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tion in the region prior to the construction of the enclosure and the new opportunities for exchange offered by the site once chosen. Repetition of the same routes to Herxheim would have led to a formalisation of the movement into ‘processions’, in turn formalising the ritual practices at Herxheim into a form of pilgrimage. The importance of seasonal or annual repetition built the special deposits through growing place-value and expanding cultural memory, creating a deeper attachment to the history of this place. Decreasing exchange and the creation of an alternative (difficult to identify in the declining settlement network) congregation centre could have played a role in the decline of the Herxheim centre.

While bodily mobility is widespread in European prehistory, this practice has not been frequently invoked in the LBK, with its current total of over 3000 known burials, often in small groups in settlements and cemeteries. The alternative Herxheim model which we propose is ultimately grounded on two bodily practices – bodily dividuality and bodily *synecdoche*. Herxheim shows the massive effects of these two initially simple practices when worked through in a consistent, cumulative, and concentrated manner.

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## **Herxheim unchained: a reply to Chapman et al.**

By Andrea Zeeb-Lanz and Alexander Gramsch

Following the publication of three important books about Herxheim in recent years (BOULESTIN / COUPEY 2015; ZEEB-LANZ 2016; 2019a), the discussion of the function and interpretation of this enigmatic Early Neolithic site has significantly died down. It is therefore very welcome that John Chapman, Bisserka Gaydarska, and Tina Jakob have undertaken a new attempt at deciphering the complex scenario at Herxheim. Based on their previous research on fragmentation and enchainment as a social mechanism in prehistory and recent debates on mobility of both living and dead bodies, they take up the notion of the “division of dead bodies for transport” (*Chapman / Gaydarska / Jakob p. 4*) to create a sequence of actions resulting in the archaeological and anthropological findings from Herxheim that is challenging, stimulating, and good food for thought.

The new narrative can perhaps be boiled down as follows: people from contemporary – though still undiscovered – *Linearbandkeramik* (LBK) sites (so-called ‘Home Communities’) chose body parts of their deceased, which they had been curating up until the “festival season” at Herxheim, and then carried them to Herxheim. Along the way, they probably stopped at other yet undiscovered

ered ‘Home Communities’ to exchange or donate body parts. Evidently, more upland communities brought ancestral body parts to Herxheim than lowland communities (cf. *Tab. 1*); the latter took fewer body parts, but ceramic vessels to Herxheim. There, these different groups met for larger feasts and mixed and deposited their souvenirs to enchain their various communities. This mixture of “biosocial material” was deposited in a double ring ditch system, the parts of which were excavated by the incomers. As stated above, this narrative integrates a number of elements for which archaeological evidence is missing, but which help to create a coherent picture (cf. *Fig. 8*) and a complete storyline with actors, requisites, and settings. A film is created in our minds, the plot of which is unfamiliar but not completely unthinkable. However, the rich data from the research of Herxheim provide evidence for many actions which cannot be easily integrated into this drama, if at all. In the following, we want to summarise some of these elements – some of them missing, others misinterpreted – that make the picture far less coherent.

Let us start with the central act – the treatment of the dead bodies. The most important and markedly over-represented skeleton parts at Herxheim, the calottes, are mentioned (“Special treatment was afforded to cranial material, with the production of calottes [skull-caps] and – in a few limited cases – their deposition in groups”, *Chapman/Gaydarska/Jakob, p. 9*), but not discussed in detail, although they certainly played an important and special role in the body-transformative practices. The narrative does not propose any explanation for the fashioning of these outstanding “artefacts” but treats them like all the other human bone fragments, despite the fact that there is a wealth of anthropological literature on the particular significance of head and / or skull in practices related to the transformation of bodies (be they ancestral, or enemy, or other) (e.g. BONOPOFSKY 2011; ROSENDAHL/WIECZOREK 2011; cf. BARLEY 1981 and below). Moreover, cutmarks are understood as aiming for the dissection of the dead body in order to facilitate transport and enchainment. However, many cutmarks all over the body and on the skulls in particular cannot be explained this way (e.g. cuts on a child’s clavicle, s. GRAMSCH/GROSSKOPF 2023, 109 fig. 5). Fewer and simpler cuttings would have been sufficient to remove the skull from the postcranial part of the body, to detach the scalp from the skull, and to dissect the postcranial body. The complexity of body-related practices is not at all reflected in the new model.

There is both a kind of standardisation of body treatment and a high degree of variation in the way bodies are transformed, leading to this complexity of body-transforming practices. This includes the observation that many bodies were dissected to such a degree that, as the authors rightly state, Silja Bauer, in her analysis of the remains from eight depositions which were uncovered in the rescue excavation, was unable “to re-fit a single complete long bone from these slots” (*Chapman/Gaydarska/Jakob, p. 9*) (BAUER 2019, 11), while an – albeit restricted – number of other deceased are still distinguishable as individuals, preserved as torsos, or almost complete skeletons. While the authors express that “even the few examples of articulated bones in the ditches could have been brought to the site” (*Chapman/Gaydarska/Jakob, p. 15*), we think it is very unlikely that these articulated parts – such as whole spinal columns, long bones from legs, and arms with feet and hands still attached to them – could retain their original anatomical association during transport from the ‘Home Communities’ on the long way to Herxheim (*Fig. 9*). Returning to the calottes, a closer look shows that quite a number of them have one, or even both, temporal scales (a thin bone formed like a scale that is very fragile and linked to the skull with only minimal connection) preserved. The temporal scales would never survive a journey from a ‘Home Community’ still adherent to the skull when the calottes were prepared weeks before their arrival at Herxheim. Therefore, these skull caps must have been produced on site. In our opinion, this suggests that the individuals in fact died in Herxheim (*contra Chapman/Gaydarska/Jakob, p. 15f.*).



Fig. 9. Herxheim. Central part of concentration K 6 (rescue excavation) with long bones intact and an arm with part of the hand in original connection.

Another striking element in the transformation of (dead) bodies is the age distribution of the excavated individuals. Chapman et al. refer to the strong over-representation of juveniles and young adults and the lack of infants, which is highly untypical for normal death communities of the time, as already established by Bruno Boulestin (BOULESTIN / COUPEY 2015, 104–114; esp. 114). They suggest this distribution “might be caused by osteological and taphonomic factors rather than representing the ‘true’ demographic picture” (Chapman / Gaydarska / Jakob, p. 9). However, they do not cite a single example of taphonomic processes leading to a significant loss of bones. And indeed, there is neither evidence of gnawing, nor are there animal traces in the ditches. The lime-rich loess at Herxheim definitely prevented decomposition of the bones, and there is even so much lime in the soil that it covered the majority of the bones with thin layers of lime or even sometimes thick and solid sinter concretions. Additionally, what kind of “osteological factors” should exist that lead to the disappearance of the bones of elder people and young children? The striking overhang of juveniles and young adults is one of the elements missing in or even contradicting the narrative of Chapman et al., whereas we consider it a clear indication of intentional killing of members from communities of the living.

It seems to us, then, that the first act outlined in the new plot for Herxheim does not correspond to the body-transformative practices that can actually be reconstructed from the evidence. But what about the second act, which is the mixing of body parts and pottery to enchain upland and loess communities? Chapman et al. selected inner ditch slot 282-139 as an example where allegedly “the placement of one fragment of a person’s body in a long pit with sherds from the Elster-Saale region linked the person to the vessel” (Chapman / Gaydarska / Jakob, p. 13). However, this slot comprises a total of 42 fragments of human bone and two calottes commingled with 74 sherds (18 decorated and 56 undecorated, none of which shows Elster-Saale-decoration). Again, the evidence suggests a far more complex series of actions that led to the archaeological record, rather than a specific enchainment as recognised by Chapman et al. Directly in the middle of a pottery sherd concentration in this slot we identified two sherds with early-LBK Flomborn decoration and two further ones dating from the middle to younger LBK. Fabian Haack figured correctly that the older sherds, which were found in various concentrations or singly in the backfill, were mixed into the concentra-

tions along with the soil in which the finds had been interspersed before deposition, as this was the original filling of the ditches which sometimes cut older pits (e. g. HAACK 2016b, 83; 94; 113). But if all the material in the concentrations stems from deliberate enchainment actions, it becomes very difficult to explain the chronologically much older pottery in quite a number of the concentrations; Chapman et al. conveniently omit these facts.

Their second example, the enchainment of “another bone fragment placed in another long pit with sherds from the Rhein-Main region” in slot 282-12 of the inner ditch (*Chapman/Gaydarska/Jakob, p. 13f.*) is not convincing either: The excavation database shows that in the vicinity of the sherds present that have Rhine-Main-hatching style decoration – which are not lying together – there is a huge number of various bone fragments, mandibulae, and more than 100 pottery sherds and stone implement fragments. There is even an intact skeleton in the classical flexed position in this slot, lying on the same level as quite a number of bone fragments and a huge variety of sherds with different decoration styles. It seems unlikely to us that so many dead individuals and so many ceramic vessels could have been enchainment in a single act, let alone the specific enchainment of a Rhine-Main vessel with an upland individual. Moreover, it remains open how the intact skeleton fits in the enchainment narrative. Again, by omission, Chapman et al. avoid evidence that is very difficult to work into their plot.

This example leads us to the matter of scale: Some “biosocial material clusters” are small and consist of fragments of only a few vessels and of body parts from 1–2 individuals, but the majority of the clusters comprised a huge amount of pottery and human bones mixed with soil, animal bones, stone tool fragments, and bone tools. For example, Concentration K 16 of the research excavation includes, in addition to animal bones in larger quantities, 4000 human bone fragments (including 13 skull caps), about 500 pottery sherds, and a smaller number of grinding stone and stone adze fragments (*Fig. 10*). It is quite impossible to imagine how many different ‘Home Communities’ must have been involved in order to create this set of enchainment landscape, pottery, and human individuals. Moreover, this and similar clusters are obviously not the result of a single depositional act: the commingled mass of soil, bone fragments, pottery sherds, and other artefacts shows that no clear-cut, closed “enchainment sets” were deposited in the ditches, but rather they were the result of a series of actions in which bones, sherds etc. were scattered, reassembled, mixed with soil, and spread into open sections of the ditches.

It has to be noted that a huge number of single sherds and bones were found in the backfill layers above and below the main concentrations of “biosocial” material. These numerous, but often individually lying sherds and bone fragments do not fit into the enchainment model either – or only if we assume that the enchainment consisted merely of a selection of smashed human bones and fragmented vessels – and the rest was simply discarded with the backfill material. The huge amount of material that eludes any kind of enchainment is ignored in the narrative by Chapman et al.

All in all, there are around 80 000 human bone fragments (including around 500 calottes), ca. 25 000 vessel units (many consisting of more than ten sherds), several thousand pieces of stone implements, hundreds of bone tools and ornaments, as well as a lot of animal bones. Imagine the number of people – several thousand probably – necessary to achieve the goal of enchainment all these objects with each other! The composition of the concentrations and the backfill layers do not suggest a repeated use of one and the same spot for deposition in subsequent years or at subsequent occasions – and the many pottery re-fits between freshly broken sherds lying in neighbouring concentrations suggest longer, simultaneously open ditch sections.

Aside from remains from butchered domestic and some wild animals, the concentrations in the ditch fillings also comprised animal remains such as the wing bones from a large wading bird, a

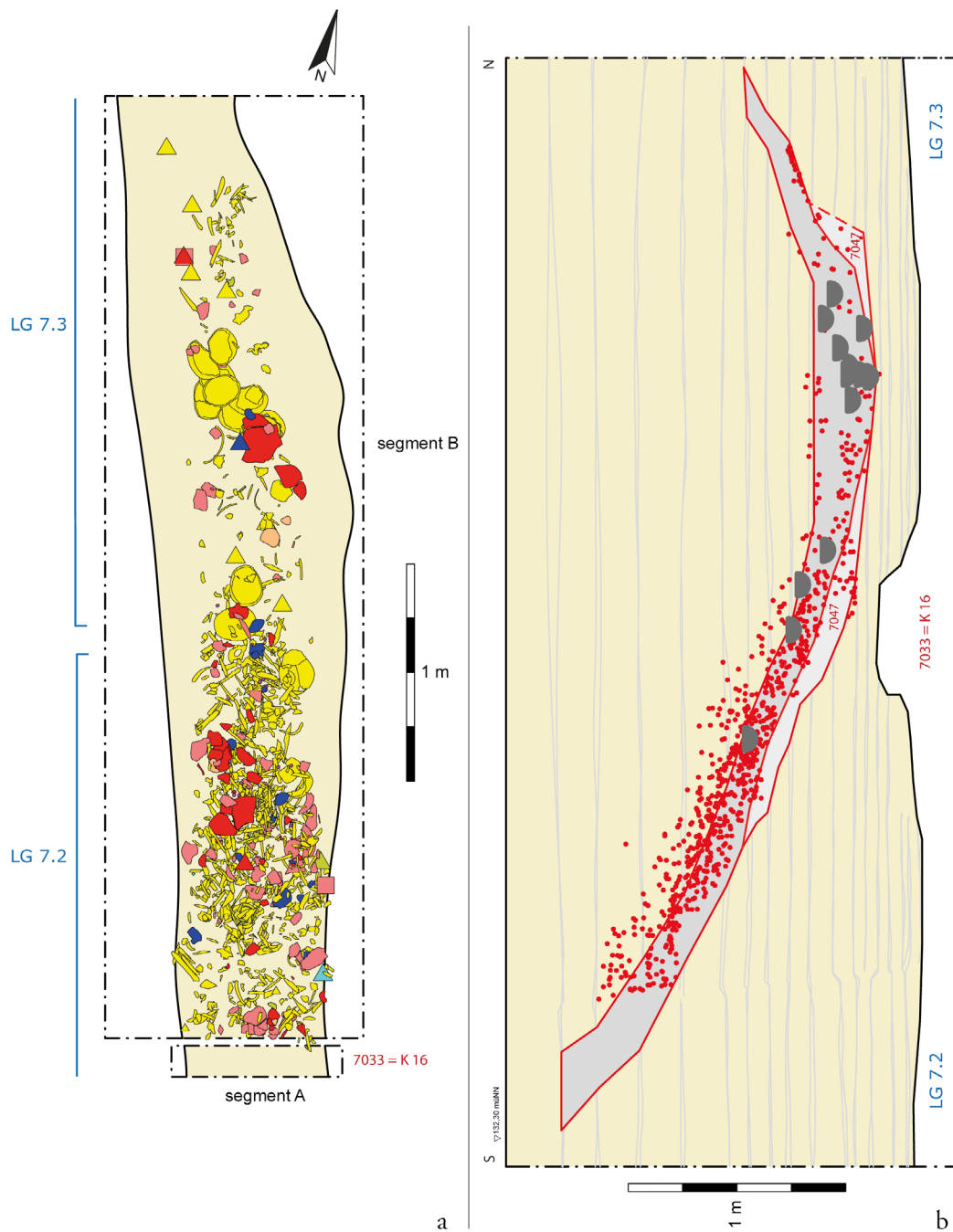


Fig. 10. Herxheim. Inner ditch ring, finds concentration K 16. a Planum 5 with finds horizons 5–19. b Longitudinal profile with finds horizons 5–19.

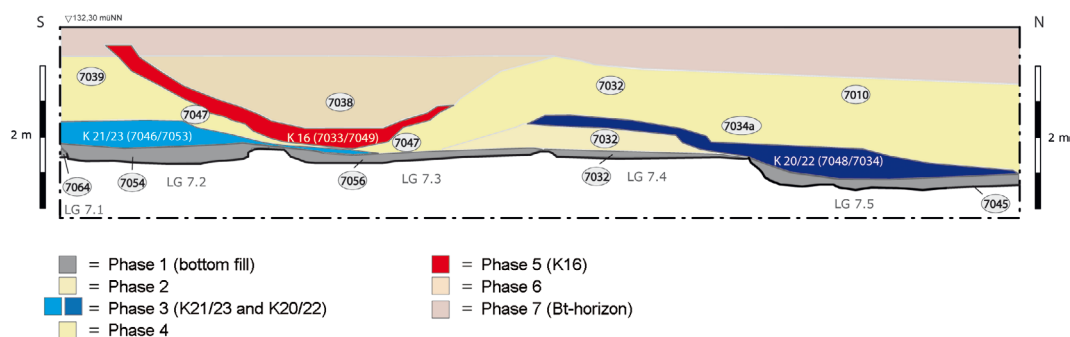


Fig. 11. Herxheim. Longitudinal profile from the east with schematic reconstruction of the backfilling phases in the area of the concentrations K 21/23, K 16 and K 20/22.

number of bucrania and aigicrania, as well as around 40 mandibles (mostly cut in half and sprinkled with ochre) from small carnivores like marten, polecat, or wild cat. These special and elaborately treated animal bones add to the complexity of the practices resulting in the deposition of “biosocial” clusters as well as to the symbolic dimensions of the site, neither of which is accounted for by Chapman et al.

And what about the final act outlined in this plot, the digging of pit sections for depositing mixed “biosocial material”? Chapman et al. sketch a picture where each ‘Home Community’ digs a special pit for their enchainment material and speak of “the choice of a specific long pit for deposition” (*Chapman/Gaydarska/Jakob, p. 13*). This directly contradicts the results of the analysis of the filling history of the ditches of Herxheim and the placement of the find concentrations. The ditch system has undergone a thorough, meticulous examination based on the enormous data set resulting from both the research excavation and the previous rescue excavation (HAACK 2016b). On the basis of his detailed and conclusive research on the double ditch, Fabian Haack concludes that although a long pit is the primary architectural unit for both ditches, several long pits were always open at the same time and formed long, open ditch segments. This is proven by the fact that the concentrations and other backfill layers can usually be traced over the length of several of the long pits (*Fig. 11*), the latter being recognisable only via the steps in the ditch bed, as evidenced by the large number of existent long profiles. This fact, cemented by the meticulous presentation of plans and profiles in Haack’s dissertation, much of which was published in the first Herxheim volume (HAACK 2016b), vitiates the vision of specific areas, namely distinct long pits, into which each group of uplanders deposits the enchainment bones and sherds of their specific bonds with selected lowland communities.

We thus conclude that the plot sketched by Chapman et al. excludes much of the evidence, reduces the complexity of the practices, and cannot account for what really led to the various transformations and mixing of human and animal bodies, pottery, and other material (*Fig. 12*). Additionally, it seems to us that the plot itself is contradictory; it lacks an explanation for why upland communities sent human remains but no artefacts (or at least evidence is lacking for upland produced artefacts), while loess communities sent pottery but only very few body parts (a small amount of bones comes from other lowland regions or even from Herxheim; see *comment by Turck and TURCK 2019, 364, 370–375 with fig. 40*). It seems unlikely that communities would never pick up practices of such a high symbolic value which were practised by other enchainment communities. Furthermore, there is a lack of evidence for a Herxheim-based network that existed before the use of body parts and that involved upland communities in large-scale trans-regional feasting.



Fig. 12. Herxheim. Detail of the huge concentration K 9/18 with lots of highly fragmented human bones, calottes, and other finds.

Moreover, Chapman et al. rightly point at the social efficacy of practices that transform and transfer bodies, but if we give these aspects a different weight, we may understand the practices performed at Herxheim (and possibly elsewhere before) as aiming for the dissolution of (most, but not all) individuals – no matter where they previously lived. Similar to secondary burial practices as described by Nigel Barley for the Dowayo of Cameroon, the disintegration of individual bodies, the special treatment of skulls, and their final deposition together with other skulls and other singularised body parts “have a common theme – the change from differentiation to undifferentiation” (BARLEY 1981, 157), from individual to community. The manifold practices of manipulation of the human body visible at Herxheim (whole skeletons in regular burial posture, torsos of rump and partly treated skull, extremities with hands and feet, spine column parts, whole skulls, skull caps...) that transform the bodies into new entities or dissolve them completely can indeed be understood as a means to create community or “social bonding”, e.g. in a scenario of “extreme processing” (e.g. OSTERHOLTZ 2018) – but the question is: What are the groups that bond here? Like Chapman et al., we think that the actors at Herxheim (or perhaps at other places involved prior to the depositions in the double ditch) are groups from various regions of the LBK world, visible through the different regional pottery decoration styles. These groups have ancient ties through clan-bonds or old lineages. However, the nature of such ties and such bonding practices is much less peaceful, and social relations are far from being as harmonious and conflict-free as the new narrative suggests. Whoever engaged in the practices discussed here, it is unlikely that all social and / or regional groups at any time had the same communal goal, namely the creation and maintenance of enchainment. Feasting very often is not just integrative, but has a competitive nature (e.g. DIETLER 2011, 180). Feasting aims not only to create or maintain social bonds, but also to negotiate, challenge, and change positions of individuals and groups; it is a central mechanism to negotiate or establish

emerging hierarchies, especially in societies where these are rather weak, or which undergo fundamental social change (BENZ/GRAMSCH 2006, 425 f.). We think that this also applies to late LBK society, as it is both in transition and low in hierarchy; however, enchainment here is described not only as free of conflict, but as a very technical, sober, matter-of-fact, processual procedure – without regard to the probably involved emotions such as grief or irritation, or to ambitions such as wanting to outplay other feasting participants.

We appreciate the attempt of Chapman et al. to revive the discussion about Herxheim and to merge at least some of the evidence into a new narrative. We agree with them that it “is difficult to summarise the Herxheim findings without oversimplifying what is clearly an enormously complex sequence of operations” (*Chapman/Gaydarska/Jakob*, p. 12). One certainly positive implication of the new narrative is the demonstration that peri- or post-mortal treatment of human bodies and their disintegration does not necessarily need to be considered negative, derogatory, or punitive (cf. GRAMSCH/GROSSKOPF 2023, 107) – one might even go further and state that the killing of individuals can be positively connoted, such as in the instance of self-sacrifice. We support their relational approach which considers persons as “both individuals with specific identities restricted to themselves ... but also individuals, whose relations with all the other persons, places and objects to whom they were linked contributed to their identities” (*Chapman/Gaydarska/Jakob*, p. 14). However, more attention needs to be paid to the question of whether and how body-transformative practices are related to personal identities (GRAMSCH/GROSSKOPF 2023). We suggest that the active disintegration of bodies as well as of lavishly produced pottery visible in Herxheim is part of a physical, as well as social, process of dissolution of individuals and of social transformation in a society in transition. We also welcome the strong focus on practices, as Herxheim provides a lot of evidence for these. However, the new model integrates the evidence only where it blends well into the narrative. In their plot, every action at the site is meaningful and fits together with the other actions – but there are many more practices involved here than are taken into account and many elements such as the sheer amount of material involved, as well as the unusual age distribution of the dead, which contradict the narrative of John Chapman, Bisserka Gaydarska, and Tina Jakob.

### **An archaeometrical perspective on “New perspectives on deliberate fragmentation and bodily mobility” by John Chapman, Bisserka Gaydarska and Tina Jakob**

By Rouven Turck

In their discussion paper, John Chapman, Bisserka Gaydarska and Tina Jakob present a new perspective on the treatment of human remains at Herxheim at the end of the *Linearbandkeramik* (LBK). How these human remains came to the late LBK settlement and what happened to them prior to their deposition in the double ring ditch is still a matter of debate. Based on their own numerous studies on fragmentation and enchainment as a means of establishing social interregional ties, the authors look for evidence that allows the fragmented dead from Herxheim to appear in a secondary burial context as already discussed by Jörg ORSCHIEDT and Miriam Noël HAIDLE (2006).

A central argument of the authors is the regional origin of the dead. By means of strontium and oxygen isotope analyses, very high proportions of the individuals were identified as of nonlocal origin (TURCK 2019). These individuals mostly originate from geological formations that clearly deviate from the settlement landscapes on loess postulated so far for the LBK. The assumption that



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## References of figures

*Fig. 1:* J. Chapman/B. Gaydarska/T. Jakob. – *Fig. 2:* re-drawn by L. Woodard from authors' multiple sources. – *Fig. 3:* B. Gaydarska. – *Fig. 4:* ZEEB-LANZ/HAACK 2016, fig. 2. – *Fig. 5:* HAACK 2016a, pl. 66. – *Fig. 6:* DENAIRE 2019, fig. 10. – *Fig. 7a:* re-drawn by L. Woodard from ZEEB-LANZ 2019b, fig. 6. – *Fig. 7b:* re-drawn by L. Woodard from TURCK 2019, fig. 56, modified by L. Hies (RGK). – *Fig. 8:* re-drawn by L. Woodard from original by J. Chapman, B. Gaydarska and T. Jakob. – *Fig. 9:* A. Häußler, GDKE Außenstelle Speyer. – *Fig. 10:* HAACK 2016b, pl. 66,1; 67,2. – *Fig. 11:* HAACK 2016b, pl. 71,3. – *Fig. 12:* A. Zeeb-Lanz, GDKE Außenstelle Speyer. – *Fig. 13:* TURCK 2019, fig. 59. – *Fig. 14:* TURCK 2019, fig. 51. – *Tab. 1:* J. Chapman/B. Gaydarska/T. Jakob, layout: L. Hies (RGK).