Geophysical Research Abstracts
Vol. 12, EGU2010-2888, 2010
EGU General Assembly 2010

Magnetic Moments in the Past: developing archaeomagnetic dating in the UK

Zoe Outram (1), Catherine M. Batt (1), and Paul Linford (2)

(1) University of Bradford, Dept. of Archaeological Scienc, Bradford, West Yorkshire BD7 1DP, United Kingdom (C.M.BATT@BRADFORD.AC.UK, 0044-1274-), (2) English Heritage, Fort Cumberland, Eastney, Portsmouth, PO4 9LD, UK

Magnetic studies of archaeological materials have a long history of development in the UK and the data produced by these studies is a key component of global models of the geomagnetic field. However, archaeomagnetic dating is not a widely used dating technique in UK archaeology, despite the potential to produce archaeologically significant information that directly relates to human activity. This often means that opportunities to improve our understanding of the past geomagnetic field are lost, because archaeologists are unaware of the potential of the method.

This presentation discusses a project by the University of Bradford, UK and English Heritage to demonstrate and communicate the potential of archaeomagnetic dating of archaeological materials for routine use within the UK. The aims of the project were achieved through the production of a website and a database for all current and past archaeomagnetic studies carried out in the UK. The website provides archaeologists with the information required to consider the use of archaeomagnetic dating; including a general introduction to the technique, the features that can be sampled, the precision that can be expected from the dates and how much it costs.

In addition, all archaeomagnetic studies carried out in the UK have been collated into a database, allowing similar studies to be identified on the basis of the location of the sites, the archaeological period and type of feature sampled. This clearly demonstrates how effective archaeomagnetic dating has been in different archaeological situations. The locations of the sites have been mapped using Google Earth so that studies carried out in a particular region, or from a specific time period can be easily identified.

The database supports the continued development of archaeomagnetic dating in the UK, as the data required to construct the secular variation curves can be extracted easily. This allows the curves to be regularly updated following the production of new magnetic measurements. The information collated within the database will also be added to the global databases, such as MaGIC, contributing the improvement of the global models of the geomagnetic field.

This project demonstrates the benefits that the presentation of clear, accessible information and increased communication with archaeologists can have on the study of the geomagnetic field. It is also hoped that similar approaches will beintroduced on a wider geographical scale in the future.