘trend’ within cremation burials may be very useful in the future in the identification of ‘blind burials’ or cenotaphs. These are contexts, which appear to all intents and purposes as cremation burials, but have no human bone remaining. If the charcoal present has a ‘typical’ wood taxa of oak and pomaceous fruitwood, commonly associated with cremation pits which are inclusive of human bone, then it would be easier to interpret these as actual cenotaphs.

The level of charcoal varies considerably between cremation deposits, suggesting that charcoal was deliberately included in the secondary rite of burial in a cremation pit in some cases, and not in others. Its collection from pyres and inclusion within cremation pits indicate its importance in the cremation ritual. Furthermore, the general consistent presence of charcoal in cremation pits suggests that people did not hand pick bone out for burial, but rather shoveled or scooped up a mixture of pyre and bone for burial. This provides us with further evidence on the rather elusive nature of the actual process of Bronze Age cremation.

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