ABSTRACT: The studied settlement site in Jaroměř is one of the few large-scale excavations from the late Neolithic in Bohemia. It was settled in both the earlier and later phase of the Stroked Pottery Culture (hereinafter referred to as STK, 5100/5000 – 4500/4400 cal BC). In the later phase the excavated houses were concentrated into noticeable spatial structures – rows. By way of comparative analysis the building type (recognized by house plans) and the artefacts belonging to individual rows, we worked out and tested several models concerning settlement structures and development of the settlement. On the basis of the analysis of spatial and chronological interaction of these rows it was impossible to confirm the traditional typo-chronological scheme and the question arises, whether the differences in the material of both studied groups reflect different time and social schemes on the Neolithic site.

KEY WORDS: Neolithic – Stroked Pottery Culture – Pottery – Longhouse – Spatial analysis

INTRODUCTION

In the past few decades many authors (e.g. Pavlů 2000, Lüning 2005) occupied themselves with the question of the development of the spatial relations of houses on Neolithic sites and their possible social interpretation. The aim of the presented study is to outline and test some questions related to the structure of late Neolithic settlement site in Jaroměř (Náchod district, Eastern Bohemia). The settled site in Jaroměř was excavated at various times between 1995–2013. During the excavation seasons several ground plans of long Neolithic houses were revealed, these belonged to the Stroked Pottery Culture.

An analysis of the ceramic material in combination with a study of typological development of house has already enabled us to divide the site into three distinctly different development groups (Burgert 2013a). Each of these groups is presented by completely different construction types of house and different pottery (Figures 3–5). The question of what these groups identified within the structures and the time of...
FIGURE 1. Jaroměř, Náchod district, Eastern Bohemia. A, Location of site in the Czech Republic; B, Section from the general plan with all three types of house plans (see Figures 3–5).

FIGURE 2. Jaroměř, Náchod district, Eastern Bohemia. Section from the general plan of the site. Marked in black are the analysed features.
functioning of the site reflect, will be addressed later. Apart from the standard model, that it is a more or less gradual typo-chronological development of material culture and a building tradition of the site inhabitants, there are several other alternatives. From all of them let us name at least the possibility of the coexistence of at least two building types at the same time in view of the different production traditions of the inhabitants of these different house types.

The only regularly repeating structure among the features on the site are pits adjacent to the north-east side of the house. Filling processes of the features on Neolithic sites may differ and for us are unrecognizable in detail. This is the reason why it is impossible to straightforwardly link the contents of the pits that spatially belong to the house, to the life of the building and its inhabitants, no matter how obvious this might seem. If we disregard empirical knowledge and perception while attempting to objectify the analysis, the resulting data begins to scatter and there arises a difficult conglomerate of unrelated phenomena. For this reason the facts ascertained earlier from here or from other sites were not disregarded for purposes of this study. The groups of analysed houses were set aside beforehand, although it means, that certain interpretation emerged in the beginning and this circumstance may be perceived as a methodical mistake.

Pits, spatially adjacent to individual structures, contain in contrast to other features on the site relatively little pottery material. In contrast to other pits these may be firmly related to the nearby houses. At the moment we mean the pits themselves, not their contents. Since the number of finds was low, it is necessary to deal with whole groups of pits. For the purposes of this study we chose two groups of pits that were close to structurally different groups of houses one group for each of the two recognized development circles, which are, concerning their genesis, close to each other. The structures of both groups are c. 60 m from each other. Only one house of earlier phase of STK was omitted (Figure 3), this one most probably preceded both groups.

CHARACTERISTIC OF SELECTED BUILDING COMPLEXES

Group 1 consists of a row (cf. Rück 2013) of probably five houses, located in the SE corner of the excavated area (houses no. 12–16; Figure 2). Short house plans form a line in a WSW-ENE direction. The length of the houses range between 10–12.5 m, width between 5.6–6.3 m. Orientation of a longitudinal axis of houses is roughly in a NNW-SSE direction. Chronologically sensitive pottery in the pits by the northern wall of the houses (features no. 274, 321, 773) is very scarce (Figure 4 shows basically all the chronologically sensitive material). The term "chronologically sensitive material" for the purposes of this study refers mainly to the fragments, on the basis of which it is possible to reliably reconstruct the shape of the vessel and its decoration. Because there are no other houses of this tradition in the excavated area, this group of houses and pits forms a closed assemblage for analysis. It is impossible to complete its image with data of other examples of the same building type, as it is possible within the second group.

Group 2 is represented by six houses, which have a different construction to the first group. They are structures with perimeter walls embedded into foundation trenches. As in the case of the first group, the houses create a line in a WSW-ENE direction, except from house no. 5, that will be discussed later. The length of the houses ranges from 18–19 m, it is often complicated to find out their total length, because of incomplete preservation of entries made of posts, so called "antes" (Friederich 2011: 427). In general there are around 15 houses of this building type (Figure 5), within the excavated area.

ANALYSIS OF THE POTTERY

Regarding the ceramic material from the pits, we observed not only quantitative, but also some formal and decorative features. These were especially the size of the fragment, measured at 10 mm, maximum and minimum thickness, and abrasion. From the average thickness of the fragment and its length we calculated so called S/W index, which should express a tendency of the fragment to break (the bigger the ratio is, the bigger the fragility is; Květina, Končelová 2011: 60–61). Last of the observed features was the character of the fragment in the shape of a triangle or polygon. This category is based on an assumption, that the fragments are from the breaking of a vessel rather than sharp-edged, i.e. of a triangular shape, which changes into a polygonal after being trampled and moved across the area. The larger the amount of triangular fragments in the assemblage should indicate an immediate deposition of the discard in a feature  (Burgert 2013b).

In the first group there were four features, whereas one of them had to be eliminated because of its superposition with a later feature of Silesian-Platěnice
FIGURE 3. Jaroměř, Náchod district, Eastern Bohemia. The only recorded house plans of house of the early phase of STK with the selection of pottery belonging to this building group.
culture (late Bronze Age – early Iron Age; Ha B–D). Forty fragments of eighteen vessels (specimens) come from the remaining three pits. In the second group there were four features, from the fill, of which we analysed 174 fragments of 53 vessels. Because some features were excavated entirely, while the others only from a half, we doubled the measured data from the half-features. Then we analysed 80 fragments from the first group and 267 from the second.

For the subsequent analysis of data we used a program PASW Statistics 18. Concerning the size of the fragments, these figures (especially in the median)
FIGURE 5. Jaroměř, Náchod district, Eastern Bohemia. The ground plans of houses 2, 3 and 5 of the second group with the selection of pottery belonging to the same group.
are in both groups rather the same, the second group, however, shows a slightly larger range of scatter, which is most probably caused by a significantly larger amount of ceramic material (Figure 6: 3). Concerning the abrasion the groups distinctly differed. Shards of the first category, i.e. the best preserved fragments, are in the first group relatively and absolutely more numerous than in the second group. The remaining two categories show rather similar values. In the second group clearly predominate fragments of the second category. In this case the fragments show more natural distribution concerning the abrasion (Figure 6: 4; cf. Řídký et al. 2013: 243). In the other studied category, the character of the fragments’ shape, the second group shows similar ratio of triangular (48 %) and polygonal (52 %) fragments. In contrast to the second group, the representation of the polygonal fragments is in the first group much higher (79 %; Figure 7: 2). In the last compared category, fragility (S/W index), both groups show circa the same values with such a difference, that in the second group there are more fragments with above-average values. In this category both groups show basically natural values, that were ascertain on other settlement sites (Burgert 2013b).
DISCUSSION

Evidence of the pottery

The comparison of both groups from the viewpoint of the quality of individual fragment preservation shows that the pottery shards in the second group are less worn out than that in the first group. The small amount of pottery is also very noticeable in the features of the first group. Concerning the conventional typological-chronological scheme of pottery dating, the ceramic material related to the first group of houses is in all probability older than in the second group. This fact corresponds especially to the numerous occurrence of beaker shapes in Group 2 and the obvious concentration of banded decoration (Pavlů – Zápotocká 2013). As indicated above, the first group includes an insufficient number of well-dated fragments (Figure 4). Nevertheless, it is possible to date the material to the later phase of STK (wide double-stroke, sharp profiling – 4/2, foot – 4/5) on the basis of empirical findings on this and other sites. The second group is already represented by vessels that are characteristic of the developed late phase of STK (slashed body, disintegration of decoration scheme into bands; Figure 5: 3, 4). The whole number of ceramic finds, coming from the context of houses with longitudinal walls embedded into the foundation trenches, belongs to the phase STK IVb (classification by Zápotocká 1970).

Analysis of aceramic finds

Another object of analysis were the aceramic finds from the fill of the features. We focused on grinding
slabs, percussion implements and polished and chipped stone industry. We studied the quantity of all these artefacts, further by grinding tools, the functional categories (lower/upper stone, Řídký et al. 2014), by polished and chipped stone industry, mainly the production categories. The aim of the study of these artefacts was to prove a similarity or difference in finds of both groups and thus detect evidence of similar or different production activities in both groups.

The spectrum of aceramic finds shows certain differences between both groups. While fragments of upper stones appear coincidently in both groups, in the second one there are more percussion implements and the evidence of production and adjustment of polished tools (semi-finished products, drill-hole cores, fragments of finished tools). The assemblage of chipped industry artefacts is made of only nineteen pieces, relatively evenly divided into both groups. In the assemblage, there are no cores, further modified blades and flakes are slightly more prevalent (Boelicke et al. 1988: 586). This finding profile of chipped artifacts may be interpreted as a reflexion of a typically consumer site with limited access to sources of raw material (Balcer 1975: 178–191, Vencl 1986: 495–496).

CONCLUSION

In case of the first group, it is very noticeable that the superpositions of houses and pits also dated to the Stroked Pottery Culture (features no. 269, 309 and 324). Scanty ceramic material from these pits does not enable precise chronological classification in any case the features are older than the houses. This means that the houses were built in the immediate vicinity of other (older) structures, which are situated outside the excavated area. The reason for such behaviour might be the tendency of the site inhabitants to "stabilitas loci" (the term comes from the monastic vow of Benedictines, which expresses lifelong loyalty to a specific area of the order house). After interruption of the settlement, no matter how long (existence of hiatus between the groups is on the basis of ceramic or other material impossible to prove or disprove), the newcomers prefer the vacant areas for practical reasons and without emotional or other attachment. Here as well, we see the same tendency. The evidence of the same "stabilitas loci" behavioural model in the second group is the location of the house no. 5, which is chronologically younger than the pair of the connected houses and it owing to its position avoids the ruins (or mound of discard) of house no. 2. The regular pit by house no. 5 is missing. Either it was not there from the very beginning or it was sunk into the raised place (heaps of daub and other discard) of house no. 2 and it succumbed to degradation and overburden. Similar phenomenon can be seen on the site of Miskovice by Kutná Hora, where the cremations of STK were probably sunk into the ruins of houses of Linear Pottery Culture. The final image after a terrain erosion and overburden of a topsoil shows a ground plans of a long linear house with graves around it, which strictly respects the ground plans (cf. Zápotocká 1998: 46–47). For the reason, that by the front wall of the house it is possible to assume a representative character, like it was often assumed in a case of Rössen houses or Moravian Painted Ware Culture houses (Pavlovic 2010/2011: 82; Pavlů 2000: 226; Podborský 1984: 57–59), the group of houses no. 5 and 2+3 cannot be concurrent.

We may state, that the spatial behaviour of both groups, based on the stable occupation of the same place is identical. There could have been two subsequent phases of settlement, divided by a hiatus. Although the newcomers kept the same spatial scheme of "stabilitas loci", they did so without relation to the previous settlement and intentionally chose the place for the site foundation away from the ruins of old houses (though within sight). Or they might have been two concurrent groups, where the pottery reflects different traditions, rather than gradual chronological development (social stratification of the site, family organization, keeping a tradition of group's place of origin, etc.). Because we are not able to reliably chronologically relate the groups to each other, we cannot confirm or disprove contemporaneity of both groups under the current state of knowledge.

If we consider the concurrent functional existence of both groups, there is another alternative model, where the first group of houses was built first, however, after the building of the second group some structures served other than settlement purposes (husbandry operation). With this model agrees the gradual chronological development of pottery between the groups, basically corresponding with a conventional chronology, further a difference between a quality and preservation of pottery shards. In the first group the fragments are rather badly preserved, which may indicate a longer time of functioning of the whole settlement complex (pottery was not deposited in the pits primarily) and its use to other than dwelling purposes. The differences that were found out in the aceramic spectrum of finds also indicate different activities in progress near houses, in the second group there was in a certain extent a production and processing of polished...
stone industry. This fact may be on one hand interpreted chronologically (polished stone industry was produced on the site in later settlement phases), on the other hand it is possible to consider even other use of concurrent groups of houses. In an extreme case we may consider a gender interpretation (polished industry as a male attribute, activity areas by the northern side of houses used mainly by men; Pavlů 2010: 64, 2000).

An important aspect, we cannot deal with in this short text, is a lifetime of individual structures. Although P. Stehli (1989: 60–61) states a credible time-span of 25 years between building new houses (naturally his term Hausgeneration does not predicate much about limits of lifespan of a structure). There is still an unsolved question, whether the original population stays in the old house or whether the old house is entirely deserted (Friederich 2011: 432). In case only the new generation leaves and the old stays on the original site, it is possible to date the evident differences in the pottery production to the same time-span. Mainly the small differences in the pottery production may not be strictly chronological, but intergenerational. It is impossible to test this model within the presented study, because we observe the mutual relations between the entire groups and not the houses within the individual groups.

By analysing spatial relations of features and house plans we defined, in a case of the Stroked Pottery Culture site in Jaroměř, a principle of relation of individual groups of houses to the specific space within the site, so called "stabilitas loci". It was not possible to safely account for the relations between the two groups in the space of time. Analysis of ceramic and aceramic material from the fill of features, as long as it is related to the functioning and the life inside the houses, may prove both gradual typological-chronological development and concurrent existence of both groups of houses. In future, the research of Neolithic site in Jaroměř will focus on testing similar models within the context of the whole site.

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"Stabilitas loci" of inhabitants of the Stroked Pottery site in Jaroměř (Eastern Bohemia, Czech Republic)


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