Between Cultic Fear and Lack of Wood

Abstract: During the first and second centuries of the fifth millennium BC, the LBK (Linearbandkeramik) pottery style disappeared in the Rhineland (Germany); it was replaced by the Großgartach style, which was in turn followed by the Rössen style. While in some regions, the former settlement sites of the LBK population remained occupied by subsequent Middle Neolithic societies, nearly all were abandoned in the vast loess area located between modern-day Cologne and the Netherlands. Middle Neolithic villages were instead established in new locations. The following text considers some possible reasons for this development.

Keywords: Early Neolithic, Middle Neolithic, LBK, Großgartach, Rössen, taboo, environment

1 Introduction

The Linearbandkeramik likely originated in Hungary (e.g. Bánffy 2015; Marton and Oross 2012) and expanded as the first farming culture over a vast area of Europe (e.g. Whittle 1996). With its rapid dissemination, it reached regions as far as Ukraine, the Paris Basin, and the North European Plain. Its enormous geographical spread was likely associated with a massive wave of migration. As far as aDNA analysis of LBK burials have shown up to now, that immigrant populations played an important role during neolithization (e.g. Brandt et al. 2013; Brandt et al. 2014; Szécsényi-Nagy et al. 2014). One crucial innovation of LBK people was the longhouse tradition. According to Coudart, “the homogeneity of Bandkeramik architecture [...] bespeaks an astonishing and exceptional cultural unity across a very large territory” (Coudart 2015: 310).

The arrival of the first farmers in Central Europe had a permanent impact on the environment and influenced local settlements in a variety of ways. Trees were felled in former woodland, and the cleared areas remained continuously in use over several hundred years. Deforestation and increased soil runoff—the results of human activities—often led to further ecosystemic change (e.g. Dreibrodt et al. 2010; Whitehouse and Kirleis 2014).

Many generations of LBK farmers built their houses in the same places. In addition to its function as a dwelling, the typical longhouse perhaps embodied the cosmological and ideological ideas of its inhabitants. Moreover, the house also signified the prestige and status of its owners, thus expressing the identity of the members of the household while also reflecting social structure in general (Coudart 2015; Hodder 1990; Pechtl 2009a; Whittle 2009; vide infra). Such interpretations are important to the discussion below.
At the end of the LBK period in the Rhineland (c. 4.900 cal. BC) a recovery of the surrounding woodlands is evident in the pollen record. The correlation with the intensity of human settlement is significant (already Kalis and Meurers-Balke 1988; Lüning and Kalis 1988; Stehli 1989: 67, Fig. 7). Typologically, the Middle Neolithic period starts with pottery of a developed middle-Großgartach phase (GG IIA/b: Biermann 1997; mGG A/B: Spatz 1996), c. 4.800 cal. BC (Pollmann 2015: 134; Zimmermann et al. 2006: 182). After this period of forest recovery, an intensive human impact is detectable within the Rössen pottery style again (Kalis and Meurers-Balke 1997: 45; Lüning 2015: 182). Overall, the economic system was similar to that of the LBK period (Bakels et al. 2003).

The avoidance of traditional LBK settlement places by Middle Neolithic societies (Großgartach, Rössen), particularly in the famous region of the “Aldenhovener Platte” (North Rhine-Westphalia, Germany), is notable (Zimmermann et al. 2006: 179-182; Middle Neolithic Settlements in the Rhineland: Arora et al. 2010: 67, Fig. 1) (Fig. 1). Why did the LBK period end in the Rhineland, while at the same time in neighbouring Westphalia, settlement at some LBK sites remained uninterrupted (e.g. Borgentreich-Großeneder (Westphalia, Germany); 4.800-4.750 cal. BC; Pollmann 2012)? Why did the people of the new style deem it necessary to build their houses on “virgin ground”?

Two possible explanations for this settlement gap will be discussed below. The first considers social, religious, and psychological motivations, while the second explores an economic perspective.

Figure 1: Middle Neolithic settlements in North Rhine-Westphalia: Green: GG; Yellow: GG/RÖ; Red: RÖ (after Arora et al. 2010: 67, Fig. 1).
2 Cultic Fear

First, it is important to note that the differences between LBK and SBK (Stroke Ornamented Ware/“Stichbandkeramik”) or LBK and GG (“Großgartach”) are defined by archaeologists. Such typologies do not necessarily represent of the ways in which these former societies defined themselves. It is possible that those whom we consider “SBK people” did not perceive these changes, while those described as “GG people” might have been fully aware of their divergence, or vice versa. In any case, SBK pottery seems to emerge continuously out of LBK styles and people often remained “faithful to the former habitat” (e.g. Link 2012a; Link 2012b and Link 2015).

On the other hand, houses have always had complex profane functions, as well as ritual meanings (e.g. Bickle 2013; Louwe Kooijmans et al. 2003; Metcalf 2010; Naumov 2013; vide supra).

One can draw the following conclusion: settlements might have been avoided out of respect concerning the ancestors - but why did people settle the same places several times before? On the other hand it is possible, that the Middle Neolithic settlers feared “evil spirits” of former enemies and/or “foreign people”. Besides settlements, not even burial places were used by the “next” pottery-style users very often. This belief in “evil spirits” is not as farfetched as it might seem at first. The term “cultic fear”, as an explanation for the gap in settlement continuity at the end of the LBK period in the Rhineland, was probably first used by Jens Lüning (Lüning 1982). One can perhaps associate the concept of “cultic fear” with the more widely used term “taboo”. With an origin in the Tongan word tapu (“forbidden”, “prohibited”, “disallowed”), the English use of “taboo” dates to 1777 when the British explorer James Cook visited Tonga. “Taboo” means a social or religious custom prohibiting or restricting a practice, or forbidding association with a person, place, or thing (http://www.oxforddictionaries.com/de/definition/englisch/taboo).

A taboo is a vehement prohibition of an action, based on the belief that such behavior is either too sacred or too accursed for ordinary individuals to undertake, under threat of supernatural punishment (Encyclopædia Britannica Online. “Taboo” Encyclopædia Britannica Inc., 2012). Sigmund Freud explained that the fundamental reason for the existence of such taboos is fear of the presence or return of a dead person’s ghost (Freud 1950: 57). The fear of evil spirits gave rise to the universal dread of cemeteries and the belief that burial grounds are haunted, as well as to the fear of a ghost’s return to its former living place (e.g. Matthew 12:44: “Then it says, ‘I will return to the house I left.’ When it arrives, it finds the house unoccupied, swept clean and put in order”; Luke 11:24: “When an impure spirit comes out of a person, it goes through arid places seeking rest and does not find it. Then it says, ‘I will return to the house I left.’”). People that suffered a violent end were feared even more, because they had good reasons for revenge. The fear of dead persons and/or evil spirits is probably not as universal as Freud believed, but there are still plenty of ethnographic examples from all over the world (Kümmel 2009: Tab. 9.3; Malinowski 1948; Metzgar 2004; Raahauge 2009).

A similar concept is the idea of so-called “non-places” (Augé 1995). A non-place is a place not lived in, in which the individual remains anonymous and lonely. Motorways, hotel rooms, airports, and shopping malls could be considered examples of non-places in modern times. The concept of the “anthropological place” stands in direct opposition to that of the non-place. Such a place offers people a space that empowers their identity, where they can meet others with whom they share social ties. The non-places, on the contrary, are not meeting spaces and do not build common references to a group. The psychological background of non-places is somehow opposite to taboo places, but the result is the same.

In merging these ideas, one could suggest that places like graveyards, battlefields, and ghost towns acted as such taboo/non-places for early Middle Neolithic societies. Of course, a general avoidance of former LBK villages is not verifiable in the record. Such bright secondary forests would have been excellent places for herding the stock for example. For the Rhineland, one can only state that no new houses were built in the same locations.

An archeologically-detectable fact is the appearance of mass graves and perhaps more frequent occurrences of ritual killings in the late LBK phases. Several find spots provide evidence of such incidents. Talheim (Baden-Württemberg, Germany), Kilianstätten (Hessen, Germany) and Halberstadt-Sonntagsfeld (Saxony-Anhalt, Germany) represent such mass graves, while Herxheim (Rhineland-Palatinate, Germany) comes to mind as a
ritual place (e.g. Boulestin et al. 2009; Duering and Wahl 2014; Meyer et al. 2015; Schefzik 2015). The fortified LBK village of Asparn-Schletz (Austria) provides one example of a settlement that was not rebuilt and settled again after its destruction, commonly referred to as the “massacre of Schletz” (Teschler-Nicola et al. 2006; Windl 1996). From this point of view, it is an inviting idea to connect the so-called “crisis” at the end of the LBK with avoidance of the abandoned and destroyed settlements of potential enemies. Thus far, however, there is no proof that these acts of violence were committed by Middle Neolithic people. Of course, one could argue it is unlikely that any such perpetrators would take along a pot of his own decorative style during an assault, but absence of proof is no proof in general. An internal conflict of neighbouring LBK societies is reasonable. Other hints for violence are healed trauma (e.g. Herxheim (Germany): Häußer 1998), the appearance of weapons within the archaeological record (e.g. stone mace-heads: Biermann 2012; Biermann 2014) and evidence of trepanation as probable treatment for injuries (Wölfl 1925; Wölfl 1927; Wölfl 1936) in late LBK and Middle Neolithic graves (especially in Alsace (France); e.g.: Alt and Jeunesse 2006; Rieth and Ulrich 1942); however, there is insufficient evidence to identify the perpetrators.

Another archaeologically-visible change is the disappearance of clay figurines at the end of the LBK period (Becker 2011). Their absence could further hint at the rejection of former traditions and a change of belief and religion. However, one cannot rule out the possibility that the raw material used in production of these artefacts changed to wood or another organic source material unlikely to have been preserved within the archaeological record.

In conclusion, cultic fear cannot be denied as an explanation, but given the archaeological evidence at hand, it remains difficult to prove.

3 Lack of Wood

It was undoubtedly necessary for the first farmers to clear forests for arable farmland and suitable land for settlement. In selecting sites for clearance, several factors, particularly with regards to the construction of infrastructure, would have been of importance—for example, access to a freshwater supply for the inhabitants and their domestic livestock, the quality of the soil, the availability of timber (oak) as raw material for construction, access to exchange networks, and sufficient space for herding.

It is difficult to state whether there was an existing form of landscape management, e.g. if a clear cut took place or if some solitary trees would have been left for shadow (models of land use: Bendrey et al. 2014; Ebersbach and Schade 2005; Saggalli et al. 2015); however, the initial construction phase of a new settlement would have required significant resources. On average, c. 140 oak trees were needed to build one house (Pechtl 2006: 221, Tab. 2; calculation of workload/expenditure of work: Biermann 2009: 36-37). Thus, it would have been necessary to exploit an area of up to five hectares (Bakels 1978). Furthermore, oak trees grew mainly in the valleys of the Aldenhovener Platte region (Gerlach and Meurers-Balke 2015: 173), making access to and transportation of this valuable resource an additional consideration in landscape management. In addition to houses, it would have been necessary to build wells, fences, occasionally palisades, and perhaps logboats or rafts. To a lesser extent, the supply of wood for handles, vessels, and fire-building had to be secured continually. For firewood alone, there is an average annual need of 0.4 m³ per person (Dubouloz 2008; Mazoyer and Roudart 1997). Such materials would have been sourced within an acceptable distance of attainability and transportability.

As an ethnographic comparison, it is helpful to consider the Iroquois, who relocated their settlements time after time. Often, they moved in order to have firewood in convenient proximity or because elm bark was no longer available for roofing houses (Hopkins 2010). A diminishing wood supply also made defensive repairs more difficult, thus explaining why some settlements remained unfortified (Richter 1992: 136).

The carrying capacity of an environment is, in general, the maximum population size that the environment can sustain indefinitely (e.g. Biermann 2001/2003: 216-217). In addition to food and water, one must consider wood as an important part of such calculations.

LBK people exhausted this resource not only by taking wood themselves, but also by herding their animals. Livestock will hinder to some extent the renewal of the surrounding woodland through grazing.
Over the past several decades, pollen analyses for the Rhineland have provided evidence of such an impact (Kalis and Meurers-Balke 1988: 42-45; Kalis and Zimmermann 1988; more recent: Gerlach and Meurers-Balke 2015: 172). The intensity of land-use likely differed according to settlement density and size. The impact of large, long-term settlements like Vaihingen/Enz (Baden-Württemberg, Germany: Krause 1997) or Stephanposching (Bavaria, Germany: Pechtl 2006) was surely more intensive than that of a single farmyard (“Hofplatz”) (e.g. Hofmann et al. 2013: 214). Further evidence for herding far from the villages is the appearance of non-local isotope signatures in analyses of skeletal remains (e.g. Bentley et al. 2008; Bickle et al. 2011).

Examples from locations such as the Scottish Highlands or the Easter Islands group demonstrate the extent of environmental changes resulting from clear cuts and/or herding. Even if such changes might have happened in a much smaller local scale during the LBK period, it is reasonable that alternative places with better access to resources, especially of building quality timber, were later chosen to set up new villages. Psychology might influence perceptions of “acceptable distance” in this context: one might bear a greater amount of work to keep his or her well-established home than one starting a new settlement under the best possible conditions.

From an archaeological point of view, several challenges exist in any attempt to recreate the situation. The number of inhabitants of LBK houses, as well as the LBK population size in general, is still a topic of lively debate (e.g. Biermann 2009; Claßen and Zimmermann 2015). Still, the question of manpower is crucial, especially with respect to transport. The trunks of the oak trees used for construction of houses would have weighed up to, and occasionally more than, 1000 kg (e.g. Biermann 2009). One could hypothesize that cattle were used to drag logs out of the forest. Such considerations would have been influential in determining the “acceptable distance” for communities availing of these resources.

The availability of wood influenced everyday life during the LBK period. Castelletti analyzed the charcoal from the pits of Langweiler 8 (“Merzbachtal”, North Rhine-Westphalia, Germany), proving a decrease in the use of oak during the LBK period. Instead, branches of fruit trees and hedges were used as firewood (Castelletti 1988). Such use of material from hedges became increasingly common during the LBK period (Kalis and Meurers-Balke 1998: 254; Stehli 1989: 64). This shift led Lüning to determine that in the immediate surroundings of settlements, oak trees were excessively exploited for lumber, which in turn necessitated the use of other species for firewood (Lüning 1988: 78). Such use of hedges (German: “Waldmantelgesellschaften”) disappears in Middle Neolithic contexts (Kalis and Meurers-Balke 1997: 35); instead, elm trees seem to have been used, at least for pollarding, to an greater degree in this later period (Gerlach and Meurers-Balke 2015: 172).

A decrease in oak pollen during the LBK period was also detected for the Wetterau (Hesse, Germany) (Stobbe 1996: 159), followed by some woodland regeneration during the Middle Neolithic (Eisenhauer 1994: 97). The results of charcoal analyses are also similar to those obtained from the Rhineland (Kreuz 1988). Some settlements were abandoned around the end of the LBK period as well (e.g. Ritter 2014). However, in contrast to the Rhineland, several places were continuously occupied or reoccupied soon after their abandonment (e.g. Wölfersheim “Geisenheimer Feld” (Hesse): Eisenhauer (2002: Nr. 87); Saile (1998: 372, Nr. 1819) or Münzenberg-Trais (Hesse): Eisenhauer (2002: Nr. 70, 72, 73); Kneipp (1998: 332-333, Nr. 344-346); Saile (1998: 345, 346, Nr. 1404, 1408)).

Further east, e.g. in Dresden-Prohlis (Saxony, Germany) (Link 2012a; Link 2012b and Link 2015), Eythra (Saxony, Germany) (Cladders et al. 2012) or Hrdlovka (Czech Republic) (Beneš et al. 2015: Fig. 23), such “gaps” are not evident between LBK and SBK occupation. The places were inhabited continuously. Still, one must keep in mind that the stylistic change from LBK to SBK already took place in this region c. 5,000 cal. BC (Link 2014).

The recently discovered well of Niederröblingen (Saxony-Anhalt, Germany) was built by LBK people and subsequently repaired at least twice. The second set of repairs was completed by SBK people. However, the 150 dendrochronologically-dated logs showed another astonishing result. The planks of the oldest phase were made from 200–300-year-old oaks. The trees used for the first set of repairs had a maximum age of 200, while those used in the second set of repairs had a maximum age of less than 150 years. Such evidence supports the argument that there was a considerable decrease of available oak trees during this

Compared to agriculture and stockbreeding, hunting played a relatively minor role during the LBK period, but has nevertheless been interpreted as an important social factor (Hachem 2000). The importance of game to subsistence practices differed very much according to chronological and regional context. In general, numbers of hunted animals decreased during LBK phases and were of greater importance in southern and southwestern Germany than in other parts of the distribution area (e.g. Benecke 2001; Bentley et al. 2013: 264; Biermann 2001/2003: 184-196; Küßner 2015: 174-178; Pechtl 2009b: 84). This chronological trend could reflect a decreased availability of game in a more open landscape, but could also signify a loss of hunting skills after several generations of farming.

Are there any further hints of a decrease in wood resources? Pit houses could have offered an alternative to longhouses in the late LBK period and the beginning of the Middle Neolithic, and one possible reaction to any shortage of wood. The general idea of pit houses is not new (Wüstehube 1993), but has recently been discussed for some late LBK sites (Becker et al. 2011; Cziesla 2008: 430). Examples have been known from SBK sites for several decades (e.g. Baumann 1964), but they are more likely connected with handicraft than with habitation (Lüning et al. 1997: 92-93). Definitive proof of their presence is sparse, but it is possible that researchers do not detect pit houses because they do not expect to find them in LBK or Middle Neolithic contexts. Similar problems existed in the identification of LBK wells until the 1990s too (Weiner 2015: 159: “Nur wer kennt, kann suchen!”). In the early twentieth century, the idea of so-called “Grubenhütten” was still quite common (e.g. Schilz 1900; Koehl 1912: 59-60). It is possible that the change of opinion concerning pit houses after the discovering of “real houses” (e.g. Köln-Lindenthal, Germany: Buttler and Haberey 1936) continues to influence us today. Still, pit houses are exceptional, and thus up to now not a likely explanation for the lack of evidence for wood as presented here.

LBK houses with surrounding ditches, which were probably plank walled (e.g. Husmann and Cziesla 2014: Fig. 21), provide another interesting contribution to the discussion at hand. It has been suggested that these houses belonged to more privileged members of the community (Husmann and Cziesla 2014: 95-96), because the amount of wood needed is much greater than that used for “common houses”. If these structures really were a sign of wealth and social stratification, this disparity could indicate that wood had a high value and became rare somehow.

Finally, it is necessary to consider changing house shapes. Rectangular houses were typical during the LBK period (e.g. Pollmann 2015: 132, Fig. 1; Rück 2007: Fig. 9). The average length of 25—30 m (in extreme: e.g. Schwabhausen (Thüringen, Germany): 71 m (Grasselt 2000)) was still about the same as that of houses found in Middle Neolithic contexts (e.g. Lüning 1982: 29, Fig. 13). However, the shape of the houses eventually became shiplike or “naviform”, and later changed to become more trapezoidal (GG: Biel 1994: 40, Fig. 14/A-B; Dohrn-Ihmig 1983; Pollmann 2015: Fig. 2; RÖ: Lüning 1982: 29, Fig. 13; Pollmann 2015: Fig. 4).

Both types are found in the same settlements, which seem to have been occupied continuously during the GG and RÖ periods, in contrast to the abandoned and avoided LBK sites (e.g. Elsbachtal, brown coal area between Cologne and Jülich, Germany (Arora et al. 2010: 68, Fig. 2-3)). The tendency to change shape is sometimes found in the late LBK period (e.g. Sierentz, France: Jeunesse 1994: 7, Fig. 5; Alsace: Bickle et al. 2013: Tab. 8.2; Paris Basin: Bickle 2013: Fig. 7.2) and can also be observed during the SBK period at the end of phase Ib (Kaufmann 1976: 45-46, Tab. 1; e.g. Straubing-Alburg-Lerchenhaid, Bavaria, Germany: Engelhardt 1997: 49, Fig. 23). This movement away from a rectangular to a trapezoidal ground plan seems to have been a general trend throughout Europe (e.g. Czerniak 2002; Last 1996; Lönne 2003: 43).

Why change shape? Studies have suggested this development to be a result of improvements in craftsmanship (e.g. Hampel 1989: 82; Riedhammer 2003: 478-481). When viewed within the context of dwindling resources, one could suggest such constructions permitted the use of smaller trunks in greater proportions.

Ship-shaped or trapezoid houses did not need the same length of timber on the smaller sides to span the distance as would have been necessary for rectangular houses. Even the height and width of the ridge-posts could be partly reduced, because the roofs were probably graded in the direction of the smaller slopes.
An example of such a house can be seen in Oerlinghausen (Germany). In the 1980s, this house was the first evidence-based reconstruction of Neolithic architecture of the German post-war period, modelled on “House 9” of the RÖ settlement “Inden I” from the brown coal area between Cologne and Jülich (Luley 1990; Luley 1992). With a size of 23 m x 7.30 m and a maximum height of 5.25 m, it is a very impressive building, but within RÖ contexts it is only average in size. To conclude, trees smaller in both length and diameter could have been used to build houses with a similar floor space. With fewer trees needed, especially “old” ones, the cumulative cost of cutting trees, transporting them, and erecting the building is much lower than that required in the construction of traditional LBK houses.

4 Conclusion

In summary, there is evidence to support hypotheses related to both belief systems and resource extraction in discussions of settlement patterns. Still, for the people of this period, there may have been plenty of other reasons to avoid former settlement areas. There are several arguments that lumber became rarer in the end of the LBK period in general. However, while the transition between the LBK and SBK periods seems to have been smooth, a break or gap between the LBK period and Middle Neolithic (GG) is detectable, especially in the Rhineland. This distinction suggests that a material shortage cannot be the only explanation for the avoidance of these settlements. It is necessary to search for another possible “trigger mechanism”. Lüning’s idea of “cultic fear” offers a possible explanation, but is difficult to prove.

In any case, according to materialist theorists like Marvin Harris, a synthesis of both explanations is possible. Harris explained taboos as a consequence of ecological and economic conditions (Harris 1966). In the case presented here, one should not discuss antitheses, but rather interlocked reasons. Using the words of Daniela Hofmann, Luc Amkreutz, Fabian Haack and Ivo van Wijk: “The presumed “crisis” at the end of the LBK, cannot solely be explained by tracing possible environmental or demographic factors, but also largely depends on the specific trajectories a given set of sites was involved in, and hence on social relationships and worldviews” (Hofmann et al. 2016: 12-13).

References


