B. S. Ottaway

Archaeological Relevance of Cs-Magnetometry

Aerial survey and field walking of a freshly ploughed field lead to the discovery of a new site in 1981: the Galgenberg near Kopfham in Lower Bavaria. To find out more about the size and extent of the site a survey was carried out by Dr. Helmut Becker of the Bayerisches Landesamt für Denkmalpflege, Munich, using for the first time in Europe the highly sensitive caesium magnetometer. The measurements, taken manually at 1m intervals, indicated complex ditch systems with several features inside and outside the enclosures. The main, oval enclosure seemed to have one entrance with foreworks lying directly in front of it. It was this plan that guided our subsequent excavations at the Galgenberg for the next nine years.

A subsequent caesium magnetometer survey, taken semi-automatically at 0.5 m intervals with digital graphic evaluation, gave a much more detailed picture of the main enclosure. Constant comparison of excavation and caesium magnetometer results led to improved, fully automated data collection and digital evaluation now widely used by Becker and his team. This method was used to produce a survey covering a large area on the Galgenberg, indicating the presence of at least six enclosures, which might otherwise have remained undetected.

Although the magnetometer survey had provided the 'blue print' for the excavation it was only by excavation that the full extent of the complexity of the prehistoric remains and their relationship to one another became clear (Ottaway, 1999). For instance, the forework to the entrance, suggested by the caesium magnetometer survey to be a relatively simple structure, had undergone at least three major structural changes. These had transformed the entrance from one surrounded by a cluster of square features to an entrance which was most probably embellished and strengthened by two forework buildings which were arranged in such a fashion that entry into the enclosure was by two or three relatively narrow gaps left between the forework structures and the ditch. Entry into the enclosure was much more controlled than before and could, if necessary, be defended easily and effectively. The forework and some of the structures around the terminals of the ditch had been whitewashed, which must have given additional visual impact. The result must have been imposing, restricting vision and movement into the enclosure. It was more of a statement of control, protection and defence than it had been for previous generations.

Deposits in many of the other features inside and outside the enclosure speak of phases of decommissioning and deliberate deposition of artefacts, followed by destruction horizons and a shift in the nature of deposits.

To conclude, only through the complementation of prospection and excavation can the full picture of the prehistoric landscape and the sites contained therein be explored.

Reference

B. S. Ottaway 1999. "A Changing Place. The Galgenberg in Lower Bavaria from the fifth to the first millennium B.C.", *BAR International Series* 752

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Resistivity and GPR Survey of two Early Mediaeval Grave Yards in Southern Germany

Introduction

The routine application of geophysical prospection for archaeological subsurface structures have been established during the last decades. Major benefits arise from the *fast and non-destructive* documentation of archaeological objects even on large areas. Most common, magnetometer surveys with hand held fluxgate magnetometers are carried out. Beside this, resistivity, electromagnetic and ground penetrating radar (GPR) measurements are used, when investigation sites are not suitable for a magnetic survey.

Here we want to present the results of two surveys on Early Middle Aged yards in the cities of Weinstadt and Kirchheim/Teck (Baden-Württemberg, Southern Germany). Both sites have been investigated with resistivity meters and GPR, respectively. In general the survey of single graves is relatively difficult, as the objects are quite small and the physical contrast to the surrounding subsoil is often very low.