

Book review: Cziesla, E. & Ibeling, T. (eds.) (2014). *Autobahn 4. Fundplatz der Extraklasse. Archäologie unter der neuen Bundesautobahn bei Arnoldswweiler.* Langenweissenbach: Beier & Beran. 308 pages. ISBN 978-3-95742-012-2.

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Just leafing through this book, a Bandkeramik archaeologist is immediately pleased by several subjects that catch one's eye. Firstly, a well-preserved LBK cemetery has been excavated at Arnoldswweiler near Düren in the vicinity of Aix-la-Chapelle. Secondly, an important part of the excavation area has not or only hardly been subject to solifluction, so the features of the village (houses, pits, even including an earthwork) have not been stripped away. Thirdly, water was anciently obtained mostly from more or less regular pits not wooden wells – although four such features have been found on the site as well. More generally, out of its 298 pages, 143 well-illustrated pages of the book are dedicated specifically to Early Neolithic remains; additionally, several chapters are bearing in mind a wider scale such as on soil properties. Then there are also several chapters on non-Neolithic (earlier and later) finds and findings. The occasion of this (commercial) excavation arose from the diversion of the motorway BAB 4 between Cologne [Köln] and Aix-la-Chapelle [Aachen] where it crosses the Hambach Forest.

Some more detailed commentaries

Renate Gerlach, Peter Fischer, Alexandra Hilgers, Jens Protze and Jutta Meurers-Balke describe their research on the genesis of the nearby Ellebach valley and the settlement soils. When the first farmers settled in this glen it had no open water: because of the virgin forest the ground water table was some three metres below the surface so they had to dig wells. It came as a surprise that OSL dating of the black earth / para-brown earth which is generally assumed to be Pre-neolithic in origin was not that early at all but rather formed in the End-Neolithic period. This latter colluvial soil is overlying the LBK floor: in places the Early Neolithic AI horizon was still visible.

Horst Husmann and Erwin Cziesla wrote the largest chapter in this book. It deals with the LBK settlement which, with its houses, wells and waterholes, and the adjacent earthwork is one of the "large" villages in the Rhineland – although only partially excavated. Some 2.932 features could be

assigned to this settlement, leaving a considerable southern part of it uncovered. However, the cemetery to the NW could be investigated probably completely. Situated on a valley bottom, there was nevertheless no brook anywhere near to the village seven thousand years ago. Remains of 42 houses have been secured, among which one to the North is of the old Mohelnice type and is located separately from the main group; this last structure is interpreted as the first/pioneer house at the site. In the book the plans of the individual houses are presented, together with a rather short discussion of a selection of them and their associated features¹ and their contents summarized. An interesting feature is a palisade screen separating the cemetery from the houses; some other minor fences are scattered over the village. Earliest AMS datings and typological considerations suggest a beginning of this settlement at around 5250 B.C., i.e., in the Flomborn/Older LBK or LBK-II period, coeval with the earliest habitations at Langweiler 8 and 9, Elsloo, Geleen and Sittard. As far as the data for this settlement range, it was inhabited until well into the Younger LBK/LBK-IV, possibly even longer. Specifically, 23 features pertaining to 5 (possibly 7) houses relate to the LBK-II period, 9 from 3 to 5 houses to LBK-III (or Middle LBK), and 24 are associated with 3, perhaps 5 houses, dated to LBK-IV (Younger LBK); finally, 2 houses are ascribed to LBK-V (Youngest LBK.) In this village the axes of the houses steadily tend more westward over time. The village developed from the first pioneer house via some widely spaced successor houses to four successive rows (*sensu* Rück) of at least 7 houses each, every row further to the SE and later in time (p. 94-95); per row one 1a-house-type has been built.

The section on "Wells and well-like features" is highly interesting, even exciting: 12 such features have been identified within the excavated part of the settlement. Four of these showed traces of a well-mantle and eight other ones ("water holes") have been dug into the gravel layer at maximally two metres below the loess surface. Their water related function is in some cases still visible by the curved in or undercut walls in their deeper parts --this undercutting is archaeologically similar to silo pit walls. Three well mantles consisted of hollowed tree trunks, one of which with another hollow trunk of smaller diameter inside; the fourth well was constructed as a square block of oaken planks within a simpler square protective construction. On the slope to the east of the LBK settlement parts of the V-ditches of two superposed, possibly circular earthworks have been unco-

vered; both probably dating to the Younger LBK; on the inside of the younger ditch a passage towards the higher ground was secured by a stockade. There is also a house within the younger of the two rings, though relations between it and the ring have not been established. Thomas Frank describes and explains the dendrochronological research of the oaken planks of the well's mantle. Twenty-five boards could be used (only three had some sapwood.). In total 122 series of measurements were obtained to determine the year of construction: 5098 ± 5 B.C., eight years before the well at Erkelenz-Kückhoven was built. Amazingly one of the planks was made from a 300 year old oak tree, which is said to have had a diameter of at least 80 cms when still in the forest.

Oliver Ungerath reports on the excavation and the results of the Arnoldsweiler LBK cemetery with its 229 burials. 222 regular inhumation graves of very variable quality have been documented, their cheek bones/teeth removed for analyses (age, sex, origins), and the rather infrequent grave gifts (only in 67 graves) all registered; most remarkable is a human skull as a grave gift. No more than three grave pits held cremated bones, four were indet. Most skeletons were laying on their backs or left sides, with bent legs and arms ("Hocker"), the orientation of the grave pits was predominantly NW-SE, but almost all directions occur. Regarding the 3 cremation graves, it is known that between 1983 and 1986 "numerous" (i.e. 15; p. 186) adzes, arrow heads, a grinding stone and three pieces of hematite have been picked up in the same field as the cemetery is situated in; these finds probably derive from the comparatively shallow cremation graves, now lost. Groupings of graves are not apparent.

Eileen Eckmeier, Tanja Altemeier and Renate Gerlach delve into the mysteries of the very varied skeletal preservation in the decalcified loess of the Arnoldsweiler LBK cemetery. They state that this is a consequence of differences in the clay content of the soil and (presumably) the ancient surface relief. Weathering of the soil and a fluctuating water table are major causes of the dissolution of the bone material.

Erwin Cziesla and Lothar Giels summarize the finds from the village and the cemetery. Among the flakes and the tools Rijckholt (or Lanaye) and Rullen flint (otherwise rare in the Rhineland) are found in equal numbers; the numbers are small, though: all flints together count slightly more than 500 pieces, of which 40 % are tools, suggesting that there was no tool production on this site. Even among these small numbers, some pi-

eces reveal distant sources in France and Belgium. Among the 350 stones (non-flint) in the settlement 70 % could be interpreted as tools or fragments of tools, among which are 51 adzes and 134 grinding stones. As with the flint, the numbers are comparatively small. The origins of some of these pieces are quite a distance away: from the Czech Republic, France and Belgium. The description of the ceramics (6835 sherds from 428 features; of which one fifth is decorated) is quite extensive, but intensive statistical analysis has not been undertaken because of restricted funds (or perhaps because "one of the authors" has no affinities with math applications ?; note 61, p. 175). Yet, general considerations of pottery decoration and attributions to phases LBK II-V are described; also some non-LBK sherds of La Hoguette and Limburger ancestry are mentioned.

Erwin Cziesla, Thomas Ibeling, Holger Schmitt & Oliver Ungerath briefly describe the finds in another LBK-settlement (Merzenich-Valdersweg), 'just an hour on foot away' from Arnoldsweiler, which was about to be destroyed by open-cast mining. Over 4 ha of it have been investigated (in winter time), yielding 16693 finds from 3500 features and more than fifty house plans. This village, too, was inhabited from LBK-II to LBK-V, when it was suddenly vacated as suggested by the deserted rough-outs of grinding stones. Four habitation phases are distinguished, every phase with apparently its own flint workshop (a.o., arrowheads produced there). Characteristic of the Valdersweg village is a special, very short SE (front-) part in 28 houses. Furthermore, a type 1a house had been burnt down, and one of the larger houses was constructed with twin wall posts; these two houses stood aside the main concentration of buildings.

Erwin Cziesla authored a chapter with concluding remarks regarding the Bandkeramik in the two settlements, especially on settlement size, demography and grave analyses. He observes that the current idea among outsiders that the LBK is so well-known that new research will not pay back the money and effort, is out of date, given the results of the excavations in Arnoldsweiler and Valdersweg and elsewhere. Rather "[w]e know that much of the Bandkeramik that we now can pose the right questions." Local examples concern the position of flint knapping, of the houses of more or less deviant types, the relation of cemetery and village, and the variability of death rituals; wider concerns have to do with the spacing and sizes of the settlements, their geographical positions in the landscape with regard to

watersupplies, the functions of the earthworks. In any case it is clear that for the LBK, Arnoldsweiler provides a welcome addition to the corpus of sites already known.

Beyond the LBK

A number of chapters deals with, mainly, post-LBK finds. Jürgens, Husmann and Giels describe the Middle and Late Neolithic finds. Most striking is a large pit dated to the Michelsberg culture period. It contained a convincing number of MK sherds probably representing a ceramic deposition. Typical, also for the wider Michelsberg culture, is the relative scarcity of features, which begs the question, as is asked by the excavators, whether they were in anyway comparable to those of the LBK or have eroded from the archaeological record due to post-depositional processes. While the answer is still outstanding it does require a rethinking, also of excavation strategy. 'Ghost features' may still be uncovered only through an association with find distributions in higher layers, including the plough soil. Other Late Neolithic Single-Grave-Culture finds may be indicative of graves, although apart from the pottery and a scraper fragment no skeletal remains have been found unfortunately. Again there appears to be a stark contrast with (at least some of) the features of the LBK period and its graves in particular. The presumed late Neolithic burial pits were located not that far from the much earlier LBK cemetery, so a further analysis in the sense of the one executed by Eckmeier et al. on preservation may be worthwhile. Other finds from these periods are mainly stray finds.

For the Bronze and Iron Ages an extensive chapter was produced by Jürgens. Although there is no continuous occupation the number of features dating to this period is impressive. Almost 30 house plans could be reconstructed as well as an enclosed La Tène settlement. Again there is evidence of water intakes and wells, which makes this site important in relation to prehistoric water management for more than just the LBK alone. While the part of the book allotted to this period is less extensive than the LBK section, the richness of this site should not be underestimated. Its importance lies, amongst others, in the result that for this period part of the edge of the inhabited area was documented as well as large zones without features enabling an idea of the size and layout of the settlement. As such Jürgens was able to synthesize and comment upon the differences in oc-

cupation across the Bronze and Iron Ages. The enclosed La Tène site furthermore confirms the development of this type of site during this period in the Lower Rhine Area.

Ibeling and Glaube report on the Roman finds. This is beyond the expertise of the reviewers. It appears that long after the LBK the Romans also valued the fertile soils of the area. A two-phased ditch system surrounds a 2 hectares large Roman country estate dating between the 1st and 3rd century A.D.. Within this *villa rustica* complex a variety of outbuildings, wells and a roman cemetery was located. Some of the burial finds are rather spectacular including a *balsamarium* and an urn with *graf-fito*. Ungerath finally reports on the post-Roman finds, which include a road used till modern times and an enclosure. Remarkable is the overall scarcity of finds belonging to this later period.

Some critical notes

As argued by Czesla et al. in the overall conclusion, the Arnoldsweiler site is truly in a separate league. The general summary on page 301 provides a good overview of its strong points. Our criticism is therefore on details only, in recognition and deep appreciation of the tremendous contribution provided by the analyses of this site, especially but not only for LBK research.

Regarding the row-like arrangement of the houses described on p. 94-95, the reconstructed settlement plan (fig. 55, p. 95) does not match at all the "houses-phases" plan preceding it (fig. 54, same page.). Among several more conflicting cases, houses pertaining to the Younger phase (e.g., HH 11, 12) are grouped with houses from the Older LBK (HH 18, 21) into the same, second construction phase. Also it is regretted that the graves in the cemetery have not been described grave by grave, but rather in groups constructed on associated find categories; that way a further analysis by other interested archaeologists is likely to be impossible, and certainly no new questions can be posed. The LVR decision (p. 127; 'LVR' is the state authority) not to rescue the skeletal material because of its deteriorated condition was certainly more related to the cost of doing so than to research interests; of course the rescue team cannot be blamed for it. Given the scarcity of this kind of finds in the wide region (for instance only a few body silhouettes and tooth enamel have been preserved at the nearby Elsloo and Niedermerz LBK cemeteries) to us that decision is

questionable. Especially in this case the forgone potential information is regretted, given the ongoing developments in both physical research methods (isotopes and aDNA, soil micromorphology etc.) as well as conservation techniques. Furthermore this cemetery may have held some of the answers to why skeletal remains remain preserved or not, especially since the pH-samples taken so far have not solved this puzzle. One option would have been to sample more intensively and preserve a wider variety of burials, an option which now no longer exists.

What strikes us finally is that the “new” (LBK-focussed) questions suggested by Cziesla remain within a natural science framework, whereas we would argue that especially a social science approach will bring *new* insights, if only because such an approach has but rarely been attempted; put simply, even LBK villages were surely not organized around the flint knapper on duty.

Apart from these notes positive criticisms can be voiced as well. For instance the 3D-Laserscan recordings of some of the burials do not only yield fancy pictures, but are probably also useful research tools, especially considering the variability in burial postures and traditions. That is, when they are made available digitally (which would have been a welcome addition to this volume). What also deserves a positive remark is that the book is not only the archaeological documentation of an excavation, but also describes how the excavation came about in the introductory chapter by Engels et al., on the reasons for the A4 expansion and alteration. We feel that although it should remain a side-note to the archaeology, contractors will be pleased with this integration of this ‘destructive element’ with the positive information from archaeology and compensation measures. Another positive element in that respect is that article 9 of the Treaty of Valletta, proscribing the dissemination and communication of results to the wider audience was clearly important in this project. This is evident from the separate chapter devoted to the *Öffentlichkeitsarbeit*, bei Ungerath, as well as the many ‘Infokasten’ throughout the text. These in particular give the student or lay reader insight into the background of the cultures and phenomena discussed. The many colorful images contribute to a book that is much more than yet another dull report.

Conclusion

The report on Arnoldsweiler offers a good impression of a very interesting site according to us. It is definitely a step forward in relation to what products of commercial archaeology could be like. At the same time that also means a quest for balance. Some choices in the field as well as the level of detail in the different chapters (where are the tables? Is all information replicable?) underline that certain choices were made, which are not all spelled out. The book is more than a standard report, although it also lacks the way of presentation which would make its data easily academically comparable. According to us, this in particular reflects back on the choices in the field regarding the recording of the cemetery, as for instance photos (even of the 3D-kind) are not nearly up to standardized drawings. As always, these decisions have been time and money related, now the outcome of commercial archaeology, as practiced in Germany and elsewhere. The decision to publish in German with small English summaries instead of the other way around is probably part of decisions of that kind as well. Nonetheless we feel that the Arnoldsweiler book opens a new chapter in how sites can be published, without wanting to assume an end stage, while at the same time forming a pleasantly readable introduction to an important LBK village and later occupations of the site, up to and including the construction of an *Autobahn*.

End notes

¹ Full documentation of the excavation is to be found in *Grabungsbericht*; I have not been able to find a full reference.

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