



CHRISTIANE FRIRDICH, MARIA CLADDERS, HARALD STÄUBLE, DENISE GIRARDELLI,  
THOMAS TISCHENDORF

## ASPECTS OF CHANGE IN THE BANDKERAMIK SETTLEMENT AREA OF EYTHRA, DISTR. LEIPZIG, SAXONY

*ABSTRACT: In Eythra, distr. Leipzig (Germany) a large area displaying bandkeramik (BK) settlement features, covering a time span from early LBK to late SBK, has been excavated. This provides a good basis for examining aspects of change in material culture and in settlement structures. Analyses of ceramic decoration give rise to a reexamination of the data base especially with regard to the effects of secondary disturbances in the features. It can be shown that the composition of a large number of mixed LBK-SBK inventories do not reflect a gradual change over time. This fact impedes so far a joint BK ceramic seriation. Hence, in this paper only the SBK content of the assemblages will be considered. An outline of the SBK settlement structure requires the incorporation of as many features as possible in a typo-chronological sequence. At the outset of our researches, as a shortcut, a characteristic had to be found which is chronologically relevant and occurs frequently. To achieve a broad basis for analysing change in SBK decoration, the stroke sizes are examined by correspondence analysis. The resulting order which can be interpreted as representing time shows in combination with the typo-chronological markers of the development of BK houses the spatial distribution of probably coexistent houses. We can see a shift in settlement areas from late LBK to early SBK, but the LBK settlement structure, consisting of house clusters and few single farmsteads remained intact. In the late SBK house clusters are rare and pits lie far away from the houses. So far the studies all together suggest that no fundamental change happened between late LBK and early SBK, but clearly there is one to be found in the late SBK structures.*

*KEY WORDS: Eythra – LBK-SBK – Large scale settlement evaluation – House typology – Ceramic seriation – Development of settlement*

## INTRODUCTION

Bandkeramik (BK) settlements – here are included both LBK/LPC (Linienbandkeramik – Linear Pottery Culture, approx. 5300–4900 BC) and SBK/SPC (Stichbandkeramik – Stroked Pottery Culture, 4900–4500 BC) periods (see below) – concentrate in Saxony in three regions: the Dresden Elbe Valley, the Middle Saxon loess area and NW-Saxony around the city of Leipzig, Germany. While the former two regions are quite well delimitable, the BK settlements in NW-Saxony reflect only the eastern outskirts of the large Middle German BK-region which comprises large parts of Saxony-Anhalt and Thuringia.

In this paper we concentrate on the area south of Leipzig, which marks the centre of the NW-Saxonian distribution. During the last two decades a large number of early Neolithic settlements has been discovered and excavated in the context of large scale projects. One of the largest is Eythra along the margin of the Weiße Elster River within the open-cast lignite mine of Zwenkau (Stäuble 2010).

Between 1990 and 2000 an area of 88 hectares has been excavated in the lignite mine and a densely populated settlement area from the beginning of the LBK to SBK (Cladders *et al.* 2012) as well as numerous finds and settlement structures of other archaeological periods ranging from the Middle Neolithic until the Iron Age (Huth, Stäuble 1998, Schunke 2009) were exposed. The BK structures covered an area of 30 hectares along the western bank of the Weiße Elster which marks the boundary of the settlement (Figure 1). Only the western periphery of the settlement area could be determined, the margins in the North and the South are unknown. Consequently Eythra represents today the largest excavated Early Neolithic settlement area in Central Europe.

Since 2009 a research project of the Archaeological Heritage Office of Saxony in cooperation with the University of Leipzig, funded by the Deutsche Forschungsgemeinschaft, investigates the LBK and SBK settlement structures with the focus on the widely established assumption concerning "domestic space"

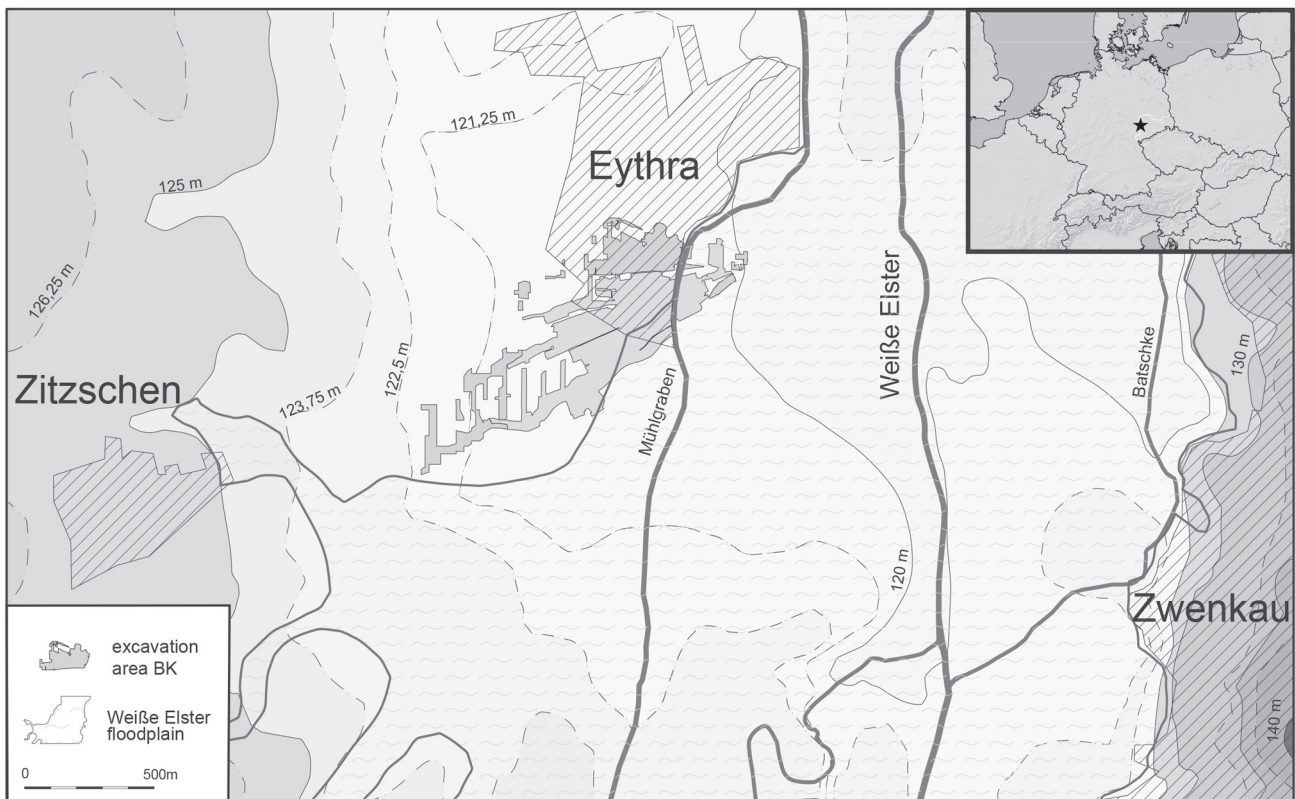


FIGURE 1. Eythra, distr. Leipzig. Excavated areas and boundary of the settlement along the margin of the Weiße Elster floodplain.

(Hamon *et al.* 2013, Smolnik 2012) and the apparent change of aspects in the material culture during the BK. The basis for this investigation is provided by some 80,000 finds from about 25,500 features. It allowed the reconstruction of almost 300 groundplans, more than half of which displayed typological characteristics which allowed assigning them to the LBK and SBK respectively. In addition two LBK wells (Stäuble, Campen 1999, Stäuble, Elburg 2011), one late SBK rondel, one probably postbandkeramik earthwork and a palisade enclosure which has not been dated so far have been discovered. The radiocarbon samples analysed until now do not reflect the whole period of the expected use of the settlement, which according to typological observations should range between 5300 and 4500/4600 BC. The majority of the measured samples – all belonging to short-lived charred seeds – date somewhere in between 5300–5000 calBC, other date into bronze and iron age reflecting the strong disturbance within the settlement during later periods. Until now, no single absolute date could be recovered from the SBK settlement phase, which should approximately last as long as that of the LBK.

As the analysis of the settlement is not yet completed, this paper is but a preliminary report and focuses on parameters in which we can conceive aspects of change. At first the effect of disturbances will be shortly described. Secondly the preliminary results of a combined correspondence analysis of LBK and SBK pottery will be discussed. Finally the typo-chronological markers of the development of BK groundplans will be presented in relation to the dating of the surrounding pits and the spatial organization of probably coexistent arrangements of houses. It has to be emphasised that the studies on Eythra at the present stage of research have to be less differentiated as is usually demanded. Nonetheless these first results give hope that despite problems according to depositional as well as post-depositional processes leading to disturbed settlement and find units it will be possible to differentiate aspects of time and space within the development of early Neolithic Eythra.

## GENERAL REMARKS AND OBSERVATIONS

As mentioned Eythra is characterised by a high level of building activity during different archaeological periods. This is obvious in disturbances of the features and accordingly in the inventories as a result of complex settlement activities.

A comparison of the number of bandkeramik artefacts and later finds (Middle to Late Neolithic, Bronze- and Iron Age, Medieval and modern Times) in pits with a diameter of more than 80 cm indicate that secondary disturbances have affected approximately one third of the features. While this admixture of material from different prehistoric periods is easily recognizable and can be explained by intensive later occupation of the settlement area, it gives good reasons to also question the generally postulated concept of closed finds within prehistoric features with seemingly pure LBK or SBK ceramic material (Stäuble 2013, Stäuble, Wolfram 2012). The taphonomic processes as well as the post BK-disturbances responsible for the admixture within the pits contents are going to be analysed separately. Since the analysis of the features is still in progress, at this stage it seemed appropriate for the sake of comparability to work with the clearly defined feature types.

However, more than half of the pits containing SBK pottery also contain LBK ceramics (cf. Pavlů *et al.* 1986: 363). The question arises whether these mixtures represent cultural continuity or secondary disturbances. A closer examination of mixed BK inventories which contain late SBK sherds, e.g. in the segments of the SBK rondel and in the LBK pits in its centre, is revealing. The LBK assemblages in the centre are in the vicinity of four houses of which at least one has to be assigned to the older LBK by strict typological criteria. The remains of the rondel contain latest SBK and old LBK pottery. It can be ruled out that this composition reflects a coexistence of early LBK and late SBK populations. Rather it has to be attributed to extensive late SBK building activities in an area previously used in older bandkeramik phases. These mixed contexts, which were not caused by and therefore do not reflect the gradual decrease of LBK and increase of SBK stylistic elements in time will without a doubt affect the joint typo-chronological analysis of LBK and SBK inventories.

## A JOINT ANALYSIS OF LBK AND SBK CERAMIC ASSEMBLAGES

A joint seriation by correspondence analysis (Madsen 1988, Müller, Zimmermann 1997; cf. Link 2014: 71–89) was carried out in order to check the effects of secondary disturbances. It has been suggested that the fundamental differences in the ceramic design systems of both cultures impede such a joint analysis (Link 2014: 71–72). The strips and their various fillings, the so called *Bandtypen* which constitute the LBK ornamentation, are

replaced in the SBK by a varying number of rows of multi-dented strokes. However, provided the number of rows and dents, stroke size and technique used for their implementation is chronologically relevant in the SBK (Hoffmann 1963: 113, Kaufmann 1976: 31–33, Link 2014: 80) a *SBK-Bandtyp* defined with regard to these characteristics may be chronologically relevant as well.

Figure 2 illustrates the position of the assemblages and types in a plot of the first two principal dimensions. The interpretation of these axes generally depends on external information. In this case it became obvious that the horizontal first dimension is strongly correlated with the proportion of LBK and SBK pottery. The assemblages on the positive side of the first dimension contain 100% SBK sherds, the ones on the negative end 100% LBK pottery. It could be assumed that the assemblages in between these two extremes represent the LBK-SBK transitional phase in time. However, a correlation coefficient of 0.02 indicates that no polynomial relationship exists between the first two

dimensions. Thus no gradient as for example time can be held responsible for the variation in the data set.

A closer examination of the LBK distribution on the right side clarifies the character of the second dimension (see distribution detail in Figure 2). The second axis actually represents, even if badly, the stylistic development of LBK ornamentation, the earliest types and inventories on the positive, the latest on the negative end. The very uneven character of the distribution along the second dimension strongly suggests that the numerous apparently "undisturbed" LBK pits were subject to the same processes of disturbance and mixture as described above for combined LBK and SBK inventories. Although it is not as obvious in the case of single culture assemblages, their composition clearly also reflects temporary continuity as well as secondary disturbances.

The majority of the mixed LBK-SBK assemblages do not link with the late or latest LBK features in the distribution. To conclude, in Eythra the mixture of LBK

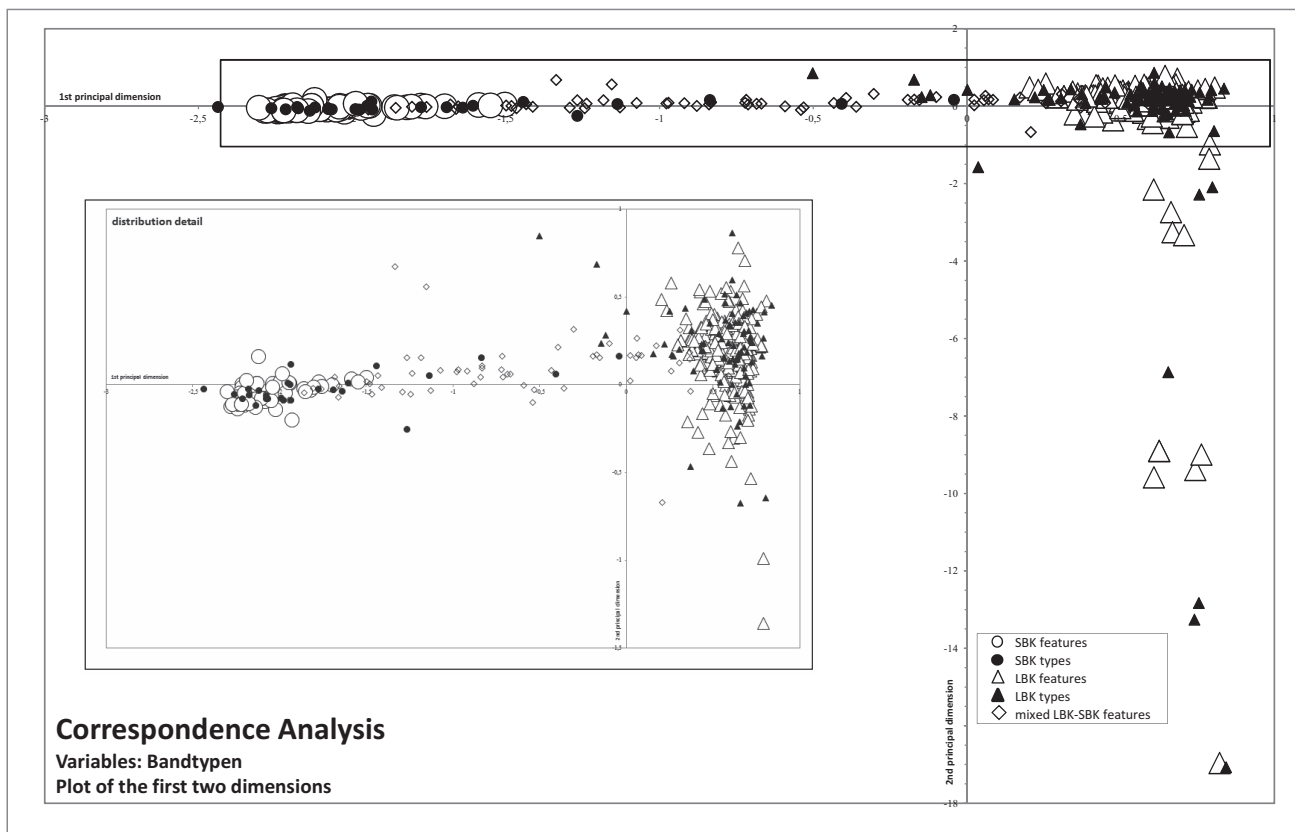


FIGURE 2. Correspondence analysis of LBK and SBK features and types.

and SBK pottery in the features has to a large, but at this point in our researches not quantifiable extent, to be interpreted as the result of secondary disturbances.

### SERIATION OF SBK POTTERY ASSEMBLAGES

For the sake of the following argument only the SBK content of the assemblages will be considered. In order to present at this early stage in our analyses a first outline of the SBK settlement structure, as many features as possible have to be included in a typo-chronological sequence. Hence a characteristic had to be found, which is not only chronologically relevant but occurs frequently as well.

It is well known that in the course of the stylistic development of SBK pottery the size of the strokes increased (see above). And stroke size was recorded for almost 2000 sherds from 215 features. Therefore a seriation was carried out, using five size classes as variables. This resulted in a parabola in the plot of the

first two principal axes (Figure 3). Therefore possibly the first dimension might be interpreted as representing time (Kerig 2005: 126–128, Abb. 3). In this case the position of the inventories on this dimension represents their relative date.

Clearly in this case a lot of external information is available, which can be used to evaluate the meaning of this sequence. The distribution of other characteristics, which due to the very high degree of fragmentation and badly preserved surfaces were less frequently noted but which in previous studies proved to be chronologically relevant, such as motif, technique or vessel shape in the assemblages seem to support the interpretation. It has to be emphasised though, that this assessment is based on preliminary results from first and limited pattern recognition studies. A more complex multivariate approach is in process which takes into consideration and stands to benefit from the intricacies of the overall SBK design system in order to establish a stable and reliable typo-chronological sequence.

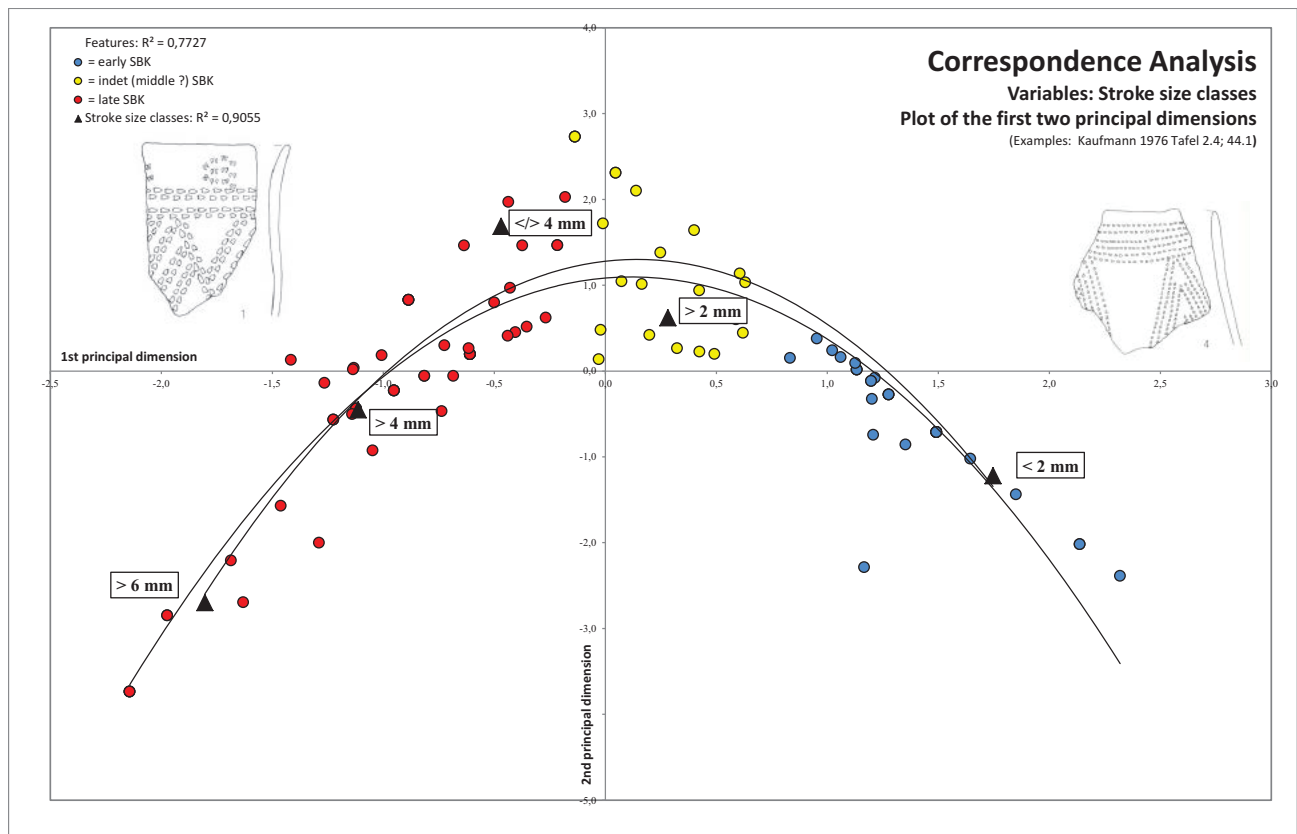


FIGURE 3. Correspondence analysis of SBK pottery assemblages and stroke size classes.



The composition of the inventories marked blue in *Figure 3* allow us to address them as early SBK, the ones marked red display characteristics of late SBK ornamentation. The yellow assemblages in the middle of the distribution might be secondary mixtures or represent a medium stage in SBK style development.

One further task is to combine the results of ceramic analysis with the features. This can only be done by regarding the spatial relation of find containing pits with house structures.

## TYPO-CHRONOLOGY OF HOUSEPLANS

At the present stage of analysis the chronological distribution of the houses cannot be established by a highly differentiated assessment of the ceramics, but for late LBK and SBK houses the typology of construction is a good instrument to put the buildings in a chronological order (Ganslmeier 2010, Herren 2003: 124–126, Modderman 1977: 123–128, Pechtl 2010, Quitta 1958).

The following compilation of housetypes and their potential chronological position takes only houses of Eythra and their attributes into consideration. Further steps to achieve a more differentiated view on typochronology will be to include the metrical analysis of the houseplans and compare the results with other settlements.

Five housetypes belonging to the late LBK and the SBK can be distinguished at the site, based on their wall

construction, the degree of density of the inner framework, the shape and location of the wall trench, the overall shape of the house and the presence or absence of accompanying long pits. Late LBK houses feature double walls and generally have a rectangular shape (*Figure 4a*). The interior space displays a quite dense and structured inner framework of postholes, and, LBK houses regularly possess long pits.

According to the different states of preservation, it is sometimes difficult to assign a groundplan to a highly differentiated type. Hampel (1989: 82) for example states, that the dating of Rössen, Großgartach and SBK houses is quite difficult because of the great variety of groundplans, which might be due to some kind of individualism and differences in details must therefore not have any chronological significance. In Eythra – but also on other sites – it is especially the case for the houses of the early and middle SBK. Not to mention, that there is yet no clear definition of a middle SBK housetype. Friederich defines two houses as "middle" SBK (Friederich 2011: 425, Fig. 359, no. 21 = Regensburg-Harting, 22 = Zwenkau-Harth), which according to Hampel (1989: 81, Fig. 67) are successive, while Quitta (1958: 177) himself dated the house from Zwenkau-Harth into the early SBK.

For the following analysis we thus make only a distinction between early and late SBK, showing two slightly different types for the early SBK (including what might be middle SBK). The important attribute for both early SBK-types (*Figure 4b–c*) is the wide and regular system of the inner framework, which marks the

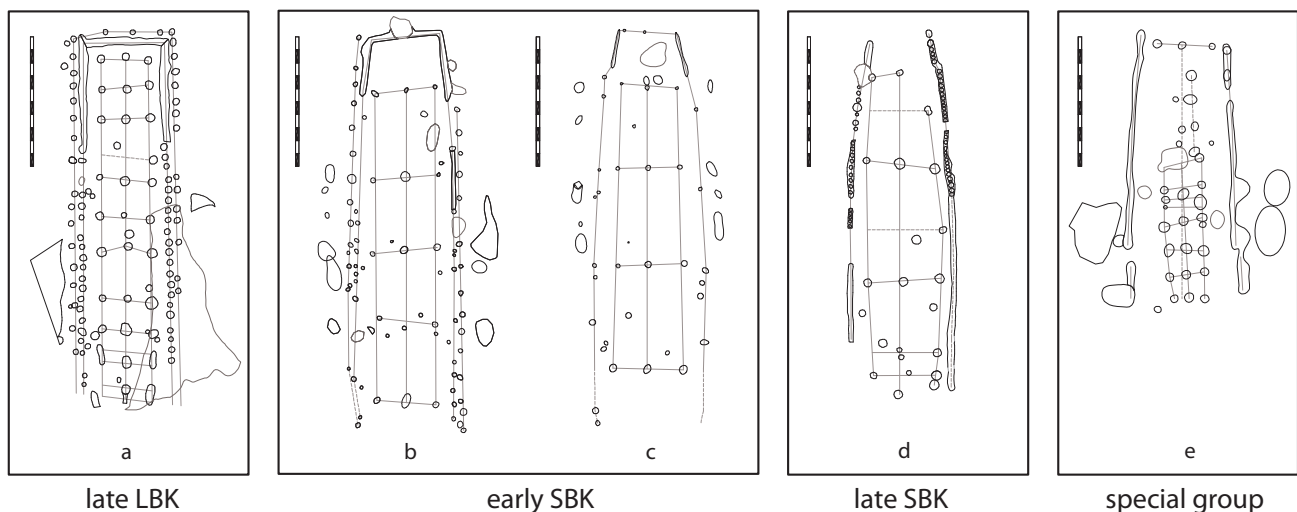


FIGURE 4. Typology of late LBK and SBK houses.

difference to late LBK houses (*Figure 4a*). The first type (*Figure 4b*) has a very short north-western wall trench, double walls and the inner framework shows low density. It is also, as in the LBK, regularly accompanied by long pits. The second early SBK house type has a very short trapezoidal north-western trench, a simple wall and a naviform overall shape. These houses as well, sometimes possess long pits.

Late SBK houses can be trapezoidal or naviform and do not feature a gable wall trench (*Figure 4d*). They do, however, possess trenches all along the long sides of the houses. Moreover, also in contrast to their predecessors they are no longer accompanied by long pits.

Finally, in Eythra one special group of houses was observed, which does not seem to have any parallels on any other site (*Figure 4e*). This house type possesses traits characteristic for the LBK as well as SBK. On the one hand, the dense inner framework of posts resembles the inner framework of LBK houses. The wall trenches

on the other hand are a defining characteristic of late SBK buildings. As between the two attributes there is a long period of time, we cannot assume that this housetype is the link between late LBK and early SBK.

## SETTLEMENT PATTERNS

*Figure 5* pictures the distribution of the various types of late LBK and SBK houses and the pit ceramic inventories which could be assigned a relative date, based on the results of the correspondence analysis shown in *Figure 3*. The majority of the SBK pottery assemblages, which provide a ceramic date, are not found in the long pits. Therefore they cannot be assigned with reasonable certainty to particular houses and thus cannot date them. Trying nonetheless to get a general picture of the settlement development from LBK to SBK in order to follow the question about change or continuity

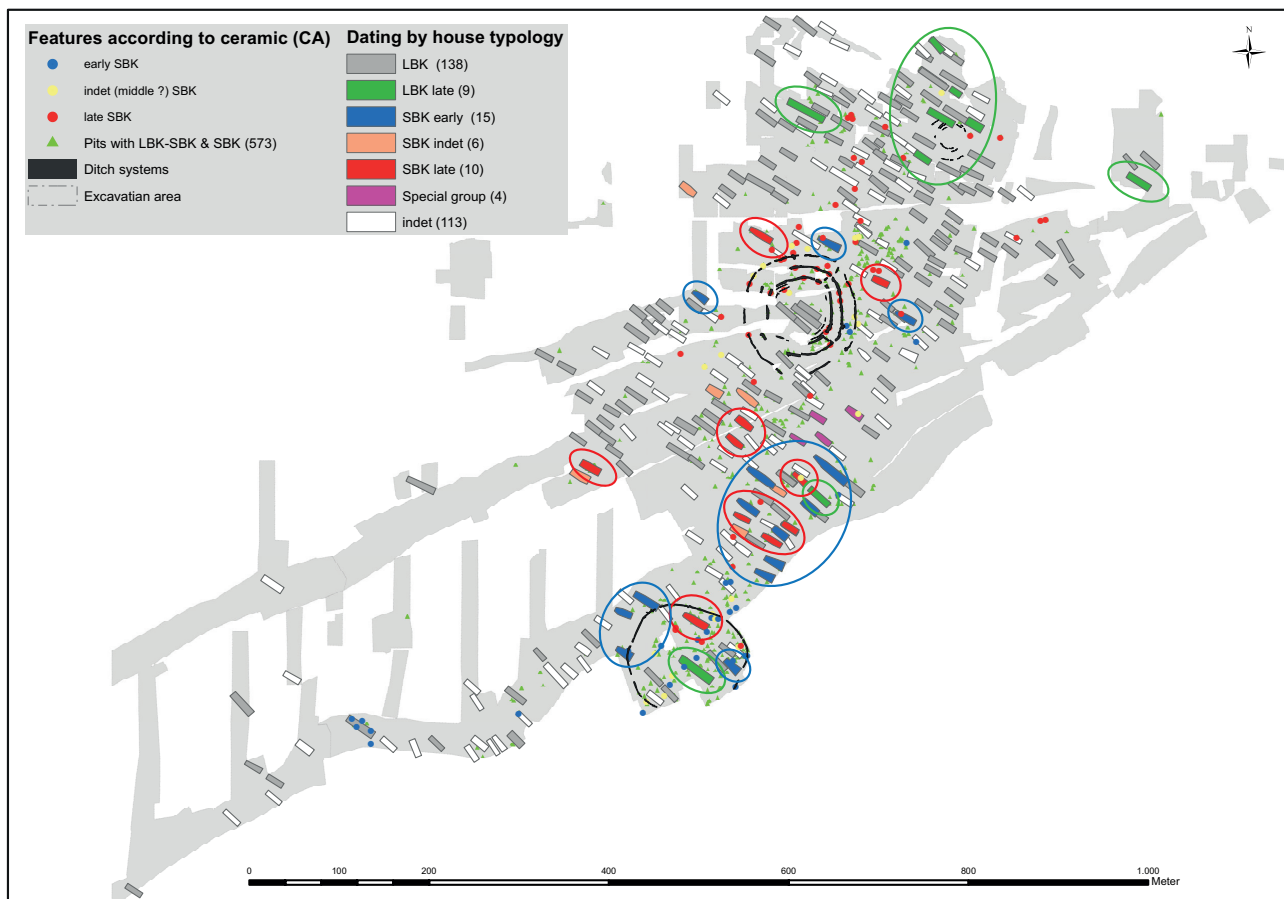


FIGURE 5. Distribution of dated house groundplans and synchronised features.

we have marked the distribution of late LBK houses in order to facilitate the spatial comparison with their successors.

Late LBK houses form a cluster in the north of the settlement area. Four more houses in this period apparently constitute single farmsteads with a distance of 200 and more metres between each other and the houses of the cluster.

In the early SBK we observe two clusters and four single farmsteads as well. However, with the introduction of SBK material culture the house clusters shifted to the south of the excavated area, where they seem to have encompassed or shifted near two former single LBK farmsteads. The clusters differ quite amazingly with regard to the number and spatial distribution of pits containing early SBK pottery. None of the pits containing early SBK pottery lie within the areas circumscribed by the clusters. They lie within a row which spreads south of the larger cluster containing seven early SBK houses, east of the smaller cluster with three typologically similar houses and north of a single farmstead. This distribution seems to reflect an activity zone of about 250×100 metres between early SBK houses. The three single farmsteads near the rondel are more than 500 metres apart from the majority of the mentioned pits filled with early SBK material. It is probable that this variation in the location of the pits reflects changes in the use of settlement space and activity zones. However, although the introduction of early SBK material culture led to a shift in settlement areas, the LBK settlement structure, consisting of house clusters and few single farmsteads remained intact.

With the end of the early SBK-phases the house clusters generally cease to exist. Instead we find evenly spread single or pairs and only once an accumulation of three farmsteads, while the pits containing late SBK pottery seem to concentrate in the area of the rondel as well as in the north of the excavated area far away from the coeval houses. At this point we have to state that in all this discussion by coeval we just mean a relative phasing, while we are far from talking about the absolute coexistence of houses and human generations.

The typological distribution presented here seems to contradict the prevailing opinion which, based on the settlement distribution in Western Europe, infers a general decrease in settlement activity at the transition from LBK to SBK (cf. Lüning 1988: 45–49, 63, Modderman 1988: 130, Strien, Gronenborn 2005: 141–143, Zimmermann *et al.* 2006: 177–182).

However, if we take into account the overall number of dateable houses and pits we obtain an LBK-SBK ratio

of 5:1. Moreover the majority of 113 badly preserved ground plans of houses can, based on detailed typological criteria, be assigned to the LBK, if not to any particular phase. This leads to an increase in the ratio to almost 10:1, disregarding the differences in the absolute timespans which might be presumed for both cultures: about 300:500 years.

Thus one further aim of our working group will be to unriddle this important aspect for the recognition of long term change within BK development.

## CONCLUSION

For the specific topic of the session "What Is Changing and When" it would mean that we surely can observe some change between LBK and SBK in Eythra, but this does not happen at the beginning of what we are calling or what we are recognising as SBK culture. At such a large excavated site we can recognise that according to house and ceramic typology the change must have happened not at the start but somewhere in the course of the SBK development, at a point in time which we still cannot grasp or describe precisely, maybe even during the late SBK. The consequences of this observation for the interpretation of LBK-SBK transformation processes will be discussed at the close of our analyses.

## REFERENCES

- CLADDERS M., STÄUBLE H., TISCHENDORF T., WOLFRAM S., 2012: Zur linien- und stichbandkeramischen Besiedlung von Eythra, Lkr. Leipzig. In: R. Smolnik (Ed.): *Siedlungsstruktur und Kulturwandel in der Bandkeramik. Beiträge der internationalen Tagung "Neue Fragen zur Bandkeramik oder Alles beim Alten?!" Leipzig, 23.–24. September 2010.* Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege Beiheft 25. Pp. 146–159. Landesamt für Archäologie, Dresden.
- FRIEDERICH S., 2011: *Bad Friedrichshall-Kochendorf und Heilbronn-Neckargartach. Studie zum mittneolithischen Siedlungswesen im Mittleren Neckarland.* Forschungen und Berichte zur Vor- und Frühgeschichte in Baden-Württemberg 123. Theiss, Stuttgart.
- GANSLMEIER R., 2010: Hausbefunde der Stichbandkeramik und Rössener Kultur in Mitteldeutschland und ihre Verwandtschaften mit Häusern des bayerischen Alpenvorlandes. *Fines Transire. Archäologische Arbeitsgemeinschaft Ostbayern/ West- und Südböhmen/Oberösterreich* 19: 53–70.
- HAMON C., ALLARD P., ILETT M. (Eds.), 2013: *The domestic space in LBK settlements.* Workshop 7<sup>th</sup>–8<sup>th</sup> October 2010. Leidorf, Rahden/Westf.



- HAMPEL A., 1989: *Die Hausentwicklung im Mittelneolithikum Zentraleuropas*. Universitätsforschungen zur prähistorischen Archäologie 1. Habelt, Bonn.
- HERREN B., 2003: *Die alt- und mittelneolithische Siedlung von Harting-Nord, Kr. Regensburg/Oberpfalz*. DGUF Archäologische Berichte 17. Habelt, Bonn.
- HOFFMANN E., 1963: *Die Kultur der Bandkeramik in Sachsen*. Forschungen zur Vor- und Frühgeschichte 5. VEB Deutscher Verlag der Wissenschaften, Berlin.
- HUTH C., STÄUBLE H., 1998: Ländliche Siedlungen der Bronzezeit und älteren Eisenzeit. Ein Zwischenbericht aus Zwenkau. In: H. Küster, A. Lang, P. Schauer (Eds.): *Archäologische Forschungen in urgeschichtlichen Siedlungslandschaften. Festschrift G. Kossack zum 75. Geburtstag*. Pp. 185–230. Universitätsverlag Regensburg, Regensburg.
- KAUFMANN D., 1976: *Wirtschaft und Kultur der Stichbandkeramiker im Saalegebiet. Veröff. des Landesmus. für Vorgesch. in Halle 30*. VEB Deutscher Verlag der Wissenschaften, Berlin.
- KERIG T., 2005: Zur relativen Chronologie der westdeutschen Bandkeramik. In: J. Lüning, C. Frirdich, A. Zimmermann (Eds.): *Die Bandkeramik im 21. Jahrhundert*. Symposium in der Abtei Brauweiler bei Köln vom 16.9.–19.9.2002. Pp. 125–138. Leidorf, Rahden/Westf.
- LINK T., 2014: *Die linien- und stichbandkeramische Siedlung von Dresden-Prohlis. Eine Fallstudie zum Kulturwandel in der Region der oberen Elbe um 5000 v. Chr.* Veröffentlichungen des Landesamtes für Archäologie mit Landesmuseum für Vorgeschichte 60. Landesamt für Archäologie, Dresden.
- LÜNING J., 1988: Frühe Bauern in Mitteleuropa im 6. und 5. Jahrtausend v. Chr. *Jahrbuch RGZM* 38: 27–93.
- MADSEN T. (Ed.), 1988: *Multivariate archaeology. Numerical approaches in Scandinavian archaeology*. Jutland Archaeological Society publications 21. Aarhus University Press, Aarhus.
- MODDERMAN P. J. R., 1977: *Die neolithische Besiedlung bei Hienheim, Ldkr. Kehlheim. I. Die Ausgrabungen am Weinberg 1965 bis 1970*. Materialhefte zur bayerischen Vorgeschichte A 33. Lassleben, Kallmünz/Opf.
- MODDERMAN P. J. R., 1988: The Linear Pottery Culture: diversity in uniformity. *Berichten van de Rijksdienst voor het Outhedkundig Bodemonderzoek* 38: 63–139.
- MÜLLER J., ZIMMERMANN A. (Eds.), 1997: *Archäologie und Korrespondenzanalyse. Beispiele, Fragen, Perspektiven*. Internationale Archäologie 23. Leidorf, Espelkamp.
- PAVLŮ I., RULF J., ZÁPOTOCKÁ M., 1986: Theses on the neolithic site of Bylany. *Památky Archeologické* 77: 288–412.
- PECHTL J., 2010: Anmerkungen zum Kenntnisstand linienbandkeramischer Hausarchitektur im südöstlichen Bayern und zum Potenzial ihrer typologischen Auswertung. *Fines Transire. Archäologische Arbeitsgemeinschaft Ostbayern/West- und Südböhmen/Oberösterreich* 19: 35–51.
- QUITTA H., 1958: Die bandkeramische Siedlung Zwenkau-Harth, Kr. Leipzig. *Ausgrabungen und Funde* 3: 177–179.
- SCHUNKE T., 2009: Die frühbronzezeitliche Siedlung Zwenkau und ihre wirtschaftliche Basis / The Early Bronze Age settlement of Zwenkau (central Germany) and its economic basis. In: M. Bartelheim, H. Stäuble (Eds.): *Die wirtschaftlichen Grundlagen der Bronzezeit Europas (The economic foundations of the European Bronze Age)*. Forschungen zur Archäometrie und Altertumswissenschaft 4. Pp. 273–319. Leidorf, Rahden/Westf.
- SMOLNIK R. (Ed.), 2012: *Siedlungsstruktur und Kulturwandel in der Bandkeramik. Beiträge der internationalen Tagung "Neue Fragen zur Bandkeramik oder Alles beim Alten?!"* Leipzig, 23.–24. September 2010. Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege Beiheft 25. Landesamt für Archäologie, Dresden.
- STÄUBLE H., 2010: *Braunkohlen- und Trassenarchäologie: eine Herausforderung mit Tradition*. Ausgrabungen in Sachsen 2, Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege Beiheft 21. Pp. 67–82.
- STÄUBLE H., 2013: What you see is what it was? In: C. Hamon, P. Allard, M. Ilett (Eds.): *The domestic space in LBK settlements*. Workshop 7<sup>th</sup>–8<sup>th</sup> October 2010. Pp. 231–245. Leidorf, Rahden/Westf.
- STÄUBLE H., CAMPEN I., 1999: Vor 7038 Jahren gebaut. Nicht mehr der neueste Brunnen und auch nicht mehr der älteste! *Archäologie aktuell im Freistaat Sachsen* 5: 96–105.
- STÄUBLE H., ELBURG R., 2011: Les puits rubanés: distribution, construction et signification. In: A. Hauzeur, I. Jadin, C. Jungels (Eds.): *5000 ans avant J.-C., La grande migration ? Le Néolithique ancien dans la collection Louis Éloy*. Collection du Patrimoine culturel 3. Pp. 49–54. Service du Patrimoine culturel, Bruxelles.
- STÄUBLE H., WOLFRAM S., 2012: Taphonomie heute: Reanimation erwünscht. Studien zur Bandkeramik. In: T. Link, D. Schimmelpfennig (Eds.): *Taphonomische Forschungen (nicht nur) zum Neolithikum*. Fokus Jungsteinzeit – Berichte der AG Neolithikum 3. Pp. 35–55. Welt-und-Erde, Kerpen-Loogh.
- STRIEN H.-C., GRONENBORN D., 2005: Klima- und Kulturwandel während des mitteleuropäischen Altneolithikums (58./57.–51./50. Jahrhundert v. Chr.). In: D. Gronenborn (Ed.): *Klimaveränderung und Kulturwandel in neolithischen Gesellschaften Mitteleuropas, 6700–2200 v. Chr.* RGZM – Tagungen 1. Pp. 131–149. Römisch Germanisches Zentralmuseum, Mainz.
- ZIMMERMANN A., MEURERS-BALKE J., KALIS A. J., 2006: Das Neolithikum. In: J. Kunow, H.-H. Wegner (Eds.): *Urgeschichte im Rheinland: Jahrbuch 2005 des Rheinischen Vereins für Denkmalpflege und Landschaftsschutz*. Pp. 159–202. Verlag des Rheinischen Vereins für Denkmalpflege und Landschaftsschutz, Köln.

Christiane Frirdich  
Denise Girardelli  
Professur für Ur- und Frühgeschichte  
Historisches Seminar  
Universität Leipzig  
Ritterstrasse 14  
04109 Leipzig  
Germany  
E-mail: [christiane.frirdich@uni-leipzig.de](mailto:christiane.frirdich@uni-leipzig.de)  
E-mail: [denise.girardelli@uni-leipzig.de](mailto:denise.girardelli@uni-leipzig.de)

Maria Cladders  
Harald Stäuble  
Landesamt für Archäologie Sachsen  
Zur Wetterwarte 7  
01109 Dresden  
Germany  
E-mail: [maria.cladders-staeuble@lfa.sachsen.de](mailto:maria.cladders-staeuble@lfa.sachsen.de)  
E-mail: [harald.staeuble@lfa.sachsen.de](mailto:harald.staeuble@lfa.sachsen.de)

Thomas Tischendorf  
Landesamt für Archäologie Sachsen  
Arbeitsstelle Leipzig  
Heilemannstr. 3  
04277 Leipzig  
Germany  
E-mail: [thomas.tischendorf@lfa.sachsen.de](mailto:thomas.tischendorf@lfa.sachsen.de)