

PAST LANDSCAPES

*The Dynamics of Interaction between
Society, Landscape, and Culture*

edited by
ANNETTE HAUG, LUTZ KÄPPEL, AND JOHANNES MÜLLER

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Sidestone Press

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Putting Things into Practice

Pragmatic Theory and the Exploration of Monumental Landscapes

Martin Furholt, Martin Hinz, & Doris Mischka

Abstract

The Neolithic and Bronze Age burial ground of Flintbek provides a well-documented case study of a monumental landscape, whose shaping and development through ritual practices of monument building can be studied over the course of centuries. The minute excavation and data analyses (Mischka 2011a) enable a discussion of the interrelations between collective social practices of monument building and modification as well as the practical effects those individual monumental features – and the monumental landscapes as a whole – would have had on those social collectives. We want to explore pragmatic theory as a tool to better understand the dialectic between the creation and recreation of landscapes and the reproduction of social organization in the course of social practices.

This paper aims to highlight how an inquiry into prehistoric social practices based on semiotic pragmatism, as was formulated by Charles Sanders Peirce, provides a the-

ory on how meanings and social relations are created and recreated in the course of social practices, a model explaining how these practices as material and spatially situated phenomena can be used to explore the interrelation of social practices and their material outcomes, which have practical consequences for subsequent practices and social relations. We exemplify this by the reconstruction of building activities on the megalithic long barrow Flintbek LA3, Northern Germany, 3500-3400 BCE. Here, it can be demonstrated how construction activities over the course of a century are both shaped by and actively shape social relations. New developments can be explained by a creative recombination of already existing singular components. A process of complexification and enlargement of building activities is set into motion, including inter-group competition. This development is terminated around 3400 BCE, whereafter grave construction activities are re-directed towards a smaller number of collectively used passage graves, which further enhance the level of complexity of design, but dis-

pense with the unequal, competitive component. This represents a process of social collectivisation paralleled with the establishment of first larger villages in the region.

Introduction

Practice theory has been discussed in archaeology for quite some time (*e.g.* Dobres/Robb 2000; Sillman 2001; Barrett 2012) – mainly in theoretical papers and among theoretically minded colleagues. However, it also seems to have gained importance among more empirically engaged archaeologists in recent years (Kleijne 2013; Beckerman 2015). The view that it is less productive for archaeologists to describe the shapes and formal characteristics of their objects than to view them as part of practical actions has opened new possibilities for the exploration of things, buildings or landscapes as active participants in socially significant interaction processes of the past (Maran/Stockhammer 2012). Such a perspective goes along with a rejection of dualist thinking and the rejection of an anthropocentric world view, *i.e.*, the rejection of the notion that it would be possible to think of autonomous human minds as the sole base or subject of agency. In the context of what is called “new materialism”, it is held that practice is to be seen as a materially situated, interrelational phenomenon, where assemblages of actants, minds, concepts, bodies and things form practice network(s) (Olsen 2003; Olsen 2010; Olsen *et al.* 2012; Webmore/Witmore 2008). With a slightly different terminology, others see humans as “entangled” in substantial things and surroundings (Hodder 2012). Others stress the possibilities of a phenomenological approach to past social reality (Tilley 1994; Tilley 2004). All these approaches share the main argument that the material world is not something inherently separated from the realm of meaning and thought, and moreover that the materiality of worldly experiences takes part in the creation and modification of meaning.

This notion is actually very well expressed in the Peircian variant of semiotics, which also lies at the root of the philosophy of pragmatism. Thus, it is somewhat surprising that this school of thought has not yet had a larger impact on these archaeological debates (with the exception of Preucel 2010; Knappett 2005; Watts 2008; Knappett 2011). The main basis of pragmatism is the notion that practice is a phenomenon primary to all mental phenomena, which themselves are outcomes of processes of practice and can only ever exist when they are performed in the real world. What is more, in one of the most influential early writings Peirce formulated the “pragmatic maxim”, which is held to entail the core argument of pragmatism. This maxim proposed an angle for the clarification of meanings that creates a direct link from the materiality of social phenomena to the realm of meaning.

“Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object” (Peirce 1960).

Although there are different opinions on Peirce’s intentions behind this statement, it does, we want to argue, contain an argument about how meanings are dependent on and constantly influenced by the materiality of practice – how meanings are grounded

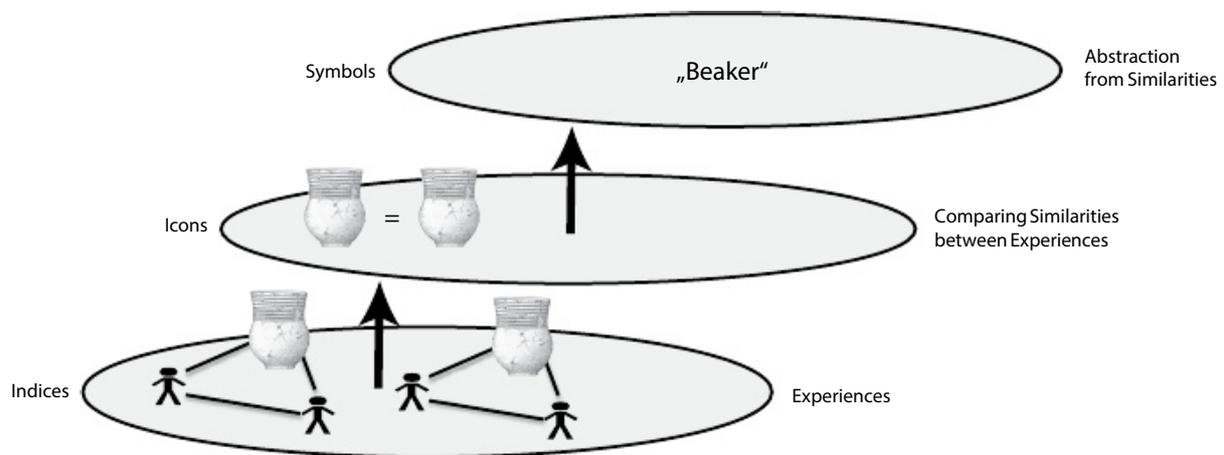


Figure 1: The pragmatic three-level model of meaning (illustrations: M. Furholt).

in real-world phenomena. Here is not the place to discuss whether or not this pragmatic maxim could be taken as a general theory of meaning. What it does provide, however, is a theory on how meanings are created in a human subjects' mind, and what role real-world experiences play in this process. The pragmatic maxim thus creates a direct link from the practices situated in the material world, i.e., from the archaeological record to the realm of prehistoric signification.

The meaning of a thing or concept (*“the object of our conception”*) is determined by the assumed real-world impact(s) that this thing or concept can be thought to have (*“effects, that might conceivably have practical bearings”*), based on previous real-world-experiences. The meaning assigned to a thing, situation, or concept is an abstraction of our expectations about the practical consequences resulting from our practical engagement with the thing, situation, or concept, based on our previous experiences. This process is well described by Terrence William Deacon (1997, 73) in his discussion of Peirce's triadic sign system. As is well-known, Peirce distinguished three types of signification, three ways in which a sign can relate to meaning, namely the *iconic*, the *indexical*, and the *symbolic*. These three modes of signification also represent levels of abstraction (Fig. 1).

The *iconic* signification draws on a material similarity of one thing with another, like a drawing of a tree to a real tree, which we are visually able to recognise. The *indexical* signification draws on a functional, physical connection of one thing to the other, e.g., that smoke refers to a fire as lightning to a storm. However, such a connection is never simply known. Rather, to make that connection one needs to have learned, one has to have had previous experiences with this kind of connection, and memorised that the presence of smoke is closely linked to the phenomenon of fire. This is practically done by connecting and abstracting from several already experienced, similar situations; by comparing the similarity between these situations. In other words, one is using *iconic* sign relations. Finally, the *symbolic* type of sign relation draws on social convention, for example, in the case of human languages. However, such social conventions are not created in a vacuum, but are rather created and upheld in situations with interactions of social practice. As a child, one learns the meaning of these symbols by one's ability to abstract certain parameters

from real-world experiences. This is done by using both iconic and indexical sign relations. While learning its first language, a child makes the connection between, say, the frequent co-occurrence of a dog or the iconic representation of a dog and the spoken word “dog”. Thus, the *symbolic* meaning of “dog” is determined by the real-world experiences with the concept of “dog”, and uses both iconic and indexical sign relations. The regular co-occurrence of the spoken word “dog” and its meaning (involving, mostly, directly or indirectly, a real dog) is recognised as if it were an indexical sign relation, and the recognition of this relationship is only possible because an iconic similarity between different experienced situations is created.

Pragmatic semiotics thus presents a theory of meaning that starts from real-world practices, and explains how meanings are created and altered in the course of ongoing interactive social practices. With this concept as a starting point, Peircian pragmatic semiotics additionally provides a model of signification, which both emphasises the groundedness of meaning in practical action within the material world and the dynamics of signification processes.

Peirce’s model of signification has three poles, the *sign*, the *object* and the *interpretant*. The *sign* represents the material bearer of meaning, corresponding to Ferdinand de Saussure’s “signifiant”, or “signifier”, which can be a solid thing, the sound of a spoken or the shape of a written word. The second pole is the *object*, the content of meaning, to which the sign refers, corresponding to Saussure’s “signifié” or “signified”. The most remarkable component of Peirce’s signification model is, however, the “*interpretant*”, which represents the act of interpretation. The *interpretant* makes clear that there is no relation between *sign* and *object* unless it is practically experienced as such, in a real-world situation. The idea of an *interpretant* is a complex concept, which Peirce altered throughout his lifetime (see Morris 1977; Schönrich 1990), but the main issue, in our view, is that the *interpretant* situates the process of signification into a real-world social context. To understand the role of the *interpretant* means that there is actually no difference between acting and signification, because all mental processes – the connections of *sign* to *object* – take place in the course of practical actions. Practical action always consists of ideas and intentions (*object*), a material carrier medium, be it a body, neurons, or tools (*sign*) and motion (*interpretant*).

The *interpretant* is also the component of the signification triad, which represents the dynamic nature of signification processes and explains how meanings are altered through practice. Any act of signification modifies the meaning of a *sign*, because the *interpretant* of one act of signification becomes part of the *object* in the next act of signification. Any practical experience with a thing or concept has effects on our conception of this thing or concept and thus becomes part of our idea of this thing or concept (Fig. 2).

These two models of the creation and re-creation of meaning – the “ladder of abstraction” constituted by the *iconic*, *indexic* and *symbolic* (Fig. 1) modes of signification and the triadic sign model (Fig. 2) – constitute what one could call a pragmatic theory of situated meaning. It represents a powerful tool for archaeological reasoning based on a bottom-up approach, starting from the fundament of material evidence, as we will demonstrate in this paper.

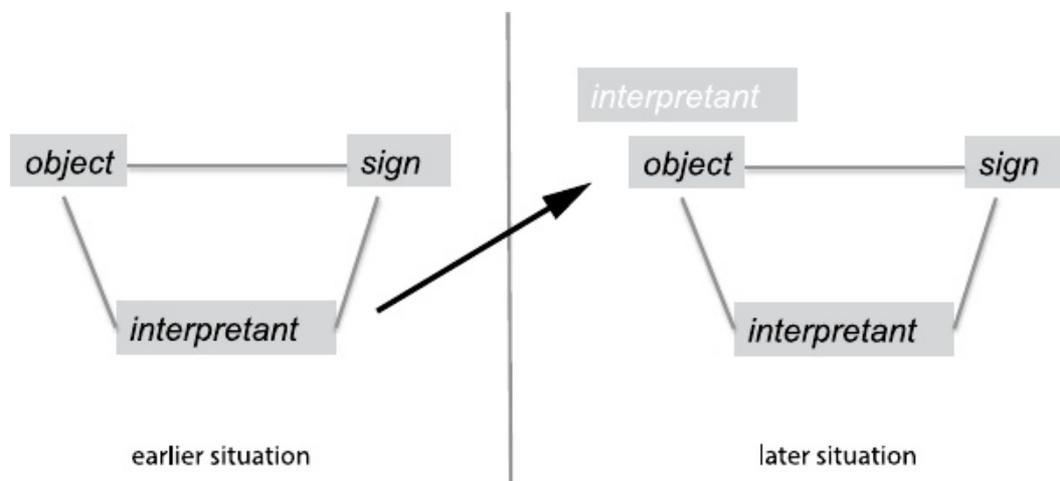


Figure 2: The triangle of semiosis, the triangle of practice (illustrations: M. Furholt).

This pragmatic theory of meaning does not provide a tool to “reconstruct the meaning” from material remains, because the variability of signification and connotation that has developed in human history is far too complex and dynamic, and the level of abstraction for symbolic concepts much too high to be traceable via its material constituents. But this theory of meaning helps us to understand the circumstances under which meanings are created, and it allows us to better understand the consequences that changes in the configuration of the material arena will have on its social constituents. By its notion of the material situatedness of practices/signification processes, which generate and alter meanings, it allows archaeologists to trace structural changes in practices and thus meanings.

Such an explicit theory of meaning has also been discussed for phenomenological approaches (see Rump 2013), but it has never made its way into archaeology. There are other theories of meaning connected to entanglement theory (Hodder 2012), material engagement theory (Malafouris 2013) or Christopher Y. Tilley’s *Metaphor and Material Culture* (Tilley 2000). Still, we would like to argue for the strength of the pragmatic theory of situated meaning as the basis for archaeological inquiries, as is proposed here. It presents an alternative approach to phenomenological, actor-network-based, or entanglement-theory-based approaches to social practices. Its advantage is that it provides an explicit model connecting the materiality of situated actions to the creation and maintenance of meanings.

The pragmatic approach to social practices meets the specific needs of prehistoric archaeology because it starts from the material record, which is seen as a result of practices, and because it uses practice as the link between the material and the mental. It is historical, because it respects the specific situatedness of practices and highlights the socially interactive nature of practices (Furholt 2017).

The pragmatic approach is also processual, as acts of practice are not seen as isolated events, but as having consequences for each other. It enables an empirical approach, which meets the nature of the archaeological record, but it does not advocate a radical empiricist position. Human intentions and human creativity are not excluded, but they are seen as enmeshed in the empirical, emerging from practice.

Case study: Monument construction as meaningful social practice exemplified by Flintbek LA3

To be more concrete, we want to consider our approach in conjunction with the meaning of a specific Neolithic megalithic structure. What this specific burial monument actually meant to a prehistoric group of people is, to a great extent, constituted by the practical consequences of their engagement with it, for example, in joint construction activities. Surely, there must have been pre-conceptions towards this kind of building, based on earlier engagements with the concept of megalithic structures and material megaliths, but the actual engagement with this individual monument brought forth transformations of that conception.

Turning the argument around, the specific shape of the megalithic structure is a practical consequence of the construction activities, and these activities are influenced by the specific shape of the group constructing it, their group size, their social struc-

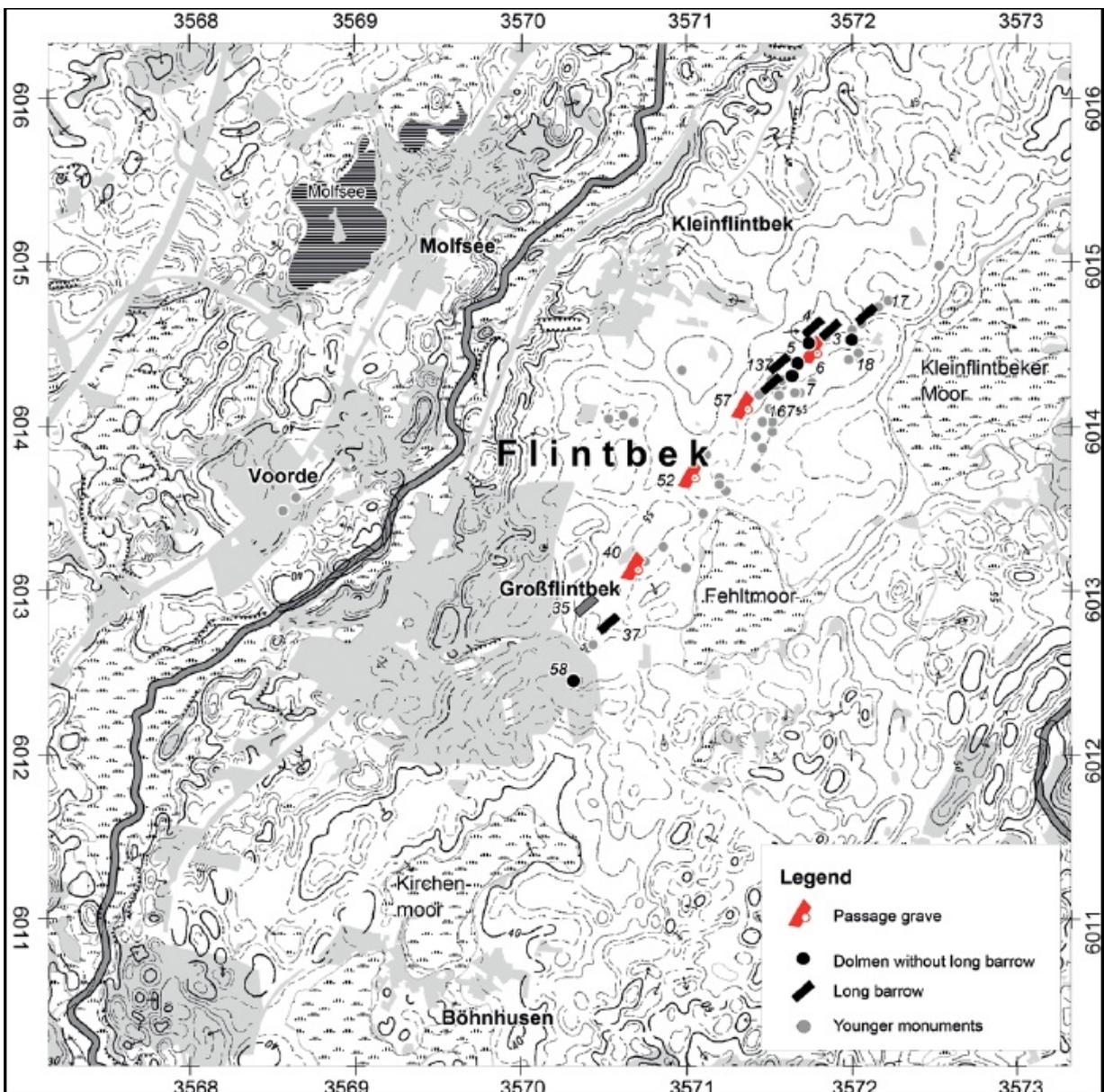


Figure 3: Flintbek LA3 (map: Mischka 2011a).

ture, their organisational status, the presence or absence of specialists, and so on. In turn, the building activities yielded practical consequences for the social shape of the group engaged with it. The performance of collective efforts as well as the impact of outstanding individuals directing these influenced and altered social relations and social roles.

In consequence, this means that we as archaeologists can potentially infer knowledge about this specific social group, because the specific shape of a megalithic structure or of the remains of individual construction events are indexical signs referring to the group engaged in this construction.

We want to illustrate these concepts using the example of the long barrow Flintbek LA3 (Fig. 3).

This structure has gained a degree of international recognition because it contains the oldest known wheel tracks worldwide (Mischka 2010; Mischka 2011b). The reason why we chose this structure as a case study in this article is the excellent excavation carried out by Dieter Stoltenberg and Bernd Zich, which allows for the detailed reconstruction of building practices, as has been elaborated by Doris Mischka (Mischka 2011a).

Flintbek LA3 is part of a larger cemetery of Early, Middle and Younger Neolithic (3600-2200 BCE) burial monuments, located in a linear configuration along a gentle ridge just a few kilometres southwest of Kiel, Germany (Fig. 4).

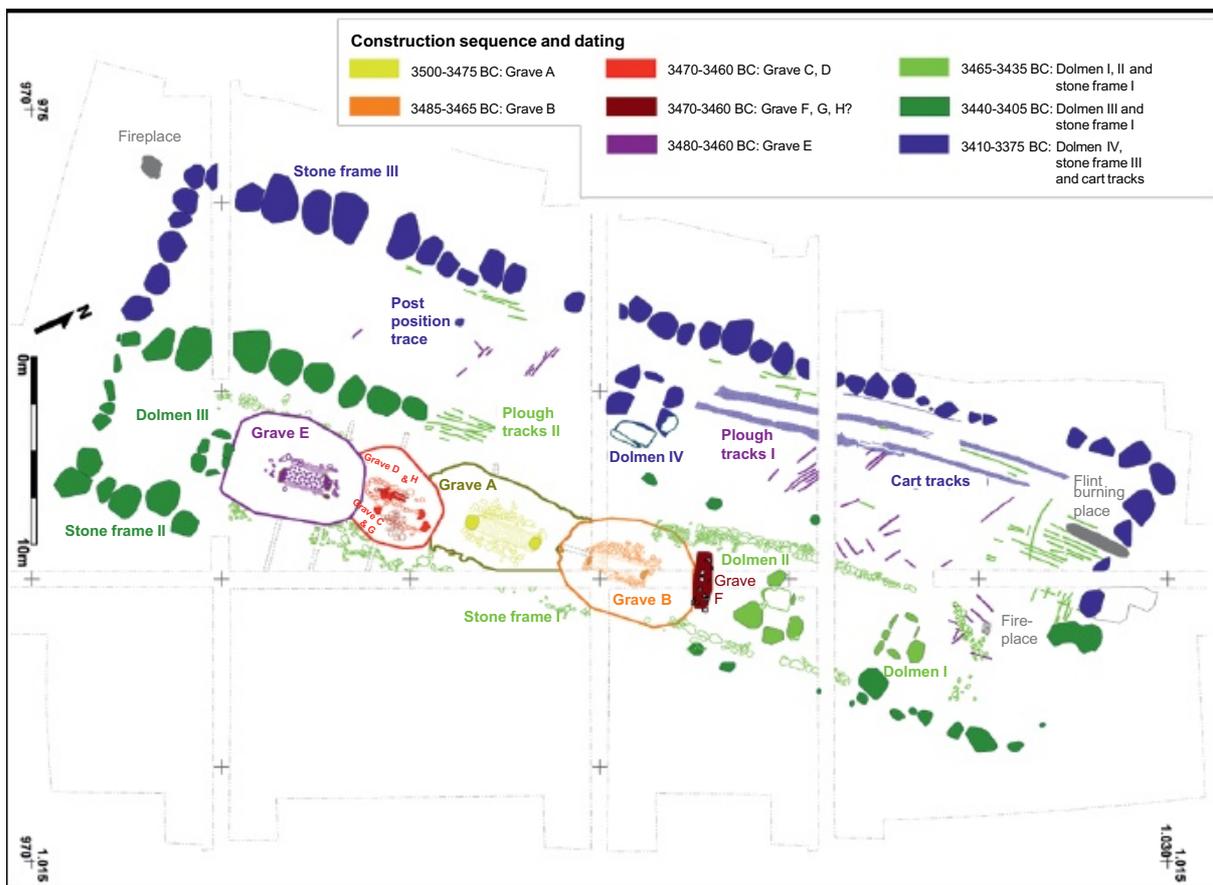


Figure 4: The Flintbek cemetery (plan, Mischka 2011c).

It consists of four groups of monuments, which can, as we will see later, be said to have undergone comparable developments.

LA3 is a long-barrow that was excavated in 1988 and 1989 by Stoltenberg, who could document the complex construction history. This was then ^{14}C dated and published by Mischka (2011b), who established through a Bayesian model that the whole construction sequence took place within a time span of 100 to 150 years. For our reading of the construction activities, we use the “short” chronology, acknowledging that radiocarbon dates tend to exaggerate durations, even when modelled. It is probable that the building sequence took place between 3500 and 3400 BCE. In the following account of building events, we use intervals of 10 and 20 years, although it is clear that in reality the time between building events might have been much less regular.

Social background

The Funnel Beaker Complex in Northern Germany and Southern Scandinavia (normally referred to as the “North Group of the FBC”, see, e.g., Bakker 1979) is an archaeological culture connected to the Neolithic communities in the region from 4100 to 2800 BCE. Although the term brushes over a variety of different phenomena and social formations (Furholt *et al.* 2014), for the Northern German region we know that farming and animal husbandry were successively introduced and gradually established in different areas from 4000 BC onwards, while it took at least until 3700 BCE that any substantial human agricultural impact was significant enough to be detectable in the palynological records (Hinz *et al.* 2012; Feeser/Dörfler 2015). This impact reaches a first peak around 3500 BCE. This is the time when monumental building activities commence with non-megalithic long barrows around 3800 BC and megaliths around 3600 BC, reaching a first peak around 3500 BC (Furholt/Mischka in press).

Settlement is small-scale and dispersed, organised in single farmsteads and small hamlets. The establishment of larger villages is first observed around 3350 BC (Hage 2016; Brozio 2016). It is thus convincing to interpret the monumental building activities as a crucial means for these small, autonomous, dispersed social groups to create larger communities of practice and establish some form of larger-scale social identities (Müller 2009). Therefore, we are – as we discuss the building sequence of Flintbek LA3 – not dealing with the random outcome of some kind of remote ideological or religious superstructure, but with an integral component of group dynamics.

The construction events

The long barrow of LA3 was not planned as such from the start. Rather, it was first conceived on a very small-scale, when around 3500 BCE a rather meagre structure, a so-called Konens Høy grave (Madsen 1975; Madsen 1979), was probably built as a grave for a single individual (grave A, Fig. 5.1).

About 10 years later (3490 BCE), a similar grave (grave B, Fig. 5.2) was erected directly beside grave A. It has the same form, the same orientation, and approximately the same size. During the following 10 to 20 years (until 3480-3470 BCE), five new graves are added on both sides of the existing ones (graves C, D, G, H, F, Fig. 5.3-4). They exhibit some slight variations, but are generally very similar, small-scale burials with

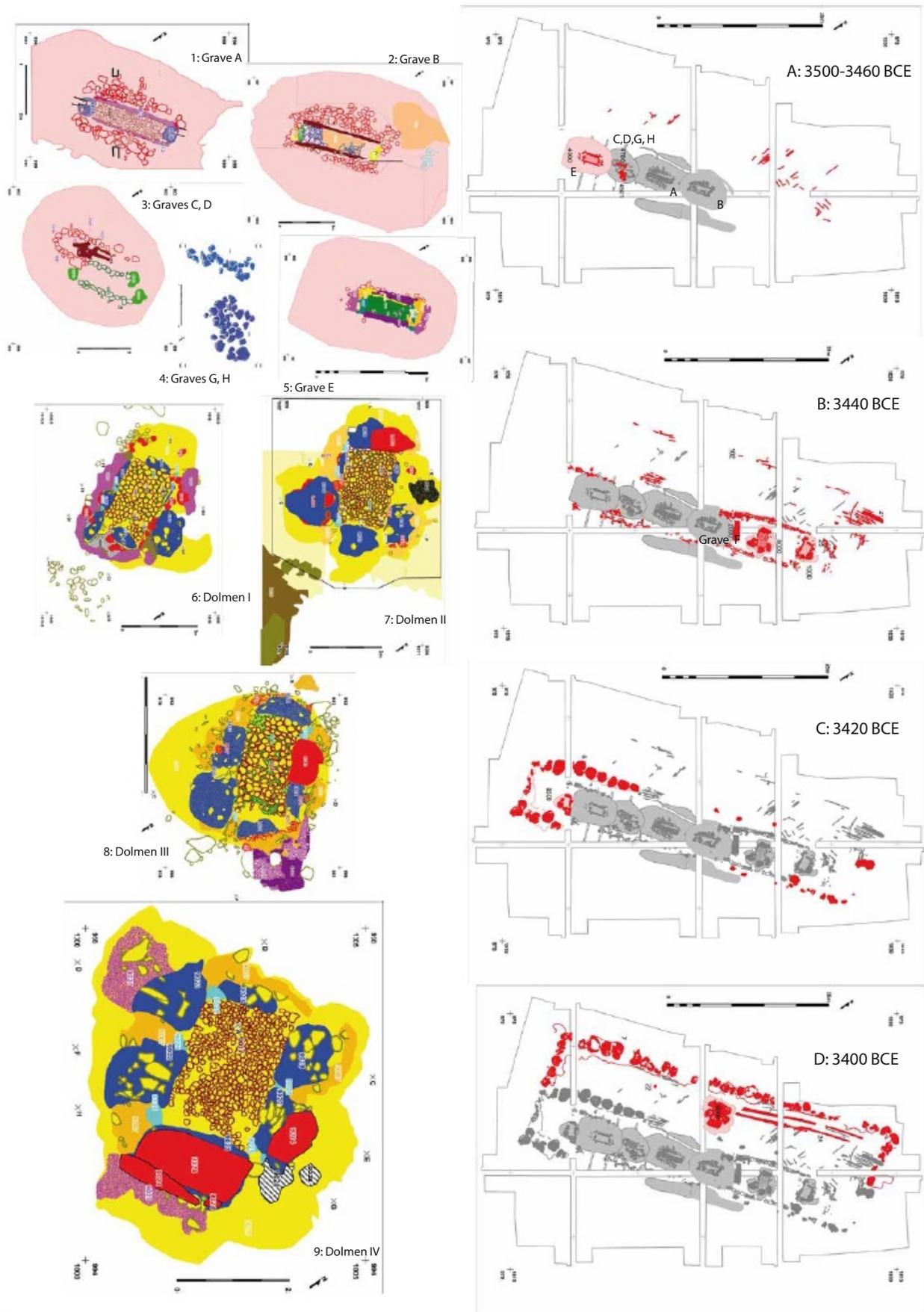


Figure 5: The construction process of Flintbek LA3 (plan: Mischka 2011a).

stone packings and earthen and wooden elements – again with the same orientation and constructed as an extension of the already existing structure. Around 3460 BC, another Konens Høy type grave is added on the southwestern side of the structure (Fig. 5.5).

Thus, a linear grave structure emerged around 3460 BCE, which was created by additions of several small structures (Fig. 5A). This linear structure was then “acknowledged” or marked by a stone frame around 3440 BCE (Fig. 5B), at the same time as the construction of the first megalithic graves, two dolmen chambers (1 and 2, Fig. 5.6-7). 20 years later, at 3420 BCE, the first stone frame was replaced by a second, megalithic version of a frame, constituting a more representative outer appearance (Fig. 5C). At the same time, a third megalithic dolmen was erected (Fig. 5.8). Finally, around 3400 BCE the northern side of the megalithic frame was removed and the size of the structure was doubled (Fig. 5D). Within the northern part of the structure, a fourth – and until now the biggest megalithic dolmen chamber – was erected (Fig. 5.9) towards which the famous cart tracks seem to lead.

A pragmatic perspective on the construction events

From a pragmatic perspective, we can identify different modes of practices in the sequence described above, i.e., qualitative changes of the shape that these practices take. In the beginning, we observe simple small-scale grave constructions (see Fig. 6).

They are relatively standardised, but there is room for variation, which does not, however, disregard the main principle of small, individual graves made of wooden posts, stone packings and an earthen cover. During the first 60 years,



Figure 6: A reconstructed Konens Høy grave from “Steinzeitdorf Albersdorf” (photo: with courtesy of the Steinzeitpark Dithmarschen, Albersdorf).

there is a sequence of rather similar repetitions of the grave construction activities. The earlier practices and their outcomes, the graves, become signs influencing the shape of the following construction practices, which, as *interpretants* of the older practices, are added as *objects* of meaning to the *sign* influencing further activities (*interpretants*). It is well conceivable that these recurrent acts of construction could have been carried out by a small group of people, possibly the inhabitants of one or several farms or a hamlet without any specialist knowledge or the need for any larger workforce. During these 60 years, there is not much change or development in the practices, very much in contrast to what happens around 3440 BCE.

The first qualitative change is noticeable at ca. 3440 BCE, when the stone frame defines the shape of the long barrow. This is a structure that was actually already practically present, although it grew out of several additions that were attached to the first Konens Høy grave, on either side, according to its initial orientation. Thus, the idea of a long barrow can be seen as a practical consequence of past practices and their material outcomes, which is at a certain point, around 3440 BCE, acknowledged and “realised” by the application of a stone frame. This addition adds a new layer of complexity to the activities. Now LA3 is no longer just a cluster of graves, but it has an overall building plan, and every following building activity has to regard both the grave level and its relation to the level of the whole complex, which is now a long barrow. At the same time, the elaboration of the graves is increased by the construction of the first two megalithic dolmen chambers, which also significantly increases the workload carried by the group performing the constructions. At 3440 BCE, it is likely that the constructors could have already witnessed the construction of both long barrows and megalithic dolmens elsewhere and at Flintbek as well. Nevertheless, it was a deliberate decision to frame the row of graves present thus far and to start adding megalithic architecture, thus including or transforming the structure already present into these concepts.



Figure 7: A reconstructed long barrow with a representative, outward-directed megalithic façade in Munkwølstrup (photo: D. Mischka).

The addition of a megalithic barrow frame around 3420 BCE, adds, apart from an even more extensive workload, a new quality of outward directedness, a representative function (see Fig. 7).

It is important to stress that this new quality is realised because two elements previously known and forming part of earlier practices – the stone frame which defined the form of the long barrow and the “megalithisation” or “monumentalisation” of architecture through the use of large boulders – are combined. This combination then generates this new quality of outward representation, which might very well be interpreted as a competitive notion towards the other burial groups in Flintbek.

In the last building phase around 3400 BCE, the overall design is stabilised, but the shape is further monumentalised by doubling its size. One megalithic grave, the largest hitherto constructed, is placed in a central position in the long barrow. Its relation to the already existing graves suggests a clear structure: It “mirrors” and “equals” the whole line of ancestor graves in the southern part of the barrow, whereby a small group of individuals (4 to 8 to be judged from some preserved teeth and bones; Mischka in press) are centralised and “made equal” to the entire line of ancestors. By doing so, they are assigned a markedly exceptional position.

A striking aspect of the structural development just described is surely its uni-directionality. What we notice is a constant rise in the complexity of architecture and design, combined with an increase in size and labour investment. After 60 years of rather uniform, small-scale construction events from 3500 to 3440 BC, a constant increase in efforts sets in. From 3440 BC on, it appeared impossible to fall back behind the efforts of already existing structures. On the contrary, every new event seems to require a higher investment in labour and an addition of complexity to the overall structure. It appears to have been inconceivable to scale back on the effort and resources invested into the construction thus far. This observation together with the rising outward representativity of the structure since 3440 BC suggests the competitive character of these practices. Such competition could be conceivably directed towards the in-group of constructors or towards other groups, for example, those engaging in comparable practices during the same time span in Flintbek. Finally, the last building phase suggests that certain individuals had gained outstanding social importance, which ranks them above everybody else. Along the developments we followed thus far, one could assert that the high workload and the complexity of design connected to the last building

phase are just a continuation of the constant increase in the aforementioned aspects and are therefore not a sign of a specific social importance of the individuals buried in the last megalithic construction event. At least from a pragmatic point of view and in the context of all the practices connected to structure LA3, the question whether the accentuation of the individuals buried in the last grave was an intentional and conscious act is actually unimportant. Given the relationship of the older and newer signs represented by all these grave construction events, the construction of the last building phase does, however, have “practical bearings”, i.e., practical effects on the social group engaged with it. The people buried in the last grave are – in light of the overall context – effectively given a highlighted position. Inevitably, this would have generated consequences for the group structure.

Another interesting aspect is the change that took place around 3440 BCE, after 60 years or more of small-scale and rather monotonous activities. Why did people start

to innovate around 3440 BCE? Was there an input or an impulse from outside? This scenario is possible, especially considering that the choices made (*e.g.* the shape of the long barrow, the megalithic chambers, and the megalithic frames) were probably based on known architecture from other parts of Northern Germany (including Flintbek itself, *e.g.*, LA4, LA37, LA167, see Mischka 2011a). However, what should also not be underestimated is the generative power of a creative recombination of already existing elements, as in the case of the elongated grave mound and the stone frame, generating a long barrow, or the combination of this frame-idea with the idea of megalithic tombs and their construction, generating an outward-directed, representative quality and possibly inter-group competition. Even if the elements or their combination were adoptions from elsewhere, their practical realisation in the concrete LA3 context had profound practical consequences, not only for the structure itself but also for the activities carried out and thus also for the group of constructors.

What is interesting, however, is how the development proceeds after 3400 BC. At this point in time, activities on LA3 cease and a separate passage grave (LA5) is constructed nearby (Fig. 8).

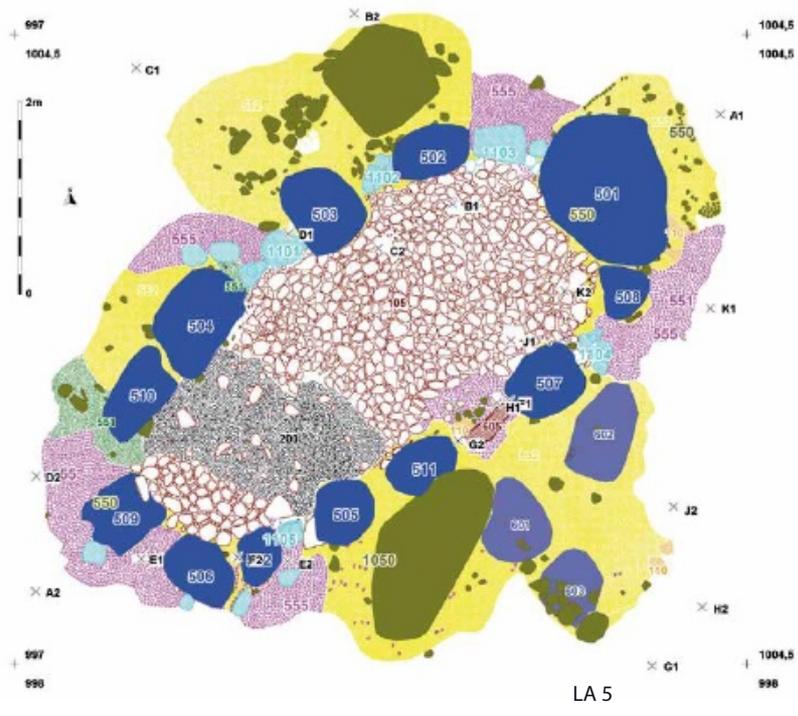
This structure is an even more complex building than the youngest additions to LA3. The passage grave consists of three elements – the chamber, the passage and the grave mound (Fig. 8, LA40) – which are clearly preconceived and their realisation was carried out, as it seems, in one building event. Although there are later modifications, these do not change the overall shape of the grave structure. Thus, the complexity of the building activities increases by the switch from LA3 to LA5. But what is now totally lost is the notion of single individuals with a central position, which we observe in the case of the last megalithic grave of LA3. Instead, the passage grave exhibits collective burial rituals, whereby the function of the open passage is to enable consecutive interments.

This notion of collectivity is even more striking when one takes a look at the bigger picture. In Flintbek, we can identify 4 or 5 clusters of Neolithic grave monuments (Fig. 9).

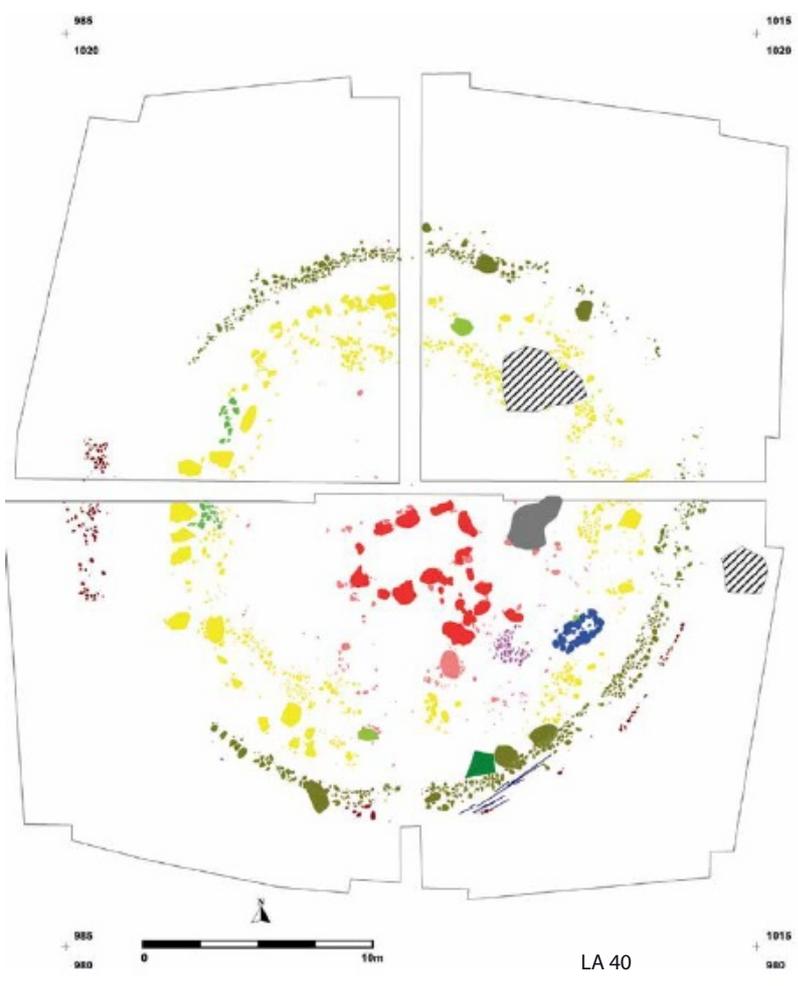
In the northernmost cluster, there are three long barrows, LA3, LA4, and LA17, which show comparable features, dolmen chambers and stone frame buildings, as well as comparable histories. LA3 and LA4 are roughly contemporaneous (within the period from 3500 to 3400 BC). LA17 has not yet been dated, but could very well date within the same period. After 3400 BCE, however, only one passage grave (LA5) was built and used. It seems plausible that these three long barrows were – just as LA3 –

built and repeatedly altered in an early phase by three different groups of people, who then used one joint, collective burial place after 3400 BC. What is striking is that a very similar pattern is discerned for the four grave clusters in Flintbek (see Fig. 9). To the south of the cluster just described, there is the succession of two long barrows (LA137 and LA167) and a passage grave (LA57). A similar pattern is found at the southern end of the cemetery – two long barrows (LA35 and LA37) and a passage grave (LA40). Finally, to the north of this group there is one isolated passage grave. What is striking is that the four mentioned passage graves are spaced quite regularly along the ridge, about 700 m from each other.

From the different Bayesian models and individual datings obtained by Mischka (2011a), it is clear that these passage graves constitute a later phase than the single dolmens and the long barrows. Thus, apart from the notion of collectivisation, we can also speak of a concentration of activities from a larger number of repetitive, small-scale



LA 5



LA 40

Figure 8: The passage graves of LA5 and LA40 (plan: Mischka 2011a).

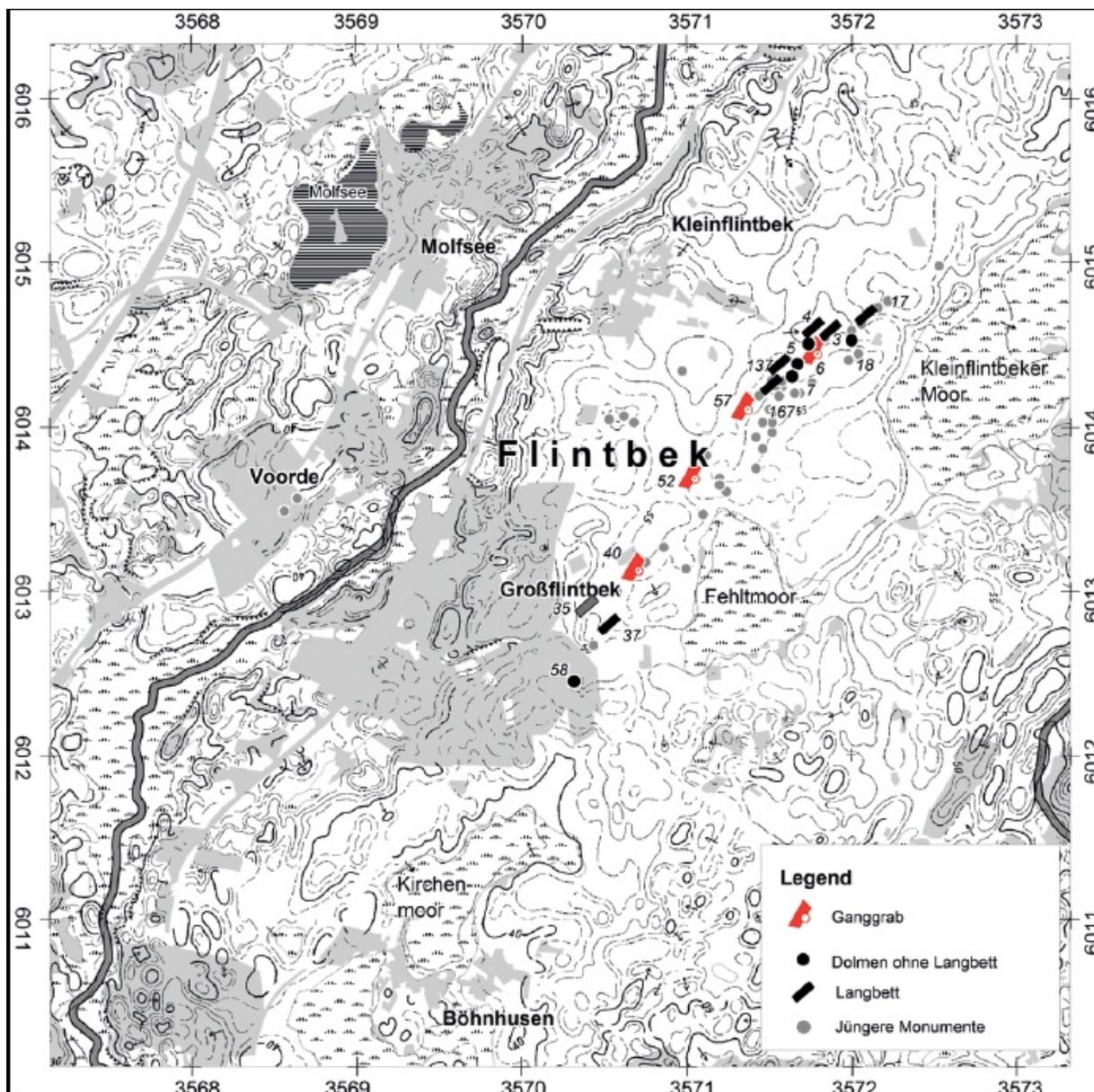


Figure 9: The Flintbek “grave clusters” (map: Mischka 2011a).

activities before 3400 BC to only four passage graves – *i.e.* larger-scale construction activities – shortly after 3400 BC. Although recurrent renovations and alterations took place in the passage graves, their overall shape was basically established and then maintained from the beginning. The focus of activities at these structures shifts from building, altering and adding to the constructions to the interment of the dead and other activities (*cf.* Furholt 2012), some of which are witnessed by depositions of pottery, tools and ornaments (Mischka 2011a). As is argued elsewhere (Furholt/Mischka in press), this development in burial practices – from fragmented and dispersed activities before 3400 BC to more concentrated, collective and durable structures after that time – reflects an overall Northern German and Southern Scandinavian trend, and it is also mirrored in settlement patterns around the same time with an agglomeration of settlement and the creation of villages (Hage 2016; Brozio 2016).

The triad of practices, material outcomes and social relations

Taking our considerations of semiotic pragmatism seriously, we have to stress the interdependence of the social group interactively engaging in acts of construction and the generative power and the impact of the material outcomes of these practices. Additionally, social actions and material outcomes influence the social relations, the following acts of practice, and their “following” material outcomes.

In the early phase, a probably small, rather unskilled and unspecialised group of people performs simple building acts for burials, repeating these over generations with some variation, but generally maintaining the same lines, thus creating a community of practice, which draws on joint experiences, the physical presence of graves, and associations with the deceased, ancestors, etc.

These practices generate signs – that is material outcomes and practical consequences – as each new act of practice incorporates elements of older practices as signs and new elements, which might stem from impulses coming from outside, the recombination of elements already present, or from sheer creativity. Pure creativity is seldom, however, and in most cases, the process is mainly one of constant addition, re-combination and transformation. The history of LA3 is one of constant growth and, after 3440 BCE, one of rising complexity. What we do not encounter in the context of LA3 is a reduction, neither of any parts of the whole structure by the removal of some elements, nor by reducing the efforts of one new building event as compared to a previous construction effort.

We want to argue that the constant rise of complexity that we observe is not the outcome of purely mental concepts, not wholly due to intentional decisions of the human individuals taking part in these activities, but rather that they are, at least in part, practical consequences of the specific material form and social structure involved in the practices in question. When adding building activity to (remains of) building activity, the material outcome is an ever growing and gradually more complex edifice, which in itself promotes the complexification of further activities. As soon as a linear succession of several small graves has been created, it is hard not to adopt the idea of this structure being a long barrow, in other words to “treat it” as a long barrow, which then complicates the next decision on where and how to construct a grave. It also motivates the creation of a frame or other defining features. These ever more complex practices as well as their planning and realisation engender more sophisticated interactions between the individuals involved. The more planning and coordination involved,

the more one might even argue that some kind of specialisation, even differential possibilities of decision-making, are likely to evolve. In the same way as cooperative relations are created and reinforced by all joint activities, more complex and challenging activities could spur relations of authority, and power could be established through the performance of more complex or work-intensive building events.

The more complex practices of burial construction, we would argue, both required and created rising complexity within and between groups, and evoked a higher level of planning and coordination of group-relevant, overall (centralised or collective) decision-making. This is compatible with the observed need for outward representation, as assumed for the installation of the megalithic façade after 3420 BCE, and the elevation of single or a few buried individuals to the height of the whole lineage of ancestors (3420 BCE). It is unclear whether this can be read as a sign of social inequality, as the 4 to 8 individuals buried in the last chamber might very well represent every deceased

person from the burying community after the dolmen was built. In any case, it can be read as a further sign of inter-group competition.

However, both social complexity and competitive behaviour actually reach an upper limit, which is then counter-balanced by the introduction of the collective burial custom in the form of passage graves, where – as it seems – even several formerly individual and competing burial communities join in together. This happens not only among the communities burying in Flintbek LA3, LA4 and LA17, but among all burial communities in Flintbek, possibly even in the whole area of the Funnel Beaker

Complex. Here, monuments' construction plans never reach the level of complexity that we observe in other regions, for example, in Brittany (Scarre 2011) or Ireland (Stout 2008), or let alone a level of complexity and institutionalised inequality as in the Mediterranean or the Middle East. Rather, social systems in the Funnel Beaker area seem to be incompatible with highly rigid social institutions necessary for the development and realisation of complex building projects. Nonetheless, it is conceivable that, following our pragmatic reading of the Flintbek building history, a group of people living in dispersed single farmsteads or small hamlets might develop a certain degree of social differentiation and centralised decision-making. We propose here that such developments are triggered by monument building practices. Yet it is impossible, we argue, to maintain any larger or more lasting system of dominance or social inequality with a group of people who live in small autonomous, self-sufficient communities. The development of larger and structured villages after 3400 BC can surely be interpreted as a process, which strengthens larger-scale social institutions, but it is counter-balanced by a collective burial ritual, which actively opposes the development of competitive behaviour. Moreover, these villages do not last very long, and the single farmstead or dispersed hamlet mode of social organisation prevails until the Iron Age.

Conclusion

An inquiry into prehistoric social practices based on semiotic pragmatism, as was formulated by Peirce, provides a theory on how meanings and social relations are created and recreated in the course of social practices. It also provides a model explaining how these practices are material and spatially situated phenomena, and therefore how the shape and arrangement of archaeological remains can be used to explore the dynamics

of social engagements with the world, with concepts and human actors.

We exemplified this by applying these models to the reconstruction of building activities on the Neolithic cemetery of Flintbek, in particular the megalithic long barrow Flintbek LA3. There, it could be demonstrated how the pursuit of activities over the course of a century, when viewed as signs for social interactive practices, are both shaped by and actively shape social relations. In addition, the material outcomes of such practices constitute new components in these practices, which influence the subsequent acts of practice. In several cases, it was possible to demonstrate how new developments can be derived from the creative recombination of already existing singular components.

By this phenomenon, a process of complexification is set into motion, which includes inter-group competition. However, this development and probably comparable developments on other early monuments in Flintbek are then terminated around 3400 BCE. Thereafter, grave construction activities are re-directed towards a smaller

number of passage graves, which maintain, or even further enhance the level of complexity achieved in the latest phases of the long barrows, but dispense with the unequal burial structure by counterbalancing it with a collective burial ritual. This represents a process of social collectivisation paralleled with the establishment of first larger villages, where, as we interpret it, collective institutions are strengthened, while internal social competition is less visible than in the earlier periods.

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Contributors

Martin Furholt

Department of

Archaeology, Conservation
and History

University of Oslo

P.O. Box 1019, Blindern

N-0315 Oslo, Norway

martin.furholt@iakh.uio.no

Martin Hinz

Institute of Archaeological

Science
Prehistory Department

University of Bern

Mittelstrasse 43

CH-3012 Bern

martin.hinz@iaw.unibe.ch

Doris Mischka

Institute of Prehistory and

Protohistoric Archaeology
Friedrich-Alexander-

University

Erlangen-Nürnberg

Kochstr. 4/18

91054 Erlangen, Germany

doris.mischka@fau.de