Fortified hilltop settlements of the late Bronze Age and early Iron Age in central Germany – The height of fixtures near Jena

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Teritoriul Germaniei Centrale se remarcă printr-un număr sporit de fortificații, în special, din perioada târzie a epocii bronzului şi cea timpurie a epocii fierului. Acestea sunt atribuite, în cele mai dese cazuri, culturilor câmpurilor de urne (Urnenfelderkultur) şi lusaciană (Lausitzerkultur).

În articolul de față sunt analizate fortificațiile din bazinul mijlociu al râului Saale: Rudelsburg, Jenzig, Johannisberg şi Alte Gleisberg, situate în preajma oraşului Jena. Cetățile au fost amplasate pe locuri înalte, fiind fortificate cu elemente defensive artificiale. Datorită poziției dominante din aceste fortificații puteau fi supravegheate căile de acces şi comerciale din bazinul râului Saale, prin al cărui intermediu, la rândul său, se putea face legătura cu bazinul Elbei.

Dintre fortificațiile din acest spațiu se evidențiază cea de la Alte Gleisberg, studiată în ultimii ani de către cercetătorii de la Universitatea din Jena (Bereich für Ur- und Frühgeschichte). Ca urmare a cercetărilor s-a stabilit ca aceasta ocupa o poziție-cheie în viața economică şi socială a regiunii şi a servit, probabil, drept centru administrativ.

In this paper, some hilltop settlements of the middle Saale valley will be presented (fig 1). For the treated time period many settlements are known from surface findings. From the altitude settlements the Saale river was monitored as a transport route. The middle Saale valley is situated between the typical limestone plateaus and already existed in prehistoric times as an important transport route between north and south. The area around Jena is especially interesting because the existence of a hilltop-settlement-system lead to the assumption of an east-west connection in this area (fig 2). The most important hilltop settlements of that catchment area will be briefly introduced, and if possible, up to date research results will be presented. A very large number of hill settlements is already found in the Compendium of K. Simon (Simon 1984), which still forms a profound basis. However, further investigations were carried out in recent years, which show that the debate about these settlements has still not come to an end.

The hilltop settlements in the central Saale valley were all built in secure places provided by natural conditions like steep limestone slopes and undercut

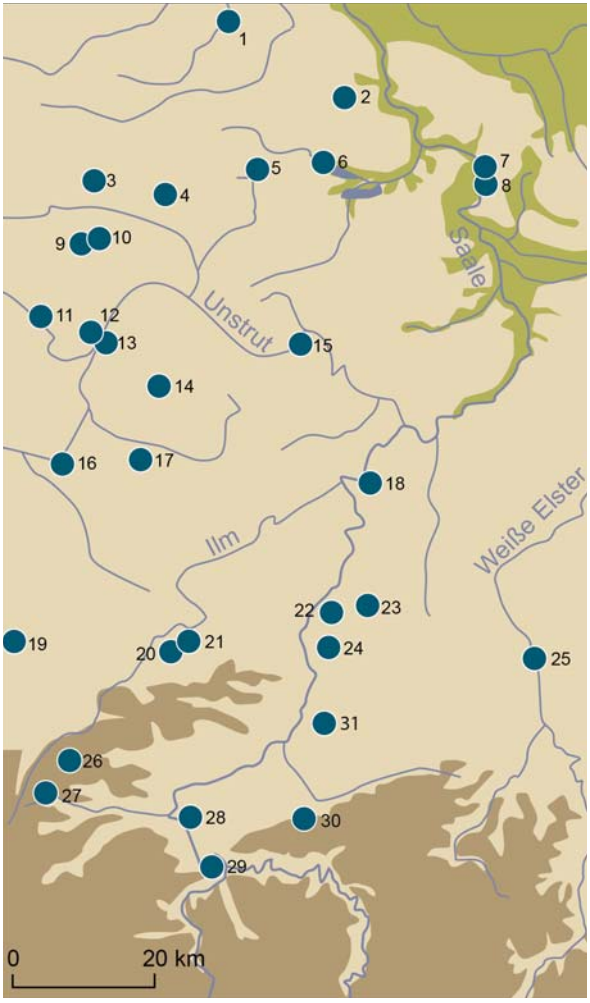

Fig. 1. Late Bronze/early Iron Age Fortifications in the Saale Area.

Fig. 1. Răspândirea fortificațiilor din perioadele târzie a epocii bronzului şi timpurie a epocii fierului în regiunea Saale.

1 - **Quenstedt**, Landkreis Mansfeld-Südharz, Schalkenburg, BD/HaA1; 2 - **Bösenburg**, Landkreis Mansfeld-Südharz, Kirchberg, HaA2 - LtA; 3 - **Questenberg**, Landkreis Mansfeld-Südharz, Arnsberg, HaD/LtA (?); 4 - **Sangerhausen-Ost**, Landkreis Mansfeld-Südharz, Großer Schlößchenkopf, HaB3/HaC1 (?); 5 - **Bornstedt**, Landkreis Mansfeld-Südharz, Kirchberg, HaB3/HaC1 (?); 6 - **Seeburg**, Landkreis Mansfeld-Südharz, Schloß, HaB3/HaC1 (?); 7 - **Halle Giebichenstein**, Stadt Halle, Amtsgarten/Alte Burg and Burg, HaB3/HaC1 (?); 8 - **Halle Giebichenstein**, Stadt Halle, Heinrich-Heine-Felsen, HaA2 - LtA; 9 - **Bad Frankenhausen**, Kyffhäuserkreis, Oberburg Kyffhausen, HaD/LtA; 10 - **Tilleda**, Kyffhäuserkreis, Pfingstberg, HaA2/HaB1; 11 - **Günserode**, Kyffhäuserkreis, Schwedenschanze /Kohnstein, HaB3/HaC1; 12 - Sachsenburg, Kyffhäuserkreis, Wächterberg, BD/HaA1 (?) - HaA2/HaB1; 13 - **Gorsleben**, Kyffhäuserkreis, Scharfer Berg, HaB3/HaC1 (?); 14 - **Beichlingen**, Landkreis Sömmerda, Monraburg, BD/HaA1 (?), HaD/LtA (?) and HaA2/HaB1; 15 - **Nebra**, Burgenlandkreis, Altenburg, HaB3/HaC1; 16 - **Schallenburg**, Stadt Sömmerda, Schallenburg, HaA2/B1 (?); 17 - **Vogelsberg**, Landkreis Sömmerda, Clausberg, HaB3/C1 (?) - HaD/LtA; 18 - **Bad Kösen**, Burgenlandkreis, Rudelsburg, HaB3/HaC1; 19 - **Erfurt-Möbisburg**, Stadt Erfurt, Kirchberg, HaB3/HaC1 (?) - HaD/LtA; 20 - **Hetschburg**, Kreis Weimarer Land, Martinskirche/Heidingsburg, HaB3/HaC1 (?) - HaD/LtA (?); 21 - **Oettern**, Kreis Weimarer Land, Burggraben/Otternburg, HaD/LtA (?); 22 - **Wenigenjena**, Stadt Jena, Jenzig, HaA2/B1 and HaD/LtA; 23 - **Graitschen**, Saale-Holzland-Kreis, Alter Gleisberg, HaA2/B1 - HaD/LtA; 24 - **Jena-Lobeda**, Stadt Jena, Johannisberg, HaB3/HaC1 - HaD/LtA; 25 - **Gera-Untermhaus**, Stadt Gera, Hainberg, BD/HaA1 (?), HaA2/B1, HaD/LtA; 26 - **Singen**, Ilmkreis, Singerberg, HaB3/C1(?) - HaD/LtA (?); 27 - **Stadtilm**, Ilmkreis, Haunberg, HaA2/B1 (?); 28 - **Oberpreilipp**, Landkreis Saalfeld-Rudolstadt, Weinberg, HaB3/C1; 29 - **Obernitz**, Landkreis Saalfeld-Rudolstadt, HaA2/B1 and HaD/LtA; 30 - **Öpitz**, Saale-Orla-Kreis, Felsenberg, BD/HaA1 - HaD/LtA; 31 - **Kahla**, Saale-Holzland-Kreis, Dohlenstein, BD/HaA1 (?) - HaD/LtA (According to Simon 1984).

banks. Ledge-, plateau- or outlying areas were used almost exclusively for the fortifications (Brandt 1999, 261). Since the Triassic the Saale river dug here into the subsoil of red sandstone and limestone, so the river bed is now up to 250 m below the plateaus. The area of the middle Saale valley is dominated by the influx of many smaller watercourses, such as the Gleise, Magdel

or Leutra, which have created many side valleys. Due to the limestone slopes sunlight is reflected, but also heat stored. With conditions like that a partly pseudo-mediterranean climate has developed at the slopes, where rare orchids and dry grassland crops thrive (Rau 1974, 975-977; Zündorf et al. 2006, 18). The average annual temperature is approximately 6.7 to 9.6 ° C. The annual precipitation decreases due to the high evaporation on the lime areas and is 450-891 mm (http://www.tlug-jena.de/umweltdaten).

The Alter Gleisberg near Graitschen is an isolated mountain of 343 m above sea level (fig. 3). Today the limestone mountain today has a rich stock of natural beech- and beechmixed forests and various forms of dry grasslands. The favorable conditions make the Alte Gleisberg to a habitation for over 50 different biotypes, which are composed largely of endangered or protected species. The local orchid species are especially important (Peter, Wagner 2004, 9; Ettel 2009, 17). The mountain rises about 200 m above the surrounding landscape, which is dominated by extensive loess-areas (fig. 4). In addition to the low valley plains in the east rugged limestone surfaces above the valleys and the creeks Löbnitzbach and Gembdenbach characterize the field of view to the west. The spatial analysis of the viewable area from the highest point of the mountain shows the dominant position of the Gleisberg in the cultural landscape significantly (Ettel 2014, 133) (fig. 5). Throughout the slope of the mountain range there are sources or layer water withdrawals to be found (Simon 1962, 4; Ettel et al. 2013, 97). The plateau is of nearly triangular shape and covers a total area of 7 hectares. Overall, it is divided into three sections: the north and

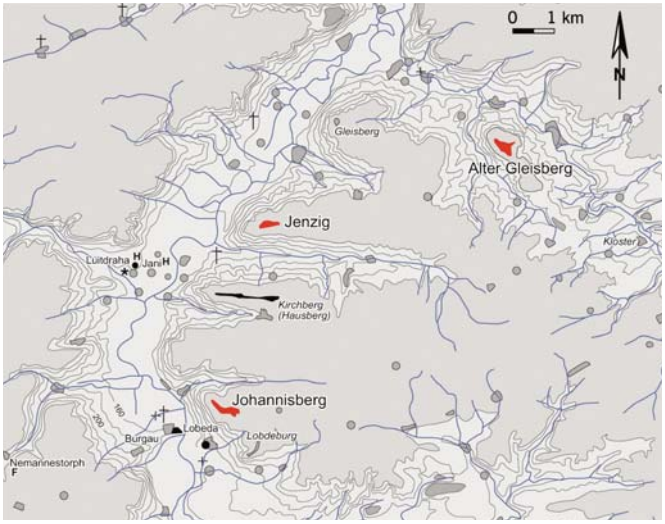

Fig. 2. The middle Saale valley near Jena. Red – fortified hilltop settlements (Ettel 2014).

Fig. 2. Bazinul mijlociu al râului Saale în apropiere de Jena. Cu roşu – fortificaţii din epocile bronzului şi a fierului (Ettel 2014).

Fig. 3. Alter Gleisberg near Graitschen, view from the south (Ettel 2009).

Fig. 3. Alte Gleisberg bei Graitschen, vedere dinspre sud (Ettel 2009).

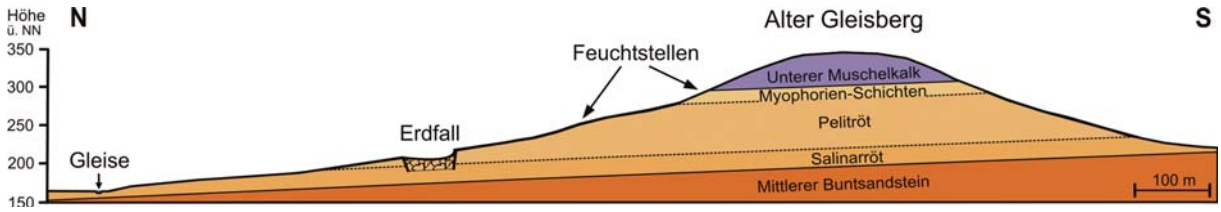

Fig. 4. Geological structure oft the Alter Gleisberg (Ettel 2014).
Fig. 4. Structura geologică a Alte Gleisberg (Ettel 2014).

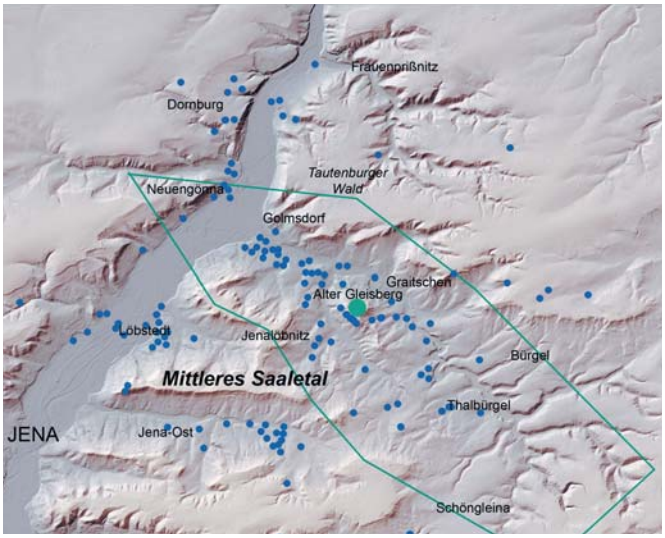

Fig. 5. Viewable space from the highes point of the Alter Gleisberg (Paust in Ettel 2014).
Fig. 5. Vizibilitatea de pe Alte Gleisberg (Paust in Ettel 2014).

the south terrace and the center bolt. There are three entrances to the plateau, the southern one leading from Graitschen is only the only one accessible by car – in dry weather and soil conditions. The other approaches have their origin in Graitschen and Löberschütz and lead to the middle bolt or the north terrace and are accessible only by foot. Although the hillfort located on the Gleisberg backs a bit into the Gleise valley, it dominates the middle Saale valley impressively (Ettel 2013, 97).

The archaeological research on the Alte Gleisberg dates back to the 19th century. Friedrich Klopfleisch started initial investigations between 1864 and 1881. After Klopfleisch findings in large numbers were recovered especially by the local priest H. Brehmer. The research of the 20th century was almost exclusively done by the Germanic Museum of the University of Jena and, emerging from it, the Institute of prehistoric archeology. Especially K. Simon has found his tast in the processing of the considerably grown numbers of ceramic finds. His thesis (Simon 1962) still constitutes an important base for the investigation of the hillfort. In 1962 for the first time a detailed survey by C. Sesselmann took place.

Since 2004 the Alter Gleisberg is again focus of research (fig. 6). The new studies involve the Institute of Earth Sciences and Geology and the Institute of Photonic Technologies in addition to the Department of Pre- and Early History of the University of Jena and the Thuringian State Office Heritage Management. Annual excavation campaigns and geophysical surveys of the settlement areas are held since 2003, they provide systematically prospected and excavated settlement structures for the first time. Particular attention should also be given to a geo-archaeological internship held since 2005. It enables students of geography, geology and archeology to gain an insight into the various disciplines involved in the project and to participate directly in the interdisciplinary research. In the course of the internship pollen analysis, geophysical prospecting, pedological analyzes and geological surveys have been carried out to the substrate of the hillfort.

First large areas of the plateau were prospected. It was found that the wall areas partially mapped by C. Sesselmann are often eroded or barely visible under increasing vegetation (Schüler 2010/11, 91). In the whole area of the settlement, however, human interventions could be documented in advance of the excavations, which were used as a base for the selection of excavation areas. In the course of the investigation further geomagnetic prospections were made by the Institute of Geosciences, University of Jena during the geoarchaeological internships (Ettel et al. 2013, 104 f.). These were used to train the participants in the applied measurement methods, the graphical representation and the analysis of the data, to prepare the selected areas for excavation.

Fig. 6. Aerial photographie from the excavation campaign 2013 (FSU, Kasper 2013).

Fig. 6. Alte Gleisberg. Vedere generală asupra şantierelor arheologice din 2013 (FSU, Kasper 2013).

In 2004, the first systematic excavations at the Alter Gleisberg began in annual campaigns, and continued until 2014 (fig. 7). After a short time it turned out that the state of conservation of findings that sunk into the upcoming limestone was not that well. Nevertheless numerous holes of wooden posts and remains of settlement pits testify the high intensive settlement of the plateau. In the archaeological material, almost all eras of central german Prehistory were represented, but usually only in small numbers. However, the number

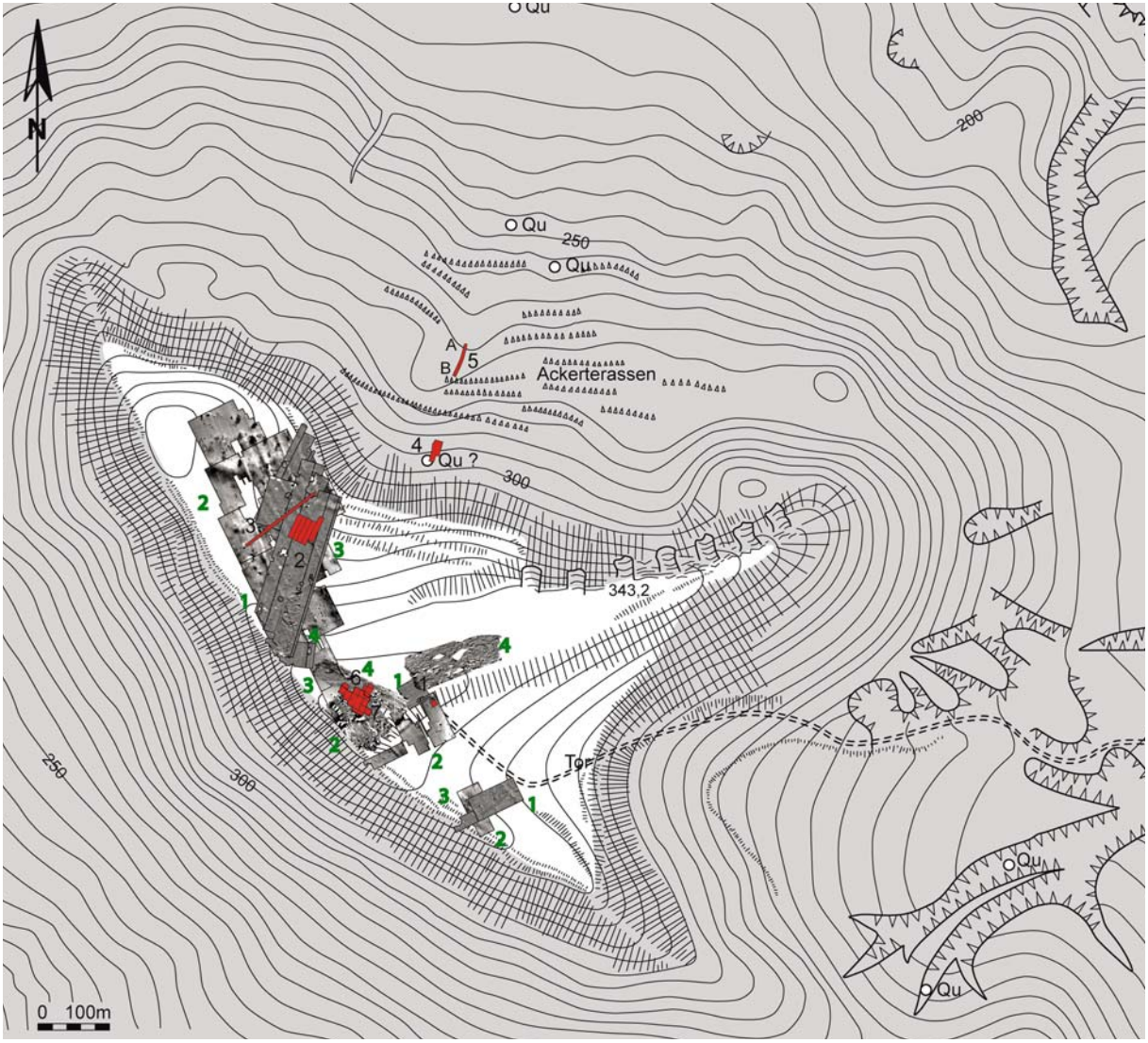

Fig. 7. Alter Gleisberg – geomagnetic and archaeological (red) investigated areas (Ettel 2014).

Fig. 7. Alte Gleisberg. Suprafața cercetată geomagnetic și arheologic (cu culoare roșie) (Ettel 2014).

of findings from the Late Bronze and Early Iron Age reveals a high intensive use of the plateau during those times. The finds of late Hallstatt / early La Tène period are also represented in large numbers. For Lt C and D, the settlement of the mountain is also demonstrated. In addition to the numerous ceramic fragments and metal finds, not only settlement but also manufacturing could be testified (Ettel 2009, 21). There were mold fragments and slags as well as loom weights. Among the finds of the 19th and 20th centuries also were briquetage cones that occupy the salt import at the Gleisberg. Most findings were found at the surface and collected in the 19th and 20th centuries. However, in the light of recent investigations they indicate the continuing importance of the Alter Gleisberg for the middle Saale valley from the beginning of the Late Bronze Age (Ettel 2009, 24).

Immediately above the Saale, northwest of the Alter Gleisberg, the Jenzig is located (fig. 8). This 4 km long ledge opens in a 540×150 m large, triangular plateau, whose slopes drop steeply down to the river Saale. The archaeological investigation of the Jenzig also goes back to Friedrich Klopfleisch. He recognized the wall remains as a prehistoric fortification and started first excavations in the second half of the 19th century (fig. 9). Above all the Jenzig was widely known for a hoard, which was recovered in 1936. The hoard consists of various bronze objects, which can be dated to the late Bronze Age. However, the composition of the inventory suggests that there are multiple small deposits of different times (Rüdel 2014, 40 f.). In addition to the fortification this also shows, that the Jenzig as well as the Alter Gleisberg was of particular importance at the end of the Bronze Age. The plateau of the Jenzig was highly embattled,

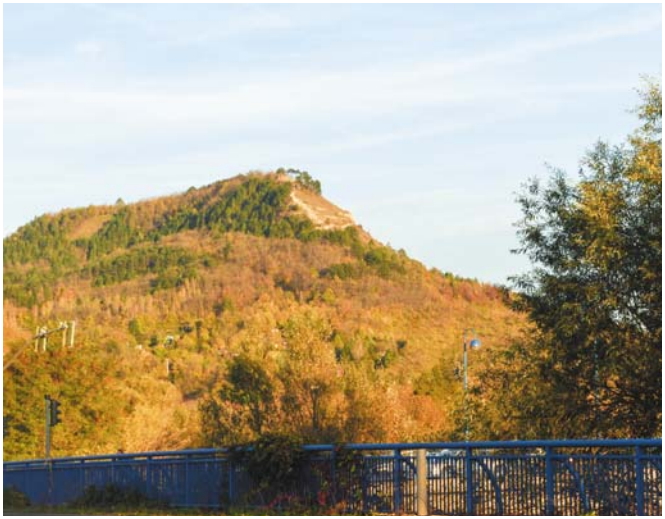

Fig. 8. The Jenzig from southwest (Scherf, Schüler 2014).
Fig. 8. Jenzig. Vedere dinspre sud-vest (Scherf, Schüler 2014).

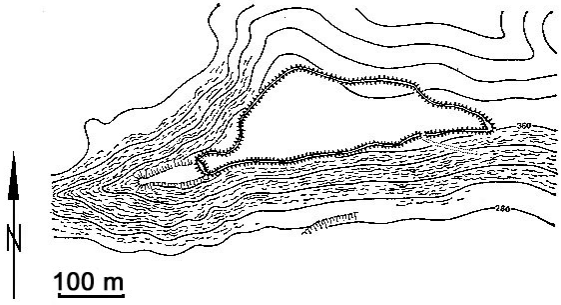

Fig. 9. The Jenzig with the fortification postulated by (Simon 1984).
Fig. 9. Jenzig. Conturul fortificației (Simon 1984).

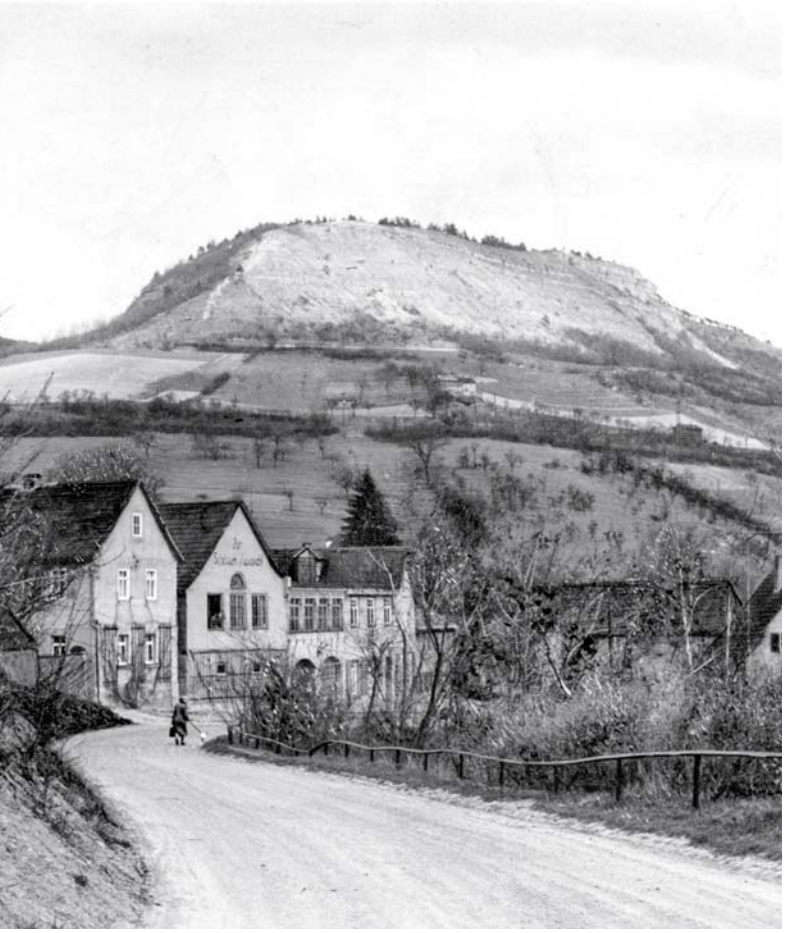

Fig. 10. The Johannisberg above Wöllnitz and Jena-Lobeda seen from north-west (Department of Pre- and Protohistory, University of Jena)

Fig. 10. Johannisberg. Jena-Lobeda. Vedere dinspre nord-vest (Departamentul de Pre- şi Protoistorie, Universitatea Jena).

despite the steep slopes. Today almost nothing is received from the walls and the postulated settlement because of the construction of the Jenzighaus and the corresponding roads across and to the plateau in the early 20th century. From the information given by F. Klopfleisch, K. Simon deduced a fortification of a wood and earth wall with a pre-appeared drywall of boulders (Simon 1967, 18 f.). The wall was built completely around the top of the Jenzig plateau and, because of the recent buildings, cannot be traced today. Furthermore F. Klopfleisch describes deepened herds behind the ramparts. Those belong to residential buildings, as is evidenced by the concentration of finds in these places. Also some indications on craft production, e.a. weaving weights and molds, were noted (Simon 1967, 22). For the usage time of the Jenzig, more intensive use phases can be detected from the archaeological material preserved. Intensive use and arguably the high time of the hilltop settlement occurs during the period in Ha A2/B1 (Simon 1967, 50; Ettel 2009, 24; Ettel 2010, 360).

4.5 km south of the Jenzig the Johannisberg is situated (fig. 10). It rises 220 meters above the Saale valley and is naturally protected to the south, west and north by steep limestone slopes. The plateau has a surface of 180×70 m, from which another 200 meters long ledge points to the northwest (fig. 11). This was separated by a 50 m long rampart against the rest of the plateau (fig. 12). The associated ditch was dug in the upcoming limestone and the removed blocks may be used for veneering of the wall with a drywall (Simon 1984, 49 f.). The prehistoric hillfort had a size of only 0.8 ha, which is very likely because the settlement was adapted to the surrounding environment (Simon 1984, 54). The

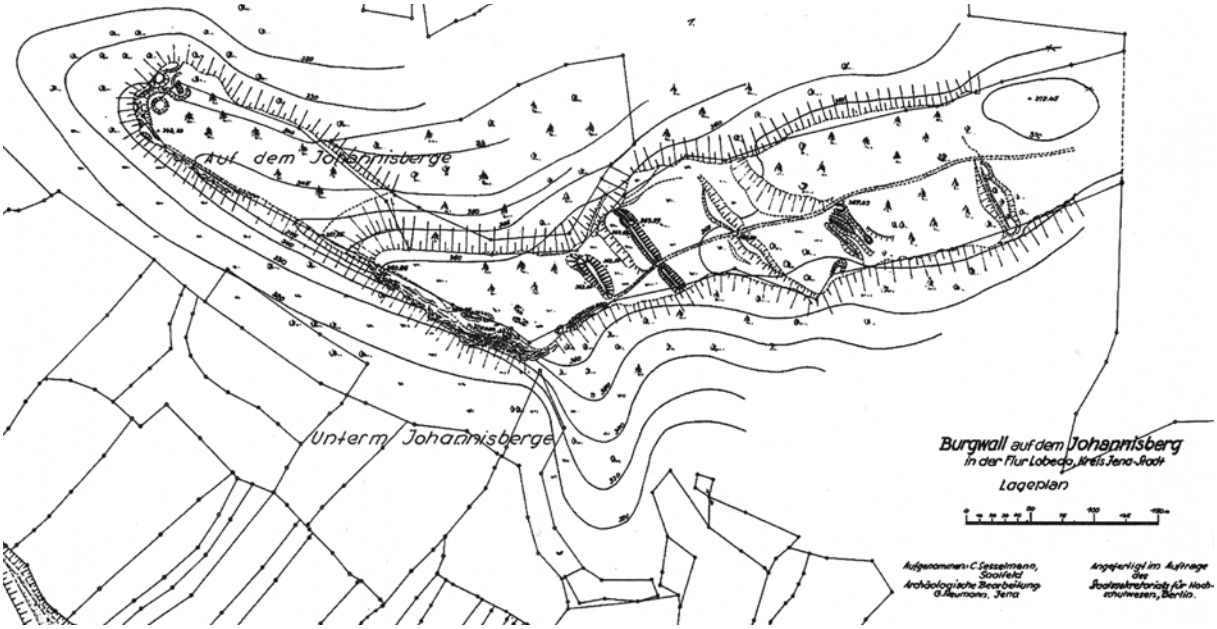

Fig. 11. Map of the plateau of the Johannisberg with the prehistoric and the early medieval ramparts (Grabolle 2007).
Fig. 11. Planul platoului Johannisberg cu indicarea elemetelor defensive din perioadele preistorică şi medievală timpurie (Grabolle 2007).

findings from Johannisberg suggest a date in Hallstatt B2/B3 near which it replaces the Jenzig as part of the fortification system Alter Gleisberg-Jenzig-Johannisberg (Ettel 2010, 360; Hage 2007). The settlement of the mountain by a Slavic-German castle in the 9th/10th Century AD complicates the investigation of traces of the prehistoric hillfort (Grabolle 2007, 43).

Another hilltop settlement of the Saale valley is the Rudelsburg near Bad Kösen, near the confluence of the rivers Saale and Ilm (fig. 13). The castle is naturally protected due to the steep limestone slopes that rise about 85 m above the Saale. The strong medieval overprinting of the hill makes locating unique prehistoric fortification and colonization difficult. However, in the archaeological material the late Bronze Age and early Iron Age are well represented. During this period the settlement seemed to focus on the southern slope, although erosion processes have to be considered as a cause of the accumulation of finds in this area (Schmidt 2012, 158). Already in Ha A the find precipitation increases strongly in comparison to previous periods,

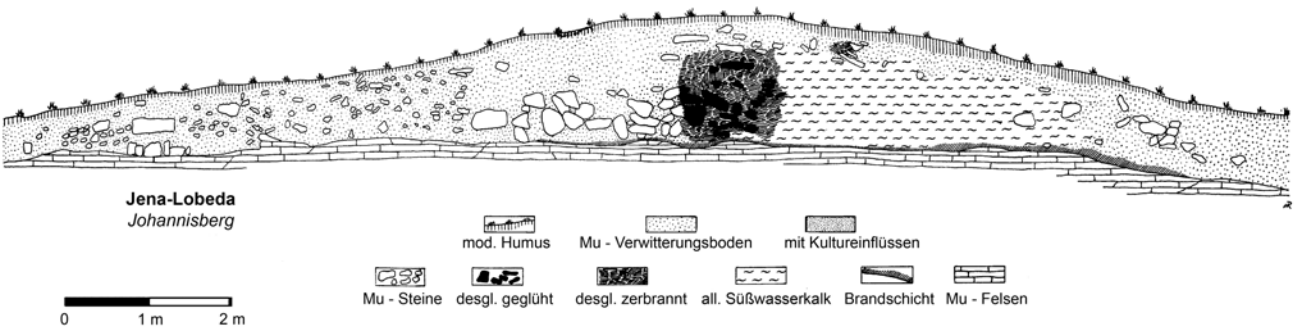

Fig. 12. Profile of the prehistoric rampart at the Johannisberg (Simon 1972).
Fig. 12. Johannisberg. Secțiune prin valul din perioada Urnenfeld (Simon 1972).

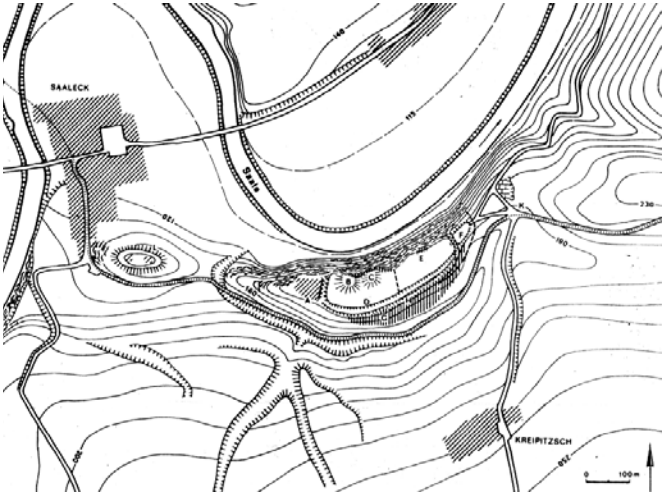

Fig. 13. Map of the Rudelsburg near Bad Kösen (Simon 1991).
Fig. 13. Planul sitului Rudelsburg bei Bad Kösen (Simon 1991).

but cannot clearly be assigned to any culture as the hillfort is located in the contact region of several Late Bronze Age culture groups (Simon 1991, 96; Schmidt 2012, 154). The most intense colonization took place in Ha B2/3, Ha C1 is already a significant decline (Schmidt 2012, 137).

Together, the fortifications on the Johannisberg at Jena-Lobeda, the Jenzig and the Alter Gleisberg form a system of hillforts for monitoring the Saale river. The proven east-west connection in this area was interrupted by the corresponding triangle of fortifications. The Gleisberg may apply due to its size and prolonged colonization as the main settlement of this system. At the confluence of Ilm and Saale the Rudelsburg is also at a very advantageous junction of roads. Common to the presented hillforts is the fortification with wood and earth walls that may have been reinforced with dry stone walls in two cases. However, these assumptions are mostly based on observations of the 19th century

and are no longer comprehensible nowadays. The profiles of the prehistoric wall on the Johannisberg show possible stone settings that may have served as the foundation of a wall like this. Another mutuality is, that all the fortifications seeming to be sectional ramparts in Late Bronze Age / Early Iron Age. In the notes of F. Klopfleisch only the Jenzig showed walls bordering the plateau itself at this time. The sectional attachments blocked the access roads to the plateau above the Saale, while the steep limestone slopes and impact crashes protected the remaining sides. Another common feature of the hilltop settlements is the situation on ledges. Only the Alter Gleisberg, as set-back "main settlement" was created on a singled mountain. All other fortifications are, as far as understandable up to today, applied on ledges. A proposal for the typological classification of the hilltop settlements is done by J. Brandt (Brandt 1999). Notably while the earlier fortifications were sectional walls, in later periods full surrounding walls were built at the same places. However, it must be considered that almost all the hillforts of the treated area were more or less strongly overprinted by later settlement activity, that's why a unique classification of architectural structures of the late Bronze Age and early Iron Age is difficult (Brandt 1999, 264). In the treated system to Jena this is particularly the case with Johannisberg and Jenzig.

The briquetage found on the hilltop settlements might originate in the territory of Halle/Saale and southern Saxony-Anhalt. They therefore demonstrate that salt was valued as a commodity and was transported across the Saale river to the south. The findings at the Alter Gleisberg reflect significant contacts with the Urnfield

Fig. 14. Mold fragments, Alter Gleisberg (Ettel 2014).
Fig. 14. Fragment de formă de turnat descoperit la Alte Gleisberg (Ettel 2014).

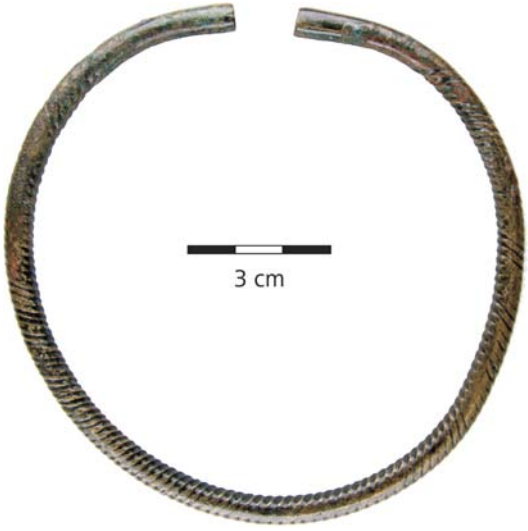

Fig. 15. Pseudo-twisted collar, Alter Gleisberg (Ettel 2014).
Fig. 15. Torques descoperit la Alte Gleisberg (Ettel 2014).

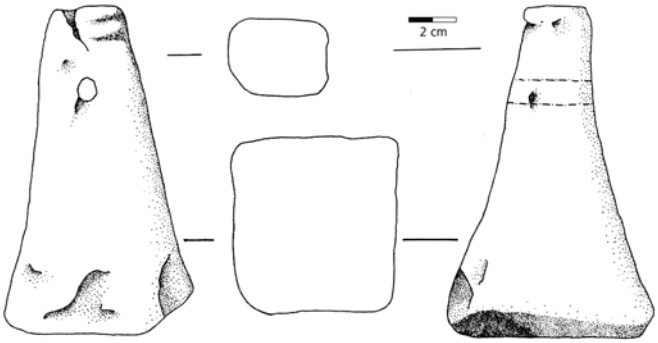

Fig. 16. Loom wheigt, Alter Gleisberg (Ettel 2014).

Fig. 16. Greutate pentru războiul de țesut descoperită la Alte Gleisberg (Ettel 2014).

culture of southern Germany, which can possibly be explained by the salt trade and the associated transfer (Simon 1984, 66).

The next hillfort up the Saale river is the Dohlenstein near Kahla, another hillfort, which cannot be discussed further in this paper. Similarly, there are other hilltop settlements near Saalfeld and Rudolstadt, which could have served as the last stations of the traded salt before crossing the Thuringian Forest. Copper might have been transported in the opposite direction from the northern Orla area (Ettel 2010, 360).

To what extent the aforementioned metal production on the hilltop settlements is associated with the salt trade, must remain open. But the fact is that there are settlements found over a large part of the hilltop, regardless of size or mounting, leads to the assumption of metal processing in form of molds, crucibles residues and waste (Simon 1984, 55) (fig. 14, 15). Further, of course, there are found traces of the house work, e.a. textile production (Fig. 16). However, the role of the hilltop settlements in trading matters should not be overstated, as corresponding results are known from simultaneous lowland settlements (Schmidt 2012, 163). The dense settlement around the hilltops and the position of the hilltop settlements at the edge of densely populated regions indicate the importance of

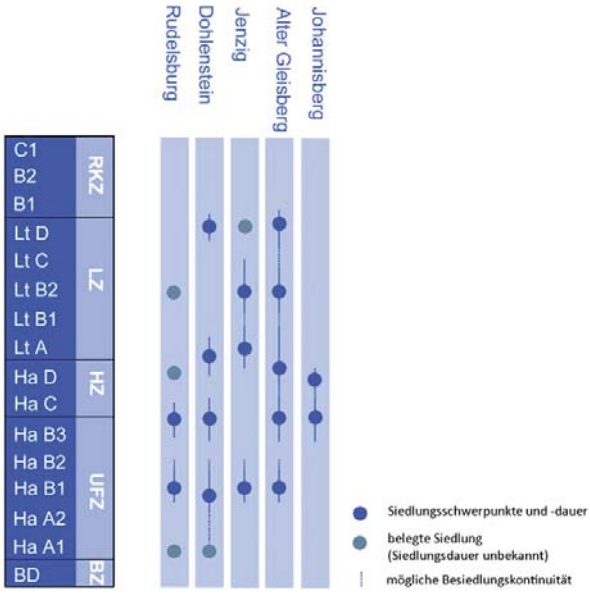

Fig. 17. Date range of the fortified hilltop settlements in the Saale valley (according to Simon 1984).

Fig. 17. Diapazonul cronologic al fortificațiilor (după Simon 1984).

the location, which has already been adopted earlier by K. Peschel (Peschel 1986, 30; Simon 1984, 61; Schmidt 2012, 162). The situation suggests that the middle of the settlement chambers was used more for agricultural production, while the higher surrounding limestone plateaus not only topographically offered good places for fortification, but also dominated the settlement area. The function of hilltop settlements was certainly the administration of the region in addition to protection. In the system near Jena this is reflected particularly in the fact that the Alter Gleisberg permanently and Jenzig and Johannisberg alternately were fixed and settled (fig. 17). If and how the hillforts had religious functionsreligious must remain open. The control of the trade routes was an important, but not singular role in height settlements.

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