



## **Mutual influence between human settlement and landscape development within the Spessart mountains, Germany**

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The Spessart mountains - a low mountain range within central Germany - have been part of a territorial conflict between the Earl of Rieneck and the Bishop of Mainz during the 14th century, both parties built castles. The locations for these castles were primarily chosen for military reasons but also the natural setting of the landscape and its potential played an important role for the specific site selection. At these times, the castles were also administrative centres and they had to secure the supply of food and primary goods for local people. Today the remains of these castles are subject of archaeological excavations within the framework of the “Archäologische Spessart Projekt”. One aim of this project is to reconstruct the former landscape and to analyse how and where castles were situated. The investigations focussing on the influence of the geomorphological setting on site location and the impact of the human activities on it. The project is linking geomorphological investigations with findings from archaeological excavations.

The reconstruction of the former landscape is supported by GIS-based digital terrain analysis, on the basis on which suitable investigation sites were identified. In a second step, geophysical methods, like Electrical Resistivity Tomography (ERT), Ground Penetrating Radar (GPR) and Geomagnetic surveying, were used for prospection. In order to evaluate the genesis of anomalies in the geophysical data, and to take samples for C14dating, drillings were performed.

Two case studies are presented here in which, the landscape features played an important role for the siting of the castles. Geophysical investigations and drillings at castle “Wahlmich” revealed that material is moved by faulting which caused huge landslides; the castle hill and its surrounding was therefore not made by humans as previously suspected.

Another castle (“Hauenstein”) is located in an unfavourable position from a military point of view and the reason for siting was so far unknown. Recent geoarchaeological investigations, geophysical surveying and drillings have revealed a series of ponds and remains of a mill. The C14 samples taken from the deepest parts of the pond sediments have been dated to 670 +/- 30 BP, which is around the age of the mill use. Thus, in contrast to the other castle, the surrounding of castle “Hauenstein” seems to have been heavily used and shaped by man.

Altogether, the presented data give an insight into landscape development and human-environment interactions at the respective study sites from which also some general assumptions on the mutual influence between human settlements and landscape evolution within the Spessart mountains can be deduced.