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NEW IDEAS IN OLD VILLAGES. INTERPRETING THE GENESIS OF THE STROKED POTTERY CULTURE

ABSTRACT: The transition from the Linear Pottery Culture (LPC) to the Stroke Pottery Culture (SPC) seems to be a profound disruption. However, this is not accompanied by discontinuity in settlement structures. The settlement of Dresden-Prohlis shows that continuity may be supposed even on household level. Also most attributes of the novel pottery decoration style are already present during the younger phase of the LPC. Nevertheless, the ornamental spectrum dramatically decreases, which is why the genesis of the SPC must first and foremost be understood as a process of stylistic canonisation. Several culture-historical questions arise: Where does the SPC evolve? How do the innovations spread? Does stylistic change correlate with economic or social change? The abandonment of the "traditional" style may be interpreted as symbolic expression of a new cultural identity. This, however, does not imply a profound socio-cultural break, but rather reflects an ideological reorientation within the persistent social and economic framework. As an explanation for the rapid spread of the SPC a "polyfocal" model is suggested, which supposes parallel synchronous evolution in separate but interacting regions. Finally, from an eastern perspective, the often-cited "crisis at the end of the LPC" has to be relativised and regionally differentiated.

KEY WORDS: Neolithic – Linear Pottery Culture – Stroked Pottery Culture – Cultural identity – Cultural continuity

INTRODUCTION

Around 5000/4900 BC the Linear Pottery Culture (LPC) complex disintegrates into several succeeding archaeological entities. In its eastern-central distribution area, the Stroked Pottery Culture (SPC) is the LPC's immediate successor. Although miscellaneous LPC

cultural traditions persist, the emergence of the SPC is often associated with profound cultural change at the end of the LPC (e.g. Farruggia 2002: 85–89, Jeunesse, Strien 2009: 245–246, Lüning 1988: 48–49, Spatz 2003: 582–585). In contrast, new results from the Saxon and Bohemian Elbe region clearly highlight continuous evolution.

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The LPC of Eastern Central Germany can be subdivided into three major distribution regions (Link 2011: 14–17, Stäuble 2010: 27–29). The south-eastern and smallest of these regions is situated in the Dresden Elbe Basin, in close proximity to the larger LPC province of Northern Bohemia. Here, north of its narrow passage through the Ore Mountains, the Elbe Valley widens to a Basin of 40 by 8 km. Early neolithic settlement is restricted to the fertile loess soils which dominate the south-western part of the basin (Link 2011: 11–13).

Three settlement clusters can be distinguished within the Dresden Elbe Basin. The largest one is situated in the centre of the basin. It consists of five or six individual settlements that form a straight line along the foothills over a distance of 5 km. Most of these sites have been

archaeologically investigated during the last two decades (Brestrich 1998: 76–86). The whole sequence of the LPC and SPC is present, but the life span of most individual sites is restricted to specific chronological phases. The transition from the LPC to the SPC can be observed at the site of Dresden-Prohlis.

DRESDEN-PROHLIS AND THE TRANSITION FROM THE LINEAR TO THE STROKED POTTERY CULTURE

In 1993–1994 a 2 hectare section of the settlement at Dresden-Prohlis has been excavated. The largest part of the site has already been destroyed by extensive loam

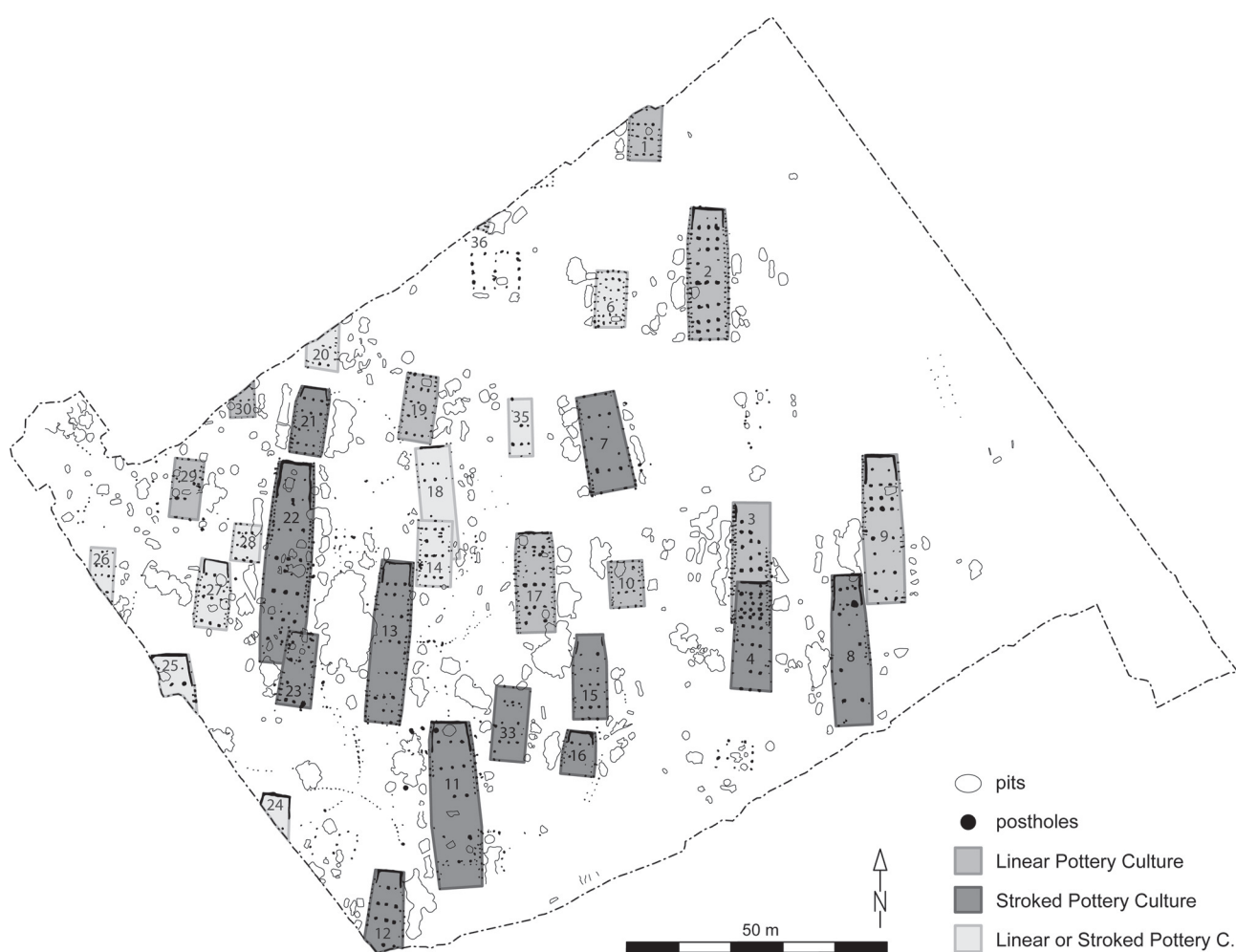


FIGURE 1. Dresden-Prohlis. Features and houses of the Linear and Stroked Pottery Culture settlement (© field documentation: Landesamt für Archäologie Sachsen, data processing and illustration by T. Link).

extraction in the 19th and 20th centuries, but its original extension could well have reached 30–40 hectares (cf. Link *in press a* for more detail). The excavation revealed at least 37 neolithic houses, some of which were exceptionally well preserved (*Figure 1*) (Link 2012a, Link *in press a*). The finds date from phases LnK IV to StK II according to the bohemian chronological system (Pavlů, Zápotočká 2013: 30–38, Zápotočká 1993: 375–376). Remarkably, unlike the vast majority of other sites the settlement was not abandoned at the end of the LPC but

remained permanently inhabited during the time of transition to the early SPC. What is more, continuity can also be demonstrated on household level (see below).

Further evidence for continuous development is provided by house construction. At first glance early SPC house plans seem to differ from LPC buildings in some details. For instance they show slightly boat-shaped outlines and generally their interior is less densely structured and more evenly segmented. Their most characteristic trait is the use of double posts for the

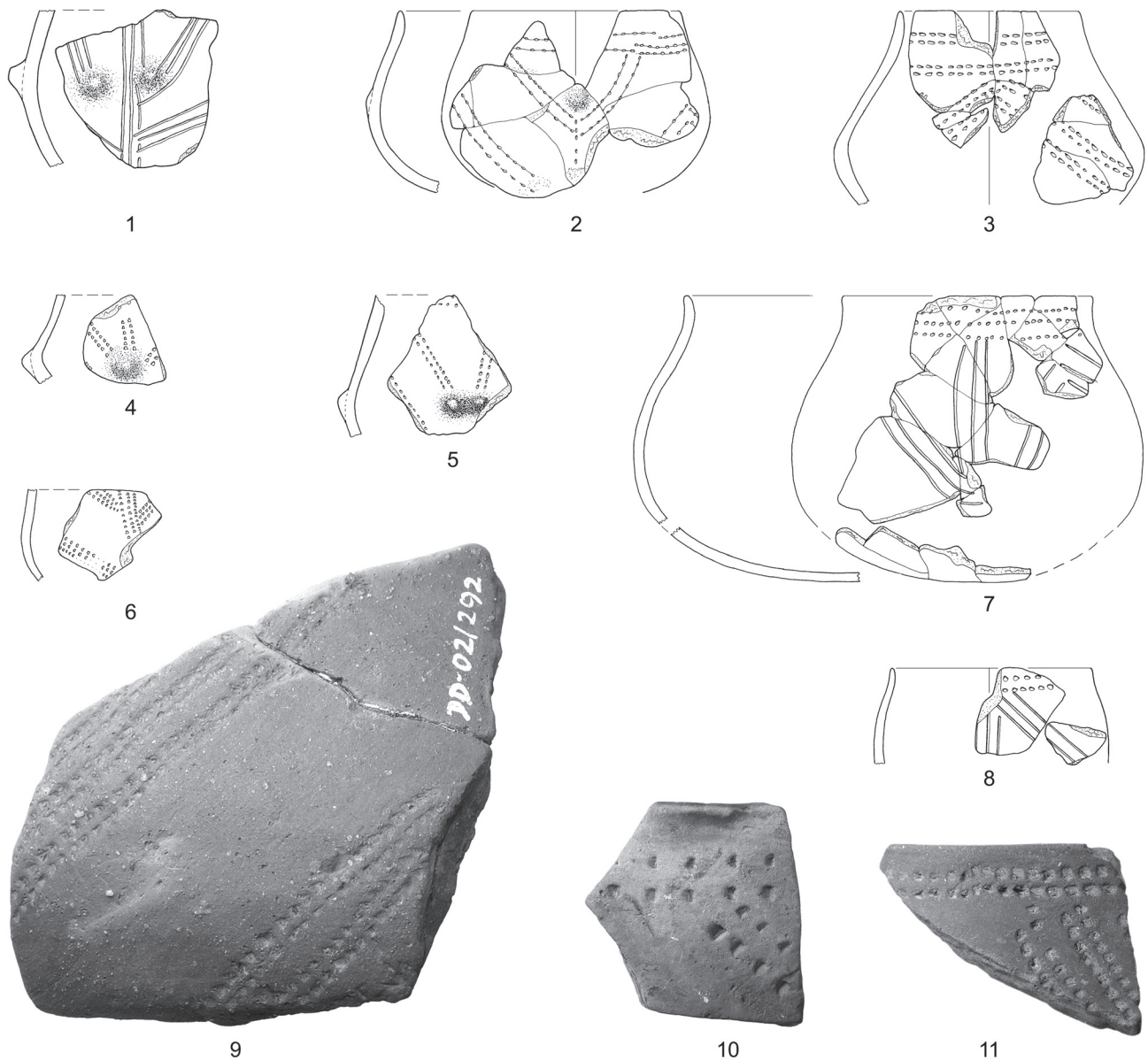


FIGURE 2. Late LPC pottery from Dresden-Prohlis. Scale: drawings 1:3, photos 1:1 (© Landesamt für Archäologie Sachsen and T. Link).

construction of the long side walls. Nevertheless, all of these features just carry forward long term trends that have their origin already in late or even middle LPC. Early SPC houses are definitely related much more closely to the preceding late LPC than to the subsequent late SPC.

The late LPC pottery from Dresden-Prohlis (Figure 2) dates to phases LnK IVa and IVb. It is characterised by incised lines and single strokes (Figure 2:1–2, 2:6–8). Šárka style vessels with "barbed wire" decoration or parallel lines of densely set triangular single strokes are common, too (Figure 2:2, 2:6). Early SPC pottery on the contrary is ornamented by alternating

double strokes exclusively (Figure 3). Usually broad bands are composed of two or more parallel rows of double strokes. Motifs (i.e. the layout of decoration on the vessels' bodies) are highly standardised to chevrons which are separated by a vertical band in their lower angle and framed by a horizontal band at the top immediately below the rim of the vessel (Figure 3:2). No significant differences between late LPC and early SPC pottery in composition and production technology can be observed on a macroscopic scale.

Stroked decoration has already been growing increasingly popular since the middle LPC. At the end of the LPC sequence the first double strokes occur. In

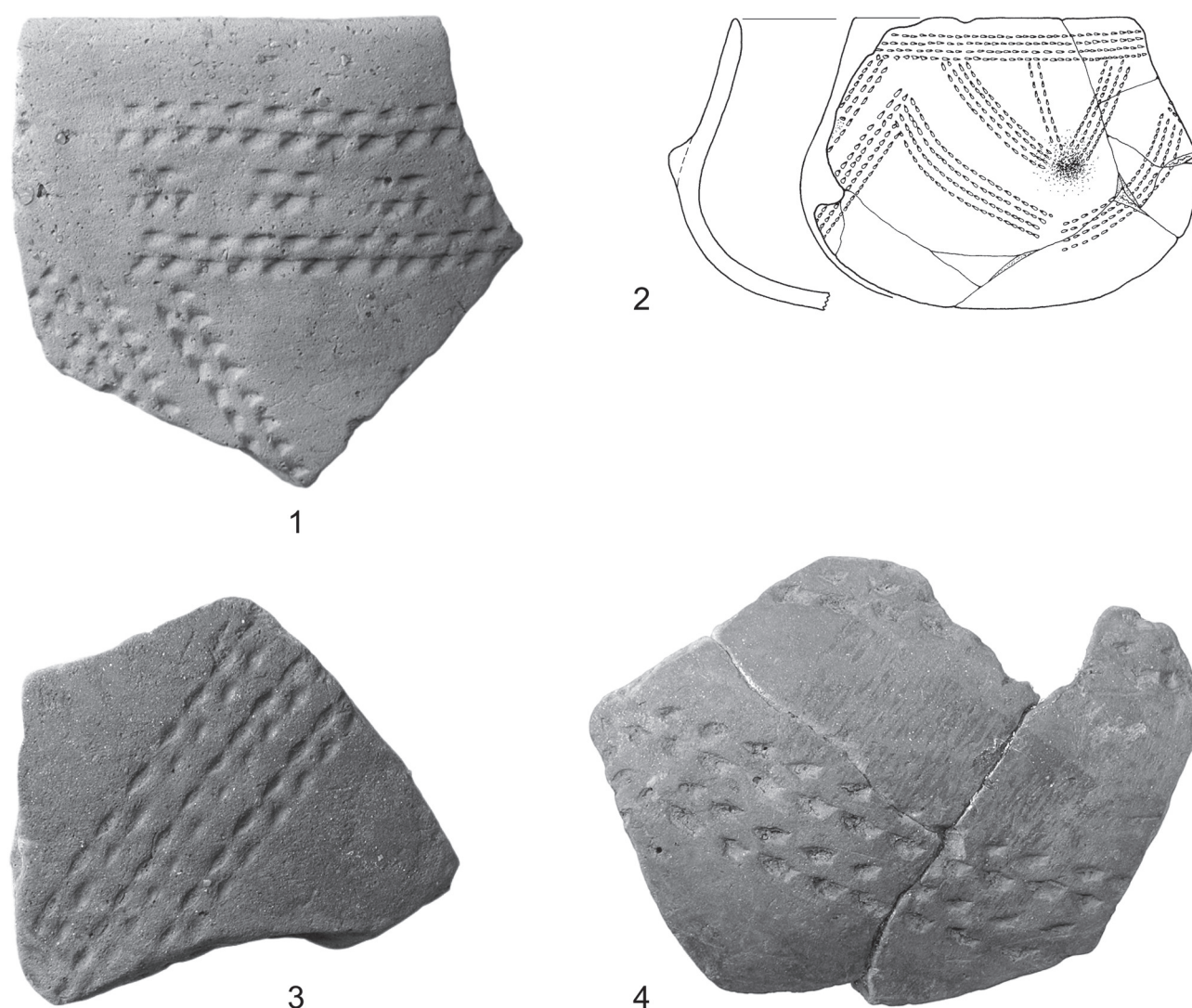


FIGURE 3. Early SPC pottery from Dresden-Prohlis. Scale: drawings 1:3, photos 1:1 (© Landesamt für Archäologie Sachsen and T. Link).

contrast to early SPC decoration however, they are not produced by an alternating technique (*Figure 3*) (Zápotocká 1978: 508–513, 526, 529–531), but by simple stamped impression of a two-toothed tool ("parallel" technique) (*Figure 2:3–5, 2:9–11*). As a result, alternating double strokes may be regarded as the main distinctive feature between late LPC and early SPC. But the distinction between LPC- and SPC-type stroke bands sometimes becomes blurred. In Dresden-Prohlis several vessels on first view seem to show typical SPC ornamentation (*Figure 2:3–5, 2:9–11*), but closer examination reveals that it was not produced by alternating but parallel technique. Consequently, if alternating technique is a definition criterion for early SPC these specimens must still belong to the late LPC. They could however reflect a transitional phenomenon already leading towards the SPC. This notion is supported by the fact that sherds with parallel double strokes predominantly occur in LPC find contexts, but occasionally are still present in SPC features.

Early SPC motifs are highly standardised to chevrons with a vertical separating band and a horizontal rim decoration (e.g. *Figure 3:2*). Variations exist, but the angular principle always remains the same. Angular ornaments are not a SPC novelty however, but have been growing increasingly popular and wide-spread already during the late LPC. Chevrons and other angular motifs occur very frequently in the Šárka style in particular (Zápotocká 1983, 2007: 201). The variability of LPC angular motifs however is still much higher than in the early SPC. Nevertheless, complete SPC-like chevron motifs including a vertical separator and a horizontal rim decoration occasionally emerge in late LPC contexts already (cf. *Figure 2:1–2, 2:4, 2:6–8*). This might as well be interpreted as adaptation from contemporaneous SPC groups (Kaufmann 1976: 40–41, 2009: 279–280), but the material from Dresden-Prohlis indicates typological evolution.

Transitional phenomena between LPC and SPC pottery have also been observed by Marie Zápotocká in Hrbovice-Chabařovice, Northern Bohemia (Zápotocká, Muška 2007). Similarly to Dresden-Prohlis, parallel double strokes link LPC and SPC inventories. Zápotocká convincingly uses Hrbovice as a key site for her transitional phase I of the SPC (Zápotocká 2007: 200–203, 2009: 307–313) – although it may as well be included into the latest phase IVb of the LPC (Wolf-Schuler 2009: 298). Unfortunately, the Hrbovice material derives from large pit assemblages, which potentially represent a long time span or could be disturbed. Therefore and because the site has already been excavated in the 1950s and 60s,

the interpretation of the evidence from Hrbovice is slightly problematic. In Dresden-Prohlis, on the contrary, the pottery sequence is embedded into the continuous internal development of an extensively excavated settlement.

The assumed typological trend towards a growth in SPC-like stylistic elements during the late LPC can be evaluated by a *Hofplatz* (ward) from Dresden-Prohlis. Four houses are linearly arranged (*Figure 4*); the lateral pits of three of them yielded decorated LPC pottery. From west to east along the house row we observe an increase of chevron motifs, vertical separators and parallel double strokes. In contrast, curvilinear ornaments, incised lines and single strokes decrease in the same sequence. This probably reflects the chronological development of the house row as well as a stylistic shift within late LPC ornamentation. Some isolated early SPC sherds within the LPC-dominated inventory of house 9 indicate that this building existed right at the onset of the SPC. Architectural details of the houses support the assumed chronological sequence: the eastern house 9 shows the most progressive features, namely a slightly curved shape and internal cross-rows with regularly aligned posts. Houses 17 and 3 on the other hand have rectangular ground plans and central cross-rows with irregularly aligned posts, which may be interpreted as older features (Coudart 1998: 39). The row ends with house 9, but the local sequence probably continues with two early SPC buildings to the south of it (houses 4 and 8).

Correspondence analysis of the pottery from Dresden-Prohlis also confirms a continuous typological transition from the late LPC to the early SPC (*Figure 5*) (cf. Link 2012a: 278–280 and Link in press a for further detail). On the one hand, it shows a clear separation between LPC and SPC, but on the other hand it reveals that they are connected by parallel double strokes. The chronological sequence of the house row presented above is also reproduced by the correspondence analysis, and thus can be verified on a multi-dimensional quantitative basis.

To sum up, virtually all the elements that later on became typical for the early SPC style were already present in the late LPC in a rudimentary form. Manifold combinations of these elements were still possible, though, and angular motifs still coexisted contemporaneously with curvilinear layouts. The crucial point for the formation of the SPC was the fusion of the single pre-existing elements into a uniform new style, which completely replaced every other decoration type. Therefore the genesis of the SPC must first and foremost be understood as a process of stylistic canonisation.

No major disruption of the socioeconomic system goes along with the early SPC canonisation process, as is clearly indicated by the continuous evolution of the Dresden-Prohlis settlement. Ceramic production technologies and the lithic artefact spectrum also remain largely unchanged. A noticeable concentration of flint debris in large SPC pits aside from the houses could however seem to indicate some variation in the

organisation of lithic production. The spectrum of lithic raw material also shows some minor shifts. Future research may help to evaluate these aspects more precisely; at the moment, they seem to be of minor importance compared to the overwhelming evidence for continuity. Definitely, major changes of the socioeconomic and cultural system occur one or two centuries later at the onset of the late phase of the SPC (see below).

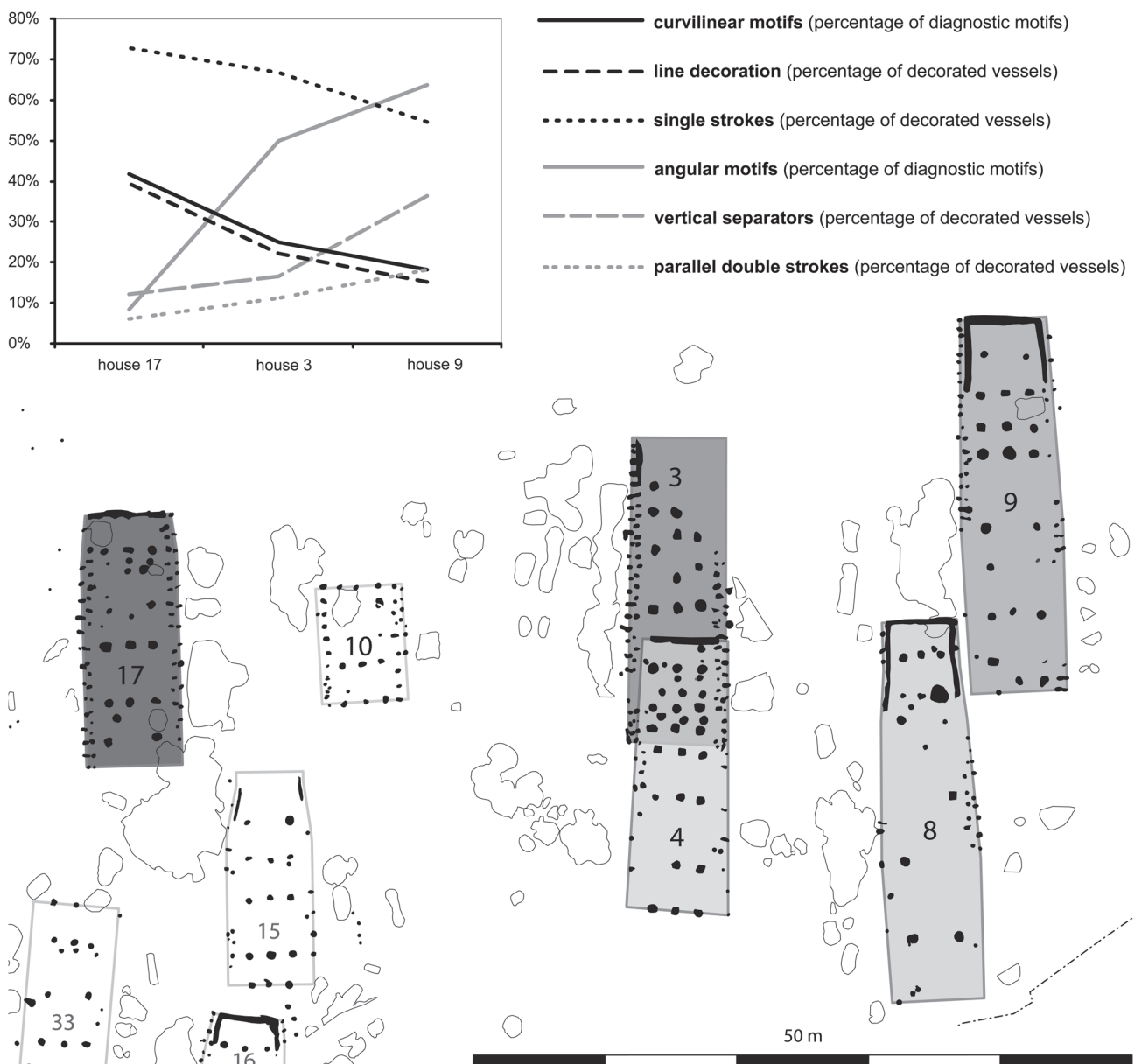


FIGURE 4. Pottery inventories of a house row from Dresden-Prohlis, showing a stylistic trend towards SPC-type decoration elements already within late LPC context (© field documentation: Landesamt für Archäologie Sachsen, data processing and illustration by T. Link).

Absolute dating of the LPC-SPC transition is problematic due to the low number of available high-precision radiocarbon dates and a plateau in the calibration curve. Considering all the radiocarbon and dendrochronological evidences available, the formative stage of the SPC can roughly be dated to 5050–4950 cal BC (cf. Link in press a for more detail; Wolf-Schuler 2009: 571–576). Two AMS-samples on charred seeds from lateral pits date house 17 (phase 1 of the settlement, late LPC) to 5011–4830 cal BC (94.4% probability; Poz-42627: 6025 ± 35 bp) and house 16 (phase 6, early SPC) to 5079–4847 cal BC (88.0% probability; Poz-42628: 6080 ± 40 bp). As both dates broadly overlap (or rather

seem to be chronologically inverted) and contextual information is not very accurate for both samples, they do unfortunately not add very much to the chronological differentiation of the settlement phases.

CONTINUITY AND CHANGE: INTERPRETING THE GENESIS OF THE STROKED POTTERY CULTURE

From the evidence presented above it could be concluded that the commonly assumed cultural disruption between the late LPC and the early SPC has

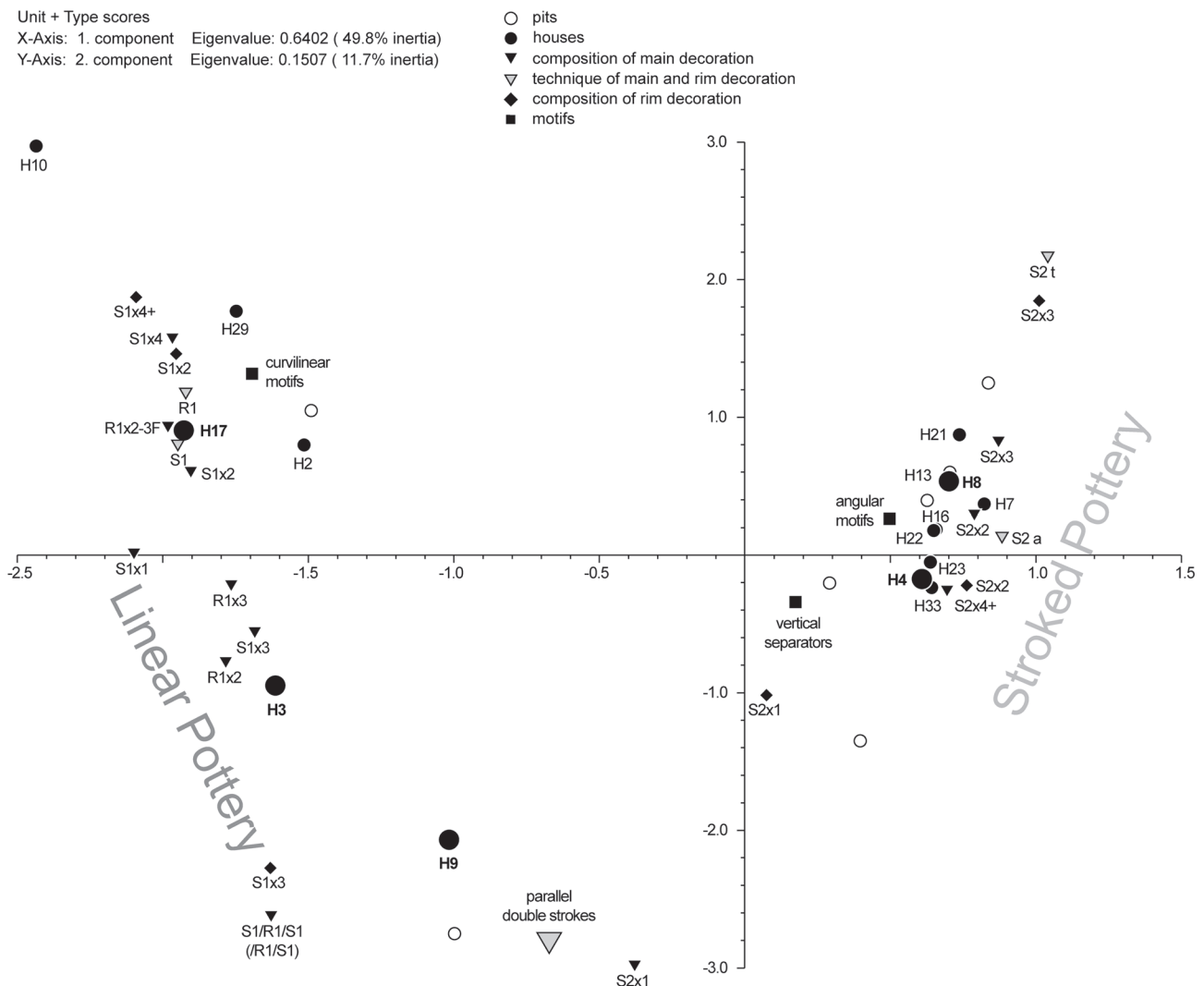


FIGURE 5. Correspondence analysis of the decorated pottery from Dresden-Prohlis. Pits belonging to the same architectural context have been grouped together as house units (© T. Link).

to be scaled down to a mere stylistic change (Kaufmann 2009: 267–269, Zápotocká 1983: 37, 1993: 376, 2009: 303–304). However, this shift is a very profound one and may stand for more fundamental cultural changes, as will be pointed out below.

Continuous development becomes evident in pottery style, vessel types and ceramic technology, which is complemented by seamless architectural evolution. What is more, the settlement at Dresden-Prohlis persisted during the time of cultural transition and its internal development apparently remained completely unaffected. Continuity can be attested not only for the site as a whole, but also on the level of individual households. This again implies that the early SPC was not introduced by an immigrant population, but established by the residents of the village themselves. The SPC was not adopted from the outside, but emerged from an autochthonous evolution.

The transition to the early SPC thus was not a sharp cultural disruption, but an uninterrupted evolution. Apart from its novel decoration style, the early SPC carries on LPC cultural traditions. In this respect it is important to bear in mind that the early SPC (phases StK I–III) existed contemporaneously with various groups of the latest LPC in Central, Southern and Western Germany and with the Hinkelstein Culture. Despite its stylistic differences the early SPC still remains a part of this late LPC cultural *oikumene* (Kaufmann 1985: 35, Link 2012a: 281–282). More radical change only occurs at the beginning of the late SPC (phase StK IV). At that time not only ceramic style is profoundly altered once more, but also architecture, settlement structure and raw material procurement are subject to fundamental change (cf. Link 2012b: 125–126 for further references). The sudden occurrence of *rondels* indicates an ideological reorientation. The late SPC seems to be stimulated by south-eastern cultural influences (Zápotocká 1993: 376–377, 2007: 208–212) and is closely tied to the general phenomenon of "Lengyelisation" which characterises large parts of central Europe in the middle and late fifth millennium BC.

The formation process of the SPC is characterised by two virtually antithetic facets: on the one hand we find evidence for an autochthonous and uninterrupted evolution; on the other hand the SPC established amazingly quickly and completely eliminated other stylistic elements. Features that have been circulating in the late LPC for some time before were merged into a static standard that from this formative moment no longer allowed significant variability. Although pre-existing, readily available elements have been re-used,

they were restructured to form a novel, canonised style which is clearly identifiable and virtually emblematic.

But how can this process of stylistic canonisation be interpreted? If we agree that pottery style has a symbolic dimension and was a medium for the expression of the cultural self-conception of its producers and users (e.g. Eisenhauer 2002: 127–128), then the most promising approach is to explain the canonical SPC style as an attempt of intentional self-differentiation from LPC traditions. From this point of view, the new style resulted from a new cultural identity; its uniformity visually expressed a strong sense of social unity. What is more, the canonised style not only displayed cultural identity, but at the same time essentially created, consolidated and perpetuated it. But although explicitly expressing progressivity, the novel style created a tradition which soon seems to have become very conservative itself. Conversely, the contemporaneous latest LPC groups could have consciously maintained Linear Pottery traditions as a medium of differentiation from the "progressive" SPC communities.

At the moment, we can only speculate about the cultural and social changes that went along with the new SPC identity. Regarding the evidence for continuous evolution on settlement and household level there does not seem to have been a socio-economic crash. In Bohemia at least, burial customs seem to change in the SPC (Wolf-Schuler 2009: 547–549, Zápotocká 1998: 127–131). While at the current state of research it is not possible to draw a precise picture, ideological factors in the broadest sense might be a central aspect of the phenomenon (cf. Spatz 2003).

Where does it come from? Models for the diffusion of the Stroked Pottery Culture

For the last 40 years the genesis of the SPC has primarily been discussed with attention to the culture's place of origin. Bohemia and Central Germany were confronted as the two mutually exclusive alternatives (Kaufmann 1976, Zápotocká 1970). With the evidence from Dresden-Prohlis and Hrbovice the question of origin seems to be decided in favour of Northern Bohemia and the Dresden Elbe Basin (Kaufmann 2009: 269, 279, Zápotocká 2009: 313). Comparable evidence for cultural continuity is missing in most other regions – but it would not come as a surprise if future research revealed analogous unbroken lines of development elsewhere in the early SPC distribution area. At the moment, Dresden-Prohlis represents the "best approximation" to the formation process of the SPC, but this does not preclude the existence of similar transitional

phenomena in other regions. In Bavaria, for example, continuous development may be assumed for some sites, too (Herren 2003: 61–63).

The spread of new cultural elements is conventionally explained in archaeology by a monocentric origin of the "innovations" and their subsequent diffusion (e.g. Eisenhauer 2002: 131–144). This archaeological "standard model" assumes a temporal and implicitly also a cultural gradient between the "innovative" centre and its periphery. It furthermore implies that the formative process of the new cultural phenomenon took place in isolation for at least one or two generations. Not much later however, cultural exchange with the neighbourhood became virtually dominated by the innovative centre. Both assumptions do not fit well together. As there can be no doubt about the existence of mature long-distance exchange networks and the general importance of inter-regional communication in the LPC and SPC, it does not seem very plausible that the processes leading to the genesis of the SPC should have taken place in isolation. In addition, SPC stylistic elements seem to appear virtually simultaneously in distant regions. This supra-regional synchronicity cannot be readily explained by diffusion with a temporal gradient.

Culture change must not be reduced to innovation benefits and crisis management but has to be regarded as resulting from "processes of identity creation by social and cultural communication" (Gramsch 2009: 16). These communication processes are not necessarily confined to a single place in time, but may as well spread along supra-regional social networks. New cultural elements can not only be invented "monocentrically", but may as well evolve simultaneously at different locations interacting within a wide-ranging network. An alternative "polyfocal" model might therefore be better suited to explain the genesis and spread of the SPC (Link 2012b: 126–128, Link in press b).

Since its beginning, the LPC is characterised by widespread communication and exchange networks. They did not break down at the end of the LPC, but continued to exist and even facilitated the evolution of the SPC cultural identity. The new cultural elements were not invented in one single innovative centre, but evolved supra-regionally. Within the present LPC networks just new sub-networks had to be established that transported new ideas. These wide-ranging social connections and interactions fundamentally characterised the self-conception of their participants and were not just a result but the main constitutive element of the new cultural and social identity that the SPC stands for.

In contrast to the "monocentric" and diffusionist standard model, the "polyfocal" approach can very well

explain the rapid spread or even supra-regional synchronicity of the SPC. Neither do typological differences between SPC sub-groups contradict a "polyfocal" model. Regional difference can easily be explained by the pre-existing variability of the different local groups that took part in the genetic process. Conformity just reached the level that was necessary to express social unity. Only the main stylistic elements were subject to canonisation; beyond that, room for regionally distinctive features remained.

Key arguments for a "monocentric" or "polyfocal" model could be provided by a regionally differentiated high-precision absolute chronology – this however remains a desideratum for future research. However, if "polyfocal" ideas of cultural evolution are taken into account, the question of provenance of the SPC definitely loses much of its apparent significance. This question may already have constrained the discussion of other aspects of the SPC phenomenon for too long.

Crisis? What Crisis? Conclusions from an eastern perspective

It has become a common opinion that the end of the LPC is associated with a substantial and all-embracing socio-economic crisis. The popular model implies cultural regionalisation, the crash of inter-regional exchange and communication networks, the collapse of settlement structures and a sharp decline in population density (e.g. Eisenhauer 2002: 127–131, Farruggia 2002, Spatz 1998: 12–18). During the last decade, focus was brought to climate as a potential main cause (e.g. Gronenborn 2010, 2012, Strien, Gronenborn 2005). Finally, the socio-economic crisis supposedly caused violent conflicts or even "wars" (e.g. Farruggia 2002: 83–96, Golitko, Keeley 2007, Teschler-Nicola *et al.* 1999: 447–448, Wild *et al.* 2004). On closer examination however, most of the mentioned aspects of the "crisis" turn out to be rather arguable or appropriate only for specific regions (cf. Link in press b, in press c, Stäuble in press, Zeeb-Lanz 2009 for critical resumé). Especially the so-called "war" at the end of the LPC turns out to be bare fiction (Link in press c, Peter-Röcher 2007: 185–186). It is based on only one single piece of evidence that stands critical examination: the mass-grave at Talheim (Wahl, König 1987). Without being able to go into more detail here, it has to be claimed that discussion should turn away from the over-simplifying scenario of a *crise majeure* (Farruggia 2002) towards a more differentiated view.

From an eastern perspective, the end of the LPC is characterised by continuity and not by socio-economic

collapse. The establishment of the new SPC cultural identity however indicates an ideological transformation that may certainly have been perceived as a kind of "crisis" by the social groups involved (Zeeb-Lanz 2009: 96–97). To draw a conclusion, the transition from the LPC to its various successor cultures cannot be explained purely functionally by a general socio-economic crisis; processes of social disintegration and ideological reorientation must have been at least equally important.

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