Rüdiger Krause

Fortresses and Fortifications. On Fortified Hilltop Settlements of the Bronze Age

The construction of fortified settlements upon mountain summits and mountain spurs signifies a new form of defensive architecture for the Bronze Age in the 2nd millennium BC, which we designate 'Bronze Age' hillforts or fortresses. With mighty walls and gates built using various techniques with wood, clay and stone, the fortified hill settlements manifest an eminent need for protection from assault, while at the same time they were obviously centres of power, from which territories and natural resources as well as travel routes could be controlled. Within the focus of the Hesse excellence initiative LOEWE "Prehistoric Conflict Research – Bronze Age Fortifications between Taunus and Carpathian Mountains" new approaches are made on the subject "War and Fortresses as Architecture of Power" in 2016–2019. These studies are being carried out by the Goethe University in Frankfurt/Main and the Römisch-Germanische Kommission in Frankfurt/Main.[1] The objective was to observe the development and character of fortified structures in cultural spheres south of the Alps and landscapes north of the Alps in diachronic comparison in order to better understand the genesis and function of fortifications in their cultural milieu.

War and fortresses – architecture of power

As of the Early Bronze Age fortified hill settlements with walls commonly built of wood, earth and stone (**Fig. 1**) began to appear increasingly along the Danube River as well as in cultural spheres and geographical landscapes adjoining to the north in Central Europe. This new building of defensive architecture reached a peak in the Late Bronze Age, and numerous hill summits were fortified by sometimes massive walls or ramparts (**Figs. 2-3**).[2] What were the causes and underlying factors that stimulated this new development in the construction of settlements and defences in the course of the 2nd millennium BC? What natural or economic factors were instrumental that a fortified settlement was built on the summit of one particular mountain or hill and not on one of the neighbouring heights? What cultural background can be named in this regard? What role did metallurgy, the production and development of weapons for attack and those for long distances play? Above all, what developments occurred in the political (power-) structure that underlay all of these aspects?

Therefore, the focus here is – on the one hand – on weaponry and the obviously increasing potential of conflict or violence based on new techniques in weapons and fighting, and – on the other – the new phenomenon of fortresses being built. Both of these factors open a new sociohistorical perspective of violent conflicts in the Bronze Age.[3] For not only do the epics of Homer describe warlike aggression of violent dimensions; also the first appearance of weapons exclusively meant for killing humans, such as the sword, or the erection of mighty walls around settlements lead to the impression that war and conflict reached a new dimension during the Bronze Age.[4]

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1 Hansen/Krause 2017; see also the LOEWE homepage: http://www.uni-frankfurt.de/61564916/LOEWE-Schwerpunkt (last call 27.10.2018). – Within the framework of the second international LOEWE conference on "Bronze Age Fortresses in Europe" in Alba Iulia (Romania) in 2017, the focus was on fortifications and hillfort landscapes of the Mediterranean, from the Levantine coast in the East through Asia Minor and the Greek islands to the Italian Peninsula and the Adria, and as far as the Iberian Peninsula, see LOEWE-homepage http://www.uni-frankfurt.de/65329449/Konferenz-2017 (last call 27.10.2018)

2 Jockenhövel 1982; 1990; Rind 1999.

3 Hansen 2013; 2015.

4 Hansen 2015; O'Brien *et al.* 2018; Peter-Röcher 2018; Veit 2018.

Warlike confrontations and events of aggression are evidenced in contexts of unusual archaeological findings. Here to emphasise are excavations on the Heunischenburg near Kronach in Upper Franken.[5] This small, rather unassuming fortification is situated upon a hill spur at a distance from the actual associated settlement. Archaeological fieldwork revealed that the complex had been enclosed by a sandstone wall in the 10th century BC and then in the 9th century BC was expanded into a mighty stronghold with a 3.5-m high and 2.6-m wide stone wall with a gate. The construction of the gate can be ascribed to Mediterranean prototypes. Indeed, early defensive structures along the Danube River and in the Alps have long been correlated with east Mediterranean, Mycenaean influences.[6] The great number of weapons found at the wall indicates that battles took place at the Heunischenburg: many fragments of sword blades, spearheads, c. 100 arrowheads as well as parts of armament made of bronze, defective or bent, were found along the massive fortification wall.[7] Direct traces of warlike conflict and slaughter are provided by sensational finds and contexts from the Tollense valley in Mecklenburg-Vorpommern.[8] Thus far, a great number of human bones – accounting for more than 130 individuals and scattered together with horse bones and weapons – have been discovered in a c. 1.5-km long section of the valley and excavated at sites or retrieved from the river by divers. The finds date to the middle of the 13th century BC. Some of the human bones display wounds caused by blows and slashes. Recent investigations have concluded that there was a single battle event, in which possibly as many as several thousand warriors and other persons were involved.[9]

Conflict can be evidenced by horizons of frequent events of burning and destruction. Burnt fortifications were possibly the result of siege and successful destruction of the walls. However, it is also debated that the burning of fortified walls might also be attributed to a ritual and intentional performed event, for instance, in association with the abandonment and annihilation of a population.[10] So-called 'glass castles' or *Schlackenwälle* are a well-known phenomenon that until now has been attested mainly in Iron Age fortresses in central and northern Europe, foremost the British Isles.[11] The term 'vitrified fort' designates a completely burnt fortification that was originally built of wood, earth and stone and whose constructive components were 'baked' together due to extremely high temperatures of fire. In some cases the stones are partly glazed (vitrified): for example, basalt melts at temperature above 1000 °C.[12] Examples of burnt fortification walls of the Bronze Age within the study area of the LOEWE project are found on the Haimberg near Fulda,[13] the Middle Bronze Age fort in Bernstorf in upper Bavaria,[14] and the large Late Bronze Age fortification in Corneşti-Iacuri in Romania.[15] These examples demonstrate that burnt fortification walls were already present in the 14th century BC and that this phenomenon reaches back to the Middle Bronze Age. Through systematic analyses and new excavations more details could be explained and further indicators gained, which provide information about the causes of the destruction and burning of fortifications and which clarify whether these events can be attributed to warlike conflicts or to the ritual destruction and the intentional eradication of defence walls.[16]

Our investigations also concern the environment of fortresses and their influence upon Bronze Age settlement in different cultural and geographi-

5 Abels 2002.

6 For Slovakia cp. Furmánek *et al.* 1999; for the Alps cp. Krause 2005.

7 Abels 2002 Fig. 30a Pls. 16-21.

8 Jantzen *et al.* 2014; Terberger *et al.* 2014; 2018.

9 Terberger *et al.* 2018.

10 On the burnt fortification of Bernstorf: Gebhard *et al.* 2004; Bähr *et al.* 2012; Bähr in press; further, O'Brien/O'Driscoll 2017; O'Brien *et al.* 2018.

11 See Ralston 2006; for Ireland, cp. O'Brien/O'Driscoll 2017.

12 On investigations about the Glauberg in Hesse, cp. Baitinger/Kresten 2012.

13 Vonderau 1901; 1929b. – The Haimberg is located c. 5 km west of Fulda and consists of a basalt cone with muschelkalk. Basalt was quarried there until 1998, for which reason the summit of the mountain has been eradicated. Nonetheless, today the Haimberg is still 416 m high. In prehistoric times a vitrified wall encircled the summit, enclosing an area of 1.3 ha. Today all has been completely destroyed. Among the finds, those dated to the Urnfield culture predominate, especially the numerous finds made of bronze. Cf. Vonderau 1929a; Hansen 1991.

14 Gebhard *et al.* 2004; Bähr *et al.* 2012; Bähr in press.

15 Heeb *et al.* 2017 with more references.

16 Benjamin Richter M.A. is studying the burnt fortifications of the Bronze Age as PhD thesis within the frame of the LOEWE project.

cal landscapes.[17] The line of inquiry involve the extent to which changes can be recognised on hand of the respective economic bases, which affected use systems as well as the exploitation of natural resources. Here archaeobotanical and geomorphological soil investigations play an important role, for they can approach questions on the kind and intensity of use of a landscape and its relation to fortification in close combination with archaeological contexts and results. For instance, one question in the foreground concerns the extent to which the construction of forts and associated settlements can also be associated with the great forest changes of the Late Bronze Age in the Central German Mountains in Hesse, or should this construction be viewed as a reaction to these changes.

Settlement areas and structures around the fortresses are included in the investigations, as they served for the economic supply of the forts and also represent the range of the forts' political influence. The political sphere of a fortress could shift, yet the economic basis and the source of supplies had to attain a specific size and constancy, and thus they represent a hard factor for maintaining the steadfastness of a fortified complex. Furthermore, a substantial amount of information can be gained from the so-called municipal areas *(Weichbild)* around a fortress, not only pertaining to the environment and economy (cf. archaeobotany), but also about the population itself (cf. cemeteries), their ritual practices (depositions, places of cult), as well as settlement habits and forms (cf. architecture). On the basis of this information questions on the sustainability or – oppositely – short-term existence of a site, that is, temporality, can be pursued. Can continuity or breaks in settlement development be attributed to long-lasting stable phases or – oppositely – in disruptions in times of need and conflicts? Can the theory of fortress-building as a preventative measure against assault be supported archaeological findings? Or through proof that the erection of a fortification usually followed an obviously longer phase of peace?

The LOEWE project addresses the different forms of fortifications (**Fig. 1**), their functions and their significance within a settlement landscape, and the reconstruction of the social model of its communities. Thereby, our guiding premise is that Bronze Age fortifications should not necessarily be understood as the expression of acute conflicts, but instead far more as the expression of the "expectation of future conflict", that is, a frightening deterrent effect and preventative measure against intersocietal violent acts. The premise that the construction of fortifications during the Bronze Age in Central Europe was largely influenced by impulses from the Mediterranean sphere (see above) follows premises that were set forth and introduced into discussion by A. Jockenhövel, namely, that they are the expression of a centralised, hierarchically structured society.[18] For a critical analysis of this assumption the focus of the LOEWE project will also make comparative evaluations of ethnographic sources, for example, the extent to which indigenous populations built fortifications, even though their respective social and political organisation was of a different and other form.[19]

Archaeological sources attest manifold forms of defensive architecture, as illustrated by the reconstruction of the different phases of the fortification at Bullenheimer Berg in Mainfranken.[20] This information enabled a reconstruction to be made, ranging from outposts with simple fences and palisades to complex wood-earth-stone constructions in which massive fortification walls are well imaginable (**Figs. 1-3**). At first they seem to have been a defensive measure, which surely had a none-too-small psychological effect outwardly. Thus, the central question is all the more: by whom and against whom were the mighty walls erected. Fortified complexes took on the function of communities that represented their wealth and their status.

In a study on the Early Bronze Age (3rd millennium BC) in the southern Levant, H. Ashkenazi presented interesting considerations about the function of walls and fortifications.[21] He proposed the following features that serve as archaeological evidence and proof for acts of war and war-

[17] Bringemeier/Stobbe 2018. Archaeobotanical component project in the LOEWE project, conducted by Dr. Astrid Stobbe. Cf., http://www.uni-frankfurt.de/61909490/Archaeobotanik.

[18] "... a complex achievable only by a larger community, in contrast to a rigidly ordered society of earlier times ..." („*nur durch eine größere Gemeinschaft ausführbaren Anlagen eine gegenüber früheren Zeiten straffer geordnete Gesellschaft*") Jockenhövel 1975; see also Schauer 2007.

[19] Reymann 2018; component project on fortifications in the ethnographic sphere. http://www.uni-frankfurt.de/61384856/Soziologie.

[20] Bullenheimer Berg: Diemer 1995; Falkenstein *et al.* 2011; Nomayo/Falkenstein 2012.

[21] Ashkenazi 2016.

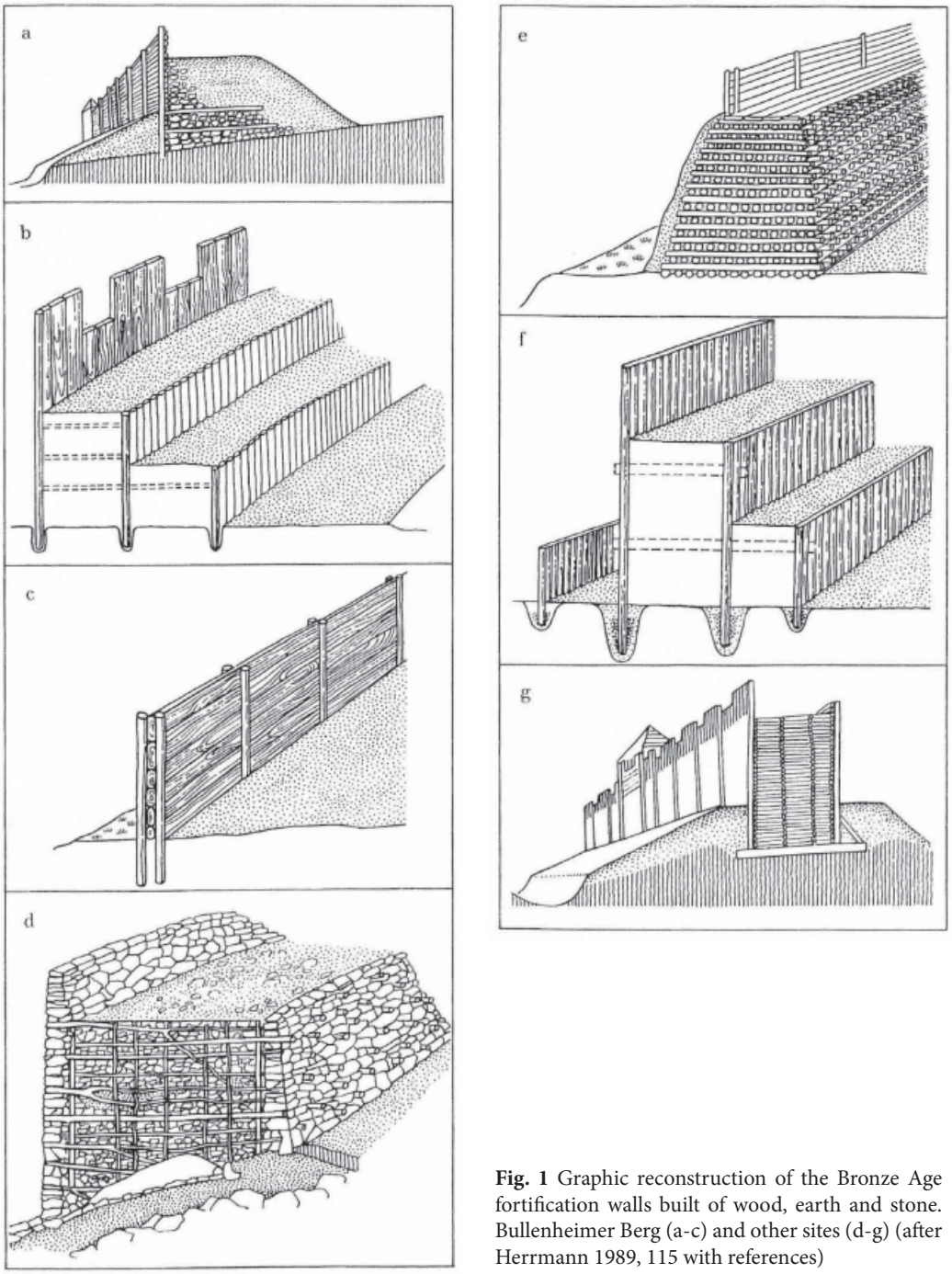


Fig. 1 Graphic reconstruction of the Bronze Age fortification walls built of wood, earth and stone. Bullenheimer Berg (a-c) and other sites (d-g) (after Herrmann 1989, 115 with references)

like conflicts: traces of destruction levels or horizons, repair or renovation of fortified structures in regular intervals, the shift of the population into a fortress, the strategic position of a fortification, gates that provide only indirect entrance into a fortification, blockage of the gates, and the willingness of the population to participate in building a large fortification. Thus, according to Ashkenazi, the function of fortifications lay in their symbolic representation of power and ideology of the elite, that is, the border between outside and inside, between 'we' and 'they'. The erection of stone walls and fortresses fostered group identity, whereby the occupants were restricted within the awareness and use of urban and interurban space. Hence, fortified complexes took on the function of cities and towns that represented their wealth and status. Furthermore, Ashkenazi concludes that evidence for war cannot be sought only in the archaeological context of defensive architecture and fortifications alone. The threat of violence present in social differentiation and the rise of an elite did indeed play an important role; yet fortifications nevertheless had far more a social function.

Fig. 2 Still present today in the massive walls of prehistoric fortifications are the remains of previous defensive walls. View of the graduated defensive walls around the summit plateau of the Ipf near Bopfingen, which were already erected in the Late Bronze Age and expanded later in the Hallstatt period (photo by R. Krause)

Fig. 3 The circular, 600-m long stone fortification around the summit of the 533-m high Stallberg near Hünfeld-Kirchhasel, distr. Fulda, is evidenced by the immense rubble of basalt boulders. In the foreground – an old trench from the excavation by Josef Vonderau in 1903, in which the front face of the stone wall can be recognised (photo by R. Krause)

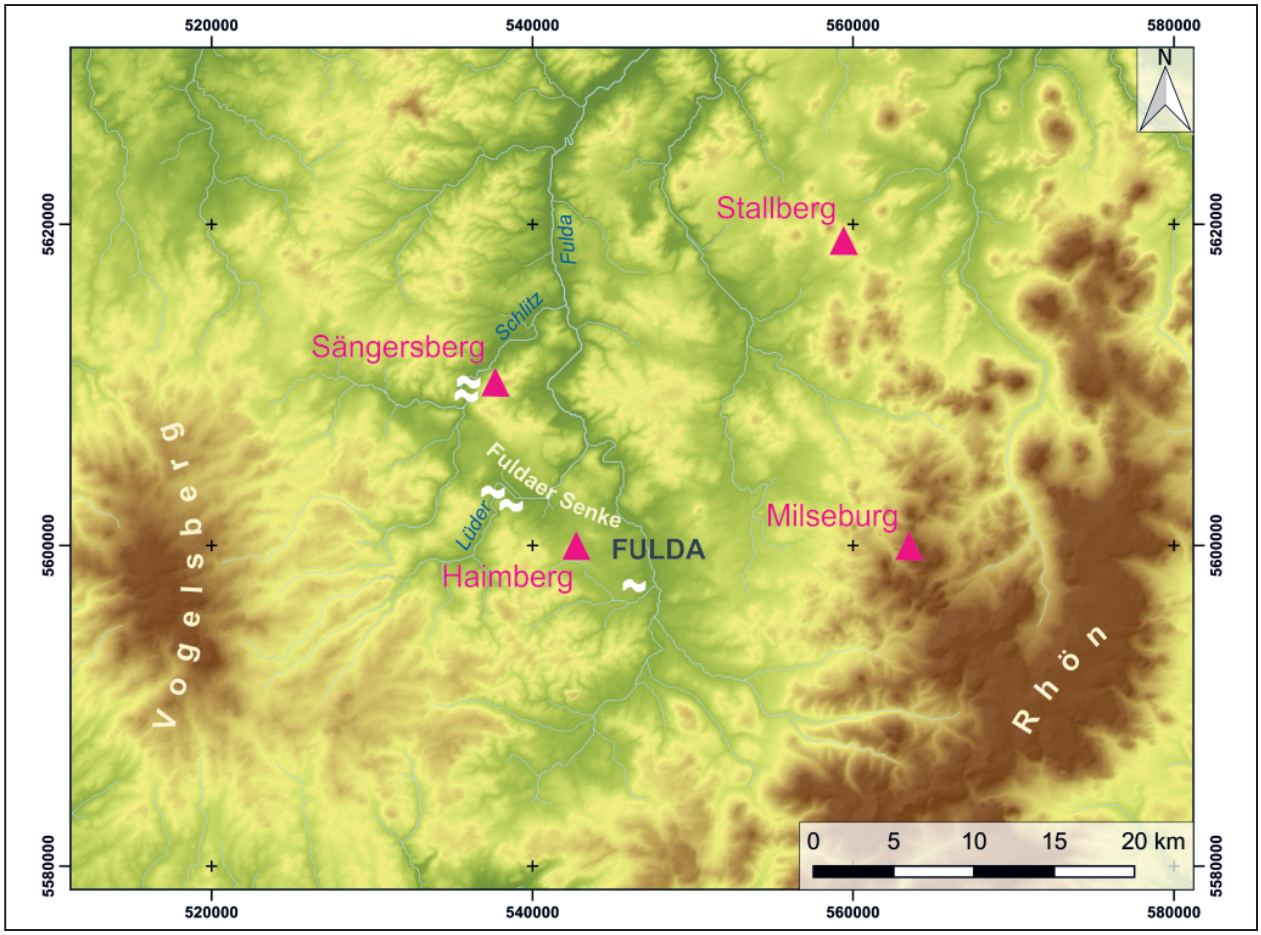


Fig. 4 The landscape between the Vogelsberg and the Rhön with the Fulda basin in eastern Hesse, showing hilltop settlements of the Late Bronze Age or evidence of prospection and salt springs (map by F. Becker based on the EU-DEMs v. 1.1)

New perspectives for understanding the Bronze Age fortification-building

Analyses of Early Bronze Age in the Levant have shown, that the phenomenon of wall construction in the Bronze Age must be accounted for and comprehended even further. Investigations of the LOEWE project carried out at different levels have revealed the likewise multifaceted foundations, the differing find contexts and above the different biographies of fortifications, as seen against the background of the genesis of a settlement landscape in diachronic perspective. There is general agreement that defensive fortifications are an expression of a hierarchical structure and that the fortress was a central element in the settlement community. However, the point in time at which a fortress was erected and the motivation behind its construction are still unanswered. Indeed, it could be proposed and premises presented that strongly fortified complexes were erected mainly as preventative measures to preserve peace, that is, as a deterrent to violence. Or from the perspective of the aftermath of a battle, a strongly fortified complex could have had the aim of peace-keeping, a deterrence, and also hindrance to aggressive confrontations in the future. Similarly, the social function of a fortress with mighty walls played a none-too-small role in a community. The erectors of a fortress not only demonstrated their power outwards; they also expressed their own ideology in a way, which is also manifested in the materiality of their weaponry as well as ritual activities. In summarising, the following factors can be named that were crucial to the erection of Bronze Age fortifications:

- Fortifications are the expression of a centralized hierarchical structure.
- Fortifications are not the expression of an acute conflict, but instead an anticipated conflict.
- Fortifications and walls create a boundary line between ‘inner’ and ‘outer’, between ‘us’ and ‘the other’.
- Fortifications fulfilled a social function.
- Fortifications and defensive architecture symbolise the power and ideology of elites.

Fortified hill settlements between the Vogelsberg and the Rhön in eastern Hesse

Investigations and analyses of the LOEWE project have resulted in concrete criteria as the stimulation for the erection of Late Bronze Age fortresses, particularly in the Central German Mountains in southern Hesse between the Taunus in the West and the Vogelsberg and the Rhön in the East (**Fig. 4**).[22] Thereby especially historical and natural environmental factors play an important role when evaluating the different topographical situations. The following factors can be named:

1. Interconnecting routes, old pathways and communication axes.
2. Boundaries between cultural spheres.
3. Natural resources.
4. Topography and visibility.
5. The natural as well as the cultural landscape.

Applying these criteria to investigations on historical topography to fortresses of the Late Bronze Age too, has resulted in the following contexts:

1. Interconnecting routes

In a course passing from Mainz through the Wetterau over the Vogelsberg to the East through the Fulda Basin to Thuringia are several old roadways and long-distance routes, some of which can be traced back to the early Middle Ages (**Fig. 4**).[23] These tracks, which are conspicuously unite or intersect in the Fulda Basin form a kind of axis, along which the fortifications of Glauberg, Haimberg and Sängersberg of the Late Bronze Age are situated, and also Iron Age complexes, such as the Milseburg and Stallberg (**Fig. 5**). With them the view of K. Th. Ch. Müller gains greatly in credibility that these old interconnecting routes date back into prehistoric times.[24] Accordingly, fortifications of the Urnfield culture lie along already existent communication axes, which was an essential prerequisite for the erection of fortresses in such topographical positions. Impressive confirmation for this is supplied by the multitude of bronze artefacts from different origins found in the Haimberg. They are evidence for far reaching relations and exchange networks, well into the Nordic Bronze Age.[25]

2. Boundaries between cultural spheres

Cultural spheres and their borders may also represent significant criteria for the erection of fortifications. One premise is that the construction of fortresses was undertaken to secure political as well as socioeconomical relations, depending upon the stability or instability of communities. In the area under study the so-called Fulda-Werra-group was singled out for the Middle Bronze Age,[26] which is distinguished from neighbouring groups of mound graves by their burials under mounds and the grave and costume traditions that could be reconstructed from them. No fortified hill settlements are known yet from the Middle Bronze Age.[27]

The situation changed fundamentally with the Late Bronze Age Urnfield culture.[28] The regions of the Fulda Basin and Rhön became a landscape between larger units and possibly – in the best sense of the word – a border region, in which in any case influences from adjacent regions became notable. In the South was the Northeast Bavarian group of the Urnfield culture, in the West, North and East were the off-shoots of the Lower-Main-Swabian group, the lower Hessen group as well as the Unstrut group. The landscape between Vogelsberg and Rhön cannot be ascribed to any one of these groups. Hence, when considering the reconstruction of connecting routes as well as the occurrence of brine there, this area could have possessed a strong potential for conflict, which might have led to the erection of fortresses and defensive structures for better control.

3. Natural resources

The only noteworthy natural resources in prehistoric times in these areas were likely occurrences of salt and brine springs (**Fig. 6**), which are found

[22] See Neumann 2018 and Blitte/Verse 2018.

[23] Müller 1927; on the Glauberg, see Baitinger in press. My thanks to PD Dr. Holger Baitinger for his very inspiring help and in advance for his manuscript (in press). See also Heinke 2012.

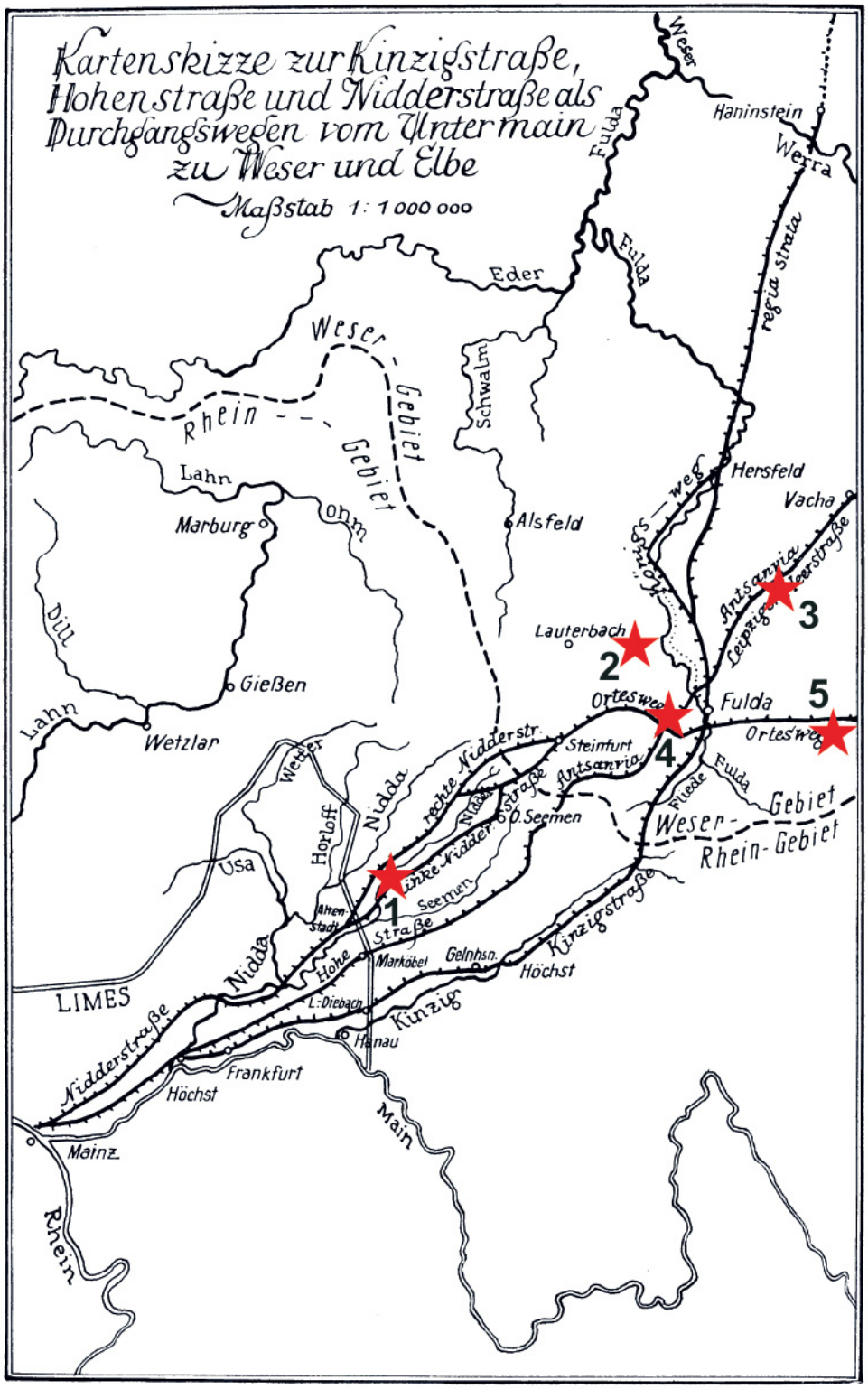
[24] Müller 1927.

[25] Vonderau 1929b; Hansen 1991.

[26] On the Fulda-Werra group see Jockenhövel 1995.

[27] On prehistoric settlement in general, see Verse 2015; on the Middle Bronze Age, see Görner 2015; on the Late Bronze Age or Urnfield culture, see: Müller 2017, 43 ff.

[28] On the Urnfield culture in the district of Fulda, see Müller 2017, 43 ff.



(1) Glauberg; (2) Sängersberg; (3) Stallberg; (4) Haimberg; (5) Milseburg

Fig. 5 Significant medieval connecting routes from Mainz and the Rhein-Main area, which likely date back to prehistoric times. The routes run over or around the Vogelsberg to the East *(Ortesweg)* and to the North *(Königsweg)* along the Weser and the Elbe rivers, which intersect in the Fulda Basin. Charted here are Late Bronze Age fortifications as well as Bronze Age evidence of Iron Age fortifications (map after Müller 1927, with additions)

Fig. 6 The salt spring *Benediktussprudel*, drilled in 1903, in Selters, Ortenberg, distr. Wetteraukreis (photo by B. Henkes)

in the Fulda Basin in the Lüder valley and the Schlitz valley. It was surely no coincidence that both of the known hill settlements of the Late Bronze Age, the Haimberg and the Sängersberg, are located in these valleys, or on their fringes (**Fig. 4**). Already in 1960, O. Uenze assumed that the numerous burial mounds in the Fulda area lie in the vicinity of salt springs, and he assumed a close relationship.[29] The oldest evidence for brine or salt exploitation derives from a document of the 9th century AD, in which the donation of a salt spring is named. Further evidence is found in the late Medieval period and the early modern age. Archaeological evidence for salt boiling in early modern times was discovered – by contrast – as late as 2013, west of Fulda in Großenlüder in the Lüder valley.[30] The extraction of salt from brine is not known in the Bronze Age, neither through archaeological findings nor through later Iron Age salt boiling sites as in Bad Nauheim.[31] Nevertheless, by comparing technical ceramics as attested by later briquetage, we may assume as already O. Uenze did, that there was a method of salt extraction from local brine during the Bronze Age, which however cannot be attested or confirmed at present. In any case, it must be assumed that small amounts of this coveted and vital substance salt could also be boiled in simple ceramic vessels (**Fig. 7**), without leaving any archaeological traces.

4. Visibility

The Fulda Basin with its wide valley of the Lüder – comparably deeply entrenched between the Rhön in the East and the Vogelsberg in the West – provides very good view axes and far-reaching visual contacts. These are illustrated in a viewshed analysis (**Fig. 8**), and otherwise can be easily noted in the terrain in a field study. The best visual

[29] On the occurrence of brine and brine springs in the Fulda Basin, see Gies 2008; also on salt, see Uenze, already in 1960, 126 ff. 141-142.

[30] On the history of the brine springs, see Gies 2008, 40-51; a short summary of historical sources as well as the results of excavation results presented by Funke 2018.

[31] Recently with numerous references in Kull 2003.

Fig. 7 Experimental salt boiling as part of a course of the Goethe University (Frankfurt/Main) on the Glauberg in 2018. Brine is boiled in a ceramic vessel. A white residue can be recognised above the foam on the wall of the vessel. Using this simple method at least small amounts of salt can be gained (photo by A. Stobbe)

contact is between the 553-m high Sängersberg to the over 420-m high Haimberg in the East, a singular basalt cone with muschelkalk (originally much greater in height) in the Lüder valley (**Fig. 9**). Moreover, in addition to these two mountains there is a good view of the Milseburg, 835 m high, an outstanding basalt block that dominates the topography in the East of the anterior Rhön (**Fig. 10**).[32] Further, the view from the Sängerberg reaches far to the West to the Vogelsberg (773 m high). So, the visibility between both important fortifications – the Sängersberg and the Haimberg – was at hand, together with an excellent view axis. At the foothill of the Milseburg a cultural layer assigned to the Urnfield culture was discovered below the Iron Age fortification, although only on the eastern slope. Nonetheless, it may be assumed that the imposing basalt block was originally occupied in the Late Bronze Age, too, and that the evidence thereof was removed by intensive activities of the successive Iron Age settlers. From the Milseburg there is likewise a direct view axis with other fortifications to the West: an excellent long-distance view into the Fulda Basin and the surrounding landscapes.

5. Natural and cultural landscape

The reconstruction of the natural and cultural landscape is still in its beginnings. Archaeobotanical archives are for reconstruction of the history of vegetation especially important, but they are difficult to comprehend.[33] The first contexts and results indicate that a far-reaching woodland and dense forest can be assumed. One important question concerns the extent to which the valleys were treeless and with that the extent of view axes in the valleys, when considering the postulated connecting routes. The summits of mountains must have been free of trees; otherwise building a fortress there would have been senseless. On the

[32] On the Milseburg, see Söder/Zeiler 2006; 2012.

[33] Lisa Bringemeier M.A. is working on this in her dissertation on vegetation history, within the framework of the archaeobotanical component of the LOEWE project.

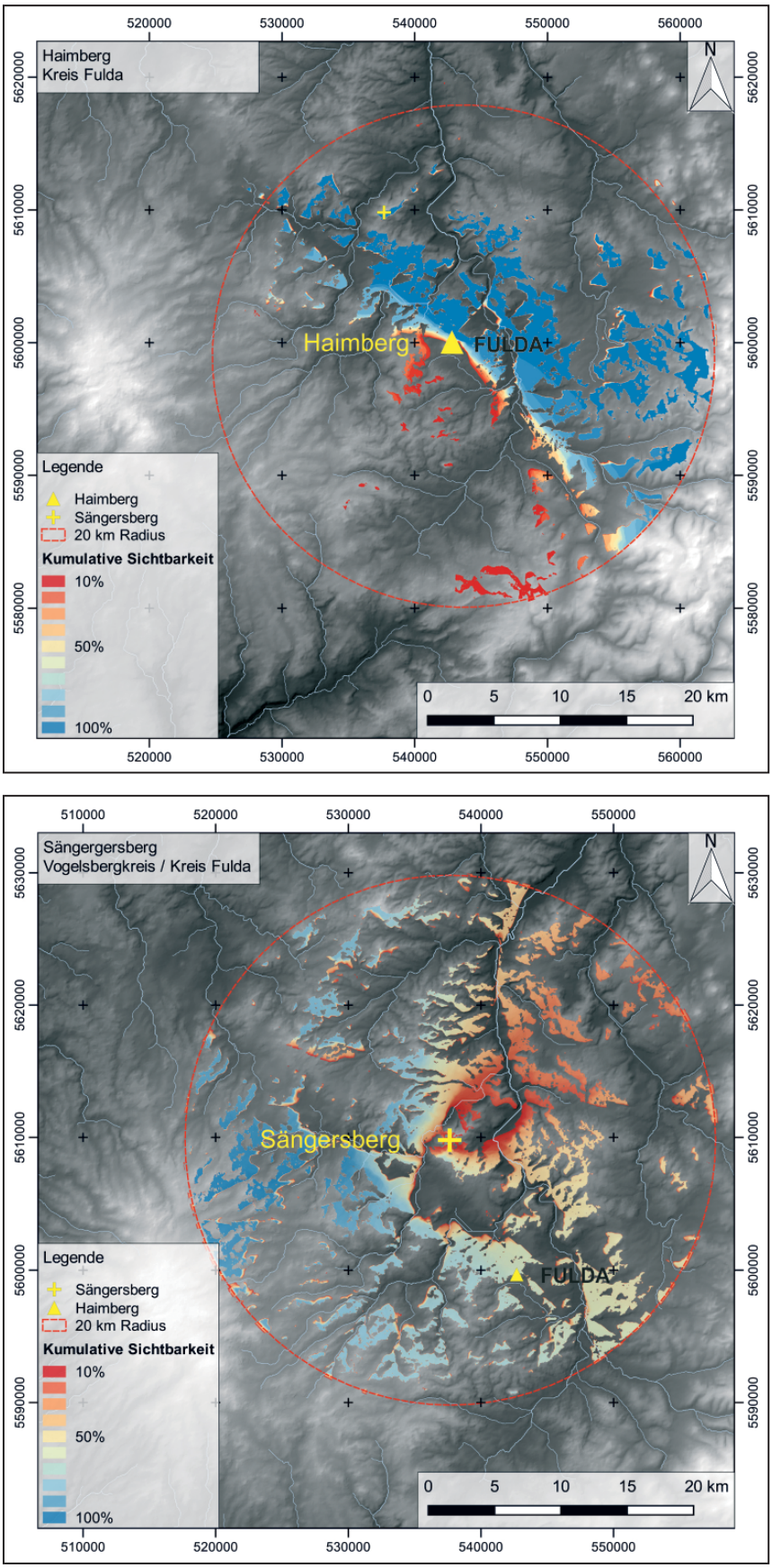


Fig. 8 Viewshed analyses of a 20-km radius around the Haimberg (above) and the Sängersberg (below). They confirm the favourable view axes between both Late Bronze Age hill settlements and in the Fulda Basin, the area where the old route axes intersect (cp. Fig. 4). Despite the forest cover, in figures 8 and 9 together the excellent view axes between the hill settlements is quite apparent (analysis by F. Becker, basing on the EU-DEMs v. 1.1)

Fig. 9 View from the 553-m high Sängersberg towards the Southeast to the Lüder valley and the Fulda Basin. In the centre lies the elongate, forested ridge of Haimberg (today still preserved to a height of 416 m) (photo by R. Krause)

one hand, timber was needed for construction of fortresses and settlement structures, while on the other hand, wood was needed for daily use. Yet, the mountain tops must have already been free of trees, so that the postulated visual connections between fortifications and a certain control over the area would have been possible. Finally, it may be assumed that the valleys in the area of the Fulda Basin were visible to a certain degree, as well, possibly to control the long-distance routes, reconstructed here.

Future Perspectives

Compared to the last large conference on castle-building in Nitra in 1980,[34] great progress has been made in evaluating the genesis, function and effect of Bronze Age fortresses. The LOEWE project in Frankfurt/Main is discussing the function and importance of fortifications in interdisciplinary dialogue with medieval studies[35] and sociology. Nowadays, the causes for erecting walls are attributed to various factors, which do not necessarily base on solely reasons of defence. Today the line of inquiry concerns far more the social representation and effect of walls – 'inwards' as well as 'outwards' –, and their function in a settlement landscape as an identity-giving element of a community. Or expressed in another way: fortifications likewise symbolise the ideology and claim to power of elites. On the other hand, we assume that fortresses of the Bronze Age were built coincident with the development of new weapons and battle techniques as preventative measures and deterrents against confrontations. They were less the expression of real conflicts, and more in anticipation of conflict, which could possibly be avoided or carried out outside of the fortified hill settlements.

[34] Chropovsky/Herrmann 1982. On the Late Bronze Age hilltop settlements of the Urnfield culture, confer the works of A. Jockenhövel (*e.g.*, Jockenhövel 1975; 1990).

[35] Kohl 2018.

Fig. 10 The topographically prominent basalt block of the Milseburg (835 m high) in the anterior Rhön dominates the landscape. View from the 553-m high Sängersberg towards the East, over the Fulda Basin to the Milseburg (photo by R. Krause)

Furthermore, natural environmental, cultural as well as economic factors were also responsible for fortress-building. Involved here were exchange and communication routes (pathways), the exploitation of processing of raw materials (salt), and boundaries between former territorial dominions and cultural spheres, as far as we can determine them in the material culture and in reconstructed burial customs. The visibility and dominance of fortified hilltop settlements were originally very important criteria, as shown here on example of the Fulda Basin with old communication routes between the Vogelsberg and the Rhön in eastern Hesse. Bronze Age fortresses with their different, elaborately constructed wood-earth-stone walls were certainly an impressive architecture of power, power that formed against the background of developing techniques in war and weaponry. They thus played an essential role as bases of power of (warrior) elites.

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